Appendix D

Final Transportation Report

Final Transportation Report

VA Alameda Point Multi-Specialty Outpatient Clinic and Columbarium

Alameda, Alameda County, California

October 21, 2020

Prepared for:
Department of Veterans Affairs

Prepared by:
HDR
100 Pringle Avenue, Suite 400
Walnut Creek, CA 94596

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1 Introduction

This report presents an updated traffic impact analysis for the 2013 *Transfer of Excess Property and Development of an Outpatient Clinic, Offices, and National Cemetery at the Former Naval Air Station Alameda, California, Final Environmental Assessment* (2013 Alameda VA EA). The 2013 environmental document was prepared for the Department of Veterans Affairs (VA) – Northern California Health Care System and National Cemetery Administration and for the Department of Navy – Naval Facilities Engineering Command, Base Realignment and Closure Program Management Office West. It discussed the construction of main facilities and a wetlands mitigation effort. This report presents updated existing traffic conditions from 2011 to 2020 to provide a better understanding of transportation and travel demand characteristics at the study intersections and roadway segments. The previously considered future horizon years of 2017 and 2035 were updated to represent 2025 and 2040 for both No Action and Proposed Action conditions.

Additional topics discussed in this report include:

- Section 2 describes the transportation system in the study area and vicinity.
- Section 3 presents the analysis methods used to support the traffic impact analysis for intersections, roadways, and vehicle miles of travel (VMT).
- Section 4 presents the updated existing (2020) conditions and traffic operations analysis.
- Section 5 presents the updated future (2025, 2040) conditions and traffic operations analysis for both the No Action and Proposed Action.
- Section 6 presents the construction scenario analysis.
- Section 7 presents the conclusions of the analysis.
- Appendix A contains the turning movement counts.
- Appendix B contains the Synchro intersection and roadway reports,
- Appendix C contains the roadway segment analysis,
- Appendix D contains the VMT analysis,
- Appendix E contains the results of the construction analysis.

2 Study Area

This section presents the study area, with a detailed overview of the transportation network intersections and roadways evaluated in this update. The network includes thirteen intersections in Oakland and thirteen intersections in Alameda. Roadway segments analyzed in the study area include 17 arterial segments.

Figure 1. VA Transfer Parcel Vicinity Map

show the location of the VA development site and the intersections evaluated in Oakland and Alameda.

Figure 1. VA Transfer Parcel Vicinity Map

North Alameda/Downtown Oakland Intersections:

1. Webster Street and 8th Street (Oakland)
2. Webster Street and 7th Street (Oakland)
3. Harrison Street and 7th Street (Oakland)
4. Broadway and 6th Street (Oakland)
5. Broadway and 5th Street (Oakland)
6. Jackson Street and 6th Street (Oakland)
7. Jackson Street and 5th Street (Oakland)
8. Webster Street and Willie Stargell Avenue (Alameda)
9. Main Street and Willie Stargell Avenue (Alameda)
10. Main Street and Atlantic Avenue (Alameda)
11. Webster Street and Atlantic Avenue. (Alameda)

South Alameda/Oakland Intersections:

12. 23rd Avenue and Ford Street (Oakland)
13. 29th Avenue and Ford Street (Oakland)
14. Fruitvale Avenue and East 9th Street (Oakland)
15. Fruitvale Avenue and East 8th Street (Oakland)
16. High Street and Coliseum Way (Oakland)
17. High Street and Oakport Street (Oakland)
18. Park Street and Blanding Avenue (Alameda)
19. Park Street and Lincoln Avenue (Alameda)
20. Park Street and Encinal Avenue (Alameda)
21. Tilden Way and Fernside Boulevard (Alameda)
22. Broadway and Encinal Avenue (Alameda)
23. Broadway and Otis Drive (Alameda)
24. High Street and Fernside Boulevard (Alameda)
25. Otis Drive and Fernside Boulevard (Alameda)
26. Island Drive and Doolittle Drive (Alameda)

Figure 2 and Figure 3 illustrates the intersections and arterials in the Study area that were evaluated. The roadways evaluated in this update included:

- **Broadway**, classified as a principal arterial by the California Department of Transportation (Caltrans), is a major four-lane, two-way, north-south street in downtown Oakland. It includes two lanes and on-street parking in each direction and provides access to I-880 and the Webster Tube to Alameda at 5th Street.
- **Webster Street**, classified as a minor arterial by Caltrans, is a one-way, three-lane southbound (SB) street with on-street parking in Oakland. Webster Street begins from 51st Street north, proceeds through downtown Oakland, and provides access into Alameda via the Webster Tube. Webster Street in Alameda is a two-lane, north-south street with on-street parking in each direction, and provides connections to the Webster and Posey Tubes into and out of Oakland. The Webster Tube consists of two one-way lanes and carries Alameda-bound traffic. The Posey Tube also consists of two one-way lanes and carries Oakland-bound traffic.

- **Harrison Street**, classified as a minor arterial by Caltrans, is a one-way, three-lane northbound (NB) street with on-street parking in Oakland. Harrison Street begins from the southern end of Oakland, discontinues at 5th Street, and then continues north from the exit of Posey Tube on 7th Street.
- **Jackson Street**, classified by Caltrans as a major collector, is a two-lane, two-way, north-south street with on-street parking in each direction. Jackson Street provides access to I-880 at 5th and 6th Streets.
- **8th Street**, classified as a minor arterial by Caltrans, is a major east-west street in downtown Oakland. It is a one-way, four-lane westbound (WB) street with on-street parking in each direction.
- **7th Street**, classified as a minor arterial by Caltrans, is a major east-west street in downtown Oakland. It is a one-way, four-lane eastbound (EB) street with on-street parking in each direction.
- **6th Street,** is classified as a major collector by Caltrans. Located west of Broadway and east of Jackson Street (and north of I-880), it is a one-way, two-lane WB street located in downtown Oakland. 6th Street provides access to I-880.
- **5th Street**, classified as a minor arterial west of Broadway by Caltrans, is a one-way, three-lane EB street located south of the I-880 in downtown Oakland. It provides access to the Webster Tube and I-880 at Broadway.
- **Main Street**, classified as a principal arterial by Caltrans, is a major north-south street located in Alameda. It has two lanes in each direction with no on-street parking. The street begins at Pacific Avenue, just south of Atlantic Avenue, and leads into the development.
- **Willie Stargell Avenue,** is a local east-west street located in Alameda providing access to and from the Webster Tube and Posey Tube into and out of Oakland. It includes two lanes and one bike lane in each direction to the west of Webster Street, and then turns into a narrow one-way each direction residential street towards Main Street. This street extends from Webster Street to Main Street in Alameda.
- **Atlantic Avenue**, classified as a principal arterial by Caltrans, is the southernmost street in the study area in Alameda. It currently has two lanes with no on-street parking in each direction. Atlantic Avenue provides access to and from the Posey Tube and Webster Tube at Webster Street.
- **Park Street,** classified as a principal arterial by Caltrans, connects Oakland to South Alameda through the Park Street Bridge, and travels north-to-south through the busy area of Downtown Alameda. It includes two lanes in each direction and on-street parking on both sides.
- **Fruitvale Avenue, Tilden Way, and Lincoln Ave,** all classified as a principal arterial by Caltrans, connect Oakland to South Alameda through the Fruitvale Bridge, and travel east-to-west through Alameda Island to connect Webster Street and Main Street. The route includes two lanes and no on-street parking in each direction with bike lanes on both sides through a portion of the study segments.

- **High Street,** classified as a minor arterial by Caltrans, connects Oakland to South Alameda through the High Street Bridge, and travels north-to-south through the south side of Alameda. It primarily includes one lane and on-street parking in each direction.

The combined 26 study intersections include the following:
North Alameda/Downtown Oakland Intersections:

27. Webster Street and 8th Street (Oakland)
28. Webster Street and 7th Street (Oakland)
29. Harrison Street and 7th Street (Oakland)
30. Broadway and 6th Street (Oakland)
31. Broadway and 5th Street (Oakland)
32. Jackson Street and 6th Street (Oakland)
33. Jackson Street and 5th Street (Oakland)
34. Webster Street and Willie Stargell Avenue (Alameda)
35. Main Street and Willie Stargell Avenue (Alameda)
36. Main Street and Atlantic Avenue (Alameda)
37. Webster Street and Atlantic Avenue. (Alameda)

South Alameda/Oakland Intersections:

38. 23rd Avenue and Ford Street (Oakland)
39. 29th Avenue and Ford Street (Oakland)
40. Fruitvale Avenue and East 9th Street (Oakland)
41. Fruitvale Avenue and East 8th Street (Oakland)
42. High Street and Coliseum Way (Oakland)
43. High Street and Oakport Street (Oakland)
44. Park Street and Blanding Avenue (Alameda)
45. Park Street and Lincoln Avenue (Alameda)
46. Park Street and Encinal Avenue (Alameda)
47. Tilden Way and Fernside Boulevard (Alameda)
48. Broadway and Encinal Avenue (Alameda)
49. Broadway and Otis Drive (Alameda)
50. High Street and Fernside Boulevard (Alameda)
51. Otis Drive and Fernside Boulevard (Alameda)
52. Island Drive and Doolittle Drive (Alameda)

Figure 2. Study Intersections and Roadways (North)

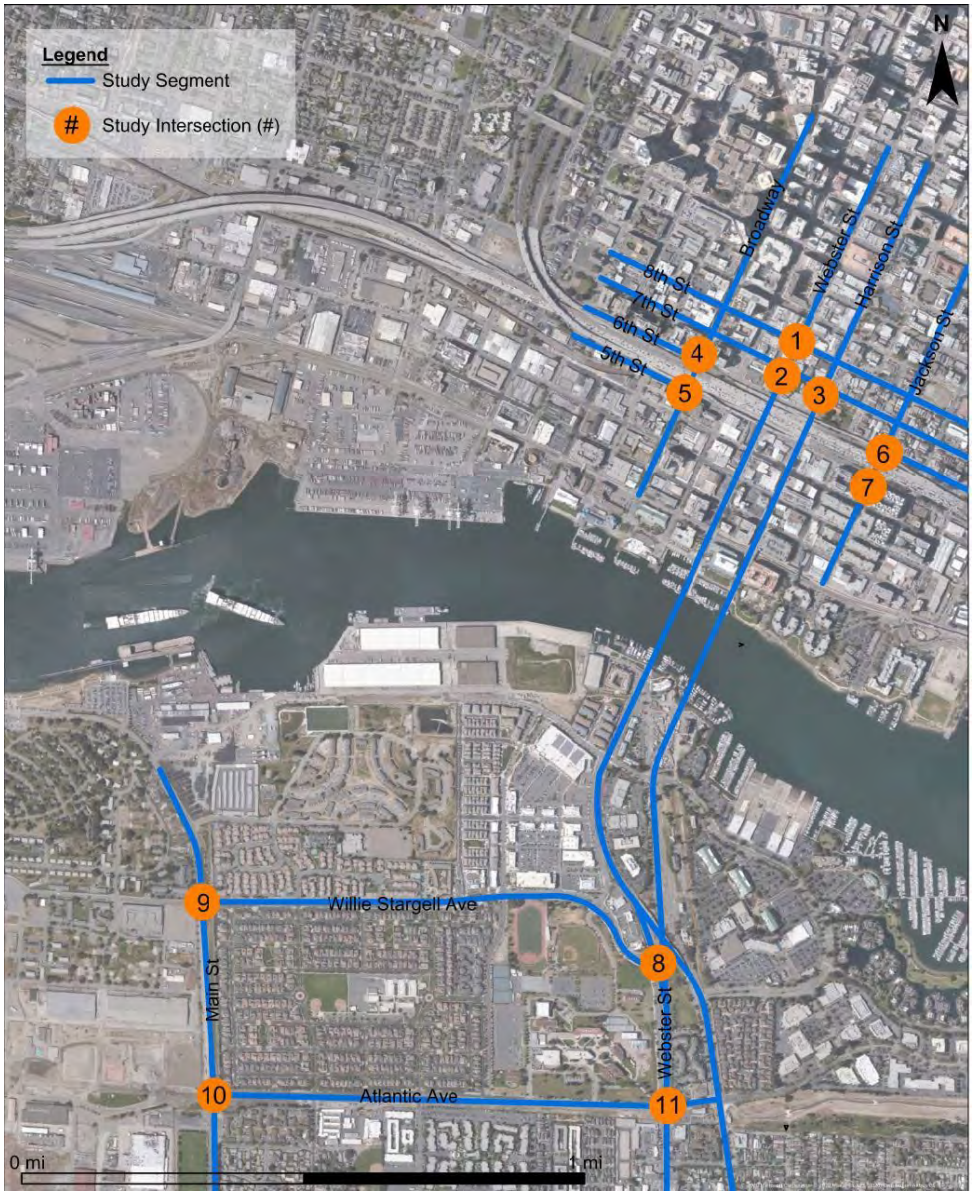
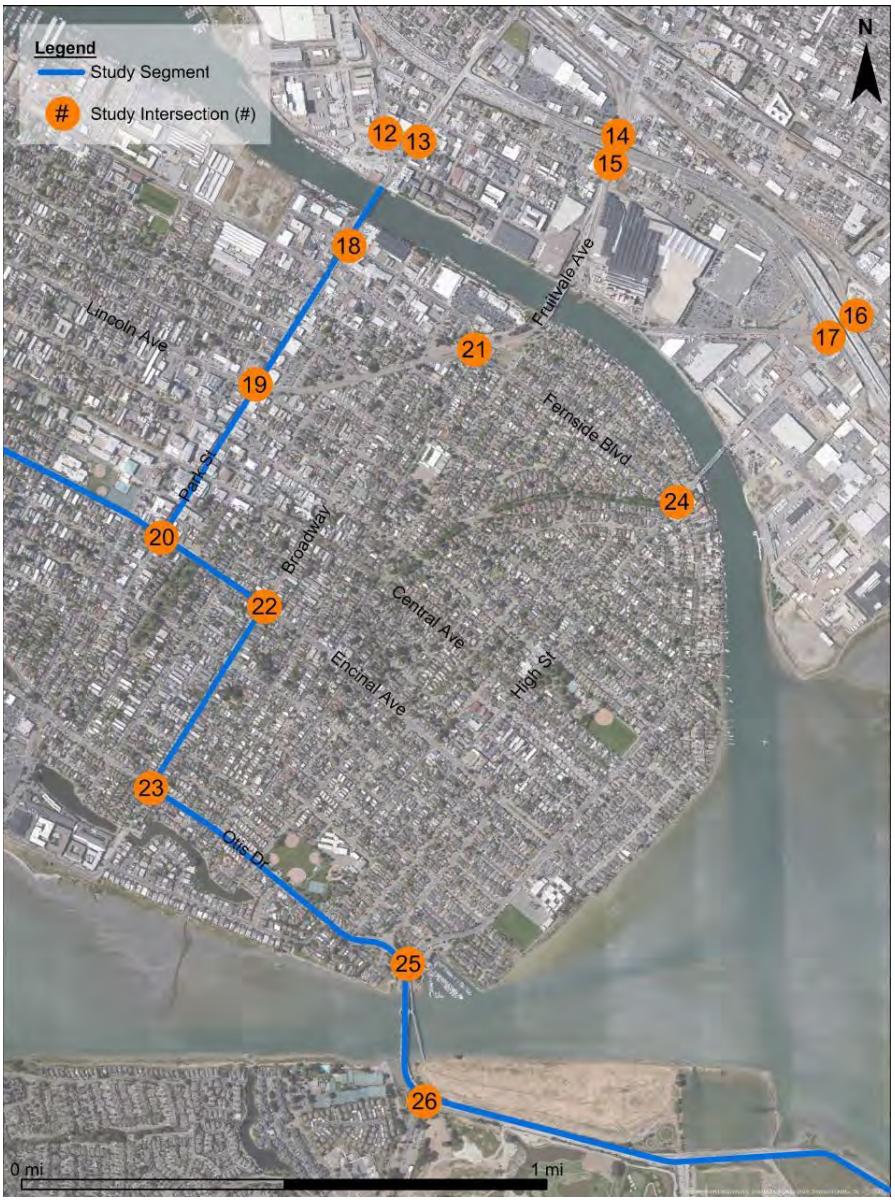


Figure 3. Study Intersections and Roadways (South)



3 Analysis Methodology

This section presents the traffic analysis methods used in this study, including the techniques used to assess the traffic operations and impacts for intersection level of service (LOS), roadway segment LOS, and VMT.

3.1 Intersection Level of Service

Twenty-six intersections were analyzed using the operational analysis procedure outlined in the 2010 *Highway Capacity Manual* and implemented using the Synchro 10 traffic analysis software. This commonly accepted methodology grades the intersection operation level from LOS A through LOS F, characterized by the average stopped delay per vehicle. LOS is a measure of driver and/or passenger discomfort, frustration, fuel consumption, and lost travel time. This technique uses 1,900 vehicles per hour per lane as a maximum saturation volume of an intersection, which is adjusted accordingly given a varying lane width, on-street parking availability, pedestrian movement, traffic composition, and shared lane movements. Table 1 presents the LOS definitions and criteria used for this analysis.

According to City of Alameda guidelines, an acceptable LOS is LOS D or better for study intersections in Alameda. Substantial impacts would be identified in Alameda if the Proposed Action degraded intersections from an acceptable LOS D or better to an unacceptable LOS E or worse. For the intersections already operating at an unacceptable LOS E or worse, substantial impacts would be identified in Alameda if the Proposed Action increases the intersection volume by 3 percent or more. In Oakland, no threshold for LOS analysis is currently available because this analysis has been superseded by the VMT analysis, according to the latest version of the Oakland Transportation Impact Review Guidelines. To develop a consistent threshold compared with that used by the City of Alameda, an LOS threshold for the study intersections in Oakland was developed. The study intersections in Oakland are located in CMP roadway networks, where LOS E or better is considered an acceptable LOS. Thus, the study intersections in Oakland were assigned to have a threshold of LOS E, and LOS F will therefore be considered an unacceptable LOS. Table 2 provides brief descriptions for each LOS designation.

Table 1. Definitions for Signalized Intersection LOS

Average Stopped Delay Per Vehicle (seconds)	LOS Characteristics
<10.0	LOS A is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
10.1–20.0	LOS B is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

20.1–35.0	LOS C is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is substantial, although many vehicles still pass through the intersection without stopping.
35.1–55.0	LOS D is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable
55.1–80.0	LOS E is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
>80.0	LOS F is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: *Highway Capacity Manual* (2010)

3.2 Roadway Segments

Roadway segments were evaluated using a volume-to-capacity (v/c) ratio to measure performance. A v/c analysis is a traditional measure used to assess roadway operations where if the v/c is greater than 1.0, the roadway is over capacity and likely experiences delays. Since speed is difficult to predict for future conditions for freeway and highway segments, the v/c was used to analyze all roadway segments for the development. The evening (PM) peak hour was evaluated because it is the worse-case situation for the freeway and roadway segments. A development would have an impact if:

- For roadway segments, the development would increase the v/c ratio 0.03 or more for a roadway segment that would operate over capacity (v/c greater than 1.0) without the development.

Freeway segment v/c ratios were evaluated using an approach consistent with the previous analysis documented in the 2013 *Alameda Point Project Draft Environmental Impact Report* (DEIR) [5].

Speed analysis was conducted on the Alameda arterials of Main Street, Atlantic Avenue, Webster Street, Park Street, and Otis Drive. The arterials listed are the primary roadways used to access the VA development. The speed analysis was conducted using Synchro 10 model. The development would have an impact if speed is reduced by ten percent or more compared to speed without the development. Table 2 presents the 17 arterial segments that were studied in this analysis across Oakland and both North and South Alameda. Four additional I-880 freeway segments were included as a part of the study as follows:

- West of I-980
- East of Oak Street
- West of Park Street
- East of High Street

Table 2: Study CMP Arterial Segments

No.	Roadway	From	To
1	SR 61 (Doolittle Drive)	Oakland City Limit	Fernside Boulevard
2	SR 61 (Otis Drive)	Fernside Boulevard	SR 61 (Broadway)
3	SR 61 (Broadway)	Otis Drive	SR 61 (Encinal Avenue)
4	SR 61 (Encinal Avenue)	SR 61 (Broadway)	Sherman Street
5	Posey/Webster Tubes	SR 260 (Webster Street)	Oakland City Limit
6	Atlantic Avenue	SR 260 (Webster Street)	Main Street
7	Park Street	Oakland City Limit	Central Avenue
8	Park Street	Central Avenue	SR 61 (Encinal Avenue)
9	Main Street	Atlantic Avenue	Willie Stargell Avenue
10	Webster Street	Atlantic Avenue	Willie Stargell Avenue
11	Webster Street	7th Street	8th Street
12	Harrison Street	7th Street	8th Street
13	5th Street	Washington Street	Broadway
14	Broadway	5th Street	6th Street
15	Broadway	5th Street	4th Street
16	7th Street	Harrison Street	Alice Street
17	Jackson Street	7th Street	6th Street

3.3 Vehicle Miles of Travel

Senate Bill 743 was codified in Public Resources Code section 21099 in 2013 to require a new method of transportation impact analysis under California Environmental Quality Act guidelines. Senate Bill 743 suggests that the traditional LOS analysis methods do not reflect true traffic conditions and recommends VMT as a more adequate measure of effectiveness.

MTC (Metropolitan Transportation Commission) Travel Model One outputs were used as a frame of this study to evaluate the traffic impact of the development. The MTC Travel Model One is an activity-based travel demand model that contains VMT data for each of the 1,454 traffic analysis zones (TAZs) that make up the entire San Francisco Bay Area's modeled region and adjacent regions in northern California.

VMT refers to a measure that represents the total amount of driving by a person (per capita or per employee), which helps evaluate the transportation system's impact on the climate, the environment, and human health. Policymakers are gradually replacing the traditional evaluation method of the transportation system's environmental impact using the automobile delay or LOS. In this analysis, the MTC Travel Model One was used to evaluate the VMT impacts of the Proposed Action. The existing MTC Travel Model One provides the Transportation Analysis Zone (TAZ) VMT data for 2020, 2030, and 2040. Because the project is anticipated to open after 2025, the VMT analysis was conducted for 2030 and 2040. The Proposed Action's VMT generation is compared with those of the regional, Alameda, and TAZ 964's average development.

4 Existing 2020 Traffic Operations Analysis

This section presents the 2020 existing traffic conditions in the study area. Traffic, pedestrian, bicycle, and transit conditions were evaluated to provide a multimodal assessment of the transportation system consistent with the approach used by both Alameda and Oakland.

4.1 Traffic Operations

The ordinary practice of establishing and analyzing the 2020 Existing Condition would begin with collecting new traffic counts at the study intersections and appropriate roadway segments. However, 2020 traffic counts were not able to be conducted for this project because the study area and surrounding region were, at the time of the analysis, observing a "shelter-in-place" order in response to the COVID-19 global pandemic. Any traffic counts conducted during this pandemic period would have limited usefulness and not be representative of typical conditions. To approximate the 2020 Existing Condition peak hour volumes, the baseline data were collected from various sources, such as 2013 Alameda Point EIR, and other newer sources including 2020 Oakland-Alameda Access Project (referred to here as 2020 OAAP). Table 3 summarizes the baseline data collection sources for each of the study intersections.

Table 3: Study Intersection Baseline Data Sources

No.	Intersection Name (North–South/East–West)	Source
1	Webster Street and 8th Street (Oakland)	2020 OAAP
2	Webster Street and 7th Street (Oakland)	2020 OAAP
3	Harrison Street and 7th Street (Oakland)	2020 OAAP
4	Broadway and 6th Street (Oakland)	2020 OAAP
5	Broadway and 5th Street (Oakland)	2020 OAAP
6	Jackson Street and 6th Street (Oakland)	2020 OAAP
7	Jackson Street and 5th Street (Oakland)	2020 OAAP
8	Webster Street and Willie Stargell Avenue (Alameda)	2020 OAAP
9	Main Street and Willie Stargell Avenue (Alameda)	2013 Alameda Point EIR
10	Main Street and Atlantic Avenue (Alameda)	2013 Alameda Point EIR
11	Webster Street and Atlantic Avenue. (Alameda)	Alameda (City)
12	23rd Avenue and Ford Street (Oakland)	2013 Alameda Point EIR
13	29th Avenue and Ford Street (Oakland)	2013 Alameda Point EIR
14	Fruitvale Avenue and East 9th Street (Oakland)	2013 Alameda Point EIR
15	Fruitvale Avenue and East 8th Street (Oakland)	2013 Alameda Point EIR
16	High Street and Coliseum Way (Oakland)	2013 Alameda Point EIR
17	High Street and Oakport Street (Oakland)	2013 Alameda Point EIR
18	Park Street and Blanding Avenue (Alameda)	2013 Alameda Point EIR

No.	Intersection Name (North–South/East–West)	Source
19	Park Street and Lincoln Avenue (Alameda)	2013 Alameda Point EIR
20	Park Street and Encinal Avenue (Alameda)	2018 Caltrans Data
21	Tilden Way and Fernside Boulevard (Alameda)	2013 Alameda Point EIR
22	Broadway and Encinal Avenue (Alameda)	2018 Caltrans Data
23	Broadway and Otis Drive (Alameda)	2013 Alameda Point EIR
24	High Street and Fernside Boulevard (Alameda)	2013 Alameda Point EIR
25	Otis Drive and Fernside Boulevard (Alameda)	2013 Alameda Point EIR
26	Island Drive and Doolittle Drive (Alameda)	2013 Alameda Point EIR

The peak hour roadway segment growth forecasts from the Alameda County Travel Demand Model (ACTD Model; reference) were then applied to the baseline data to develop the 2020 Existing Condition morning (AM), afternoon (PM), and Saturday peak hour traffic volumes. The comparison of 2010 and 2040 growth forecasts (that is, the model-derived roadway segment link volumes) indicated an average Alameda Island annual growth rate of 1.33 percent for the AM peak hour and 1.24 percent for the PM peak hour. A version of the ACTD Model for the Saturday peak hour is not available, thus the weekday PM peak hour growth rate was also used to derive Saturday peak hour future volumes.

These growth rates account for the change in traffic volume attributable to land use changes documented in the General Plans for all cities within Alameda County and surrounding areas. Existing conditions traffic volumes were estimated using the peak hour traffic volumes gathered from local agencies and publicly available documents (Table 3), plus the projected growth between the year of the counts and 2020 using the growth rates derived from the ACTD Model. Details of the computed 2020 Existing Condition peak hour turn movement volumes are available in **Appendix A.**

Table 3 summarizes existing AM, PM, and Saturday peak hour LOS at each intersection in the study area. The Tilden Way and Fernside Boulevard intersection in Alameda operates at an unacceptable LOS E during the PM peak hour under existing conditions.

Table 4. 2020 AM, PM, and Saturday Peak Hour Intersection LOS

No.	Intersection	AM		PM		Saturday	
	Location	Delay	LOS	Delay	LOS	Delay	LOS
1	Webster Street and 8th Street (O)	19.0	B	20.4	C	19.3	B
2	Webster Street and 7th Street (O)	12.0	B	19.6	B	11.4	B
3	Harrison Street and 7th Street (O)	16.0	B	43.8	D	19.8	B
4	Broadway and 6th Street (O)	14.7	B	20.1	C	9.6	A
5	Broadway and 5th Street (O)	35.5	D	47.5	D	17.2	B
6	Jackson Street and 6th Street (O)	23.6	C	15.1	B	10.1	B
7	Jackson Street and 5th Street (O)	13.9	B	17.7	B	13.4	B
8	Webster Street and Willie Stargell Avenue (A)	11.7	B	13.6	B	7.9	A

No.	Intersection	AM		PM		Saturday	
	Location	Delay	LOS	Delay	LOS	Delay	LOS
9	Main Street and Willie Stargell Avenue (A)	9.5	A	9.2	A	6.9	A
10	Main Street and Atlantic Avenue (A)	13.6	B	16.5	B	16.2	B
11	Webster Street and Atlantic Avenue (A)	28.3	C	26.0	C	28.1	C
12	23rd Avenue and Ford Street (O)	4.3	A	9.0	A	5.5	A
13	29th Avenue and Ford Street (O)	18.8	B	24.3	C	16.7	B
14	Fruitvale Avenue and East 9th Street (O)	64.0	E	77.7	E	27.9	C
15	Fruitvale Avenue and East 8th Street (O)	12.6	B	16.9	B	12.5	B
16	High Street and Coliseum Way (O)	45.0	D	63.5	E	31.9	C
17	High Street and Oakport Street (O)	22.6	C	35.4	D	22.5	C
18	Park Street and Blanding Avenue (A)	16.3	B	14.8	B	11.7	B
19	Park Street and Lincoln Avenue (A)	18.1	B	21.4	C	16.8	B
20	Park Street and Encinal Avenue (A)	24.3	C	22.4	C	19.8	B
21	**Tilden Way and Fernside Boulevard (A)**	30.1	C	**67.1**	**E**	38.5	D
22	Broadway and Encinal Avenue (A)	14.8	B	15.5	B	12.9	B
23	Broadway and Otis Drive (A)	31.4	C	47.8	D	27.4	C
24	High Street and Fernside Boulevard (A)	48.4	D	37.6	D	32.6	C
25	Otis Drive and Fernside Boulevard (A)	41.8	D	28.9	C	21.9	C
26	Island Drive and Doolittle Drive (A)	36.5	D	23.0	C	16.5	B

Notes: (A) = Alameda, (O) = Oakland

4.2 Pedestrian Conditions

Alameda's and Oakland's flat terrain and moderate weather provide a favorable environment for pedestrians. Typical features such as a connected network of sidewalks, small block sizes, frequent transit service, and relatively slower vehicle travel speeds contribute to above-average pedestrian access in downtown Oakland. Oakland further distinguishes its pedestrian environment by providing Americans with Disabilities Act compliant sidewalks, curb extensions at some intersections, short crossing distances, scramble crosswalks, multiple parks, and landscaping.

Alameda within the study area boundaries also provides an above-average environment for pedestrians. Despite its suburban nature, Americans with Disabilities Act compliant sidewalks, landscaped and separated sidewalks, and multiple pedestrian walkways through cul-de-sacs into residential neighborhoods all contribute to a welcoming environment.

Currently, pedestrian access from downtown Oakland to Alameda is limited and may be considered dangerous. Pedestrians may choose to cross through the multiuse path along the Posey Tube for direct access from Webster Street in Alameda to Harrison Street in Oakland. However, this path is narrow and shared with bicycles.

4.3 Bicycle Conditions

Bikeway facilities in the study area include four classes as defined in the Caltrans *Highway Design Manual*:

- Class 1 Bicycle Path: Facilities with exclusive right of way for bicyclists and pedestrians, away from the roadway and with cross flows by motor traffic minimized.
- Class 2 Bicycle Lane: Facilities established along streets and defined by pavement striping and signage to delineate a portion of a roadway for bicycle travel.
- Class 3 Bicycle Route: Facilities designated as a preferred route for bicyclists on streets shared with motorized traffic not served by dedicated bikeways often marked by route signs.
- Class 4 Separated Bikeway: Facilities established along streets and defined by not only pavement striping and signage, but also a complete separation with barriers such as on-street parking, grade separation, delineator poles to delineate a portion of roadway for bicycle travel.

As with pedestrian travel, Alameda's and Oakland's flat terrain and moderate weather provide a favorable environment for bicycle travel. However, the bicycle network lacks consistency in route connections and coverage. For example, there are no designated bicycle network facilities and limited bicycle access available in the study area in downtown Oakland. In Alameda, a gap in the bicycle network occurs on both Atlantic and Willie Stargell Avenues. Bicycle access between downtown Oakland and Alameda is possible through a multiuse bicycle path through the Posey Tube; however, this path is narrow and is shared with pedestrian traffic.

Figure 4 and Figure 5 shows the existing bicycle network by class (Classes 1, 2, and 3 are currently available to users) in the study area, according to the *Alameda Countywide Bicycle Plan*.

Figure 4. Bike Network by Available Class in the Study Area (North)

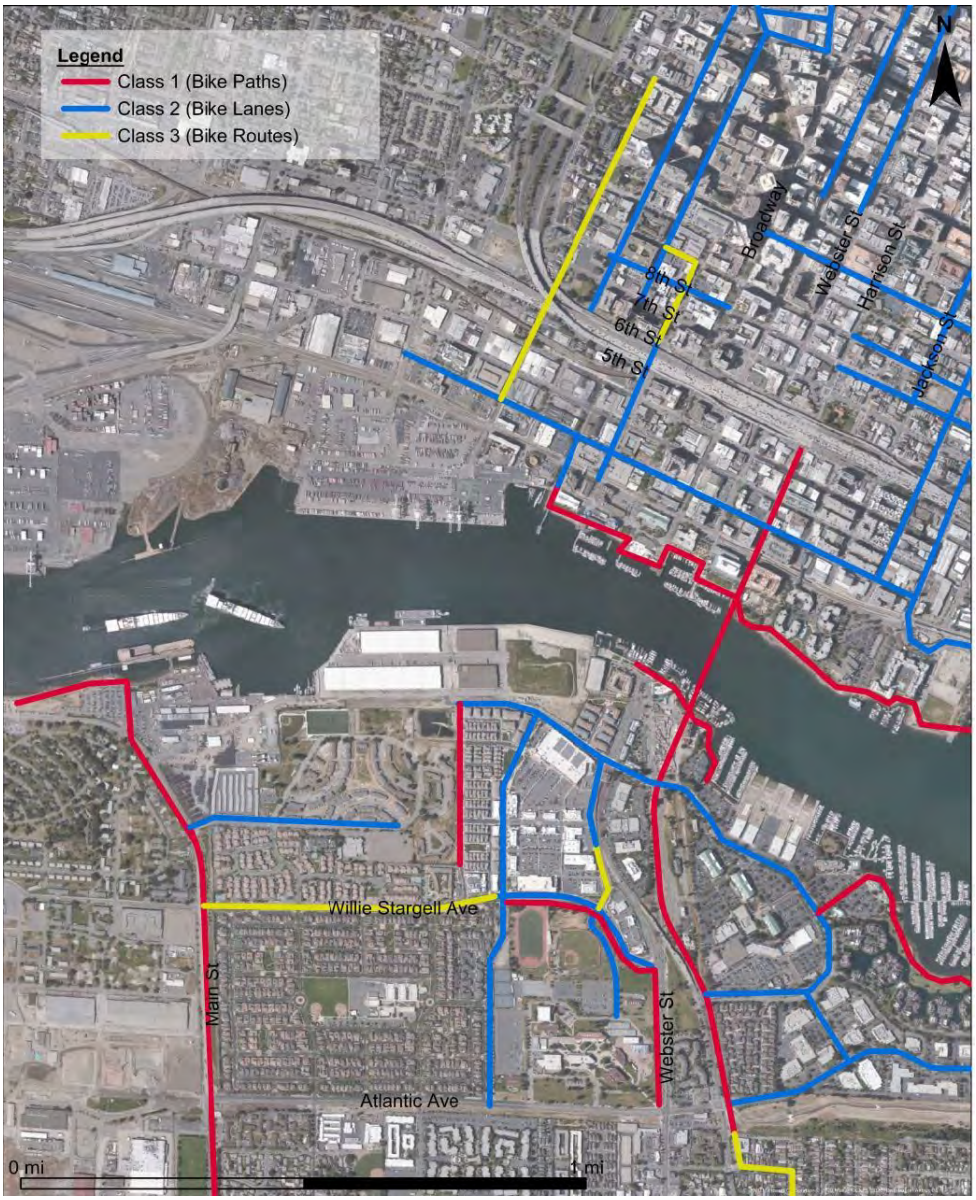


Figure 5. Bike Network by Available Class in the Study Area (South)

Source: *Alameda Countywide Bicycle Plan*

4.3.1 Transit Conditions

Public transit service in the study area is primarily provided by the Alameda-Contra Costa Transit District (AC Transit). Table 5, Figure 6, and Figure 7 illustrate and summarize the seven bus routes in the study area. Route 851 is an off-peak nighttime service that operates from midnight to 5:00 AM and is not illustrated in the figure. Two routes, O and W, provide connections to San Francisco, while the other four daytime routes connect Alameda to Oakland. Route 96 stops the nearest to the development amongst the six bus routes listed.

Figure 6. 2018 Existing AC Transit Bus Routes in the Study Area (North)

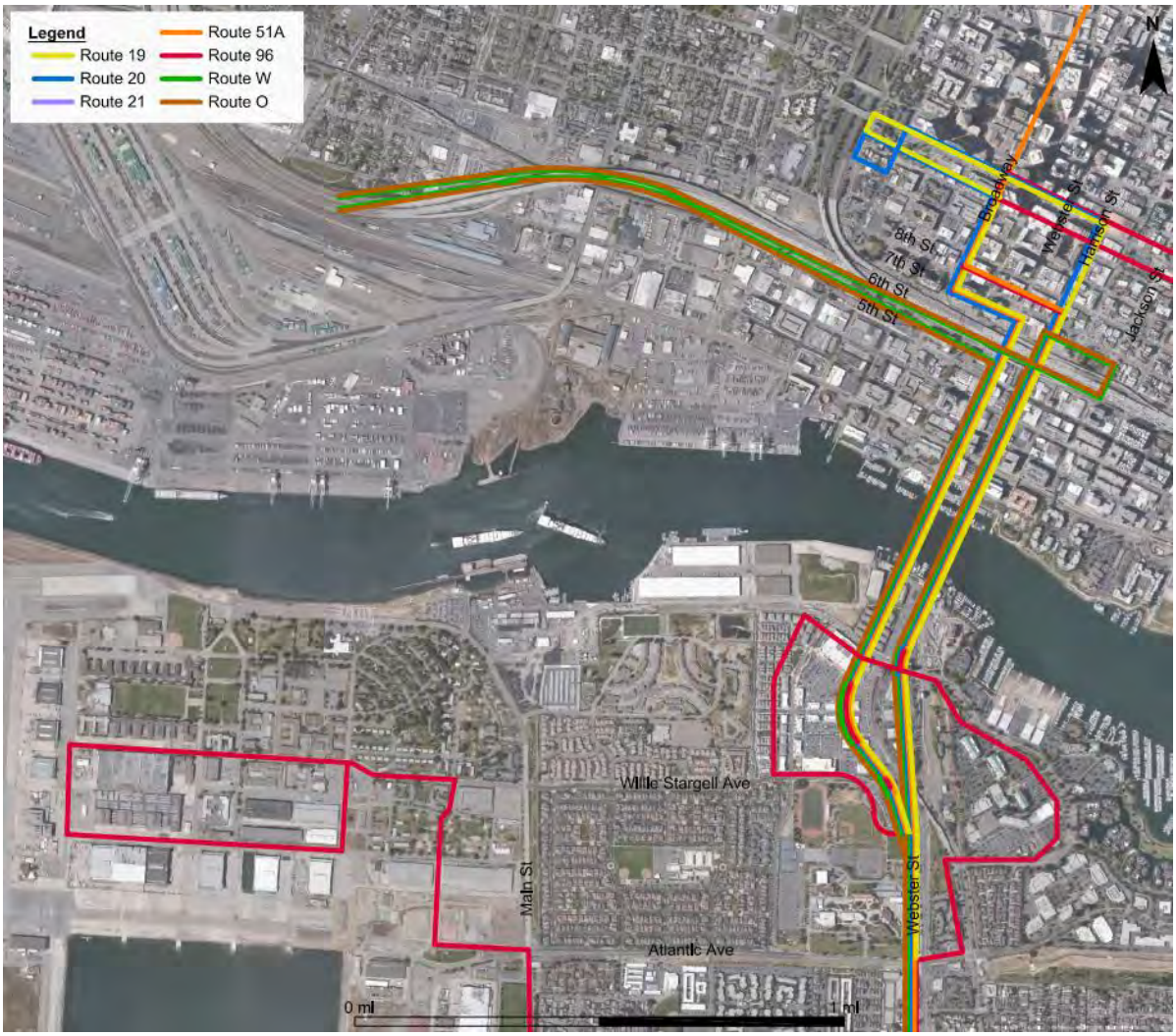


Figure 7. 2018 Existing AC Transit Bus Routes in the Study Area (South)

Table 5. AC Transit Service in the Development Vicinity

Line	Route Description	Frequency (minutes)	
		AM Peak	PM Peak
O	Fruitvale BART to Transbay Temporary Terminal, San Francisco, via Fruitvale Bridge, Fernside Blvd., High St., Encinal Ave., Broadway, Santa Clara Ave., and Webster St.	15–30	10–20
W	Broadway and Blanding Ave., Alameda, to Transbay Temporary Terminal, San Francisco, via Fernside Blvd., High St., Otis Dr., and Webster St.	15–30	15–30
19	From Downtown Oakland to Fruitvale BART via the Webster/Posey Tubes, Atlantic Ave., Buena Vista Ave., Alameda Bridgeside Center, and Fruitvale Ave.	20	20
20	Dimond District, Oakland, to downtown Oakland via Fruitvale Ave., Fruitvale BART, Park St., Alameda Towne Centre, Shoreline Dr., Grand St., Otis Dr., Westline Dr., Central Ave., and Webster St.	30	30
51A	Rockridge BART to Fruitvale BART via College Ave., Broadway (Oakland), Webster St., Santa Clara Ave., and Broadway (Alameda)	10	10
96	Alameda Point to Dimond District via Midway Ave., Lincoln Ave., Marina Village Parkway, Webster/Posey Tubes, Downtown Oakland, E. 12th St., 14th Ave., and Highland Hospital	30	30
851	All nighter. Downtown Berkeley to Fruitvale BART via Southside Berkeley (University of California campus), College Ave., Broadway, downtown Oakland. Webster St., Santa Clara Ave., Broadway, and Fruitvale Ave.	N/A	N/A

Source: AC Transit (2018)

In addition, Alameda provides a free senior shuttle service called Alameda Landing Express, which is open to the public. The free shuttle runs from Tuesday to Thursday from 8:30 AM to 4:00 PM using three, daily varying routes. The three free shuttle routes include:

- West Loop (between Alameda Landing and downtown Alameda)
- East Loop (between Bay Farm Island, downtown Alameda, and Mastick Senior Center)
- Central Loop (between downtown Alameda, Shore Line Drive, and Bridgeside Center).

Additionally, the VA owns and operates a shuttle between Martinez clinic to and from the current Oakland clinic, encompassing six daily trips. The shuttle capacity includes 16 passengers or 12 passengers with two wheelchairs. The current total average daily ridership is 25 passengers. As discussed in the project description, under the proposed project, this shuttle would be routed to the VA Transfer Parcel in the future, with the service anticipated to add another vehicle.

Bay Area Rapid Transit (BART) provides regional commuter rail service in Alameda, Contra Costa, San Francisco, and San Mateo Counties. The nearest BART stations to the VA Transfer Parcel include the 12th Street Oakland City Center, Lake Merritt, and Fruitvale Stations. While each of these BART Stations is not within walking distance of

the VA Transfer Parcel, limited AC Transit bus services provide connections from BART to the VA Transfer Parcel (nearest bus stop is approximately 0.5 mile from the VA Transfer Parcel). However, as discussed in the project description, the proposed project includes the addition of a bus stop at the proposed facilities. Further, the existing VA shuttle service would add a stop at the Oakland 12 Street BART station as part of the proposed project. BART operates on weekdays from 4:00 AM to 1:00 AM, on Saturdays from 6:00 AM to 1:00 AM, and on Sundays from 8:00 AM to 1:00 AM. Each individual BART line operates with train frequencies of every 15 to 20 minutes.

Water Emergency Transportation Authority (WETA) provides ferry services between Alameda and San Francisco. Ferries can be accessed at the Alameda Main Street Terminal on the northern shore of Alameda Island or at Jack London Square Terminal in Oakland. Both stations are several miles from the VA Transfer Parcel and can be accessed by automobile, AC Transit buses, and pedestrian and bicycle. Because of heavy demand, WETA increased frequencies to and from Alameda. WETA is also working with Alameda to construct a terminal at the Seaplane Lagoon at Alameda Point, close to the VA Transfer Parcel.

Amtrak provides service to and from the Oakland Jack London Square Amtrak station. Jack London Square can be accessed from the VA Transfer Parcel by automobile, AC Transit bus, and pedestrian and bicycle modes. This station is a stop on Amtrak's Capitol Corridor and San Joaquin routes. The Capitol Corridor serves Sacramento and Auburn to the east and Fremont and San Jose to the south, operating 15 trains in each direction on weekdays and 11 trains in each direction on weekends. The Amtrak San Joaquin serves the Central Valley cities of Stockton, Fresno, and Bakersfield and operates six trains in each direction on a daily basis.

5 Future 2025 and 2040 Traffic Operations Analysis

This section presents the future traffic conditions for the No Action and Proposed Action conditions in 2025 and 2040. The No Action condition evaluates a condition with the planned Alameda Point development built out and without the completion of the development. The Proposed Action condition evaluates a condition with the No Action condition and completion of the development.

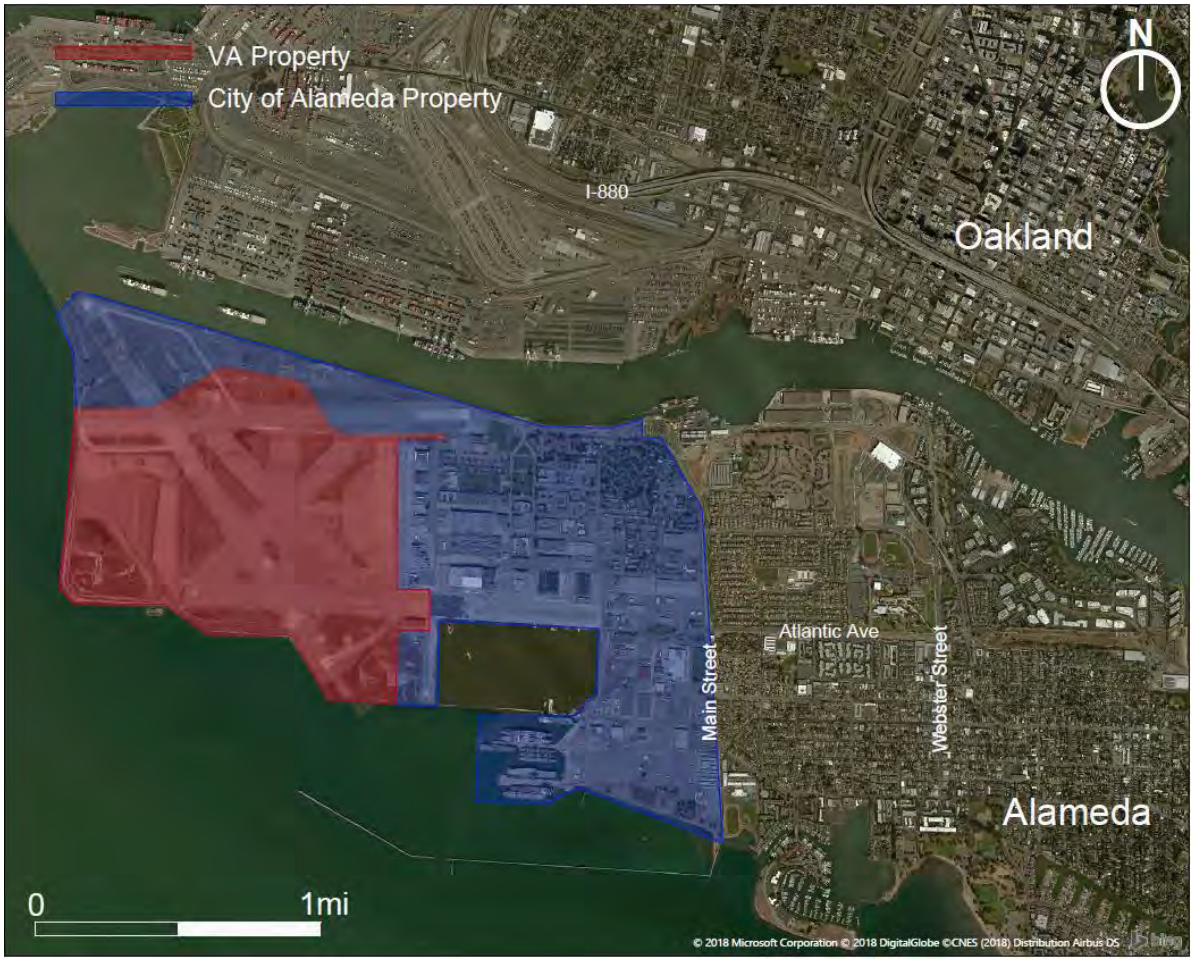
5.1 Veteran's Affairs Property Development

The VA's proposed development is located at the former Naval Air Station in Alameda, which has been closed since 1997. A land transfer from the Navy to the VA was initiated in 2013 [4]. The proposed development will occur on 113 acres of land consisting of 2,500 square feet of the Veterans Benefits Administration (VBA) Outreach Office, 5,000 square feet of the National Cemetery Administration (NCA) office, 2,500 square feet of the Conservation Management Office (CMO), 158,000 square feet of the Outpatient Clinic (OPC) building, and 112 acres of NCA cemetery. The initial construction of the development, including the office spaces and clinic facilities, is expected to be completed in 2025. Further expansion of the cemetery is expected to be completed over 11 phases in 10-year increments by 2125. Every phase of cemetery construction is anticipated to add 25,000 columbarium niches to the development. The cemetery expansion was assumed to have completed one additional phase for the 2040 traffic operations analysis as a conservative and logical assumption.

5.1.1 Alameda Point Development

The Alameda Point development is west of Main Street and east and north of the VA property in Alameda, encompassing approximately 878 acres of uplands and 1,229 acres of submerged lands, for a total of 2,107 acres. Figure 8 illustrates the location of Alameda Point development in relation to the VA development. The Alameda Point development involves a rehabilitation and new construction of the existing area currently unused. The rehabilitation and reuse of the development is expected to be 5.5 million square feet of commercial facilities and 1,425 residential units, which will generate approximately 8,900 jobs and 3,240 residents [5]. Given its proximity to the VA development and the size of the development, the Alameda Point development impact at study intersections was considered for both future No Action and Proposed Action conditions.

Figure 8. City of Alameda Property Adjacent to VA Property



5.2 Future Land Use Trip Development

Trip generation was calculated to identify the number of persons or vehicles entering or exiting the VA development. Trip generation was developed using rates obtained from the ITE *Trip Generation Manual* 10th edition, and VA provided specific information. The ITE rates accounted for vehicle trips only, not person trips, and the information provided by the VA accounted for person trips only. The trips generated for the VBA Outreach Office and CMO used the ITE *Trip Generation Manual* rate for 2,500 square feet of office space each (ITE Code 710).

The VA provided information about client and employee trips for typical weekdays and future OPC and NCA facility projections. The VA also provided daily distribution tables of employees and clients (Table 6). As shown, it is anticipated that half of the employees would enter the development between 7:00 AM and 8:00 AM and leave between 4:00 PM and 5:00 PM daily. The client daily distribution is expected to be spread out, with entry trips peaking from 8:00 AM to 10:00 AM and exit trips peaking from 10:00 AM

to 11:00 AM. The VHA hours were assumed to be Monday through Friday 8:00 AM to 6:00 PM and on Saturday from 8:00 AM to 1:00 PM. The number of trips is more conservative as there is additional availability for clients on Sundays.

Table 6. Anticipated Daily Distribution of VA Employees and Clients

Time	Employee		Client	
	In	Out	In	Out
6:00 AM	5%			
7:00 AM	45%		5%	
8:00 AM	10%		20%	
9:00 AM	5%		20%	10%
10:00 AM			10%	25%
11:00 AM			5%	20%
12:00 PM		20%		5%
1:00 PM	25%		5%	
2:00 PM	10%		10%	5%
3:00 PM		10%	10%	10%
4:00 PM		45%	10%	10%
5:00 PM		20%	5%	10%
6:00 PM		5%		5%
Total	100%	100%	100%	100%

Assumptions about the NCA cemetery were defined and developed based on information provided by VA. Assumptions incorporated in estimates include the following:

- Memorial or inurnment services would occur Monday through Friday between 9:00 AM and 3:00 PM. Cortege trips (group of vehicles) would occur only during the service time.
- Approximately six services would take place Monday through Friday, with up to 15 vehicles per service, lasting approximately 15 to 30 minutes.
- 270 weekday trips would be induced by corteges in the initial phase.
- Build out of the cemetery would occur in 10-year increments per phase for a total of 11 phases including phase 1 during opening; each phase would expand the cemetery to allow for the addition of 25,000 new niches per phase. The number of weekday trips induced by corteges would gradually increase in number under future expansion phases.
- Seven cemetery staff members would work in the OPC building Monday through Friday between 8:00 AM and 5:00 PM.
- One delivery would occur in the weekday AM peak hour and PM peak hour each.

Based on the information collected for the analysis in the 2013 Alameda VA EA, the person trips generated by the Proposed Actions in 2025 and 2040 were anticipated to travel in various modes, including automobiles (car, truck, and van), AC Transit, BART, bicycle, and walk. Based on more recent data collected by the VA for VA-provided

medical services nationally, mode assumptions have been updated since the 2013 assessment to reflect changes in how services are being provided. Data have shown that approximately 20 percent of the total medical services provided at similar facilities are occurring on a virtual platform over the Internet because of the rapidly growing Telehealth Services. This assumption has been incorporated into the Proposed Actions modeling for 2025 and 2040. Table 7 summarizes the 2025 and 2040 Proposed Action Conditions mode split. Twenty percent of total clinic visits are anticipated to occur virtually through Telehealth Services. Although it is reasonable to assume that Telehealth Services could expand further from 2025 to 2040, to be more conservative, no increase in virtual services was assumed for modeling between 2025 and 2040. Eleven percent of the trips would be made by transit including AC Transit and BART, and would be supplemented by the new shuttle service that connects Oakland BART stations to the VA Transfer Parcel. Despite the use of Telehealth Services and transit service, it is still anticipated that 67 percent of the clinic trips would be made by automobiles given Alameda's auto-oriented and suburban characteristics.

Table 7. 2025 and 2040 Proposed Action Conditions Anticipated Mode Split

Mode	2025	2040
Car, truck, van (includes carpool)	67%	67%
Transit (AC Transit, BART)	11%	11%
Walk	2%	2%
Telehealth Service (Telemedicine)	20%	20%
Total	**100%**	**100%**

Trip distribution identifies the travel patterns of the trips generated to and from the VA Transfer Parcel. Trip distribution percentages are calculated using 2017 and 2018 ZIP Code information of employees and clients of the existing Oakland OPC and Behavioral Health Clinic. For this study, it was assumed that all employees and clients using the existing facilities in Oakland would transfer to and use the proposed new development at the VA Transfer Parcel.

Table 8 presents the trip distribution for employees and clients to the VA Transfer parcel. Approximately 92 percent of employees would need to travel through the Webster/Posey Tube from Oakland (four rows shown in bold font), and 8 percent would need to travel across Alameda Island. Approximately 79 percent of the clients would need to travel through the Webster/Posey Tube from Oakland (four rows shown in bold font), and 21 percent would need to travel across Alameda Island. The same trip distribution percentage is assumed for both the 2025 Proposed Action Condition and 2040 Proposed Action Condition.

Table 8: 2025 and 2040 Proposed Action Conditions Estimated Employees and Client Trip Distribution

From	Employee Percentage	Client Percentage
I-880 North	**34%**	**13%**
I-880 South through Tubes	**16%**	**12%**
I-980	**36%**	**34%**
Downtown Oakland	**6%**	**20%**

I-880S through Downtown Alameda	6%	10%
Downtown Alameda	2%	11%
Total	**100%**	**100%**

5.2.1 2025 Trip Generation and Mode Split

It is anticipated that the 2025 Proposed Action Condition would include a completion of the OPC Clinic, related office facilities, and one phase of construction of the National Cemetery. Most trips from the Proposed Action are anticipated to occur outside of the traditional peak hours because of the unique characteristics of the Proposed Action as a clinic and a national cemetery. For example, cortege trips are generated only between 9:00 AM and 3:00 PM during inurnment services and, therefore, would not affect traditional commute peak hours. As a result, while 1,901 total weekday daily trips are anticipated, only 231 AM peak hour person trips, 230 PM peak hour person trips, and 185 Saturday peak hour person trips are anticipated in 2025. Table 9 summarizes the 2025 Proposed Action Condition estimated daily person trip generation. This calculation does not take into account those trips related to Telehealth Services or non-auto modes of transportation, so this would be total trips before taking into account the mode of travel for scheduled services.

Daily distribution of trips and mode split were applied to the daily employee and client trip generation to calculate peak hour trip generation by mode in the 2025 Proposed Action Condition, as summarized in Table 10. A vehicle occupancy rate of 1.08, which is consistent with the rate used in 2013 VA EA, was applied to all person trips. After removal of non-auto modes of transportation and application of the occupancy ratio, modeling results show the Proposed Action is anticipated to generate 144 AM peak hour vehicle trips, 144 PM peak hour vehicle trips, and 116 Saturday peak hour vehicle trips.

Table 9. 2025 Proposed Action Condition Estimated Daily Person Trip Generation

Land Use	Quant.	Units	Weekday Daily	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Office	5.0	TSF[a]	53	5	1	6	1	5	6	0	0	0
Clinic	513	Clients	1,026	103	0	103	51	51	102	26	103	129
	242	Employees	484	109	0	109	0	109	109	0	48	48
Cemetery												
Employees	7	Employees	14	7	0	7	0	7	7	0	0	0
Visitors			50	2	2	4	2	2	4	4	4	8
Corteges			270	0	0	0	0	0	0	0	0	0
Deliveries			4	1	1	2	1	1	2	0	0	0
Total			**1,901**	**227**	**4**	**231**	**55**	**175**	**230**	**30**	**155**	**185**

[a] thousand square feet

Table 10. 2025 Proposed Action Condition Estimated Peak Hour Trip Generation by Mode

Direction	Person Trips	

	Auto	Transit	Bike/Walk	Telehealth	Total	Vehicle Trips
Weekday AM Peak Hour						
Inbound	152	25	5	45	227	141
Outbound	3	0	0	1	4	3
Total	**155**	**25**	**5**	**46**	**231**	**144**
Weekday PM Peak Hour						
Inbound	37	6	1	11	55	35
Outbound	117	19	4	35	175	109
Total	**154**	**25**	**5**	**46**	**230**	**144**
Saturday Peak Hour						
Inbound	20	3	1	6	30	19
Outbound	104	17	3	31	155	97
Total	**124**	**20**	**4**	**37**	**185**	**116**

5.2.2 2025 Trip Distribution

Table 11 summarizes the number of vehicle trips to and from the VA Transfer Parcel by employees and clients in the 2025 Proposed Action Condition. Visitors to the cemetery are assumed to exhibit the same travel pattern as employees because of their travel characteristics to the VA Transfer Parcel. Thus, visitor vehicle trip counts were added to the employee vehicle trip counts and distributed to the same routes.

Table 11: 2025 Proposed Action Condition Estimated Peak Hour Vehicle Trips of Employees and Clients

Direction	Employees	Clients
Weekday AM Peak Hour		
Inbound	77	64
Outbound	3	0
Total	**80**	**64**
Weekday PM Peak Hour		
Inbound	3	32
Outbound	77	32
Total	**80**	**64**
Saturday Peak Hour		
Inbound	3	16
Outbound	33	64
Total	**36**	**80**

5.2.3 2040 Trip Generation and Mode Split

It is anticipated that the 2040 Proposed Action Condition would include the same facilities as the 2025 Proposed Action Condition plus a second phase expansion of the National Cemetery. Identical to the 2025 Proposed Action Condition, most trips from the Proposed Action are anticipated to occur outside of the traditional peak hours, given the unique characteristics of the Proposed Action as a clinic and a national cemetery. The

Proposed Action would generate 231 AM peak hour person trips, 230 PM peak hour person trips, and 185 Saturday peak hour person trips in the 2040 Proposed Action Condition. Table 12 summarizes the 2040 Proposed Action Condition estimated daily person trip generation.

Daily distribution of trips and mode split were applied to the daily employee and client trip generation to calculate the peak hour trip generation by mode in 2040 Proposed Action Condition, as summarized in Table 13. Identical to the calculation method in the 2025 Proposed Action Condition, a standard vehicle occupancy rate of 1.08 was applied to all person trips. After removal of non-auto modes of transportation and application of the occupancy ratio, modeling results show the Proposed Action is anticipated to generate 144 AM peak hour vehicle trips, 144 PM peak hour vehicle trips, and 116 Saturday peak hour vehicle trips.

Table 12: 2040 Proposed Action Condition Estimated Daily Person Trip Generation

Land Use	Quant.	Units	Weekday Daily	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Office	5.0	TSF[a]	53	5	1	6	1	5	6	0	0	0
Clinic	513	Clients	1,026	103	0	103	51	51	102	26	103	129
	242	Employees	484	109	0	109	0	109	109	0	48	48
Cemetery												
Employees	7	Employees	14	7	0	7	0	7	7	0	0	0
Visitors			55	2	2	4	2	2	4	4	4	8
Corteges			297	0	0	0	0	0	0	0	0	0
Deliveries			4	1	1	2	1	1	2	0	0	0
Total			**1,933**	**227**	**4**	**231**	**55**	**175**	**230**	**30**	**155**	**185**

[a] thousand square feet

Table 13: 2040 Proposed Action Condition Estimated Peak Hour Trip Generation by Mode

Direction	Person Trips					Vehicle Trips
	Auto	Transit	Bike/Walk	Telehealth	Total	
Weekday AM Peak Hour						
Inbound	152	25	5	45	227	141
Outbound	3	0	0	1	4	3
Total	**155**	**25**	**5**	**46**	**231**	**144**
Weekday PM Peak Hour						
Inbound	37	6	1	11	55	35
Outbound	117	19	4	35	175	109
Total	**154**	**25**	**5**	**46**	**230**	**144**
Saturday Peak Hour						
Inbound	20	3	1	6	30	19
Outbound	104	17	3	31	155	97
Total	**124**	**20**	**4**	**37**	**185**	**116**

5.2.4 2040 Trip Distribution

Table 14 summarizes the number of vehicle trips to and from the VA Transfer Parcel by employees and clients in the 2040 Proposed Action Condition. Consistent with the 2025 Proposed Action Condition, the cemetery visitor vehicle trips were added to the employee vehicle trip counts and distributed to the same routes.

Table 14: 2040 Proposed Action Condition Estimated Peak Hour Vehicle Trips of Employees and Clients

Direction	Employees	Clients
Weekday AM Peak Hour		
Inbound	77	64
Outbound	3	0
Total	**80**	**64**
Weekday PM Peak Hour		
Inbound	3	32
Outbound	77	32
Total	**80**	**64**
Saturday Peak Hour		
Inbound	3	16
Outbound	33	64
Total	**36**	**80**

5.2.5 2025 and 2040 Trip Assignment

Preferred routes to and from the VA Transfer Parcel were determined, and the number of vehicle trips using each preferred route were assigned, based on the trip generation and trip distribution. See **Appendix A** for the trip assignment results for the 2025 Proposed Action Condition and 2040 Proposed Action Condition.

5.3 2025 No Action and 2025 Proposed Action Traffic Operations Analysis

This section presents and compares the 2025 No Action and Proposed Action traffic operations and impact analyses conducted. The LOS analysis was conducted for the AM, PM, and Saturday peak hours at 26 intersections. The roadway segment v/c analysis was conducted for the PM peak hour only at 4 freeway segments and 17 arterial segments. The arterial speed analysis was conducted for 5 segments in Alameda. **Appendix B and C** presents the detailed results for the 2025 No Action and Proposed Action conditions.

5.3.1 Volumes

The annual volume growth rate for each intersection was derived by comparing the 2020 and 2040 ACTD Model estimates. This volume growth process included collecting existing segment volumes at all segments surrounding the study intersections,

calculating intersection-specific volumes for 2020 and 2040 using the ACTD Model estimates, then deriving the annual growth rate for each intersection using this information. The derived annual growth rates were then applied to 2020 Existing Conditions volumes at each of the 26 study intersections to develop the 2025 No Action Condition. Subsequently, the 2025 Proposed Action Condition was developed by adding modeled vehicle trips generated by the Proposed Action to the 2025 No Action Condition volumes. The 2025 No Action Condition and 2025 Proposed Action Condition volumes at study intersections are available in **Appendix A**.

5.3.2 Intersection Level of Service Analysis

Table 15 summarizes and compares the intersection LOS results in the 2025 No Action Condition with the 2025 Proposed Action Condition during the AM, PM, and Saturday peak hours. All intersections operate at an acceptable LOS under the 2025 No Action Condition, except for the following three:

- Fruitvale Avenue and 9th Street Intersection (#14) – This intersection operates at LOS F during the PM peak hour.
- Tilden Way and Fernside Avenue Intersection (#21) – This intersection operates at LOS F during the PM peak hour.
- Broadway and Otis Drive (#23) – This intersection operates at LOS E during the PM peak hour.

In the 2025 Proposed Action Condition, there would be no degradation of intersections to an unacceptable LOS. However, the same three intersections would continue to operate at an unacceptable LOS, and the Proposed Action inflicted volume increases were further assessed to evaluate the impact:

- Fruitvale Avenue and 9th Street Intersection (#14) – This intersection continues to operate at LOS F during the PM peak hour. Volume increase of <0.01 percent is anticipated and would not exceed the 3 percent threshold of significance.
- Tilden Way and Fernside Avenue Intersection (#21) – This intersection continues to operate at LOS F during the PM peak hour. Volume increase of 0.11 percent is anticipated and would not exceed the 3 percent threshold of significance.
- Broadway and Otis Drive (#23) – This intersection continues to operate at LOS E during the PM peak hour. Volume increase of 0.13 percent is anticipated and would not exceed the 3 percent threshold of significance.

Because a volume increase of 3 percent or higher would not occur with implementation of the Proposed Action at the three intersections operating at an unacceptable LOS under the No Action condition, the traffic impact in 2025 would not be substantial.

Table 15. 2025 No Action and 2025 Proposed Action Conditions LOS Results Comparison

Intersection		Peak Hour	2025 No Action		2025 Proposed Action		Delay Diff.	Volume Diff.
No.	Location		Delay (s)	LOS	Delay (s)	LOS		
1	Webster Street and 8th Street (O)	Weekday AM	19.0	B	19.1	B	0.1	0.78%
		Weekday PM	20.6	C	20.6	C	0.0	0.29%
		Saturday	19.4	B	19.4	B	0.0	0.23%
2	Webster Street and 7th Street (O)	Weekday AM	12.4	B	12.5	B	0.1	1.07%
		Weekday PM	21.4	C	21.6	C	0.2	0.18%
		Saturday	11.7	B	11.7	B	0.0	0.10%
3	Harrison Street and 7th Street (O)	Weekday AM	18.2	B	18.4	B	0.2	0.09%
		Weekday PM	51.4	D	64.9	E	13.5	2.80%
		Saturday	26.2	C	34.8	C	8.6	2.61%
4	Broadway and 6th Street (O)	Weekday AM	14.7	B	15.1	B	0.4	1.72%
		Weekday PM	20.0	B	20.1	C	0.1	0.35%
		Saturday	9.5	A	9.6	A	0.1	0.28%
5	Broadway and 5th Street (O)	Weekday AM	36.9	D	48.4	D	11.5	4.69%
		Weekday PM	47.4	D	48.0	D	0.6	0.72%
		Saturday	17.2	B	17.3	B	0.1	0.67%
6	Jackson Street and 6th Street (O)	Weekday AM	25.5	C	25.7	C	0.2	0.46%
		Weekday PM	15.4	B	16.4	B	1.0	2.90%
		Saturday	10.2	B	11.0	B	0.8	2.38%
7	Jackson Street and 5th Street (O)	Weekday AM	14.6	B	14.7	B	0.1	0.58%
		Weekday PM	20.3	C	20.6	C	0.3	0.23%
		Saturday	14.6	B	14.8	B	0.2	0.30%
8	Webster Street and Willie Stargell Avenue (A)	Weekday AM	11.9	B	11.7	B	-0.2	4.40%
		Weekday PM	13.9	B	14.5	B	0.6	3.62%
		Saturday	8.0	A	8.9	A	0.9	3.79%
9	Main Street and Willie Stargell Avenue (A)	Weekday AM	9.9	A	9.2	A	-0.7	15.40%
		Weekday PM	9.5	A	9.3	A	-0.2	13.87%
		Saturday	7.1	A	7.0	A	-0.1	13.78%
10	Main Street and Atlantic Avenue (A)	Weekday AM	15.1	B	15.2	B	0.1	1.73%
		Weekday PM	17.8	B	17.9	B	0.1	1.85%
		Saturday	17.4	B	17.6	B	0.2	1.28%
11	Webster Street and Atlantic Avenue (A)	Weekday AM	29.4	C	29.4	C	0.0	0.07%
		Weekday PM	28.1	C	28.2	C	0.1	0.06%
		Saturday	30.4	C	30.4	C	0.0	0.07%
12	23rd Avenue and Ford Street (O)	Weekday AM	4.5	A	4.5	A	0.0	0.10%
		Weekday PM	11.8	B	11.8	B	0.0	0.03%
		Saturday	6.3	A	6.3	A	0.0	0.00%
13	29th Avenue and Ford Street (O)	Weekday AM	21.0	C	21.0	C	0.0	0.10%
		Weekday PM	22.7	C	22.7	C	0.0	0.13%
		Saturday	20.5	C	20.6	C	0.1	0.16%
14	Fruitvale Avenue and East 9th Street (O)	Weekday AM	70.6	E	70.6	E	0.0	0.00%
		Weekday PM	**81.0**	**F**	**81.0**	**F**	0.0	0.00%
		Saturday	28.9	C	28.9	C	0.0	0.00%
15	Fruitvale Avenue and East 8th Street (O)	Weekday AM	13.0	B	13.0	B	0.0	0.00%
		Weekday PM	17.3	B	17.3	B	0.0	0.00%
		Saturday	12.7	B	12.7	B	0.0	0.00%
16		Weekday AM	49.7	D	49.7	D	0.0	0.12%

Intersection		Peak Hour	2025 No Action		2025 Proposed Action		Delay Diff.	Volume Diff.
No.	Location		Delay (s)	LOS	Delay (s)	LOS		
	High Street and Coliseum Way (O)	Weekday PM	71.8	E	71.9	E	0.1	0.03%
		Saturday	35.1	D	35.1	D	0.0	0.00%
17	High Street and Oakport Street (O)	Weekday AM	23.3	C	23.3	C	0.0	0.10%
		Weekday PM	39.6	D	39.8	D	0.2	0.10%
		Saturday	23.4	C	23.4	C	0.0	0.12%
18	Park Street and Blanding Avenue (A)	Weekday AM	17.5	B	17.5	B	0.0	0.10%
		Weekday PM	16.5	B	16.5	B	0.0	0.09%
		Saturday	12.4	B	12.4	B	0.0	0.11%
19	Park Street and Lincoln Avenue (A)	Weekday AM	18.2	B	18.3	B	0.1	0.29%
		Weekday PM	23.0	C	23.0	C	0.0	0.24%
		Saturday	17.4	B	17.4	B	0.0	0.30%
20	Park Street and Encinal Avenue (A)	Weekday AM	24.5	C	24.7	C	0.2	0.29%
		Weekday PM	23.1	C	23.1	C	0.0	0.19%
		Saturday	20.1	C	20.1	C	0.0	0.30%
21	Tilden Way and Fernside Boulevard (A)	Weekday AM	32.4	C	32.6	C	0.2	0.12%
		Weekday PM	**80.6**	**F**	**80.6**	**F**	0.0	0.11%
		Saturday	45.4	D	45.4	D	0.0	0.14%
22	Broadway and Encinal Avenue (A)	Weekday AM	14.9	B	14.9	B	0.0	0.25%
		Weekday PM	15.6	B	15.6	B	0.0	0.19%
		Saturday	12.9	B	12.9	B	0.0	0.30%
23	Broadway and Otis Drive (A)	Weekday AM	35.9	D	35.9	D	0.0	0.16%
		Weekday PM	**55.4**	**E**	**55.9**	**E**	0.5	0.13%
		Saturday	29.5	C	29.6	C	0.1	0.20%
24	High Street and Fernside Boulevard (A)	Weekday AM	53.4	D	53.4	D	0.0	0.00%
		Weekday PM	38.3	D	38.3	D	0.0	0.10%
		Saturday	32.9	C	32.9	C	0.0	0.18%
25	Otis Drive and Fernside Boulevard (A)	Weekday AM	50.3	D	50.5	D	0.2	0.10%
		Weekday PM	29.2	C	29.2	C	0.0	0.09%
		Saturday	22.0	C	22.1	C	0.1	0.14%
26	Island Drive and Doolittle Drive (A)	Weekday AM	43.4	D	43.5	D	0.1	0.10%
		Weekday PM	23.2	C	23.2	C	0.0	0.09%
		Saturday	16.5	B	16.6	B	0.1	0.14%

Notes: (A) = Alameda, (O) = Oakland

5.3.3 Roadway Segment Analysis

Table 16 and Table 17 summarize the comparison of 2025 No Action Condition and 2025 Proposed Action Condition for each of arterial segment and freeway segment operations conditions during the PM peak hour. All roadway segments operate with v/c ratio below 1.00 in the 2025 No Action condition with the following exceptions:

- SR-61 (Doolittle Drive) segment from Oakland City Limit to Fernside Boulevard (#1) – This arterial segment operates at v/c ratio of 1.00 or higher in both directions.

In the 2025 Proposed Action Condition, all segments that were operating at v/c ratio of 1.00 or lower would continue to operate at v/c ratio of 1.00 or lower; thus, no segment would be degraded to LOS F. However, the SR 61 (Doolittle Drive) segment from Oakland City Limit to Fernside Boulevard would continue to operate at a greater than 1.00 v/c ratio; therefore, the percent increase in v/c ratio caused by the Proposed Action is further assessed to evaluate the impact. Modeling results show that the SR 61 (Doolittle Drive) segment from Oakland City Limit to Fernside Boulevard (#1) arterial segment would continue to operate at a v/c ratio greater than 1.00 in both directions. The v/c increase from implementation of the Proposed Action is anticipated to be less than 0.01 and would not exceed the 3 percent threshold of significance; therefore, the traffic impact in 2025 would not be substantial.

Table 16: 2025 No Action and 2025 Proposed Action Conditions PM Peak Hour CMP Arterial Segment v/c Comparison

No.	Roadway	No Action		Action		Difference	
		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
1	SR 61 (Doolittle Drive)	**1.39**	**1.24**	**1.39**	**1.24**	0.00	0.00
2	SR 61 (Otis Drive)	0.93	0.76	0.93	0.76	0.00	0.00
3	SR 61 (Broadway)	0.64	0.72	0.64	0.73	0.00	0.01
4	SR 61 (Encinal Avenue)	0.40	0.31	0.40	0.31	0.00	0.00
5	Posey/Webster Tubes	0.55	0.49	0.58	0.50	0.03	0.01
6	Atlantic Avenue	0.41	0.22	0.41	0.22	0.00	0.00
7	Park Street	0.76	0.60	0.76	0.60	0.00	0.00
8	Park Street	0.37	0.34	0.37	0.34	0.00	0.00
9	Main Street	0.12	0.20	0.12	0.21	0.00	0.01
10	Webster Street	0.51	0.62	0.51	0.62	0.00	0.00
11	Webster Street		0.56		0.56		0.00
12	Harrison Street	0.36		0.36		0.00	
13	5th Street	0.49		0.49		0.00	
14	Broadway	0.15	0.40	0.15	0.41	0.00	0.01
15	Broadway	0.28		0.28		0.00	
16	7th Street	0.80		0.83		0.03	
17	Jackson Street	0.54	0.87	0.54	0.91	0.00	0.04

Notes: EB = eastbound, NB = northbound, SB = southbound, WB = westbound

Table 17: 2025 No Action and 2025 Proposed Action Conditions PM Peak Hour CMP Freeway Segment of I-880 v/c Comparison

Segment List	No Action		Action		Difference	
	NB	SB	NB	SB	NB	SB
West of I-980	0.73	0.73	0.73	0.73	0.00	0.00
East of Oak Street	0.81	0.72	0.81	0.73	0.00	0.01
West of Park Street	0.82	0.92	0.82	0.92	0.00	0.00
East of High Street	0.67	0.88	0.67	0.88	0.00	0.00

Notes: NB = northbound, SB = southbound

Table 18 summarizes the comparison of travel speed at five segments in Alameda under the 2025 No Action condition and 2025 Proposed Action condition. The Proposed Action

is not anticipated to decrease the travel speed during the AM, PM, and Saturday peak hours by more than 0.2 percent, which is less than the 10 percent threshold of significance at all five segments. Thus, the Proposed Action will not have substantial impacts in 2025.

Table 18: 2025 No Action and 2025 Proposed Action Conditions Alameda Segment Speed Comparison

Segment	Peak Hour	2025 No Action		2025 Proposed Action		Difference	
		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Atlantic Avenue	Weekday AM	18.6	17.6	18.6	17.6	0.0%	0.0%
	Weekday PM	17.8	18.4	17.8	18.4	0.0%	0.0%
	Saturday	18.0	19.4	18.0	19.4	0.0%	0.0%
Main Street	Weekday AM	18.9	15.8	18.7	15.7	-0.2%	-0.1%
	Weekday PM	19.4	15.8	19.3	15.6	-0.1%	-0.2%
	Saturday	19.7	16.0	19.6	15.8	-0.1%	-0.2%
Webster Street	Weekday AM	14.8	13.7	14.8	13.7	0.0%	0.0%
	Weekday PM	15.7	12.9	15.6	12.8	-0.1%	-0.1%
	Saturday	16.2	15.3	16.1	15.2	-0.1%	-0.1%
Park Street	Weekday AM	15.9	18.2	15.9	18.2	0.0%	0.0%
	Weekday PM	16.3	17.2	16.3	17.2	0.0%	0.0%
	Saturday	17.2	18.4	17.2	18.3	0.0%	-0.1%
Otis Drive	Weekday AM	12.2	16.4	12.1	16.4	-0.1%	0.0%
	Weekday PM	13.9	19.5	13.9	19.4	0.0%	-0.1%
	Saturday	15.5	21.1	15.5	21.1	0.0%	0.0%

Notes: EB = eastbound, NB = northbound, SB = southbound, WB = westbound

5.4 2040 No Action and 2040 Proposed Action Traffic Operations Analysis

This section presents and compares the 2040 Proposed Action traffic operations and impact analysis conducted. The LOS analysis was conducted for the AM, PM, and Saturday peak hours at 26 intersections. The roadway segment analysis was conducted for the PM peak hour only at 4 freeway segments and 17 arterial segments. The arterial speed analysis was conducted for 5 segments in Alameda. **Appendix B and C** presents the detailed results for the Proposed Action conditions.

5.4.1 Volumes

The 2040 Proposed Action condition was developed by adding modeled vehicle trips generated by the Proposed Action to the 2040 No Action Condition volumes. The 2040 No Action Condition and 2025 Proposed Action Condition volumes at study intersections are available in **Appendix A**.

5.4.2 Intersection Operations Analysis

Table 19 summarizes and compares the intersection LOS results under the 2040 No Action Condition to those under the 2040 Proposed Action condition during the AM, PM,

and Saturday peak hours. All intersections would operate at an acceptable LOS under the 2040 No Action Condition, except for the following intersections:

- Harrison Street and 7th Street (#3) – This intersection operates at LOS F during the PM peak hour.
- Jackson Street and 5th Street (#7) – This intersection operates at LOS F during the PM peak hour.
- Main Street and Atlantic Avenue (#10) – This intersection operates at LOS F during the Saturday peak hour.
- Webster Street and Atlantic Avenue (#11) – This intersection operates at LOS E during the PM peak hour.
- Fruitvale Avenue and 9th Street Intersection (#14) – This intersection operates at LOS F during the AM and PM peak hours.
- High Street and Coliseum Way (#16) – This intersection operates at LOS F during the PM peak hour.
- Tilden Way and Fernside Avenue Intersection (#21) – This intersection operates at LOS F during the PM peak hour and operates at LOS E during the Saturday peak hour.
- Broadway and Otis Drive (#23) – This intersection operates at LOS F during the PM peak hour.
- Broadway and Otis Drive (#24) – This intersection operates at LOS F during the AM peak hour.
- High Street and Fernside Boulevard (#25) – This intersection operates at LOS F during the AM peak hour.
- Otis Drive and Fernside Boulevard (#26) – This intersection operates at LOS F during the AM peak hour.

Under the 2040 Proposed Action Condition, there would be no degradation of intersections to an unacceptable LOS. However, those intersections listed above would continue to operate at an unacceptable LOS. Therefore, volume increases realized from implementation of the Proposed Action were assessed to further evaluate the impact and to determine whether any intersections were degraded by more than 3 percent. The results are as follows:

- Harrison Street and 7th Street (#3) – Under the No Action Condition, this intersection operates at LOS F during the PM peak hour. Implementation of the Proposed Action would be anticipated to increase traffic volumes by 2.53 percent; therefore, the percent change does not exceed the 3 percent threshold of significance.
- Jackson Street and 5th Street (#7) – Under the No Action Condition, this intersection operates at LOS F during the PM peak hour. Implementation of the Proposed Action would be anticipated to increase traffic volumes by 0.17

percent; therefore, the percent change does not exceed the 3 percent threshold of significance.

- Main Street and Atlantic Avenue (#10) – Under the No Action Condition, this intersection operates at LOS F during the Saturday peak hour. Implementation of the Proposed Action would be anticipated to increase traffic volumes by 0.54 percent; therefore, the percent change does not exceed the 3 percent threshold of significance.
- Webster Street and Atlantic Avenue (#11) – Under the No Action Condition, this intersection operates at LOS E during the PM peak hour. Implementation of the Proposed Action would be anticipated to increase traffic volumes by 0.05 percent; therefore, the percent change does not exceed the 3 percent threshold of significance.
- Fruitvale Avenue and 9th Street Intersection (#14) – Under the No Action Condition, this intersection operates at LOS F during the AM and PM peak hours. Implementation of the Proposed Action would not be anticipated to change traffic volumes (0 percent change) in both the AM and PM peak hours; therefore, the percent change does not exceed the 3 percent threshold of significance.
- High Street and Coliseum Way (#16) – Under the No Action Condition, this intersection operates at LOS F during the PM peak hour. Implementation of the Proposed Action would be anticipated to increase traffic volumes by 0.03 percent; therefore, the percent change does not exceed the 3 percent threshold of significance.
- Tilden Way and Fernside Avenue Intersection (#21) – Under the No Action Condition, this intersection operates at LOS F during the PM peak hour and operates at LOS E during the Saturday peak hour. Implementation of the Proposed Action would be anticipated to increase traffic volumes by 0.09 percent during the PM peak hour and 0.11 percent in Saturday peak hour; therefore, the percent change does not exceed the 3 percent threshold of significance.
- Broadway and Otis Drive (#23) – Under the No Action Condition, this intersection operates at LOS F during the PM peak hour. Implementation of the Proposed Action would be anticipated to increase traffic volumes by 0.11 percent; therefore, the percent change does not exceed the 3 percent threshold of significance.
- Broadway and Otis Drive (#24) – Under the No Action Condition, this intersection operates at LOS F during the AM peak hour. Implementation of the Proposed Action would not be anticipated to change traffic volumes (0 percent change); therefore, the percent change does not exceed the 3 percent threshold of significance.
- High Street and Fernside Boulevard (#25) – Under the No Action Condition, this intersection operates at LOS F during the AM peak hour. Implementation of the Proposed Action would be anticipated to increase traffic volumes by 0.09

percent; therefore, the percent change does not exceed the 3 percent threshold of significance.

- Otis Drive and Fernside Boulevard (#26) – Under the No Action Condition, this intersection operates at LOS F during the AM peak hour. Implementation of the Proposed Action would be anticipated to increase traffic volumes by 0.09 percent; therefore, the percent change does not exceed the 3 percent threshold of significance.

Since a volume increase of 3 percent or greater would not result from implementation of the Proposed Action Condition at any of the study intersections that were operating at an unacceptable LOS E or worse in Alameda and LOS F in Oakland under the No Action Condition, traffic volume impacts in 2040 would not be considered substantial.

Table 19: 2040 No Action and 2040 Proposed Action Conditions LOS Results Comparison

Intersection		Peak Hour	2040 No Action		2040 Proposed Action		Delay Diff.	Volume Diff.
No.	Location		Delay (s)	LOS	Delay (s)	LOS		
1	Webster Street and 8th Street (O)	Weekday AM	19.7	B	19.8	B	0.1	0.67%
		Weekday PM	21.5	C	21.6	C	0.1	0.25%
		Saturday	19.8	B	19.8	B	0.0	0.20%
2	Webster Street and 7th Street (O)	Weekday AM	14.0	B	14.2	B	0.2	0.85%
		Weekday PM	33.7	C	34.5	C	0.8	0.17%
		Saturday	12.5	B	12.6	B	0.1	0.09%
3	Harrison Street and 7th Street (O)	Weekday AM	31.0	C	31.4	C	0.4	0.09%
		Weekday PM	**82.3**	**F**	**96.7**	**F**	14.4	2.53%
		Saturday	54.2	D	65.6	E	11.4	2.35%
4	Broadway and 6th Street (O)	Weekday AM	14.6	B	15.1	B	0.5	1.71%
		Weekday PM	19.5	B	19.6	B	0.1	0.36%
		Saturday	9.3	A	9.4	A	0.1	0.29%
5	Broadway and 5th Street (O)	Weekday AM	43.7	D	59.0	E	15.3	4.39%
		Weekday PM	47.0	D	47.6	D	0.6	0.72%
		Saturday	17.1	B	17.3	B	0.2	0.67%
6	Jackson Street and 6th Street (O)	Weekday AM	32.0	C	32.3	C	0.3	0.44%
		Weekday PM	16.2	B	17.3	B	1.1	2.86%
		Saturday	10.5	B	11.4	B	0.9	2.34%
7	Jackson Street and 5th Street (O)	Weekday AM	17.0	B	17.2	B	0.2	0.52%
		Weekday PM	**88.1**	**F**	**92.8**	**F**	4.7	0.17%
		Saturday	34.4	C	35.2	D	0.8	0.23%
8	Webster Street and Willie Stargell Avenue (A)	Weekday AM	12.7	B	12.5	B	-0.2	3.95%
		Weekday PM	15.2	B	15.6	B	0.4	3.33%
		Saturday	8.4	A	9.3	A	0.9	3.48%
9	Main Street and Willie Stargell Avenue (A)	Weekday AM	13.3	B	13.3	B	0.0	9.17%
		Weekday PM	13.0	B	14.2	B	1.2	7.86%
		Saturday	8.7	A	9.2	A	0.5	7.79%
10	Main Street and Atlantic Avenue (A)	Weekday AM	35.1	D	36.1	D	1.0	0.78%
		Weekday PM	42.5	D	42.7	D	0.2	0.79%
		Saturday	**87.3**	**F**	**87.5**	**F**	0.2	0.54%
11		Weekday AM	33.9	C	34.0	C	0.1	0.06%
		Weekday PM	**55.2**	**E**	**55.3**	**E**	0.1	0.05%

Intersection		Peak Hour	2040 No Action		2040 Proposed Action		Delay Diff.	Volume Diff.
No.	Location		Delay (s)	LOS	Delay (s)	LOS		
	Webster Street and Atlantic Avenue (A)	Saturday	43.1	D	43.1	D	0.0	0.05%
12	23rd Avenue and Ford Street (O)	Weekday AM	5.4	A	5.5	A	0.1	0.08%
		Weekday PM	28.6	C	28.6	C	0.0	0.02%
		Saturday	11.2	B	11.2	B	0.0	0.00%
13	29th Avenue and Ford Street (O)	Weekday AM	44.2	D	44.3	D	0.1	0.08%
		Weekday PM	23.3	C	23.5	C	0.2	0.10%
		Saturday	24.0	C	24.0	C	0.0	0.13%
14	Fruitvale Avenue and East 9th Street (O)	Weekday AM	**98.4**	**F**	**98.4**	**F**	0.0	0.00%
		Weekday PM	**91.7**	**F**	**91.7**	**F**	0.0	0.00%
		Saturday	32.8	C	32.8	C	0.0	0.00%
15	Fruitvale Avenue and East 8th Street (O)	Weekday AM	14.6	B	14.6	B	0.0	0.00%
		Weekday PM	18.4	B	18.4	B	0.0	0.00%
		Saturday	13.4	B	13.4	B	0.0	0.00%
16	High Street and Coliseum Way (O)	Weekday AM	69.1	E	69.1	E	0.0	0.10%
		Weekday PM	**101.3**	**F**	**101.5**	**F**	0.2	0.03%
		Saturday	42.9	D	42.9	D	0.0	0.00%
17	High Street and Oakport Street (O)	Weekday AM	27.2	C	27.2	C	0.0	0.09%
		Weekday PM	60.1	E	60.2	E	0.1	0.09%
		Saturday	28.0	C	28.1	C	0.1	0.11%
18	Park Street and Blanding Avenue (A)	Weekday AM	25.0	C	25.0	C	0.0	0.08%
		Weekday PM	39.0	D	39.3	D	0.3	0.07%
		Saturday	16.0	B	16.0	B	0.0	0.09%
19	Park Street and Lincoln Avenue (A)	Weekday AM	18.9	B	18.9	B	0.0	0.27%
		Weekday PM	34.1	C	34.5	C	0.4	0.21%
		Saturday	20.3	C	20.4	C	0.1	0.26%
20	Park Street and Encinal Avenue (A)	Weekday AM	24.9	C	25.2	C	0.3	0.28%
		Weekday PM	25.5	C	25.6	C	0.1	0.17%
		Saturday	21.1	C	21.1	C	0.0	0.26%
21	Tilden Way and Fernside Boulevard (A)	Weekday AM	46.4	D	46.7	D	0.3	0.10%
		Weekday PM	**145.7**	**F**	**145.7**	**F**	0.0	0.09%
		Saturday	**77.7**	**E**	**77.6**	**E**	-0.1	0.11%
22	Broadway and Encinal Avenue (A)	Weekday AM	15.2	B	15.2	B	0.0	0.25%
		Weekday PM	16.1	B	16.1	B	0.0	0.19%
		Saturday	13.2	B	13.2	B	0.0	0.29%
23	Broadway and Otis Drive (A)	Weekday AM	55.0	D	55.0	D	0.0	0.15%
		Weekday PM	**86.6**	**F**	**87.3**	**F**	0.7	0.11%
		Saturday	41.1	D	41.7	D	0.6	0.18%
24	High Street and Fernside Boulevard (A)	Weekday AM	**83.8**	**F**	**83.7**	**F**	-0.1	0.00%
		Weekday PM	40.7	D	40.7	D	0.0	0.09%
		Saturday	35.0	C	35.0	C	0.0	0.17%
25	Otis Drive and Fernside Boulevard (A)	Weekday AM	**92.6**	**F**	**93.2**	**F**	0.6	0.09%
		Weekday PM	31.2	C	31.2	C	0.0	0.09%
		Saturday	22.5	C	22.5	C	0.0	0.14%
26		Weekday AM	**80.2**	**F**	**80.2**	**F**	0.0	0.09%
		Weekday PM	23.8	C	23.8	C	0.0	0.09%

Intersection		Peak Hour	2040 No Action		2040 Proposed Action		Delay Diff.	Volume Diff.
No.	Location		Delay (s)	LOS	Delay (s)	LOS		
	Island Drive and Doolittle Drive (A)	Saturday	16.7	B	16.7	B	0.0	0.14%

Notes: (A) = Alameda, (O) = Oakland

5.4.3 Roadway Segment Analysis

Table 20 and Table 21 summarize comparisons of arterial segment and freeway segment operations under the 2040 No Action Condition and 2040 Proposed Action Condition during the PM peak hour. All roadway segments operate with a v/c ratio below 1.00 in the 2040 No Action condition except for the SR 61 (Doolittle Drive) segment from Oakland City Limit to Fernside Boulevard (#1). This arterial segment operates at a v/c ratio of 1.00 or higher in both directions.

Under the 2040 Proposed Action Condition, all segments that were operating at v/c ratio of 1.00 or lower under the No Action Condition would continue to operate at v/c ratio of 1.00 or lower; thus, there would be no segment degradation to LOS F from implementation of the Proposed Action. However, the SR 61 segment would continue to operate at a v/c ratio greater than 1.00; therefore, the v/c increase caused by the Proposed Action has been assessed to further evaluate the impact. The results show that the v/c ratio for arterial segment SR 61 (Doolittle Drive) from Oakland City Limit to Fernside Boulevard (#1) is anticipated to increase by less than 0.01; therefore, the change would not exceed the v/c significance threshold of 3 percent and the traffic impact in 2040 would not be considered substantial.

Table 20: 2040 No Action and 2040 Proposed Action Conditions PM Peak Hour CMP Arterial Segment v/c Comparison

No.	Roadway	No Action		Action		Difference	
		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
1	**SR 61 (Doolittle Drive)**	**1.40**	**1.27**	**1.40**	**1.27**	**0.00**	**0.00**
2	SR 61 (Otis Drive)	0.94	0.86	0.95	0.87	0.01	0.01
3	SR 61 (Broadway)	0.66	0.83	0.66	0.83	0.00	0.00
4	SR 61 (Encinal Avenue)	0.41	0.35	0.41	0.35	0.00	0.00
5	Posey/Webster Tubes	0.61	0.53	0.64	0.54	0.03	0.01
6	Atlantic Avenue	0.50	0.51	0.50	0.51	0.00	0.00
7	Park Street	0.94	0.69	0.94	0.69	0.00	0.00
8	Park Street	0.43	0.38	0.43	0.38	0.00	0.00
9	Main Street	0.21	0.47	0.21	0.48	0.00	0.01
10	Webster Street	0.56	0.75	0.56	0.75	0.00	0.00
11	Webster Street		0.60		0.60		0.00
12	Harrison Street	0.40		0.40		0.00	
13	5th Street	0.48		0.49		0.01	
14	Broadway	0.14	0.40	0.14	0.41	0.00	0.01
15	Broadway	0.28		0.28		0.00	
16	7th Street	0.89		0.92		0.03	
17	Jackson Street	0.55	0.88	0.55	0.93	0.00	0.05

Notes: EB = eastbound, NB = northbound, SB = southbound, WB = westbound

Table 21: 2040 No Action and 2040 Proposed Action Conditions PM Peak Hour CMP Freeway Segment of I-880 v/c Comparison

Segment List	No Action		Action		Difference	
	NB	SB	NB	SB	NB	SB
West of I-980	0.77	0.80	0.77	0.80	0.00	0.00
East of Oak Street	0.85	0.75	0.85	0.76	0.00	0.01
West of Park Street	0.88	0.96	0.88	0.96	0.00	0.00
East of High Street	0.71	0.93	0.71	0.93	0.00	0.00

Table 22 summarizes the comparison of travel speeds at five segments in Alameda under the 2040 No Action and 2040 Proposed Action conditions. The Proposed Action is not anticipated to decrease the travel speed for transit at any of the five segments during the AM, PM, or Saturday peak hours by more than 0.5 percent, which is less than the 10 percent threshold of significance. Thus, implementation of the Proposed Action will not have substantial impacts on transit service in 2040.

Table 22: 2040 No Action and 2040 Proposed Action Conditions Alameda Segment Speed Comparison

Segment	Peak Hour	2040 No Action		2040 Proposed Action		Difference	
		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Atlantic Avenue	Weekday AM	18.0	14.2	18.0	14.2	0.0%	0.0%
	Weekday PM	17.3	12.7	17.3	12.7	0.0%	0.0%
	Saturday	12.0	8.5	12.0	8.5	0.0%	0.0%
Main Street	Weekday AM	14.6	14.7	14.3	14.7	-0.3%	0.0%
	Weekday PM	17.5	13.9	17.4	13.4	-0.1%	-0.5%
	Saturday	17.3	14.7	17.3	14.4	0.0%	-0.3%
Webster Street	Weekday AM	13.8	13.4	13.8	13.4	0.0%	0.0%
	Weekday PM	14.9	7.7	14.8	7.6	-0.1%	-0.1%
	Saturday	14.9	13.8	14.8	13.7	-0.1%	-0.1%
Park Street	Weekday AM	15.0	18.1	15.0	18.1	0.0%	0.0%
	Weekday PM	15.2	15.0	15.1	14.9	-0.1%	-0.1%
	Saturday	16.6	17.7	16.6	17.7	0.0%	0.0%
Otis Drive	Weekday AM	8.6	12.3	8.6	12.3	0.0%	0.0%
	Weekday PM	13.6	19.4	13.6	19.3	0.0%	-0.1%
	Saturday	15.5	21.1	15.5	21.0	0.0%	-0.1%

Notes: EB = eastbound, NB = northbound, SB = southbound, WB = westbound

5.5 Vehicle Miles of Travel Analysis

Table 23 summarizes the VMT comparison of the Proposed Action to TAZ 964, the City of Alameda, and the region (Bay Area Counties) in 2030. TAZ refers to a basic spatial unit of traffic analysis that helps engineers and planners forecast changes in various measures, such as trip patterns, trip volumes, and modes. For any average development under TAZ 964, it is estimated that there would be 951 net trips, generating 27,531 net

VMT. This equates to an average of 28.95 VMT per employee for an average development that could occur under current zoning. Further, for that same average development, it is estimated that those 951 net trips would each generate 23,965 and 20,351 net VMT in Alameda and the region, respectively. These each represent 87 percent and 74 percent net VMT, respectively, relative to the TAZ 964 estimate. In comparison, 951 net trips resulting from the Proposed Action would generate only 17,379 net VMT, which is equal to 18.30 VMT per employee and a 63 percent net VMT relative to TAZ 964. As summarized, results suggest that the Proposed Action would generate a lower VMT in comparison with the average development in TAZ 964 and would, therefore, reduce the city and regional VMT in 2030. See **Appendix D** for the detailed calculation of the VMT analysis results in 2030.

Table 24 summarizes the VMT comparison of the Proposed Action to TAZ 964, Alameda, and the region (Bay Area Counties) in 2040. It is estimated that there would be 967 net trips generating 24,661 net VMT if an average development was built in TAZ 964. Further, for the same average development, it is estimated that the 967 net trips would generate 23,015 and 20,017 net VMT in Alameda and the region, respectively. These each represent 93 percent and 81 percent net VMT, respectively, relative to TAZ 964. In comparison, 967 net trips resulting from the Proposed Action would generate 17,747 net VMT, which is a 72 percent net VMT relative to the TAZ 964. As summarized, results suggest that the Proposed Action would generate a lower VMT in comparison to the average development in TAZ 964 and would, therefore, reduce the city and regional VMT in 2040. See **Appendix D** for the detailed calculation of the VMT analysis results in 2040.

Table 23: Proposed Action VMT per Employee in Comparison with the TAZ 964, Alameda, and Regional VMT in 2030

Metric	TAZ 964	Alameda	Regional	Proposed Action
Net Trips	951	951	951	951
x Trip Length	28.95	25.20	21.40	18.30
Net VMT	27,531	23,965	20,351	17,379
% Typical in TAZ 964	100%	87%	74%	**63%**

Table 24: Proposed Action VMT per Employee in Comparison to the TAZ 964, Alameda, and Regional VMT in 2040

Metric	TAZ 964	Alameda	Regional	Proposed Action
Net Trips	967	967	967	967
x Trip Length	25.50	23.80	20.70	18.40
Net VMT	24,661	23,015	20,017	17,747
% Typical in TAZ 964	100%	93%	81%	**72%**

6 Construction Scenarios Analysis

Construction activities of the Proposed Action would generate temporary off-site traffic that would include initial delivery of construction equipment, daily deliveries of construction materials and debris, and daily trips of construction workers throughout the construction period. Vehicle trips generated by construction activities generally do not align with the traditional peak hours (Monday through Friday 7:00 AM to 9:00 AM and 3:00 PM to 7:00 PM) given the dispersed delivery activities throughout the day and the construction schedule (typically 7:00 AM to 4:00 PM), which causes construction workers to commute outside of the traditional peak hours.

To assess the temporary impact of construction activities of the Proposed Action, a sensitivity analysis was conducted with the assumption that all construction trucks take the same truck routes to the VA Transfer Parcel. Figure 9 displays the truck routes for Alameda. It was assumed Park Street Bridge and Bay Farm Island Bridge were used as the two bridges provide a connection to other truck routes. The Webster and Posey Tubes currently restrict truck activities. It was determined the worse operating intersection and segment along the route would be Otis Drive and Fernside Boulevard (Intersection #25) and SR-61 (Otis Drive) between Fernside Boulevard and Broadway (Arterial Segment #2) westbound. The intersection and roadway segment were evaluated to determine when a threshold would be exceeded by adding construction trucks. Please see Section 4.1 for details on the thresholds (intersection LOS degrade to LOS E and segment v/c increase by 0.03). Since most of the equipment and material deliveries are expected before or during the AM peak hour, the construction impact is assessed during the AM peak hour. Further, to reflect the worst-case scenario of construction, the sensitivity analysis was conducted using the 2025 No Action Condition volume. The sensitivity analysis revealed that construction would not cause a temporary impact if the peak construction vehicles do not exceed 47 trucks per hour during the peak hour; therefore, the proposed project will be restricted to 47 or less trucks per hour during peak hours. It is also likely that construction truck drivers would plan trips to arrive to the proposed project area outside of peak hours to avoid traffic congestion. See **Appendix E** for the detailed assumptions and calculation methods of the sensitivity analysis.

Figure 9. Existing Truck Routes

7 Conclusions

This section summarizes the modeled results for the intersection operations, roadway operations, and VMT analysis presented in this report. In 2025 and 2040 conditions, the development would cause no impacts, and the traffic operations at every intersection and segment would be satisfactory.

7.1 Intersection Operations

As presented in the preceding sections, the 2025 modeled Proposed Action conditions would cause minor impacts at some study intersections. Overall, however, modeled intersection delays would increase marginally because of the VA development, but LOS would not change. Thus, the modeled VA development would not cause an impact under 2025 Proposed Action conditions.

In 2040 modeled No Action conditions, most of the intersections would degrade to LOS E or worse in Oakland because of annual growth and a significant volume growth generated by the City's Alameda Point development. The modeled VA development would not cause an impact under the 2040 Proposed Action conditions.

7.2 Segment Operations

As presented in the preceding sections, the 2025 modeled Proposed Action conditions would cause minor to no impacts on freeway, highway, and arterial segments. Overall, the segment v/c ratios would not increase or only marginally increase because of the VA development. The modeled VA development arterial speeds do not reduce to cause an impact at any study arterial roadway evaluated.

In 2040 No Action conditions, the v/c ratio exceeds 1.0 at SR 61 segment because of annual population growth and a significant volume growth generated by the Alameda Point development. The modeled VA development would not cause an impact under the 2040 Proposed Action condition.

In the 2040 Proposed Action condition, the VA development causes minor reduction in speeds at most arterial segments but does not cause an impact.

7.3 Vehicle Miles of Travel

As presented in the above sections, the 2030 and 2040 modeled VA development VMT would generate a lower VMT in comparison to the average development for the TAZ 964 and would therefore, help reduce the city and regional VMT in 2040.

8 References

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Appendix A. Synchro Intersection and Roadway Analysis Inputs

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Appendix B. VMT Analysis

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Appendix C. Construction Analysis

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Appendix D. Mitigation Synchro Intersection and Roadway Inputs and VMT Analysis

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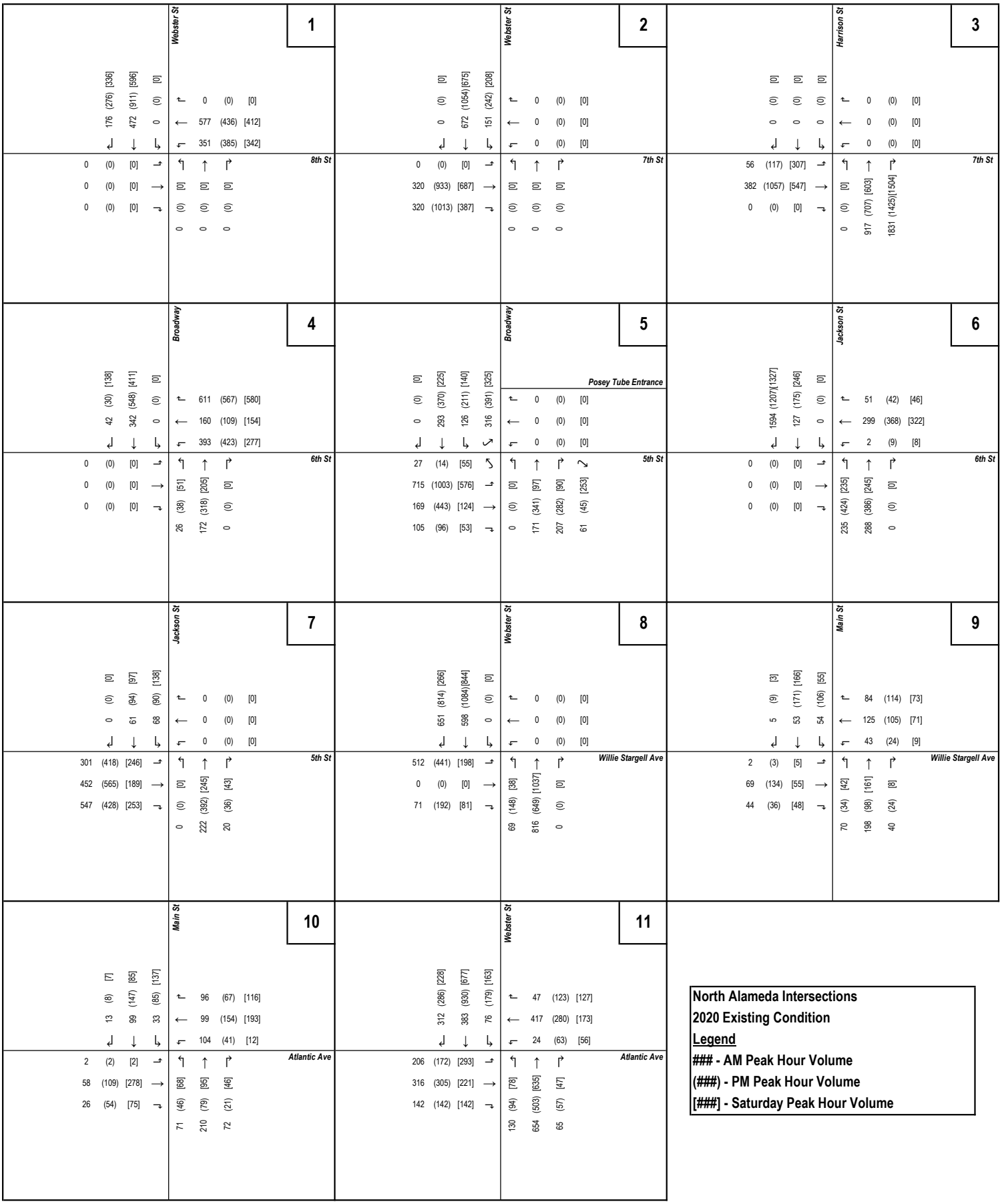
Appendix A

Developed Turn Movement Counts

2020 Existing Condition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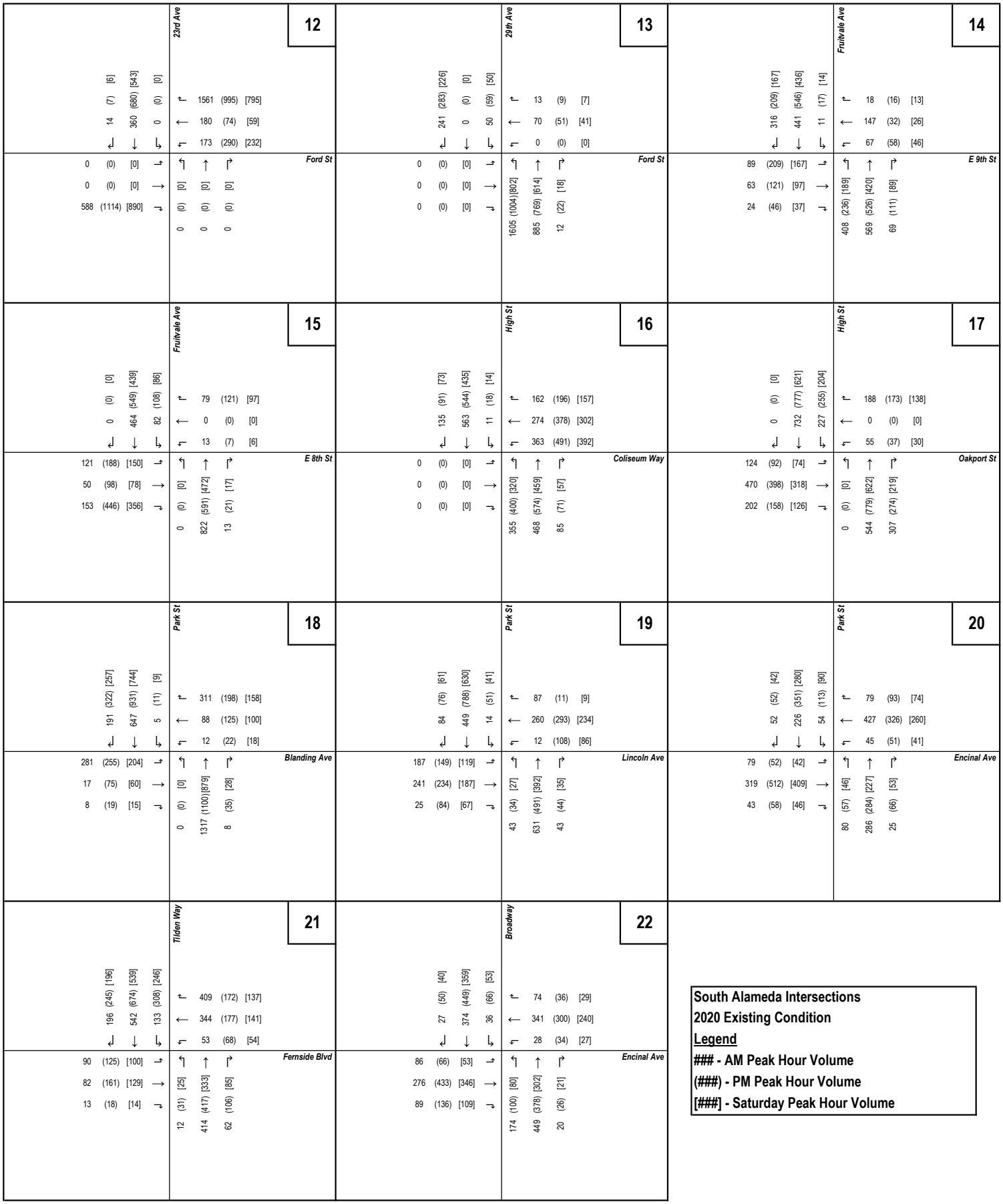
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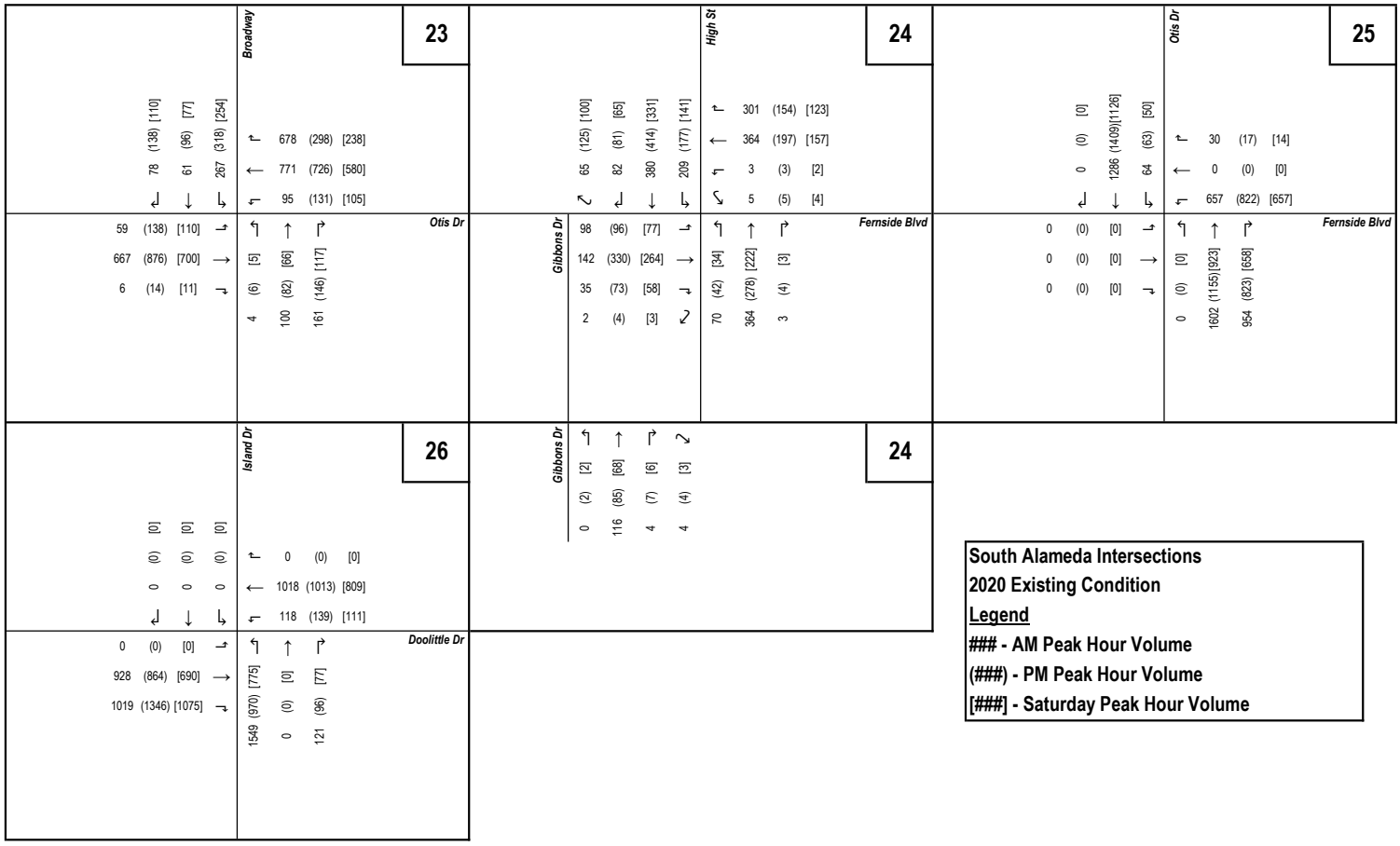

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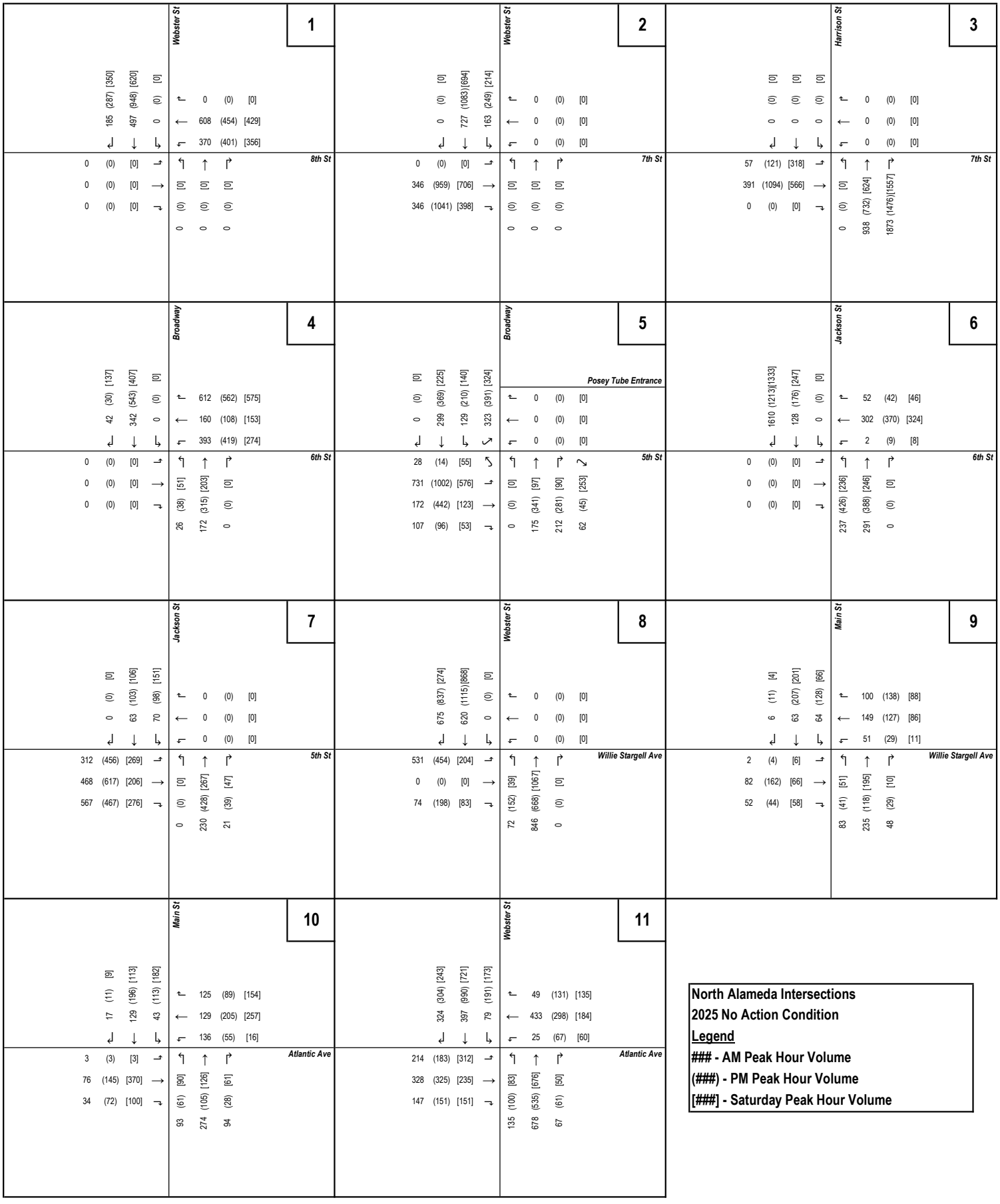
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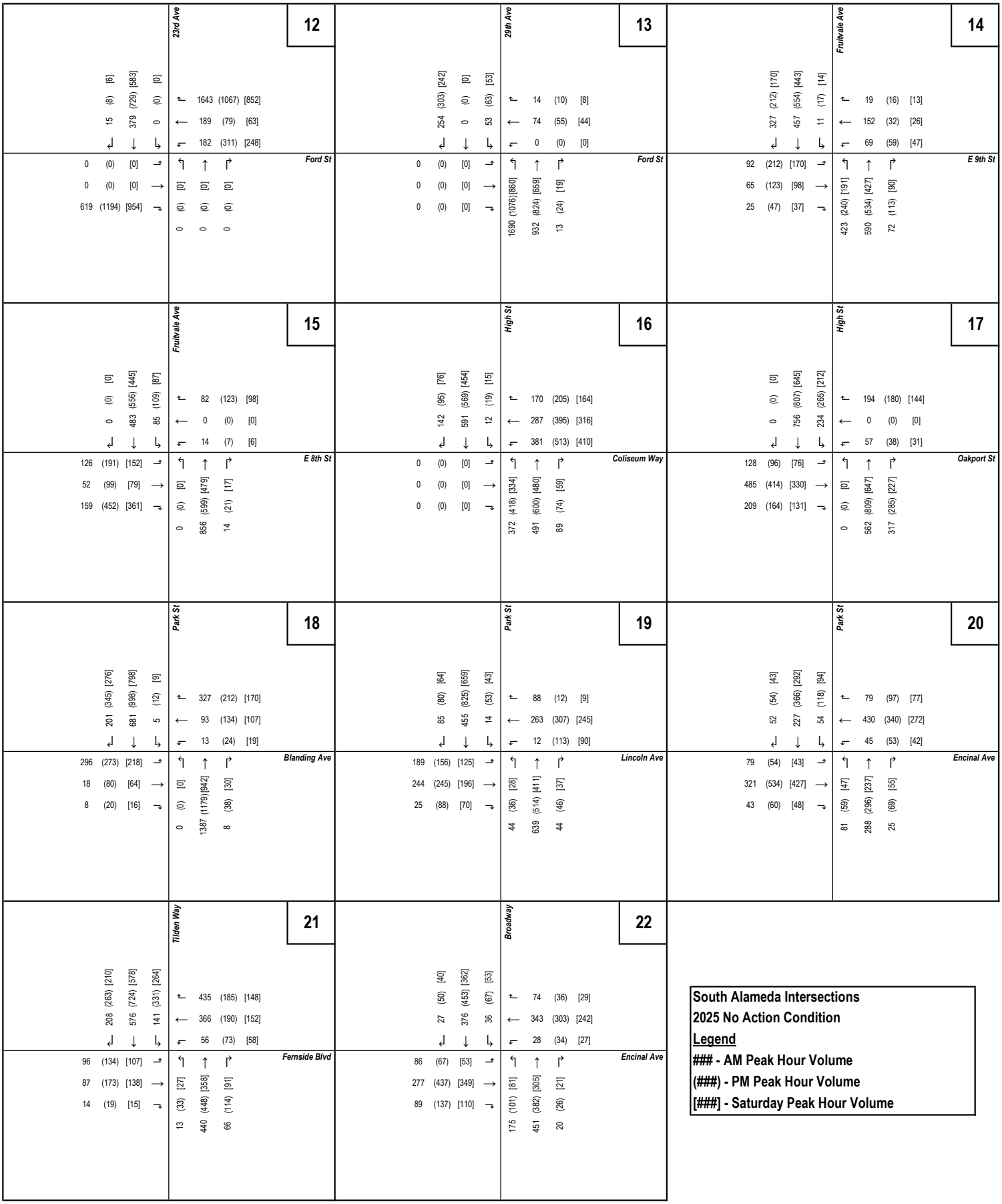
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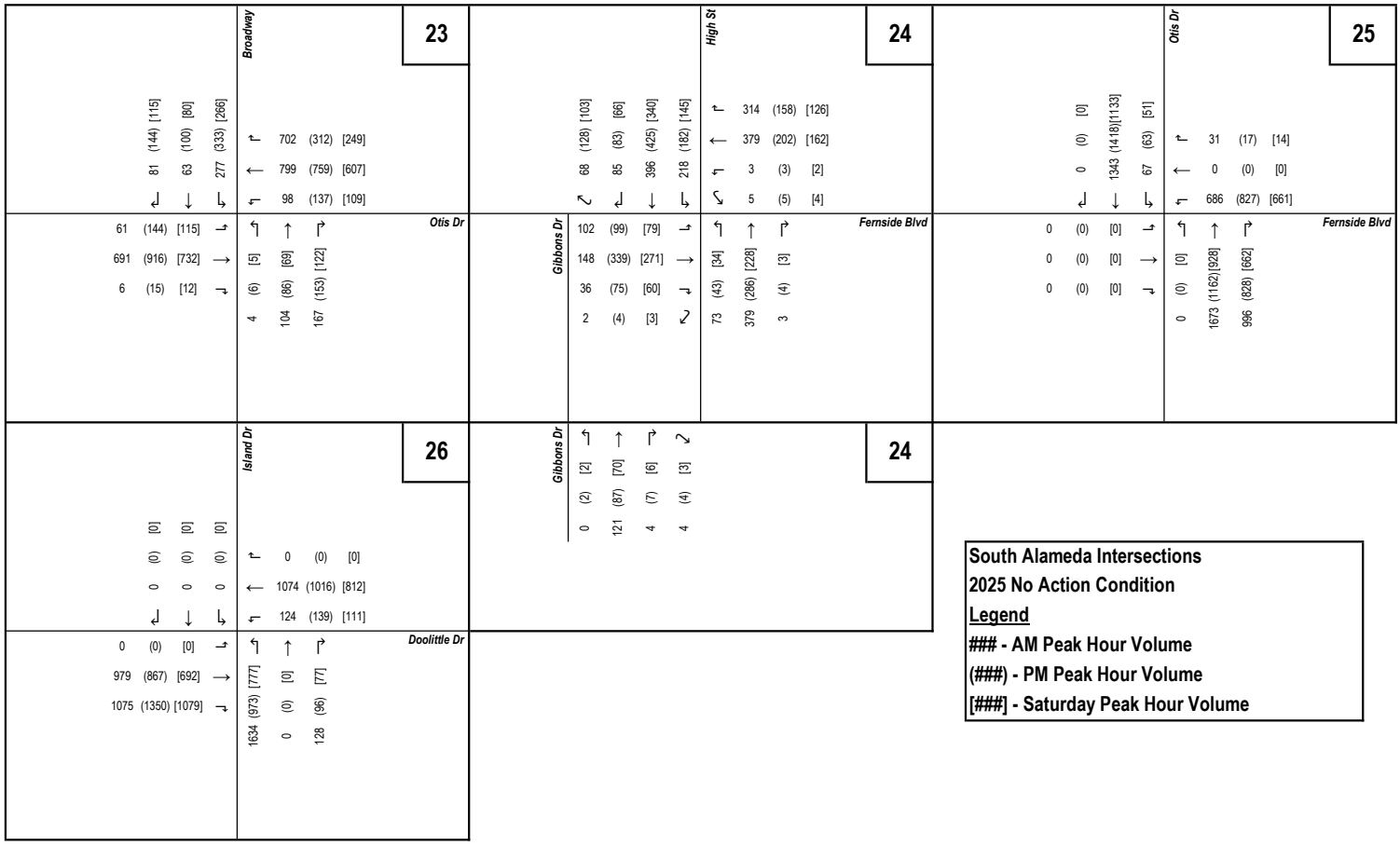

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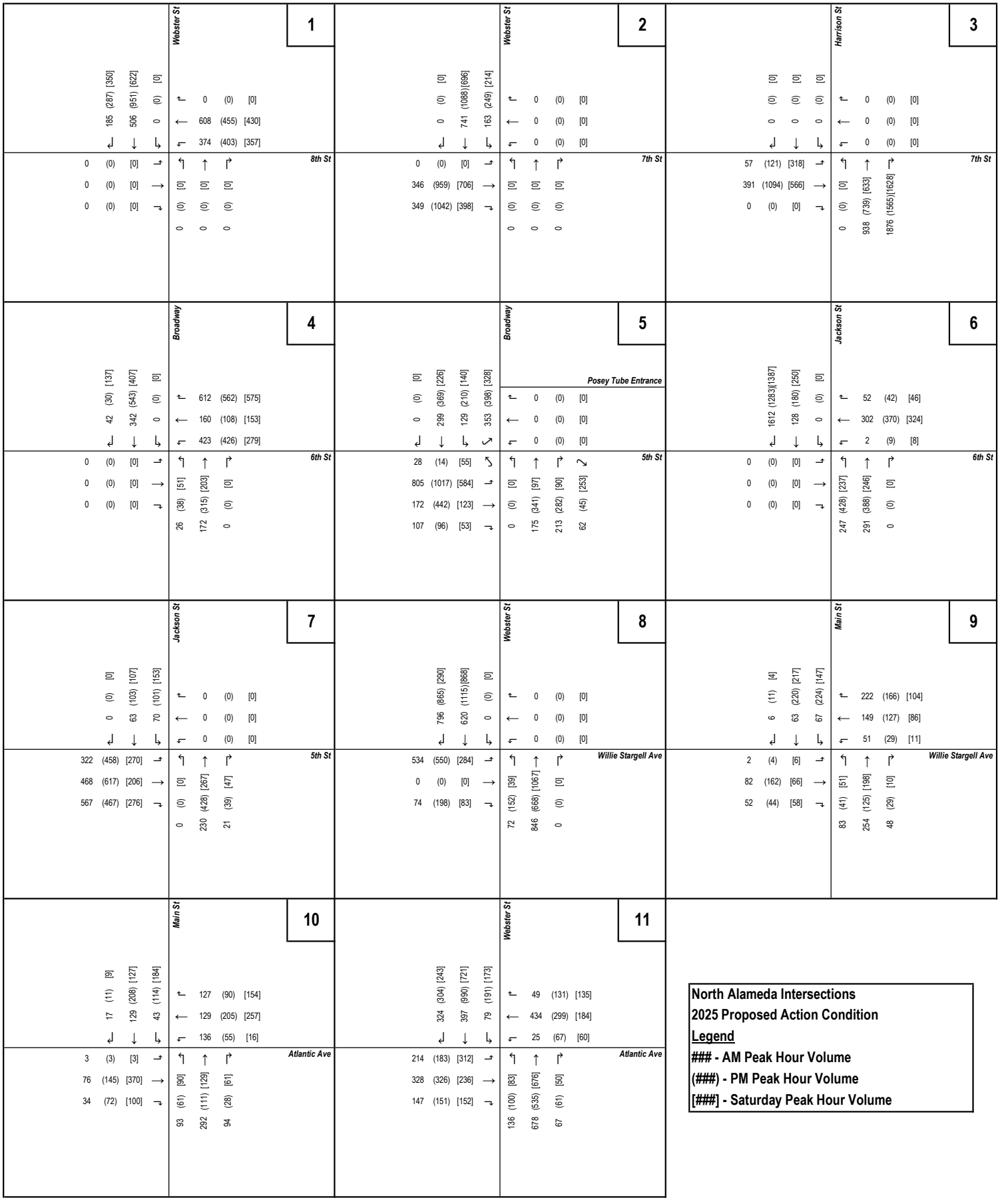
2025 Proposed Action Condition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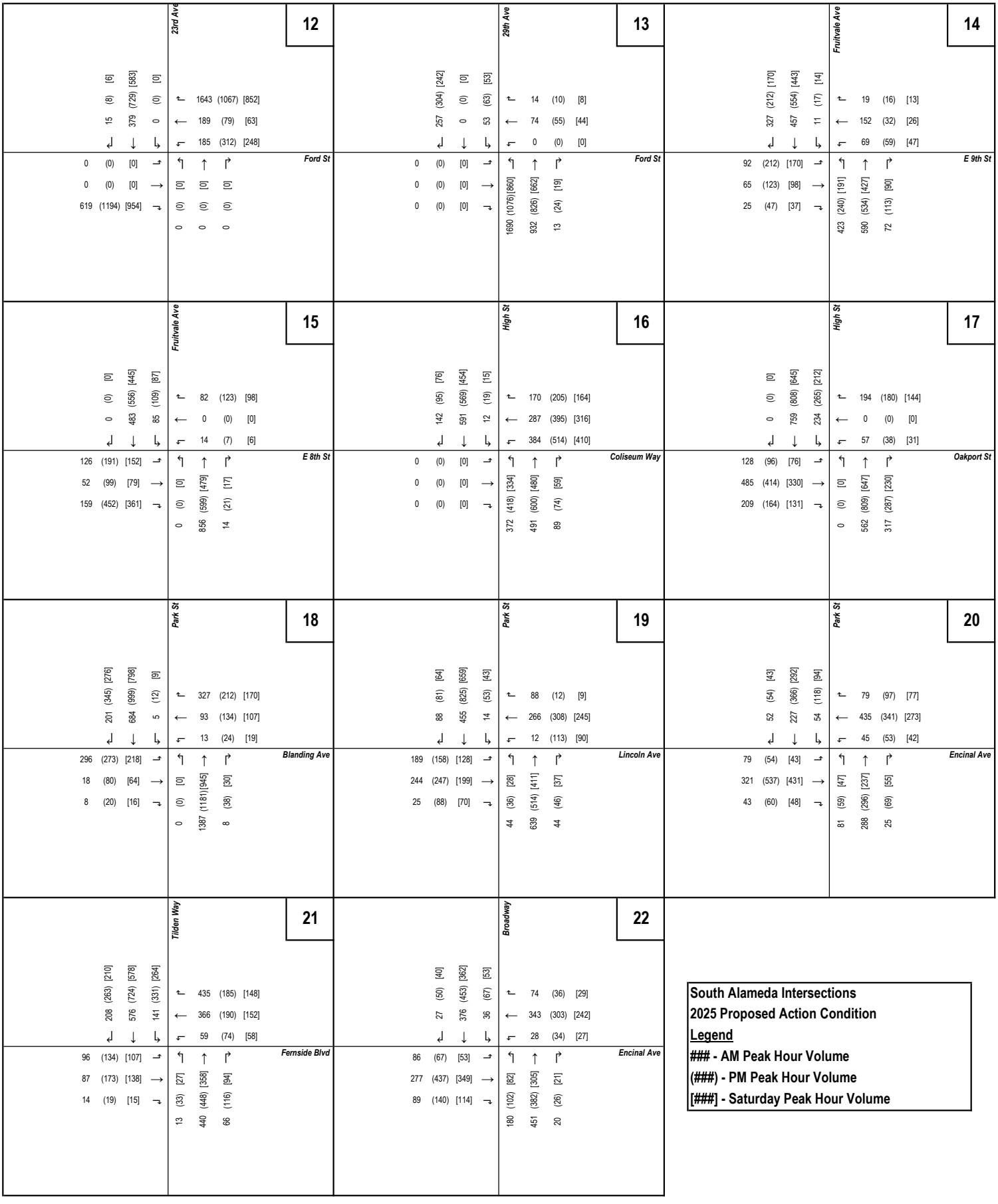
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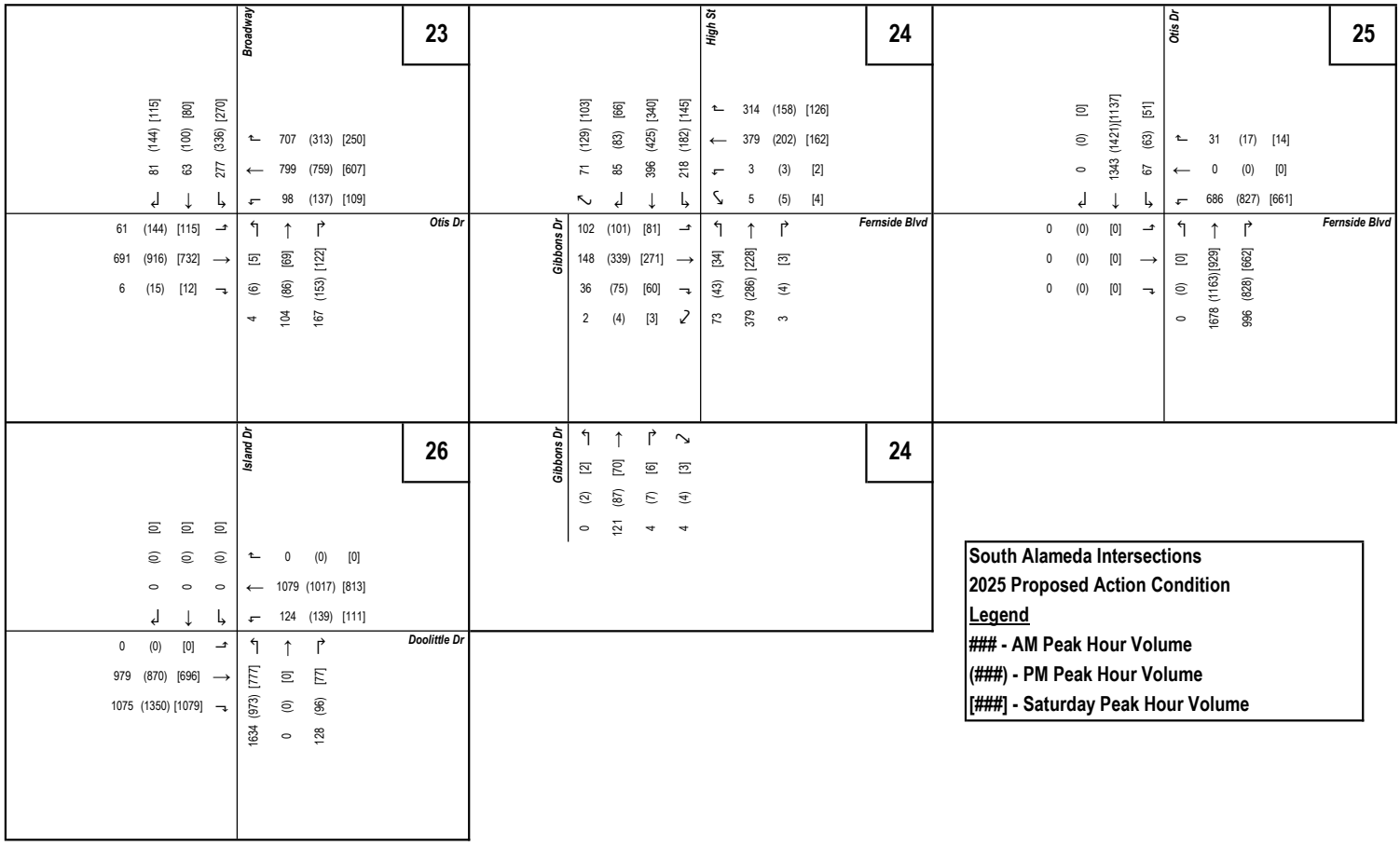
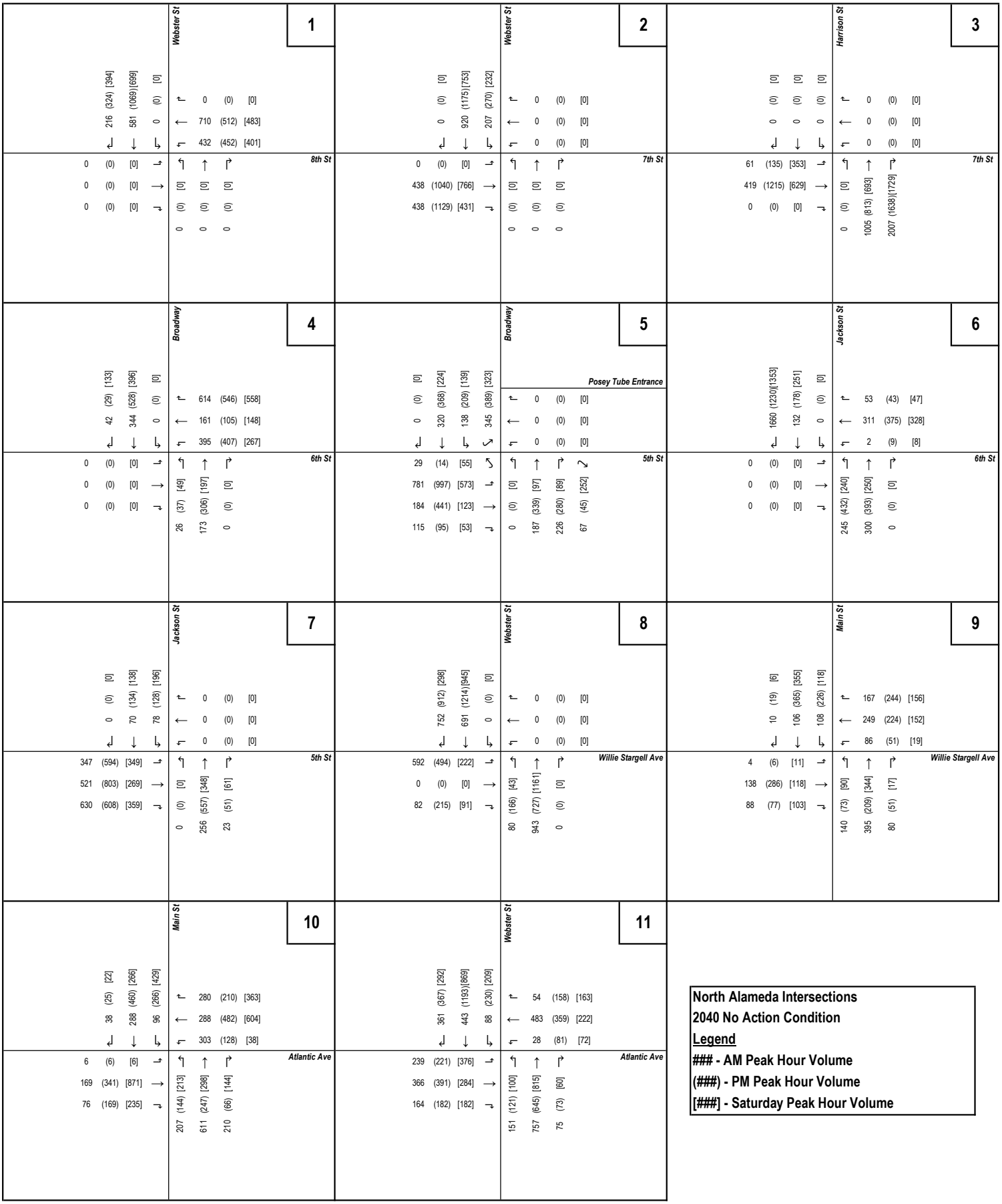
Ford St
13
29th Ave
Ford St
14
Fruitvale Ave
E 9th St
15
Fruitvale Ave
E 8th St
16
High St
Coliseum Way
17
High St
Oakport St
18
Park St
Blanding Ave
19
Park St
Lincoln Ave
20
Park St
Encinal Ave
21
Tilden Way
Fernside Blvd
22
Broadway
Encinal Ave
South Alameda Intersections
2025 Proposed Action Condition
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
[###] - Saturday Peak Hour Volume



South Alameda Intersections
2025 Proposed Action Condition
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
[###] - Saturday Peak Hour Volume

2040 No Action Condition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Broadway
Posey Tube Entrance
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Jackson St
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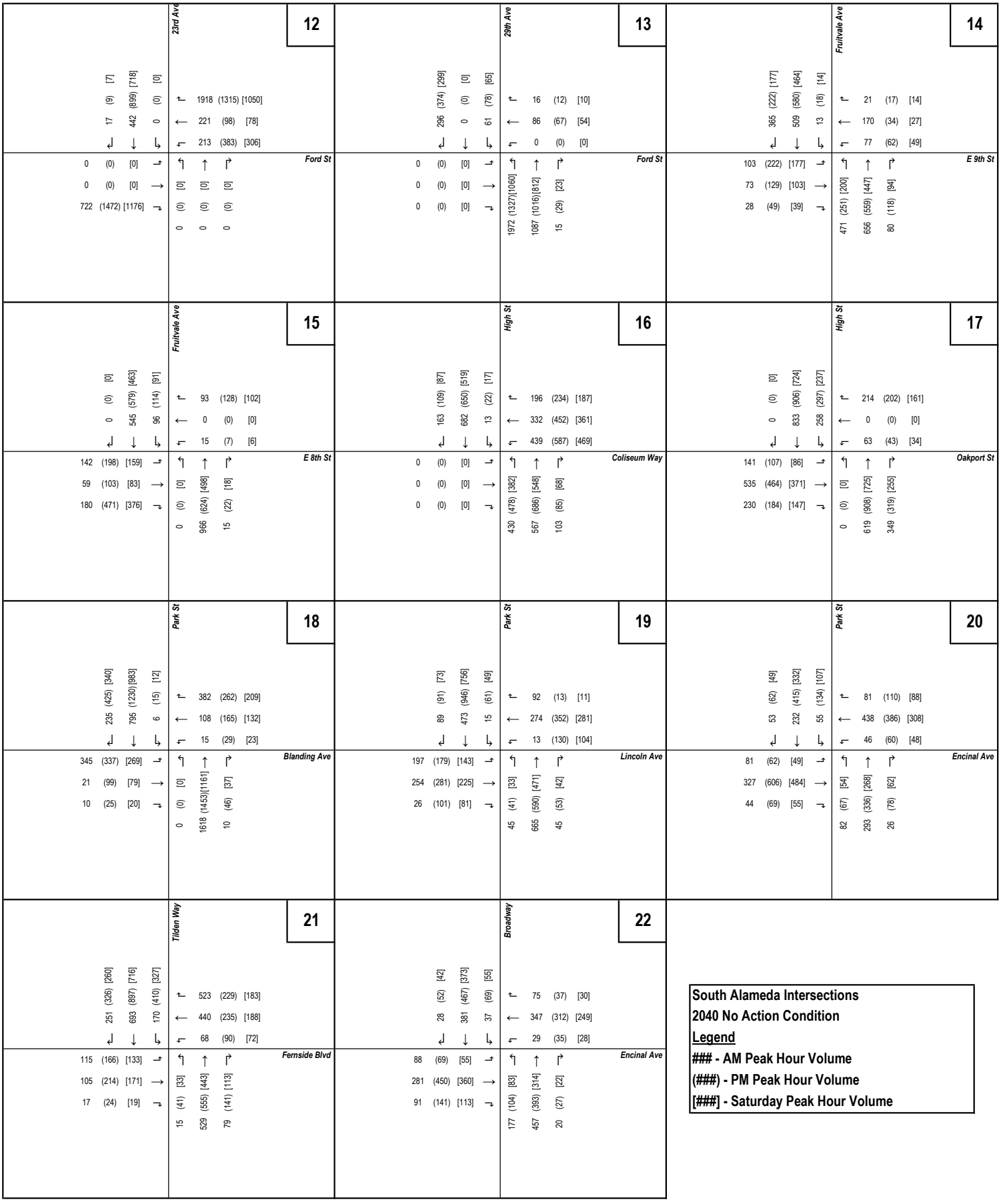
North Alameda Intersections
2040 No Action Condition
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
[###] - Saturday Peak Hour Volume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1087 (1016)[812]
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28 (49) [39]
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15 (7) [6]
0 0 545 (579) [463] 96 (114) [91]
E 8th St
142 (198) [159]
59 (103) [83]
180 (471) [376]
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0 (0) [0]
0 (0) [0]
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15 (22) [18]
16
High St
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332 (452) [361]
439 (587) [469]
163 (109) [87]
682 (650) [519]
13 (22) [17]
Coliseum Way
430 (478) [382]
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Park St
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108 (165) [132]
15 (29) [23]
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6 (15) [12]
Blanding Ave
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Park St
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197 (179) [143]
254 (281) [225]
26 (101) [81]
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Park St
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46 (60) [48]
53 (62) [49]
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55 (134) [107]
Encinal Ave
82 (67) [54]
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26 (78) [62]
81 (62) [49]
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44 (69) [55]
21
Tilden Way
523 (229) [183]
440 (235) [188]
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Fernside Blvd
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17 (24) [19]
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Encinal Ave
177 (104) [83]
457 (393) [314]
20 (27) [22]
88 (69) [55]
281 (450) [360]
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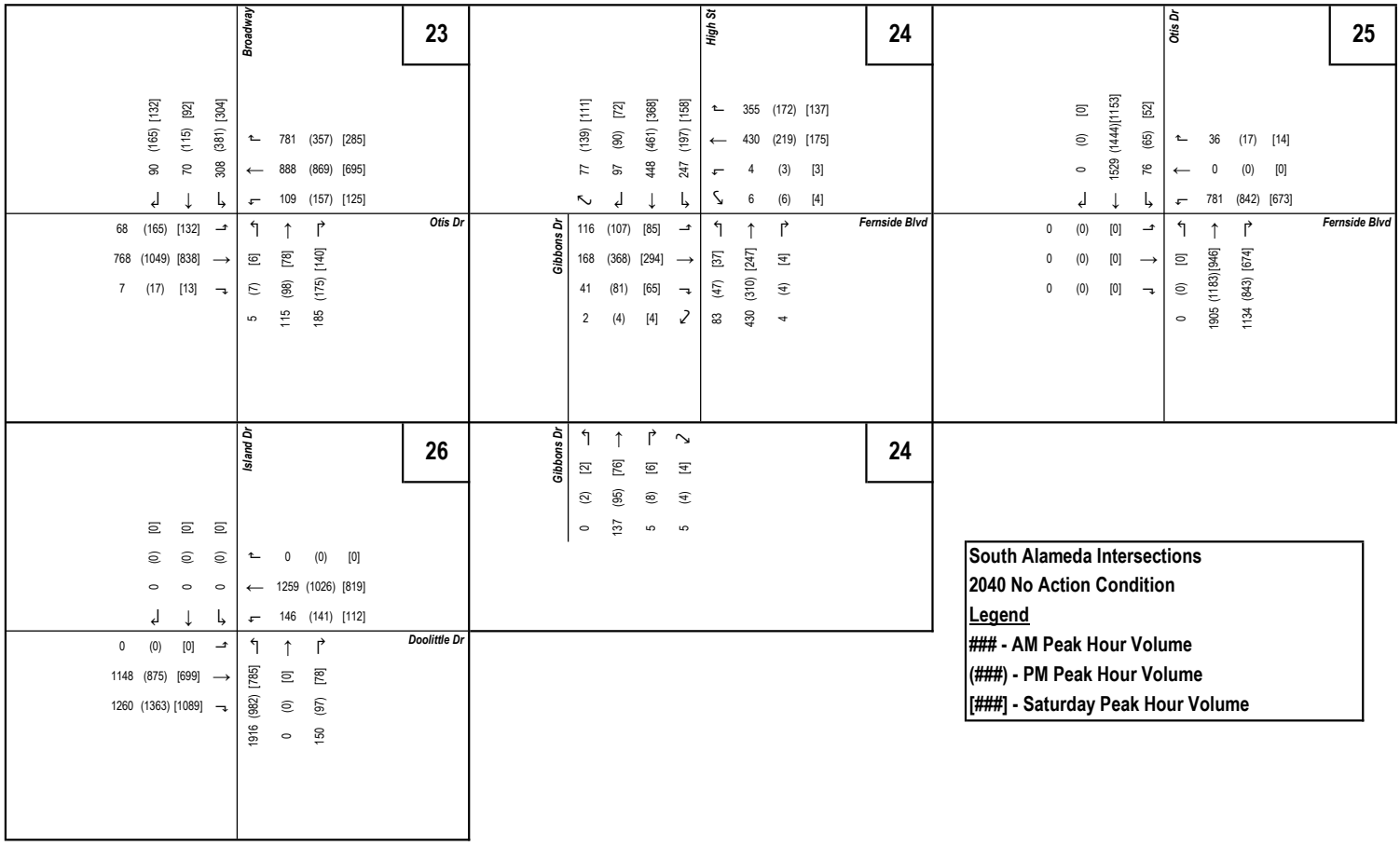
South Alameda Intersections
2040 No Action Condition
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
[###] - Saturday Peak Hour Volume



South Alameda Intersections
2040 No Action Condition
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
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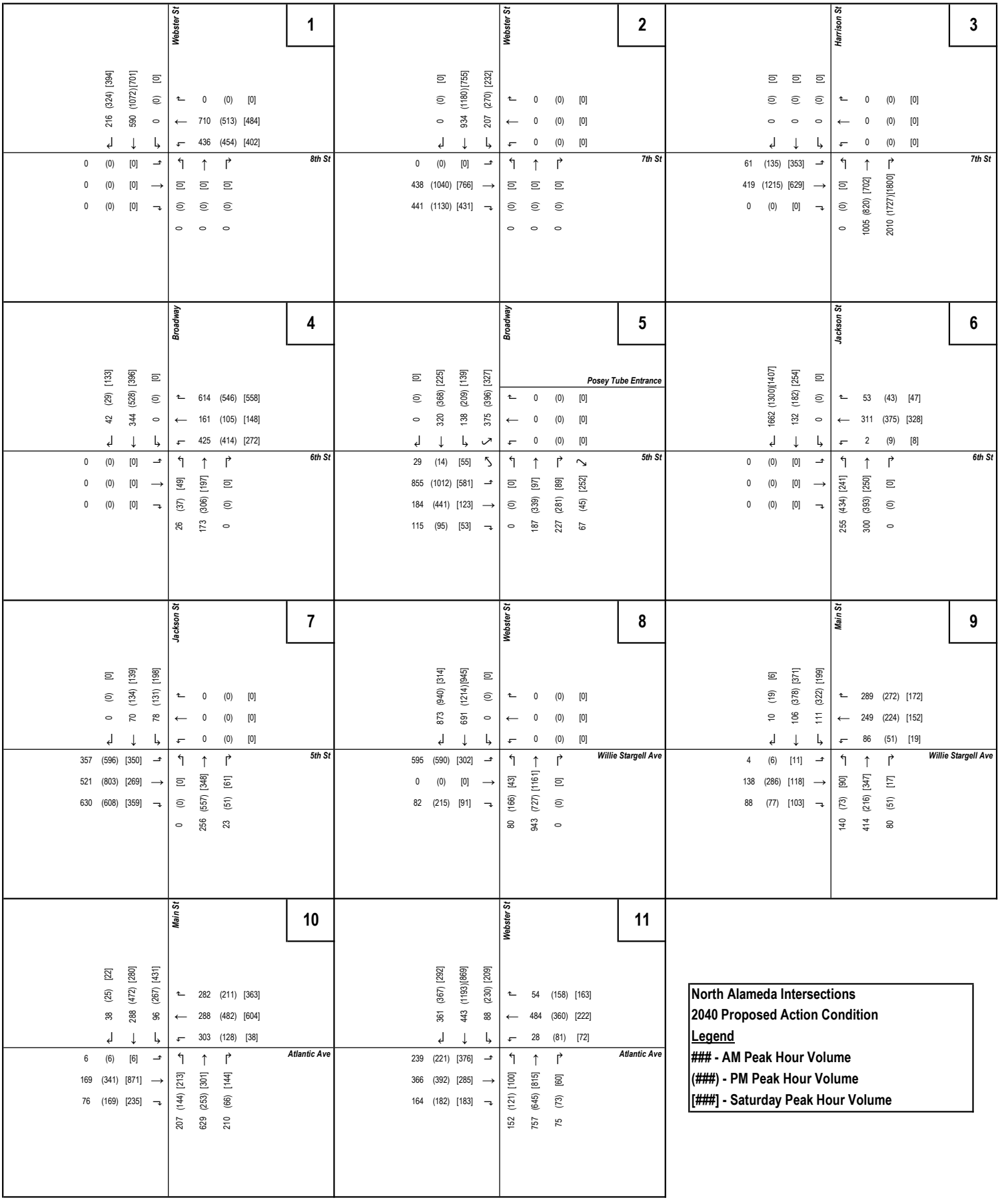
2040 Proposed Action Condition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8th St
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Webster St
7th St
3
Harrison St
7th St
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Broadway
6th St
5
Broadway
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5th St
6
Jackson St
6th St
7
Jackson St
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Willie Stargell Ave
9
Main St
Willie Stargell Ave
10
Main St
Atlantic Ave
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Webster St
Atlantic Ave
North Alameda Intersections
2040 Proposed Action Condition
Legend
- AM Peak Hour Volume
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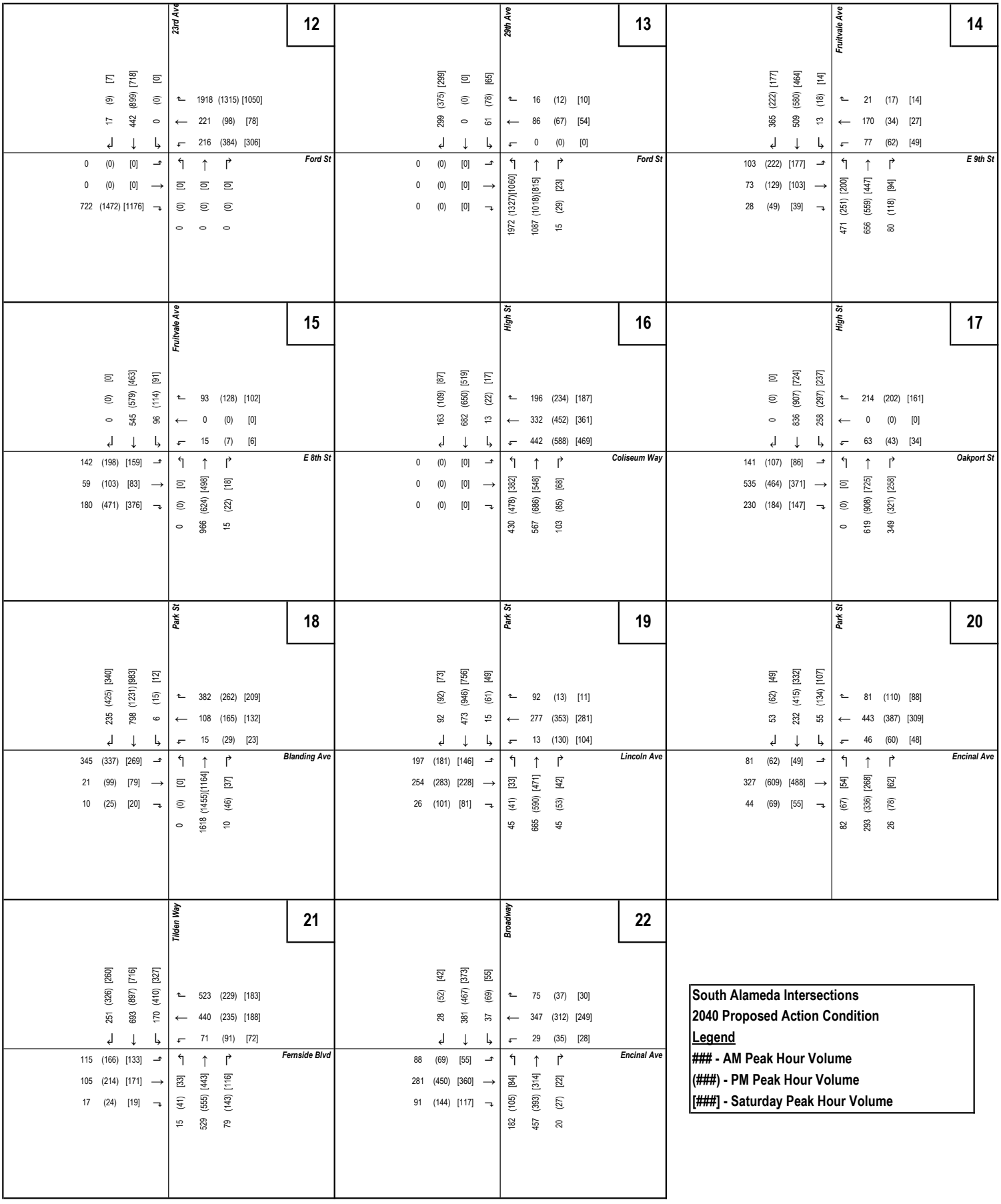
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Fruitvale Ave
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E 9th St
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73 (129) [103]
28 (49) [39]
471 (251) [200]
656 (559) [447]
80 (118) [94]
15
Fruitvale Ave
93 (128) [102]
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545 (579) [463]
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142 (198) [159]
59 (103) [83]
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16
High St
196 (234) [187]
332 (452) [361]
442 (588) [469]
163 (109) [87]
682 (650) [519]
13 (22) [17]
Coliseum Way
0 (0) [0]
0 (0) [0]
0 (0) [0]
430 (478) [382]
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High St
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Tilden Way
523 (229) [183]
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115 (166) [133]
105 (214) [171]
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79 (143) [116]
22
Broadway
75 (37) [30]
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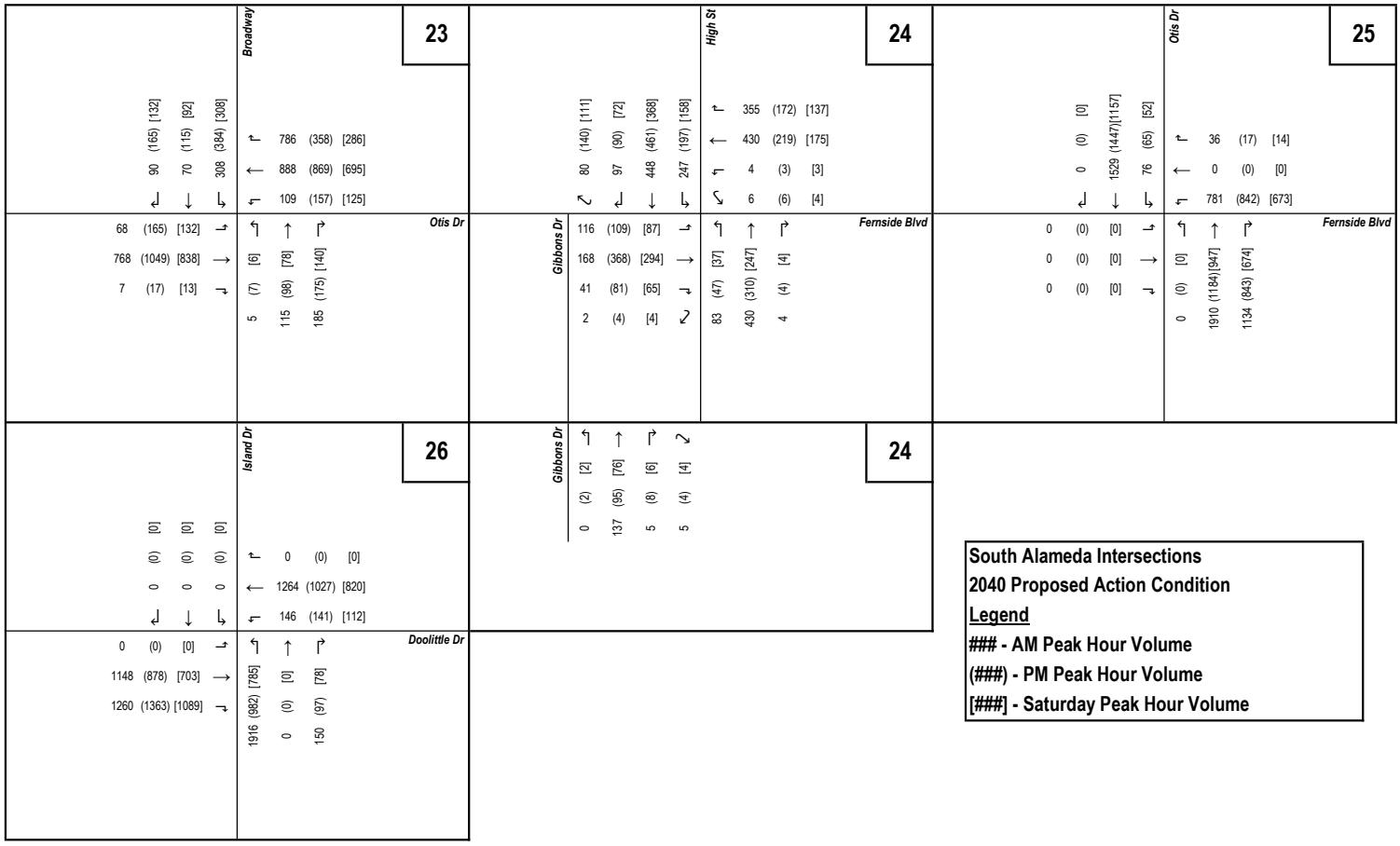
457 (393) [314]
20 (27) [22]
South Alameda Intersections
2040 Proposed Action Condition
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
[###] - Saturday Peak Hour Volume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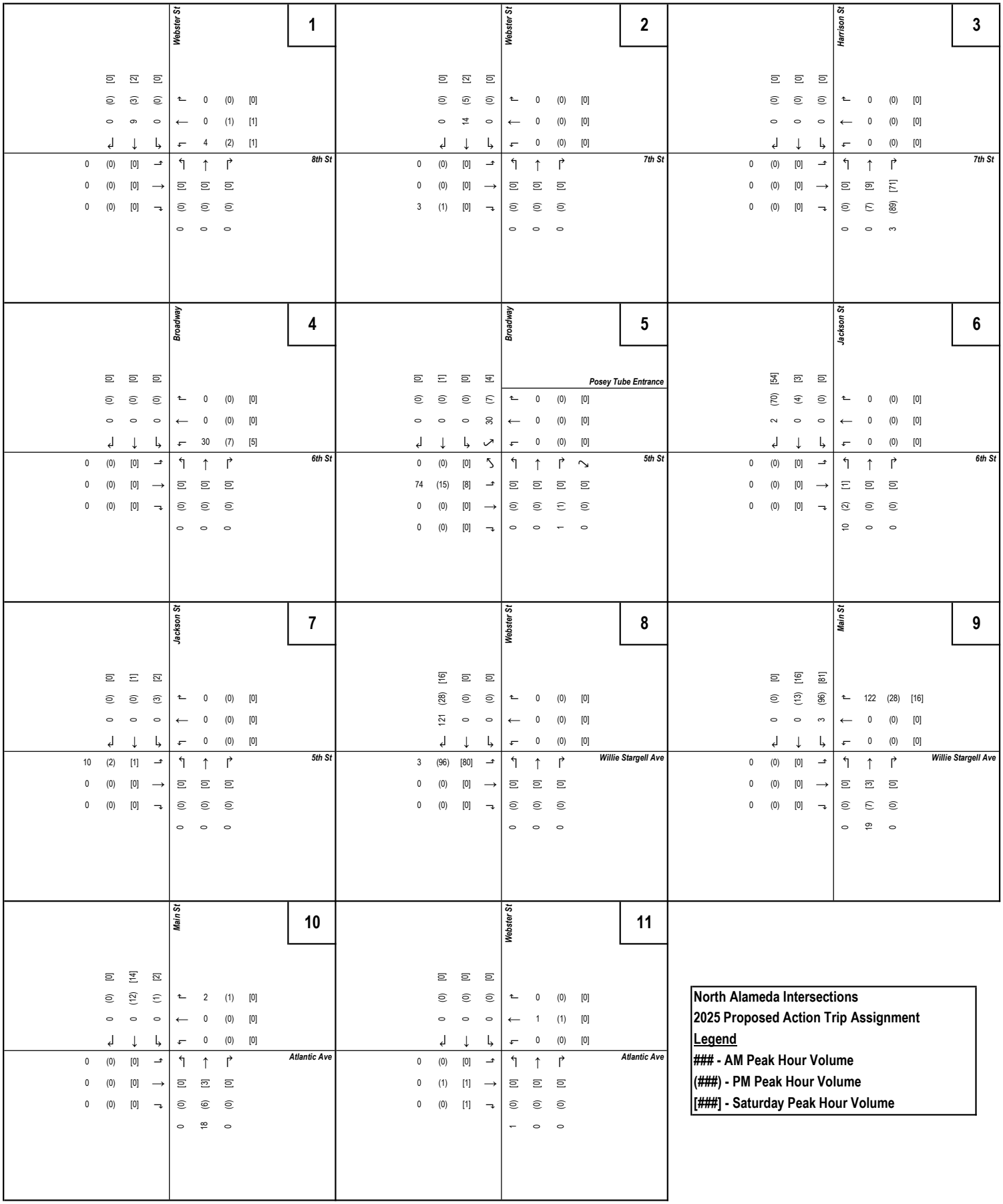
Broadway
24
High St
24
Gibbons Dr
25
Otis Dr
26
Island Dr
Otis Dr
Fernside Blvd
Doolittle Dr
South Alameda Intersections
2040 Proposed Action Condition
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
[###] - Saturday Peak Hour Volume

2025 Trip Assignment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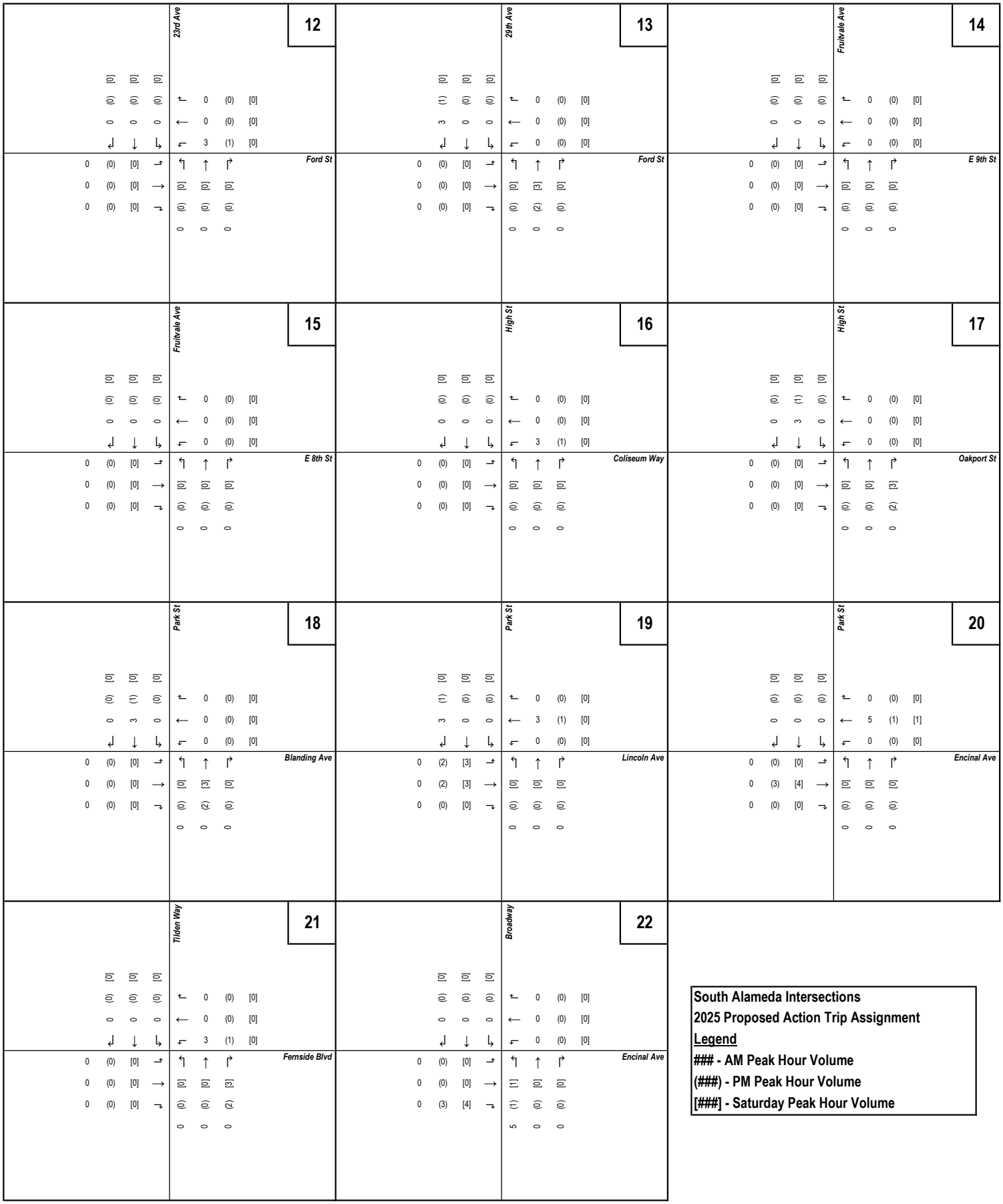
Webster St
8th St
2
Webster St
7th St
3
Harrison St
7th St
4
Broadway
6th St
5
Broadway
Posey Tube Entrance
5th St
6
Jackson St
6th St
7
Jackson St
5th St
8
Webster St
Willie Stargell Ave
9
Main St
Willie Stargell Ave
10
Main St
Atlantic Ave
11
Webster St
Atlantic Ave
North Alameda Intersections
2025 Proposed Action Trip Assignment
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
[###] - Saturday Peak Hour Volume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Ford St
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29th Ave
Ford St
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Fruitvale Ave
E 9th St
15
Fruitvale Ave
E 8th St
16
High St
Coliseum Way
17
High St
Oakport St
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Park St
Blanding Ave
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Park St
Lincoln Ave
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Park St
Encinal Ave
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Tilden Way
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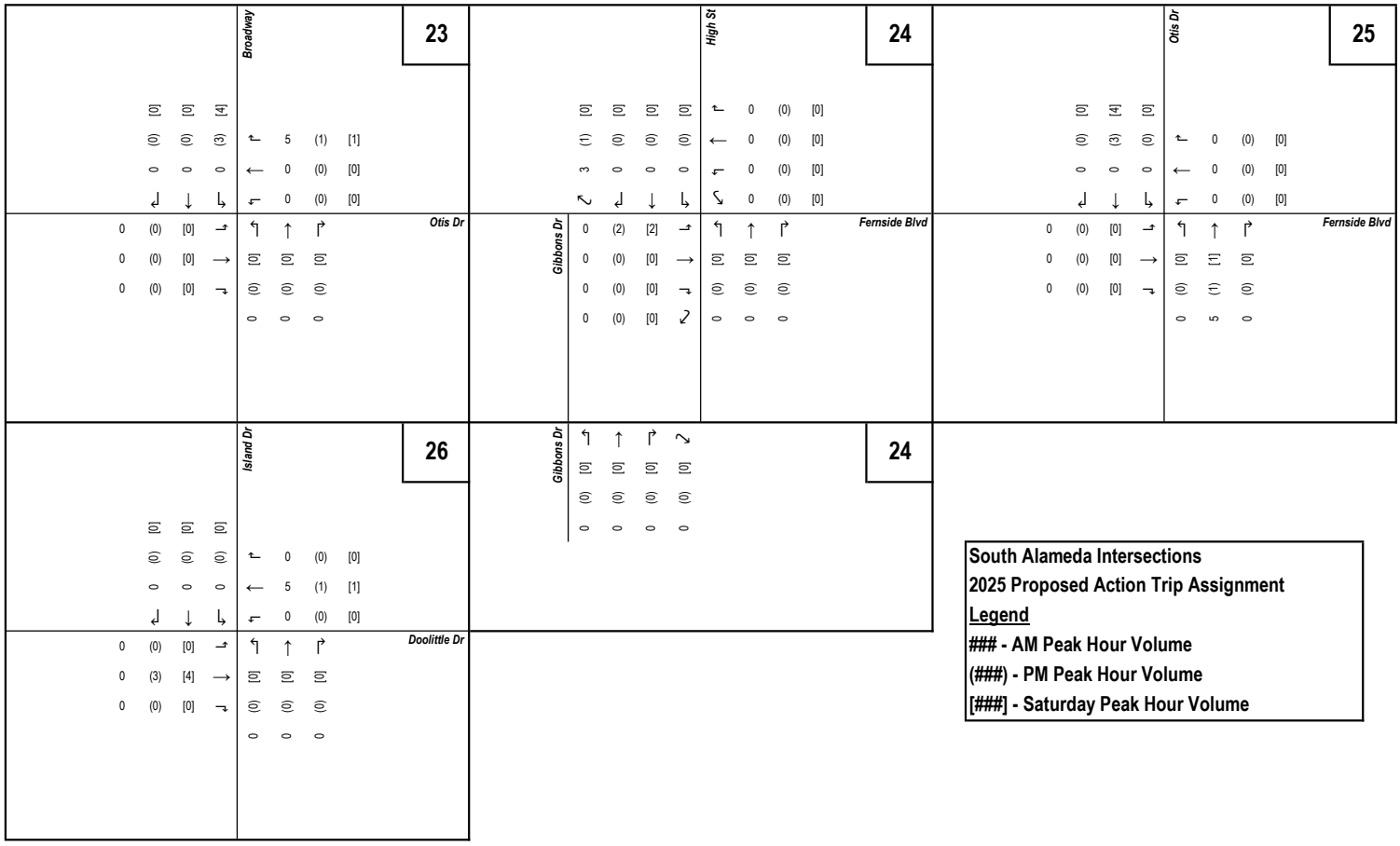
South Alameda Intersections
2025 Proposed Action Trip Assignment
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
[###] - Saturday Peak Hour Volume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Otis Dr
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High St
Fernside Blvd
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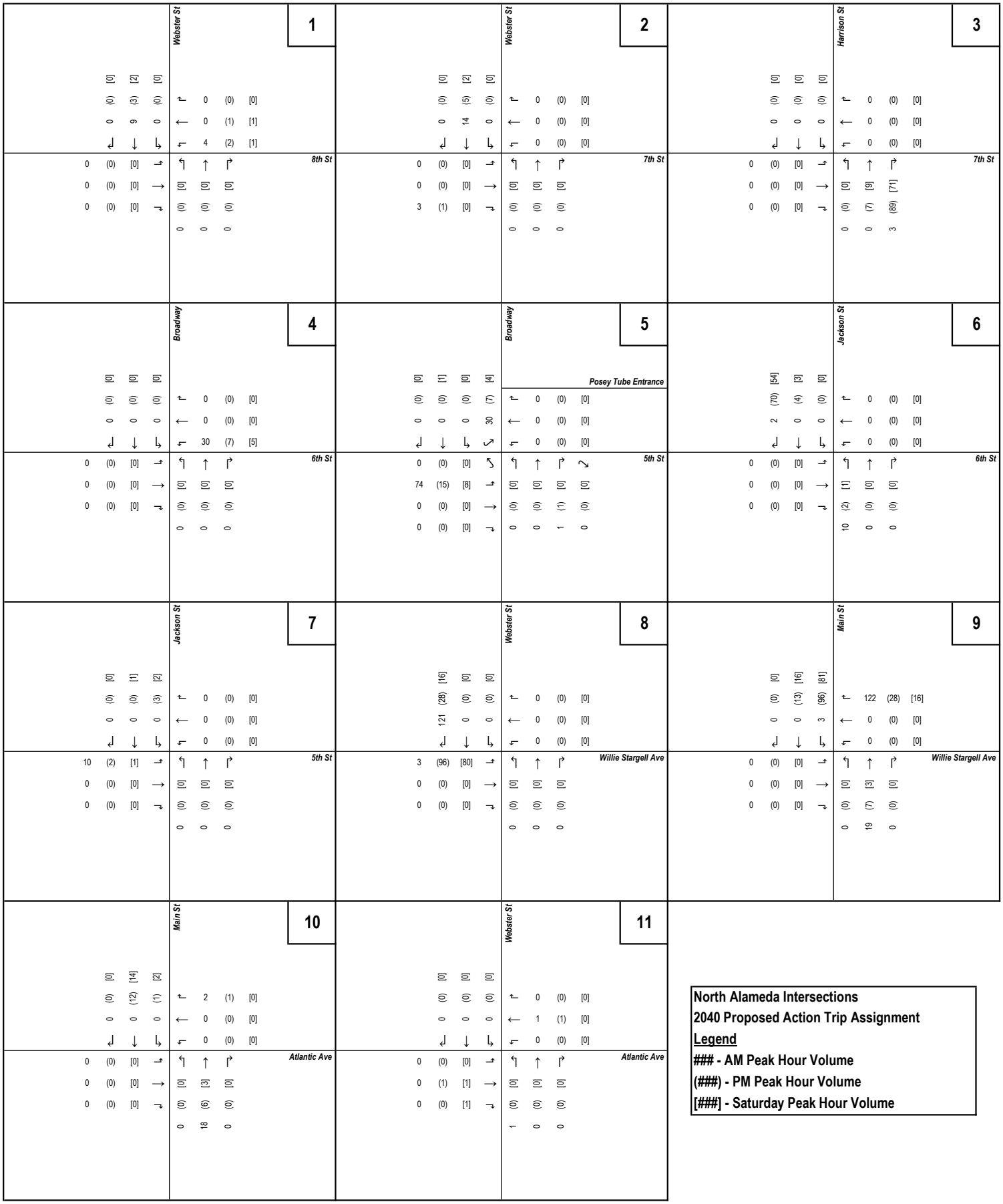
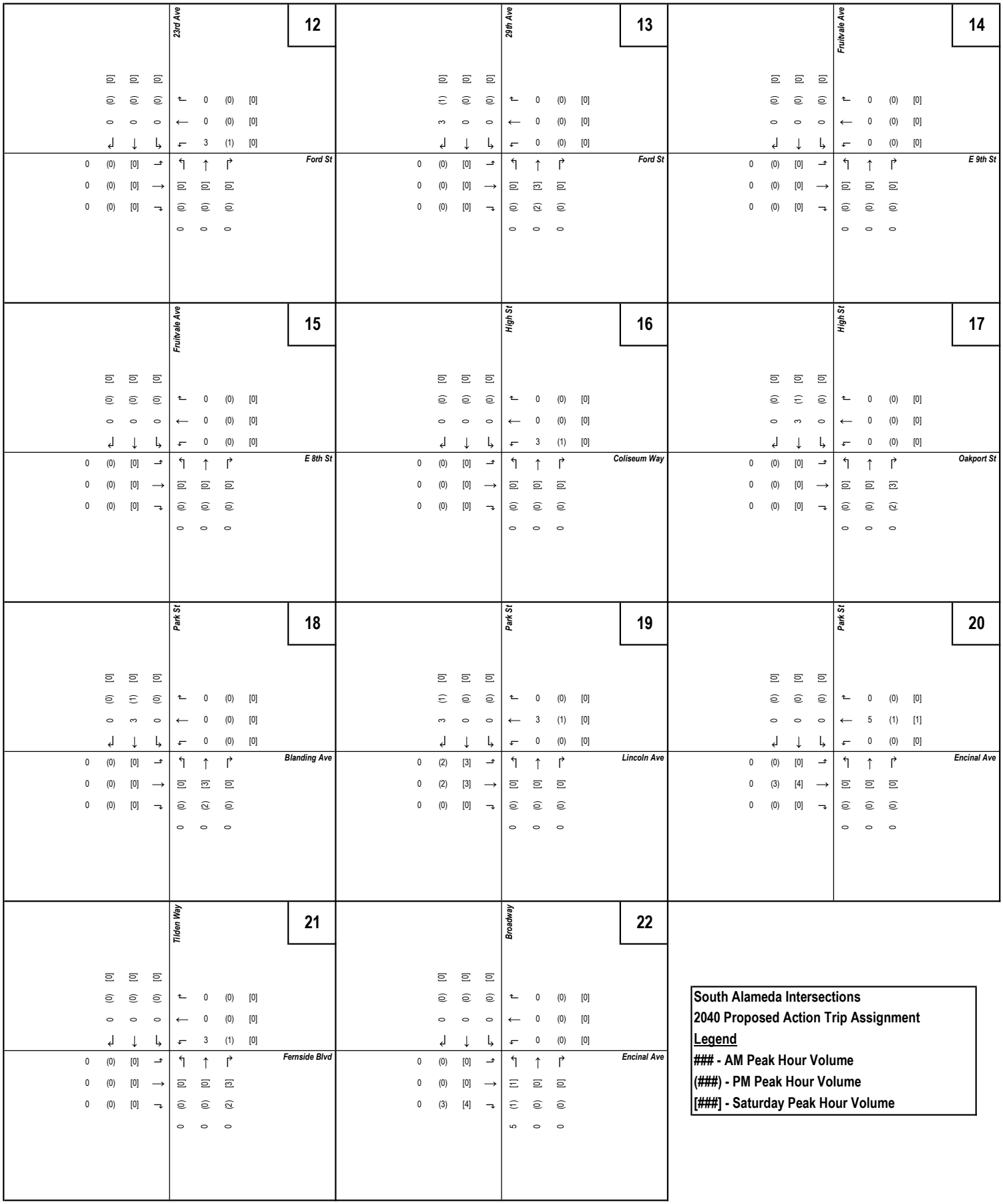
Island Dr
Doolittle Dr
24
Gibbons Dr
South Alameda Intersections
2025 Proposed Action Trip Assignment
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
[###] - Saturday Peak Hour Volume

2040 Trip Assignment



North Alameda Intersections
2040 Proposed Action Trip Assignment
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
[###] - Saturday Peak Hour Volume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Ford St
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High St
Coliseum Way
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Lincoln Ave
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Encinal Ave
South Alameda Intersections
2040 Proposed Action Trip Assignment
Legend
- AM Peak Hour Volume
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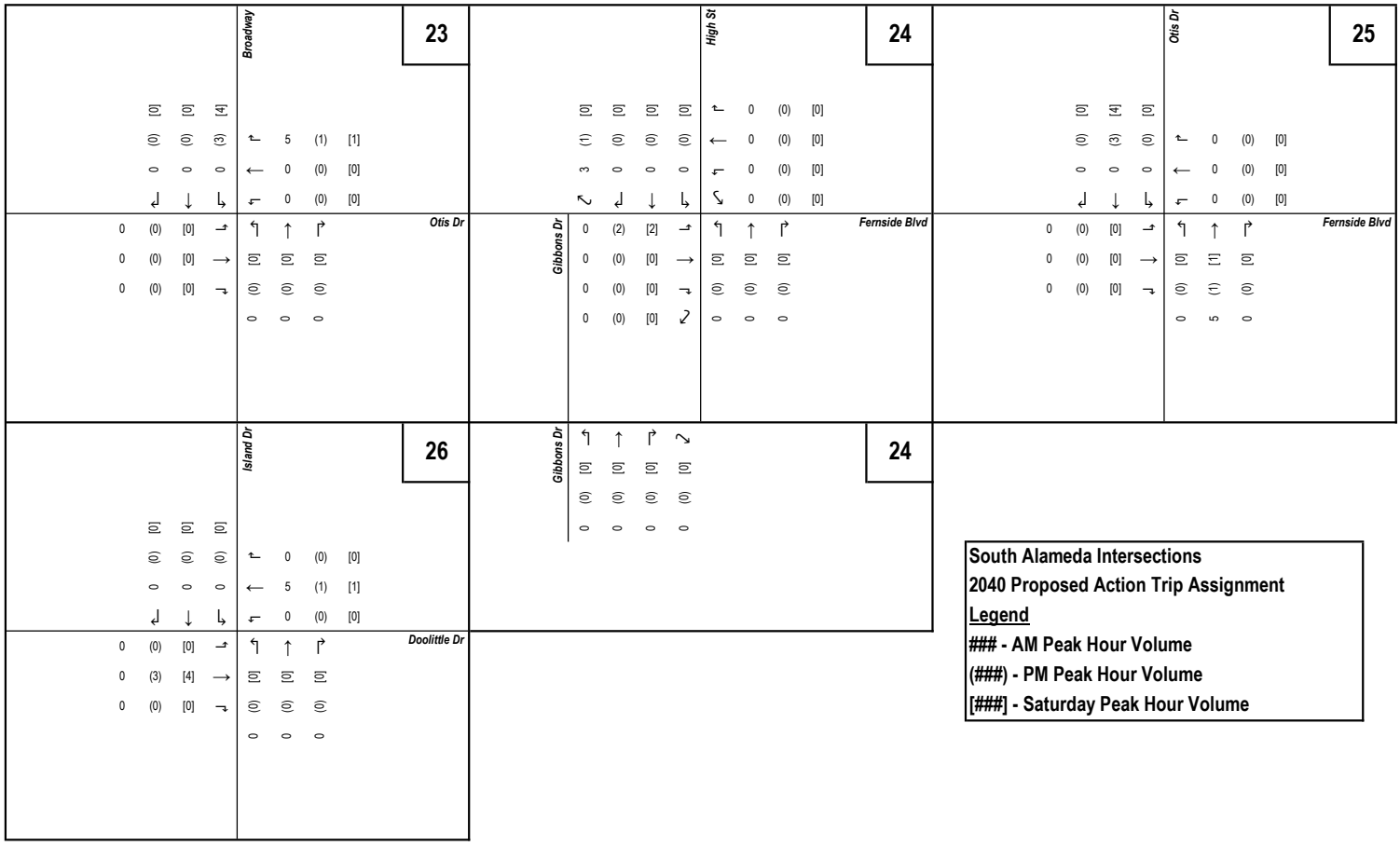
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Broadway
24
High St
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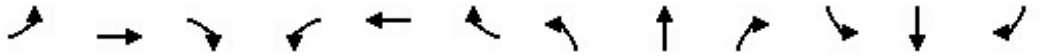
Otis Dr
Otis Dr
Fernside Blvd
Gibbons Dr
Fernside Blvd
26
Island Dr
24
Gibbons Dr
Doolittle Dr
South Alameda Intersections
2040 Proposed Action Trip Assignment
Legend
- AM Peak Hour Volume
(###) - PM Peak Hour Volume
[###] - Saturday Peak Hour Volume

Appendix B

Synchro Analysis Results

2020 Existing Condition

AM Peak Hour



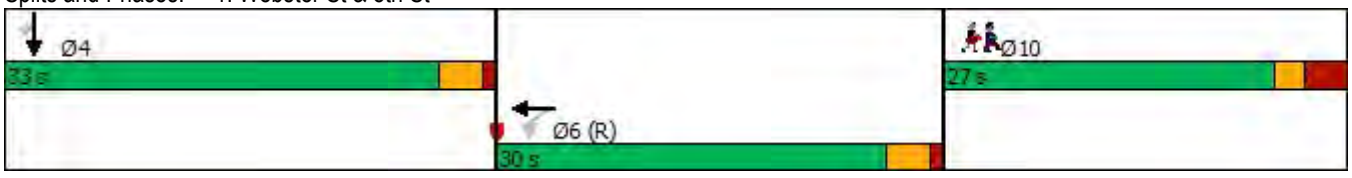
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	351	577	0	0	0	0	0	472	176
Future Volume (vph)	0	0	0	351	577	0	0	0	0	0	472	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.987	0.850
Flt Protected				0.950	0.992							
Satd. Flow (prot)	0	0	0	1345	4466	0	0	0	0	0	4579	1169
Flt Permitted				0.950	0.992							
Satd. Flow (perm)	0	0	0	1345	4466	0	0	0	0	0	4579	1169
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				256	73						17	140
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	1%	5%	0%	0%	0%	0%	0%	1%	4%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	377	620	0	0	0	0	0	508	189
Shared Lane Traffic (%)				32%								26%
Lane Group Flow (vph)	0	0	0	256	741	0	0	0	0	0	557	140
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				45.0	45.0						17.8	17.8
Actuated g/C Ratio				0.50	0.50						0.20	0.20
v/c Ratio				0.32	0.33						0.61	0.41
Control Delay				3.7	14.8						34.2	8.8
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				3.7	14.8						34.2	8.8
LOS				A	B						C	A
Approach Delay					11.9						29.1	
Approach LOS					B						C	
Queue Length 50th (ft)				0	93						109	0
Queue Length 95th (ft)				54	141						135	51
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				800	2268						1486	471
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.32	0.33						0.37	0.30

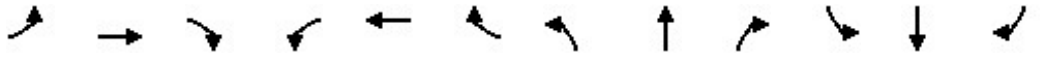
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 19.0		Intersection LOS: B	
Intersection Capacity Utilization 30.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St



Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

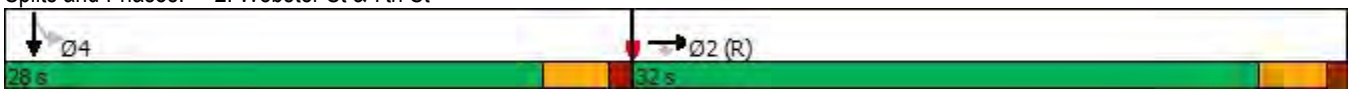


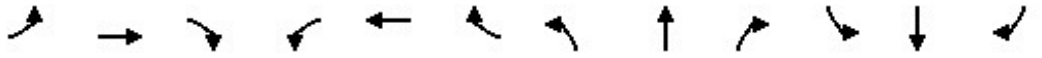
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	320	320	0	0	0	0	0	0	151	672	0
Future Volume (vph)	0	320	320	0	0	0	0	0	0	151	672	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.950	0.850									
Flt Protected											0.991	
Satd. Flow (prot)	0	4135	1298	0	0	0	0	0	0	0	4698	0
Flt Permitted											0.991	
Satd. Flow (perm)	0	4135	1298	0	0	0	0	0	0	0	4698	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		86	86								101	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			405			184			292	
Travel Time (s)		9.3			11.0			5.0			8.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	7%	7%	0%	0%	0%	0%	0%	0%	17%	1%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	364	364	0	0	0	0	0	0	172	764	0
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	546	182	0	0	0	0	0	0	0	936	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		32.0	32.0							28.0	28.0	
Total Split (s)		32.0	32.0							28.0	28.0	
Total Split (%)		53.3%	53.3%							46.7%	46.7%	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		28.0	28.0							24.0	24.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		18.0	18.0							12.0	12.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		32.5	32.5								19.5	
Actuated g/C Ratio		0.54	0.54								0.32	
v/c Ratio		0.24	0.24								0.59	
Control Delay		7.0	5.9								16.1	
Queue Delay		0.0	0.0								0.0	
Total Delay		7.0	5.9								16.1	
LOS		A	A								B	
Approach Delay		6.7									16.1	
Approach LOS		A									B	
Queue Length 50th (ft)		31	18								87	
Queue Length 95th (ft)		54	58								106	
Internal Link Dist (ft)		260			325			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2281	743								1939	
Starvation Cap Reductn		0	0								0	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.24	0.24								0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 35.9%		ICU Level of Service A	
Analysis Period (min) 15			

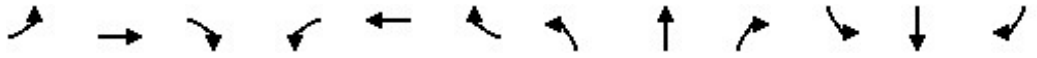
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	382	0	0	0	0	0	917	1831	0	0	0
Future Volume (vph)	56	382	0	0	0	0	0	917	1831	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.994										
Satd. Flow (prot)	0	4467	0	0	0	0	0	5187	2666	0	0	0
Flt Permitted		0.994										
Satd. Flow (perm)	0	4467	0	0	0	0	0	5187	2666	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47							581			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		405			362			410			260	
Travel Time (s)		11.0			9.9			11.2			7.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	14%	9%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	58	394	0	0	0	0	0	945	1888	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	452	0	0	0	0	0	945	1888	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								28.0				
Total Split (%)								46.7%				
Maximum Green (s)								22.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		26.4						22.4	41.5			
Actuated g/C Ratio		0.44						0.37	0.69			
v/c Ratio		0.23						0.49	0.93			
Control Delay		11.3						15.5	17.5			
Queue Delay		0.0						0.0	0.0			
Total Delay		11.3						15.5	17.5			
LOS		B						B	B			
Approach Delay		11.3						16.8				
Approach LOS		B						B				
Queue Length 50th (ft)		35						93	178			
Queue Length 95th (ft)		57						126	#518			
Internal Link Dist (ft)		325			282			330			180	
Turn Bay Length (ft)												
Base Capacity (vph)		1991						1936	2022			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.23						0.49	0.93			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 25 (42%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 81.9%		ICU Level of Service D	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			

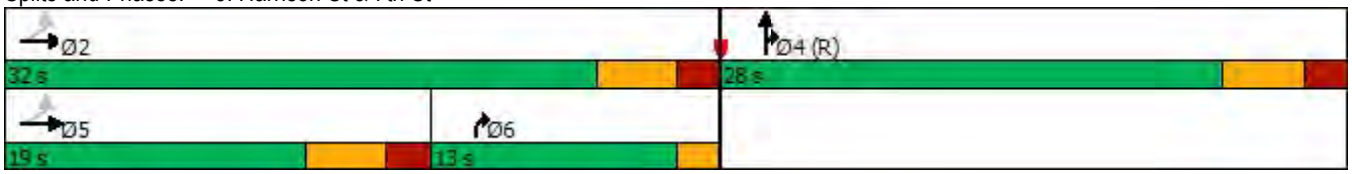
Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	3.0
Total Split (s)	32.0	19.0	13.0
Total Split (%)	53%	32%	22%
Maximum Green (s)	26.4	13.4	11.0
Yellow Time (s)	3.6	3.6	2.0
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

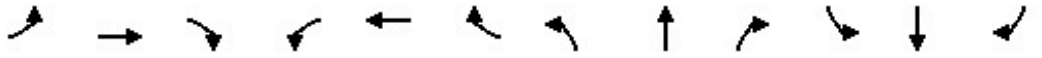
Intersection Summary

Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 3: Harrison St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	393	160	611	26	172	0	0	342	42
Future Volume (vph)	0	0	0	393	160	611	26	172	0	0	342	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.984	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1687	3406	1599	1805	3059	0	0	4716	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1687	3406	1599	1805	3059	0	0	4716	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						643					29	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			342			469	
Travel Time (s)		11.3			8.0			9.3			12.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	7%	6%	1%	0%	18%	0%	0%	8%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	20
Adj. Flow (vph)	0	0	0	414	168	643	27	181	0	0	360	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	414	168	643	27	181	0	0	404	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.5	31.5	31.5	9.5	24.0			24.0	
Total Split (s)				32.0	32.0	32.0	16.0	43.0			27.0	
Total Split (%)				42.7%	42.7%	42.7%	21.3%	57.3%			36.0%	
Maximum Green (s)				28.0	28.0	28.0	12.0	38.5			22.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	C-Max			C-Max	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				24.0	24.0	24.0	7.9	42.5			36.1	
Actuated g/C Ratio				0.32	0.32	0.32	0.11	0.57			0.48	
v/c Ratio				0.77	0.15	0.68	0.14	0.10			0.18	
Control Delay				32.5	17.3	5.7	29.1	3.9			13.4	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				32.5	17.3	5.7	29.1	3.9			13.4	
LOS				C	B	A	C	A			B	
Approach Delay					16.4			7.2			13.4	
Approach LOS					B			A			B	
Queue Length 50th (ft)				163	27	0	13	2			30	
Queue Length 95th (ft)				252	46	64	m29	m16			72	
Internal Link Dist (ft)		335			213			262			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				629	1271	999	288	1732			2283	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.66	0.13	0.64	0.09	0.10			0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 16 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 49.7%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	27	715	169	105	171	207	61	316	126	293
Future Volume (vph)	27	715	169	105	171	207	61	316	126	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.997	0.850	0.850	0.908					
Flt Protected		0.998						0.950	0.950	
Satd. Flow (prot)	0	2427	1361	1615	4234	0	0	1770	1770	1681
Flt Permitted		0.998						0.950	0.950	
Satd. Flow (perm)	0	2427	1361	1615	4234	0	0	1770	1770	1681
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				114	39					
Link Speed (mph)		25			25					25
Link Distance (ft)		558			823					342
Travel Time (s)		15.2			22.4					9.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	25%	25%	8%	0%	21%	5%	5%	2%	2%	13%
Adj. Flow (vph)	29	777	184	114	186	225	66	343	137	318
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	824	166	114	477	0	0	343	137	318
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	31.0	31.0	31.0	31.0	23.5			9.5	9.5	23.5
Total Split (s)	31.0	31.0	31.0	31.0	24.0			20.0	20.0	44.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	32.0%			26.7%	26.7%	58.7%
Maximum Green (s)	27.0	27.0	27.0	27.0	19.5			16.5	16.5	39.5
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0			3.0	3.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0	4.5			3.5	3.5	4.5
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	C-Max			None	None	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	12.0					12.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		26.8	26.8	26.8	20.1			16.1	16.1	39.7
Actuated g/C Ratio		0.36	0.36	0.36	0.27			0.21	0.21	0.53
v/c Ratio		0.95	0.34	0.18	0.41			0.91	0.36	0.36
Control Delay		45.9	20.0	4.4	22.1			67.1	38.6	12.3
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.4
Total Delay		45.9	20.0	4.4	22.1			67.1	38.6	12.8
LOS		D	C	A	C			E	D	B
Approach Delay		37.7			22.1					40.6
Approach LOS		D			C					D
Queue Length 50th (ft)		227	60	0	61			159	60	66
Queue Length 95th (ft)		#369	114	31	90			#300	m109	115
Internal Link Dist (ft)		478			743					262
Turn Bay Length (ft)										
Base Capacity (vph)		873	489	654	1164			389	389	889
Starvation Cap Reductn		0	0	0	0			0	0	237
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.94	0.34	0.17	0.41			0.88	0.35	0.49

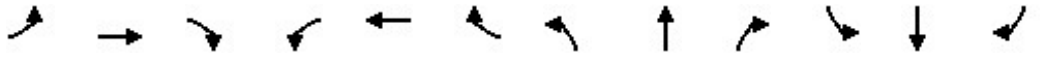
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 35.5		Intersection LOS: D	
Intersection Capacity Utilization 59.6%		ICU Level of Service B	
Analysis Period (min) 15			

* User Entered Value

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Broadway & 5th St & Webster Tube



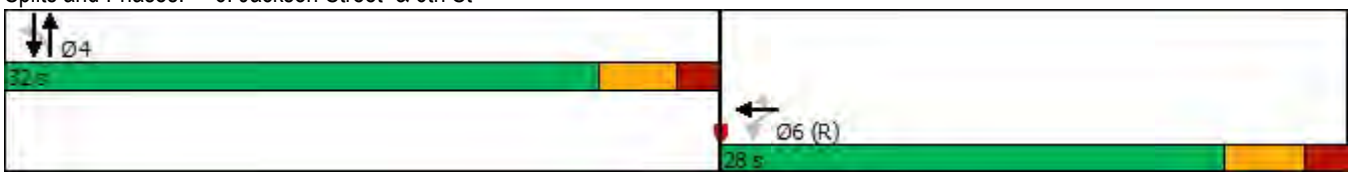
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	2	299	51	235	288	0	0	127	1594
Future Volume (vph)	0	0	0	2	299	51	235	288	0	0	127	1594
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.925	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1776	1509	1752	1881	0	0	1629	1568
Flt Permitted				0.950			0.560					
Satd. Flow (perm)	0	0	0	1805	1776	1509	1033	1881	0	0	1629	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						55					108	444
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	7%	7%	3%	1%	0%	0%	2%	3%
Adj. Flow (vph)	0	0	0	2	325	55	255	313	0	0	138	1733
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	2	325	55	255	313	0	0	277	1594
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.00	0.49	0.09	0.56	0.38			0.36	1.02
Control Delay				12.0	17.4	4.6	16.0	11.7			8.1	31.7
Queue Delay				0.0	0.0	0.0	0.0	0.5			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				12.0	17.4	4.6	16.0	12.2			8.1	31.7
LOS				B	B	A	B	B			A	C
Approach Delay					15.6			13.9			28.2	
Approach LOS					B			B			C	
Queue Length 50th (ft)				1	87	0	52	61			37	~20
Queue Length 95th (ft)				4	152	18	m112	124			85	#253
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	666	600	456	830			779	1568
Starvation Cap Reductn				0	0	0	0	216			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.00	0.49	0.09	0.56	0.51			0.36	1.02

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 50			
Control Type: Pretimed			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 23.6		Intersection LOS: C	
Intersection Capacity Utilization 81.9%		ICU Level of Service D	
Analysis Period (min) 15			

* User Entered Value
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Jackson Street & 6th St

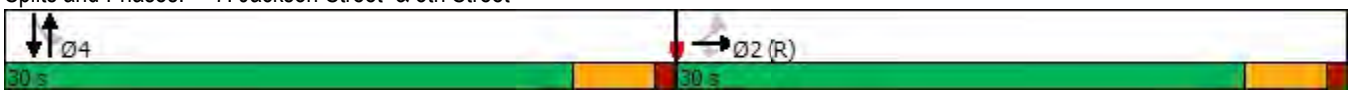


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	301	452	547	0	0	0	0	222	20	68	61	0
Future Volume (vph)	301	452	547	0	0	0	0	222	20	68	61	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.989				
Flt Protected		0.980									0.974	
Satd. Flow (prot)	0	3382	1568	0	0	0	0	1862	0	0	1578	0
Flt Permitted		0.980									0.743	
Satd. Flow (perm)	0	3382	1568	0	0	0	0	1862	0	0	1204	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			431					9				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	4%	5%	3%	0%	0%	0%	0%	0%	11%	5%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	358	538	651	0	0	0	0	264	24	81	73	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	896	651	0	0	0	0	288	0	0	154	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					26.5		26.5	26.5	
Total Split (s)	30.0	30.0	30.0					30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%					50.0%		50.0%	50.0%	
Maximum Green (s)	25.4	25.4	25.4					25.4		25.4	25.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		25.4	25.4					25.4			25.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.42	0.42					0.42			0.42	
v/c Ratio		0.63	0.71					0.36			0.30	
Control Delay		16.0	9.8					13.1			21.1	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		16.0	9.8					13.1			21.1	
LOS		B	A					B			C	
Approach Delay		13.4						13.1			21.1	
Approach LOS		B						B			C	
Queue Length 50th (ft)		127	51					65			52	
Queue Length 95th (ft)		164	125					106			98	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1431	912					793			509	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.63	0.71					0.36			0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 55 (92%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 13.9		Intersection LOS: B	
Intersection Capacity Utilization 52.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Jackson Street & 5th Street



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	512	71	69	816	598	651
Future Volume (vph)	512	71	69	816	598	651
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3539	4940	2760
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3539	4940	2760
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	2%	5%	3%
Adj. Flow (vph)	624	87	84	995	729	794
Shared Lane Traffic (%)						
Lane Group Flow (vph)	624	87	84	995	729	794
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	22.5	22.5	10.0	37.5	27.5	
Total Split (%)	37.5%	37.5%	16.7%	62.5%	45.8%	
Maximum Green (s)	18.0	18.0	5.5	33.0	23.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	16.3	16.3	5.5	33.1	25.2	47.0
Actuated g/C Ratio	0.28	0.28	0.09	0.57	0.43	0.80
v/c Ratio	0.64	0.19	0.49	0.50	0.34	0.36
Control Delay	21.7	17.0	37.2	9.1	12.8	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	17.0	37.2	9.1	12.8	2.7
LOS	C	B	D	A	B	A
Approach Delay	21.1			11.2	7.6	
Approach LOS	C			B	A	
Queue Length 50th (ft)	97	23	30	106	67	37
Queue Length 95th (ft)	127	47	61	130	84	48
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1081	498	170	2003	2132	2239
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.17	0.49	0.50	0.34	0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.4			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 44.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Webster Street & Willie Stargell Ave

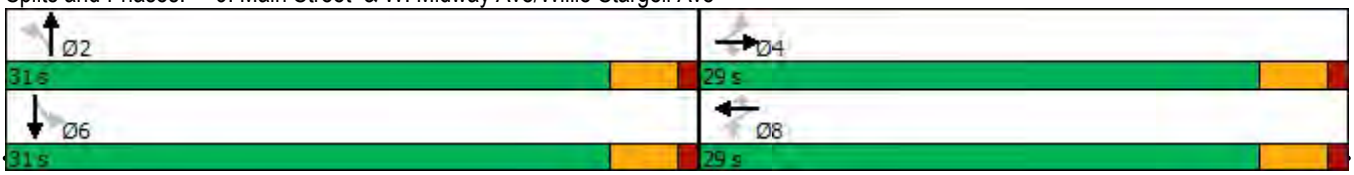
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	69	44	43	125	84	70	198	40	54	53	5
Future Volume (vph)	2	69	44	43	125	84	70	198	40	54	53	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.981			0.994	
Flt Protected		0.998			0.987			0.989			0.976	
Satd. Flow (prot)	0	1896	1292	0	1746	1615	0	3394	0	0	3406	0
Flt Permitted		0.989			0.901			0.866			0.762	
Satd. Flow (perm)	0	1879	1292	0	1594	1615	0	2972	0	0	2659	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			55			105		36			6	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	25%	0%	10%	0%	14%	0%	0%	0%	6%	0%
Adj. Flow (vph)	3	86	55	54	156	105	88	248	50	68	66	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	55	0	210	105	0	386	0	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0		31.0	31.0	
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		11.7	11.7		11.7	11.7		29.8			29.8	
Actuated g/C Ratio		0.24	0.24		0.24	0.24		0.60			0.60	
v/c Ratio		0.20	0.16		0.56	0.23		0.21			0.09	
Control Delay		14.6	5.8		21.7	4.9		5.1			5.1	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		14.6	5.8		21.7	4.9		5.1			5.1	
LOS		B	A		C	A		A			A	
Approach Delay		11.2			16.1			5.1			5.1	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		19	0		49	0		18			6	
Queue Length 95th (ft)		39	15		83	19		40			17	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		956	684		811	873		1802			1602	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.09	0.08		0.26	0.12		0.21			0.09	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.6
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 9.5 Intersection LOS: A
Intersection Capacity Utilization 38.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave

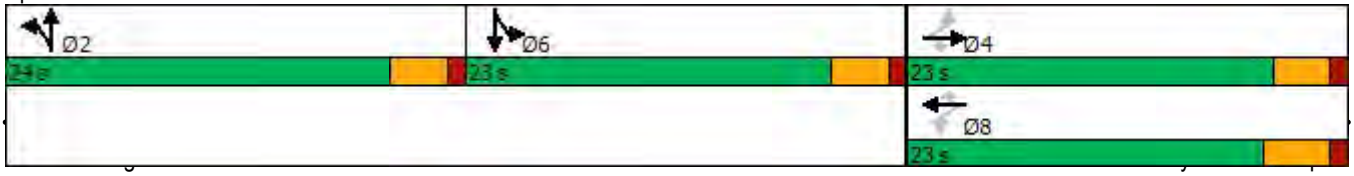


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	58	26	104	99	96	71	210	72	33	99	13
Future Volume (vph)	2	58	26	104	99	96	71	210	72	33	99	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.962			0.983	
Flt Protected		0.998			0.975		0.950			0.950	0.998	
Satd. Flow (prot)	0	2639	1077	0	3420	1568	1656	3447	0	1273	3359	0
Flt Permitted		0.942			0.790		0.950			0.950	0.998	
Satd. Flow (perm)	0	2491	1077	0	2771	1568	1656	3447	0	1273	3359	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78			120		68			16	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	38%	50%	0%	6%	3%	9%	1%	0%	29%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	3	73	33	130	124	120	89	263	90	41	124	16
Shared Lane Traffic (%)										11%		
Lane Group Flow (vph)	0	76	33	0	254	120	89	353	0	36	145	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		10.8	10.8		10.3	10.3	20.6	20.6		7.4	7.4	
Actuated g/C Ratio		0.22	0.22		0.21	0.21	0.42	0.42		0.15	0.15	
v/c Ratio		0.14	0.11		0.43	0.28	0.13	0.24		0.19	0.28	
Control Delay		16.5	1.8		19.7	6.1	11.8	9.3		22.4	19.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		16.5	1.8		19.7	6.1	11.8	9.3		22.4	19.5	
LOS		B	A		B	A	B	A		C	B	
Approach Delay		12.1			15.4			9.8			20.1	
Approach LOS		B			B			A			C	
Queue Length 50th (ft)		9	0		34	0	15	26		9	18	
Queue Length 95th (ft)		21	2		56	24	41	53		30	38	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		1003	480		1086	687	702	1502		512	1362	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.08	0.07		0.23	0.17	0.13	0.24		0.07	0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 48.5			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 35.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Main Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	316	142	24	417	47	130	654	65	76	383	312
Future Volume (vph)	206	316	142	24	417	47	130	654	65	76	383	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.985			0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1524	1444	3433	0	1736	3471	0	1805	3406	1553
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1524	1444	3433	0	1736	3471	0	1805	3406	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238		14			14				168
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	2%	2%	6%	25%	4%	0%	4%	2%	8%	0%	6%	4%
Adj. Flow (vph)	258	395	178	30	521	59	163	818	81	95	479	390
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	395	178	30	580	0	163	899	0	95	479	390
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	14.0	26.0	26.0	11.0	23.0		16.0	31.0		10.0	25.0	14.0
Total Split (%)	17.9%	33.3%	33.3%	14.1%	29.5%		20.5%	39.7%		12.8%	32.1%	17.9%
Maximum Green (s)	9.0	21.0	21.0	6.0	18.0		11.0	26.0		5.0	20.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	8.8	26.0	26.0	5.9	16.6		10.3	26.0		5.0	20.7	34.5
Actuated g/C Ratio	0.12	0.34	0.34	0.08	0.22		0.13	0.34		0.07	0.27	0.45
v/c Ratio	0.66	0.33	0.26	0.27	0.77		0.70	0.75		0.81	0.52	0.49
Control Delay	41.4	20.8	2.3	40.4	34.9		49.3	27.2		83.0	26.7	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	41.4	20.8	2.3	40.4	34.9		49.3	27.2		83.0	26.7	11.0
LOS	D	C	A	D	C		D	C		F	C	B
Approach Delay		23.3			35.2			30.6			25.9	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	62	65	0	14	134		76	200		47	105	69
Queue Length 95th (ft)	88	106	9	35	163		#121	227		#108	132	114
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	404	1206	676	113	820		249	1191		118	924	797
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.64	0.33	0.26	0.27	0.71		0.65	0.75		0.81	0.52	0.49

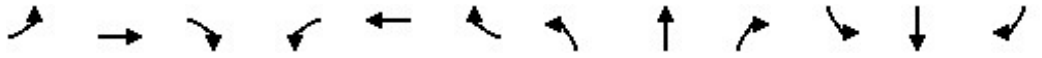
Intersection Summary

Area Type: Other
Cycle Length: 78
Actuated Cycle Length: 76.4
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 28.3 Intersection LOS: C
Intersection Capacity Utilization 59.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Webster Street & Atlantic Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	588	173	180	1561	0	0	0	0	360	14
Future Volume (vph)	0	0	588	173	180	1561	0	0	0	0	360	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.976							
Satd. Flow (prot)	0	0	2787	0	1818	2787	0	0	0	0	1863	1583
Flt Permitted					0.976							
Satd. Flow (perm)	0	0	2787	0	1818	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					66							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	639	188	196	1697	0	0	0	0	391	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	639	0	384	1697	0	0	0	0	391	15
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

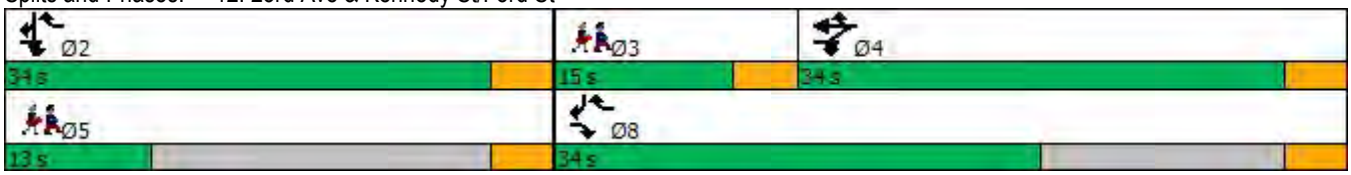
Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			66.0		29.3	66.0					28.7	66.0
Actuated g/C Ratio			1.00		0.44	1.00					0.43	1.00
v/c Ratio			0.23		0.46	0.61					0.48	0.01
Control Delay			0.2		12.8	1.0					15.9	0.0
Queue Delay			0.0		0.9	0.0					0.0	0.0
Total Delay			0.2		13.8	1.0					15.9	0.0
LOS			A		B	A					B	A
Approach Delay		0.2			3.4						15.3	
Approach LOS		A			A						B	
Queue Length 50th (ft)			0		86	0					110	0
Queue Length 95th (ft)			0		153	0					180	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		865	2787					850	1583
Starvation Cap Reductn			0		247	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.23		0.62	0.61					0.46	0.01

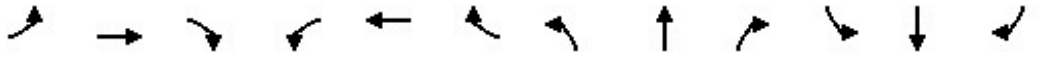
Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 66			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 4.3		Intersection LOS: A	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St



Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

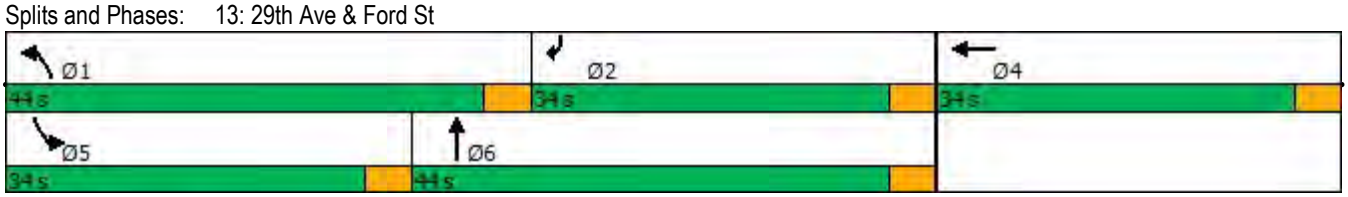


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	70	13	1605	885	12	50	0	241
Future Volume (vph)	0	0	0	0	70	13	1605	885	12	50	0	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.998				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1859	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1859	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				262
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	76	14	1745	962	13	54	0	262
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	90	0	1745	975	0	54	0	262
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

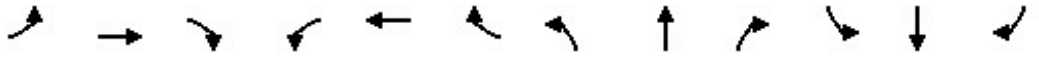
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					9.4		41.1	46.8		6.7		7.1
Actuated g/C Ratio					0.14		0.61	0.69		0.10		0.11
v/c Ratio					0.35		0.84	0.76		0.31		0.65
Control Delay					28.6		18.9	18.2		36.2		13.2
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					28.6		18.9	18.2		36.2		13.2
LOS					C		B	B		D		B
Approach Delay					28.6			18.7			17.1	
Approach LOS					C			B			B	
Queue Length 50th (ft)					31		251	282		21		0
Queue Length 95th (ft)					73		#713	#842		64		66
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					835		2086	1288		806		864
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.11		0.84	0.76		0.07		0.30

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 67.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 18.8		Intersection LOS: B	
Intersection Capacity Utilization 75.2%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	63	24	67	147	18	408	569	69	11	441	316
Future Volume (vph)	89	63	24	67	147	18	408	569	69	11	441	316
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.989			0.984			0.937	
Flt Protected		0.975			0.986		0.950			0.950		
Satd. Flow (prot)	0	1783	0	0	1816	0	1770	1833	0	1770	1745	0
Flt Permitted		0.559			0.821		0.079			0.402		
Satd. Flow (perm)	0	1023	0	0	1512	0	147	1833	0	749	1745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			4			11			50	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	68	26	73	160	20	443	618	75	12	479	343
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	191	0	0	253	0	443	693	0	12	822	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		



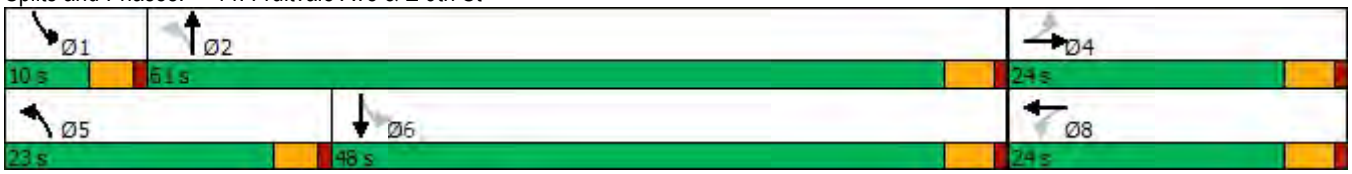
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		18.4			18.4		67.1	64.6		49.7	43.5	
Actuated g/C Ratio		0.20			0.20		0.71	0.69		0.53	0.46	
v/c Ratio		0.92			0.85		1.02	0.55		0.03	0.98	
Control Delay		83.2			61.4		78.2	10.3		5.9	52.8	
Queue Delay		0.0			0.0		29.6	35.7		0.0	0.0	
Total Delay		83.2			61.4		107.8	45.9		5.9	52.8	
LOS		F			E		F	D		A	D	
Approach Delay		83.2			61.4			70.1			52.2	
Approach LOS		F			E			E			D	
Queue Length 50th (ft)		108			144		~241	171		2	457	
Queue Length 95th (ft)		#238			#273		#431	363		7	#730	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		218			317		433	1262		463	835	
Starvation Cap Reductn		0			0		118	606		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.88			0.80		1.41	1.06		0.03	0.98	

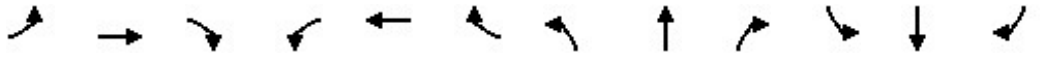
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 94			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 64.0		Intersection LOS: E	
Intersection Capacity Utilization 92.7%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St





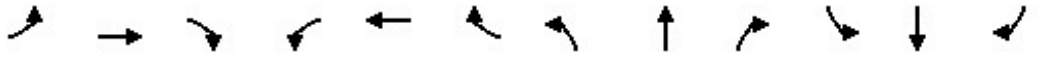
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	50	153	13	0	79	0	822	13	82	464	0
Future Volume (vph)	121	50	153	13	0	79	0	822	13	82	464	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.884			0.998				
Flt Protected		0.966			0.993					0.950		
Satd. Flow (prot)	0	1799	1583	0	1635	0	0	3532	0	1770	1863	0
Flt Permitted		0.779			0.945					0.192		
Satd. Flow (perm)	0	1451	1583	0	1556	0	0	3532	0	358	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166		86			2				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	54	166	14	0	86	0	893	14	89	504	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	186	166	0	100	0	0	907	0	89	504	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		13.5	13.5		12.4			23.3		32.0	31.4	
Actuated g/C Ratio		0.25	0.25		0.23			0.44		0.60	0.59	
v/c Ratio		0.51	0.32		0.23			0.59		0.22	0.46	
Control Delay		24.9	5.7		8.2			14.8		6.3	8.1	
Queue Delay		0.0	0.0		0.0			0.0		0.0	0.2	
Total Delay		24.9	5.7		8.2			14.8		6.4	8.3	
LOS		C	A		A			B		A	A	
Approach Delay		15.8			8.2			14.8			8.0	
Approach LOS		B			A			B			A	
Queue Length 50th (ft)		52	0		4			115		10	73	
Queue Length 95th (ft)		122	40		37			214		31	172	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		972	1115		1051			2107		769	1706	
Starvation Cap Reductn		0	0		0			0		105	567	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.19	0.15		0.10			0.43		0.13	0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 53.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	363	274	162	355	468	85	11	563	135
Future Volume (vph)	0	0	0	363	274	162	355	468	85	11	563	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.970			0.977			0.971	
Flt Protected					0.978		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3358	0	1770	3458	0	0	3433	0
Flt Permitted					0.978		0.950				0.942	
Satd. Flow (perm)	0	0	0	0	3358	0	1770	3458	0	0	3237	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					44			39			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	395	298	176	386	509	92	12	612	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	869	0	386	601	0	0	771	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	

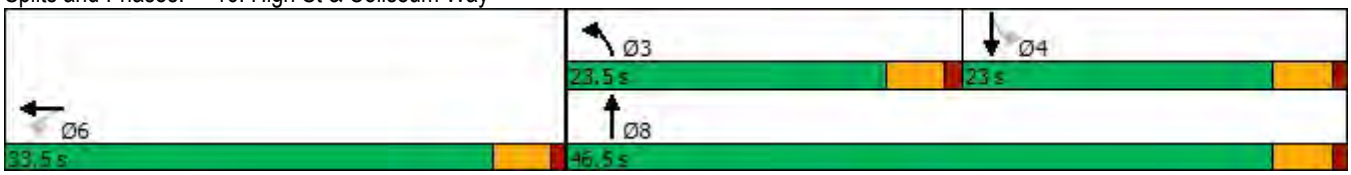


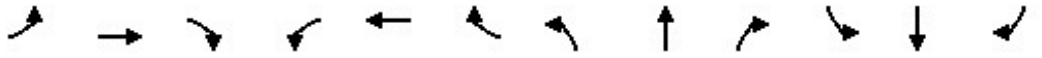
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		23.5	46.5		23.0	23.0	
Total Split (%)				41.9%	41.9%		29.4%	58.1%		28.8%	28.8%	
Maximum Green (s)				29.0	29.0		19.0	42.0		18.5	18.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		19.0	42.0			18.5	
Actuated g/C Ratio					0.36		0.24	0.52			0.23	
v/c Ratio					0.70		0.92	0.33			1.00	
Control Delay					24.2		59.8	10.7			63.1	
Queue Delay					0.0		47.2	1.2			0.0	
Total Delay					24.2		107.0	11.9			63.1	
LOS					C		F	B			E	
Approach Delay					24.2			49.1			63.1	
Approach LOS					C			D			E	
Queue Length 50th (ft)					182		189	78			195	
Queue Length 95th (ft)					248		#352	112			#318	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1245		420	1833			773	
Starvation Cap Reductn					0		79	954			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.70		1.13	0.68			1.00	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 45.0		Intersection LOS: D	
Intersection Capacity Utilization 74.4%		ICU Level of Service D	
Analysis Period (min) 15			

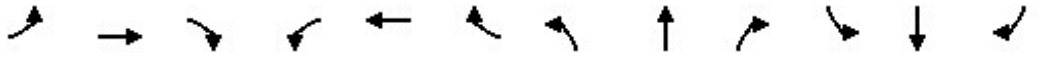
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	470	202	55	0	188	0	544	307	227	732	0
Future Volume (vph)	124	470	202	55	0	188	0	544	307	227	732	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.946				
Flt Protected		0.990		0.950						0.950		
Satd. Flow (prot)	0	3504	1583	1770	0	1583	0	3348	0	1770	3539	0
Flt Permitted		0.990		0.260						0.950		
Satd. Flow (perm)	0	3504	1583	484	0	1583	0	3348	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						204		144				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	511	220	60	0	204	0	591	334	247	796	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	646	220	60	0	204	0	925	0	247	796	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	29.0	29.0	29.0	29.0		29.0		30.0		21.0	51.0	
Total Split (%)	36.3%	36.3%	36.3%	36.3%		36.3%		37.5%		26.3%	63.8%	
Maximum Green (s)	25.0	25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Actuated g/C Ratio		0.31	0.31	0.31		0.31		0.32		0.21	0.58	
v/c Ratio		0.59	0.45	0.41		0.33		0.79		0.68	0.39	
Control Delay		25.9	25.5	32.0		4.9		26.9		40.0	9.7	
Queue Delay		0.0	0.0	0.0		0.0		0.0		2.1	2.1	
Total Delay		25.9	25.5	32.0		4.9		26.9		42.1	11.9	
LOS		C	C	C		A		C		D	B	
Approach Delay		25.8			11.1			26.9			19.0	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)		142	87	24		0		186		115	103	
Queue Length 95th (ft)		195	151	62		45		261		#206	139	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1095	494	148		626		1165		365	2057	
Starvation Cap Reductn		0	0	0		0		0		42	1074	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.59	0.45	0.41		0.33		0.79		0.76	0.81	

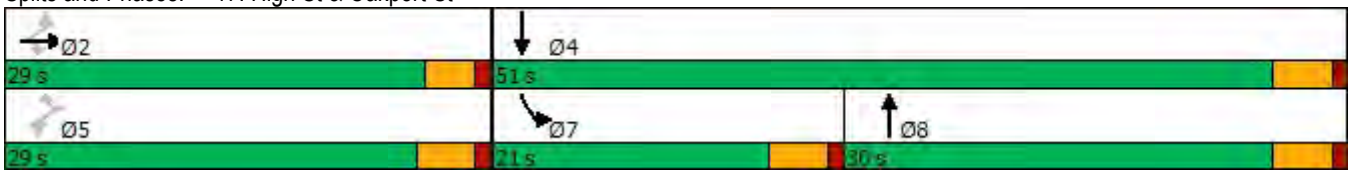
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 22.6		Intersection LOS: C	
Intersection Capacity Utilization 71.5%		ICU Level of Service C	

Analysis Period (min) 15

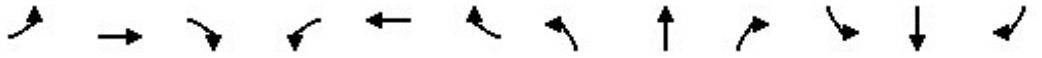
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	281	17	8	12	88	311	0	1317	8	5	647	191
Future Volume (vph)	281	17	8	12	88	311	0	1317	8	5	647	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.950				0.850		0.999			0.966	
Flt Protected	0.950				0.994							
Satd. Flow (prot)	1770	1770	0	0	1852	1583	0	3536	0	0	3419	0
Flt Permitted	0.687				0.974						0.947	
Satd. Flow (perm)	1280	1770	0	0	1814	1583	0	3536	0	0	3238	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9						2			99	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	305	18	9	13	96	338	0	1432	9	5	703	208
Shared Lane Traffic (%)												
Lane Group Flow (vph)	305	27	0	0	109	338	0	1441	0	0	916	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		

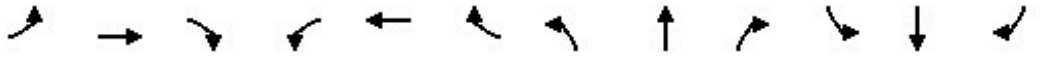


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	16.7	16.7			16.7	16.7		32.6			32.6	
Actuated g/C Ratio	0.29	0.29			0.29	0.29		0.56			0.56	
v/c Ratio	0.83	0.05			0.21	0.75		0.73			0.49	
Control Delay	41.4	11.9			16.7	30.6		12.7			8.3	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	41.4	11.9			16.7	30.6		12.7			8.3	
LOS	D	B			B	C		B			A	
Approach Delay		39.0			27.2			12.7			8.3	
Approach LOS		D			C			B			A	
Queue Length 50th (ft)	99	4			29	106		190			86	
Queue Length 95th (ft)	#216	19			61	#211		267			128	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	407	569			577	504		1977			1853	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.75	0.05			0.19	0.67		0.73			0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 16.3		Intersection LOS: B	
Intersection Capacity Utilization 82.7%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 18: Park St & Blanding Ave

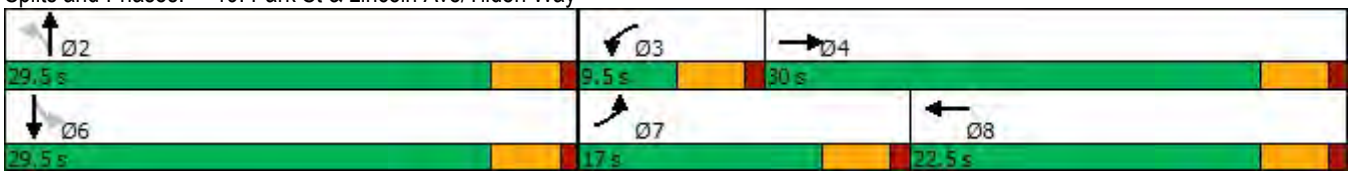
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	241	25	12	260	87	43	631	43	14	449	84
Future Volume (vph)	187	241	25	12	260	87	43	631	43	14	449	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.986			0.962			0.991			0.977	
Flt Protected	0.950			0.950				0.997			0.999	
Satd. Flow (prot)	1770	3490	0	1770	3405	0	0	3497	0	0	3454	0
Flt Permitted	0.950			0.950				0.888			0.930	
Satd. Flow (perm)	1770	3490	0	1770	3405	0	0	3115	0	0	3216	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			64			11			34	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	203	262	27	13	283	95	47	686	47	15	488	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	203	289	0	13	378	0	0	780	0	0	594	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		



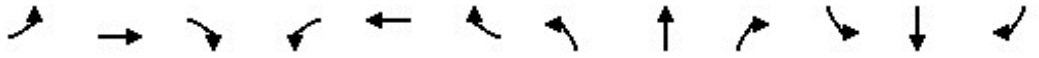
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	11.0	25.1		5.0	11.3			25.2			25.2	
Actuated g/C Ratio	0.18	0.41		0.08	0.19			0.41			0.41	
v/c Ratio	0.64	0.20		0.09	0.55			0.60			0.44	
Control Delay	33.9	11.7		29.6	21.9			17.2			14.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	33.9	11.7		29.6	21.9			17.2			14.3	
LOS	C	B		C	C			B			B	
Approach Delay		20.9			22.2			17.2			14.3	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	69	30		5	56			115			76	
Queue Length 95th (ft)	#143	66		20	94			191			132	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	364	1558		145	1055			1290			1346	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.56	0.19		0.09	0.36			0.60			0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 61			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 18.1		Intersection LOS: B	
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



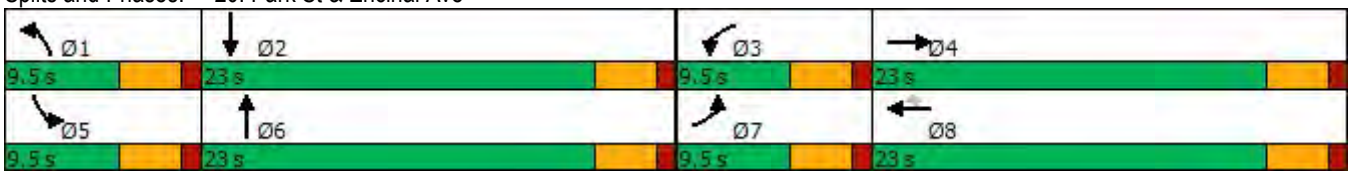
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	319	43	45	427	79	80	286	25	54	226	52
Future Volume (vph)	79	319	43	45	427	79	80	286	25	54	226	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.982				0.850		0.988			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3476	0	1770	1863	1583	1770	3497	0	1770	3440	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3476	0	1770	1863	1583	1770	3497	0	1770	3440	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				151		14			44	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	347	47	49	464	86	87	311	27	59	246	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	394	0	49	464	86	87	338	0	59	303	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						

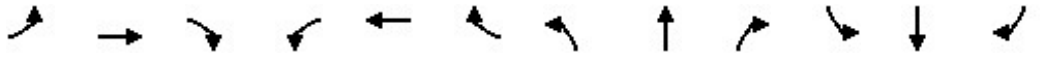


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.7	19.4		5.7	17.6	17.6	5.7	21.6		5.7	19.8	
Actuated g/C Ratio	0.10	0.32		0.10	0.29	0.29	0.10	0.36		0.10	0.33	
v/c Ratio	0.51	0.35		0.29	0.85	0.15	0.51	0.27		0.35	0.26	
Control Delay	41.4	16.8		32.8	38.0	1.4	41.8	16.3		34.4	15.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	41.4	16.8		32.8	38.0	1.4	41.8	16.3		34.4	15.4	
LOS	D	B		C	D	A	D	B		C	B	
Approach Delay		21.2			32.4			21.5			18.5	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)	34	61		19	172	0	34	52		23	41	
Queue Length 95th (ft)	#89	95		49	#325	8	#90	83		56	70	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	169	1268		169	617	625	169	1270		169	1169	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.51	0.31		0.29	0.75	0.14	0.51	0.27		0.35	0.26	

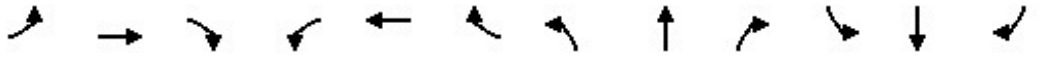
Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 59.8			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 24.3		Intersection LOS: C	
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	82	13	53	344	409	12	414	62	133	542	196
Future Volume (vph)	90	82	13	53	344	409	12	414	62	133	542	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.981			0.960	
Flt Protected		0.974			0.993		0.950			0.950		
Satd. Flow (prot)	0	1814	1583	0	1850	1583	1770	3472	0	1770	3398	0
Flt Permitted		0.974			0.993		0.950			0.950		
Satd. Flow (perm)	0	1814	1583	0	1850	1583	1770	3472	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			407		17			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	89	14	58	374	445	13	450	67	145	589	213
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	187	14	0	432	445	13	517	0	145	802	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						

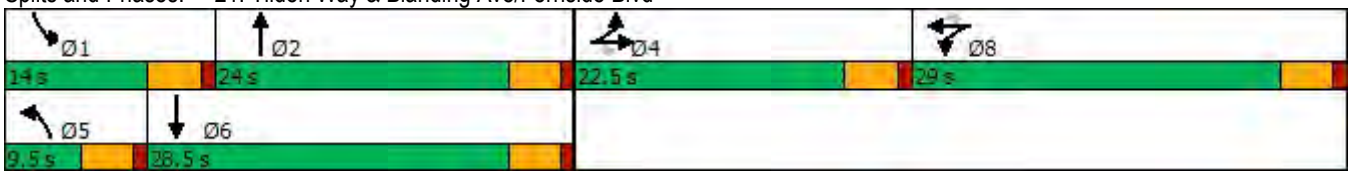


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		13.3	13.3		22.9	22.9	5.1	16.6		9.3	28.8	
Actuated g/C Ratio		0.17	0.17		0.28	0.28	0.06	0.21		0.12	0.36	
v/c Ratio		0.62	0.04		0.82	0.60	0.12	0.71		0.71	0.64	
Control Delay		42.0	0.2		43.0	8.0	42.0	35.3		57.6	24.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		42.0	0.2		43.0	8.0	42.0	35.3		57.6	24.5	
LOS		D	A		D	A	D	D		E	C	
Approach Delay		39.1			25.2			35.5			29.6	
Approach LOS		D			C			D			C	
Queue Length 50th (ft)		93	0		209	14	7	128		75	162	
Queue Length 95th (ft)		161	0		#393	99	26	192		#178	#306	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		413	459		573	771	111	869		212	1254	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.45	0.03		0.75	0.58	0.12	0.59		0.68	0.64	

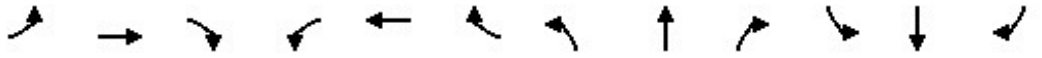
Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 80.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 30.1		Intersection LOS: C	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



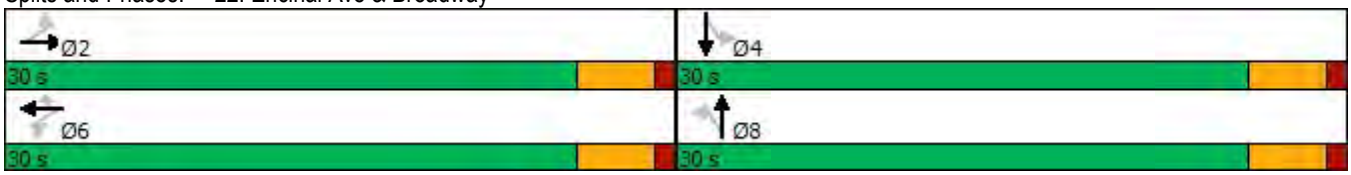
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	276	89	28	341	74	174	449	20	36	374	27
Future Volume (vph)	86	276	89	28	341	74	174	449	20	36	374	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970				0.850		0.994			0.990	
Flt Protected		0.991			0.996		0.950			0.950		
Satd. Flow (prot)	0	3402	0	0	1855	1636	1770	1852	0	1770	1844	0
Flt Permitted		0.717			0.940		0.432			0.367		
Satd. Flow (perm)	0	2461	0	0	1751	1636	805	1852	0	684	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		63				80		5			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	300	97	30	371	80	189	488	22	39	407	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	490	0	0	401	80	189	510	0	39	436	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



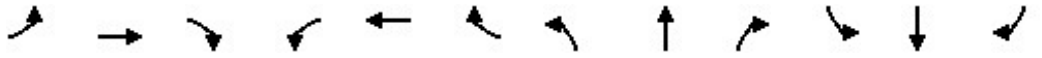
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		17.3			17.3	17.3	25.8	25.8		25.8	25.8	
Actuated g/C Ratio		0.33			0.33	0.33	0.50	0.50		0.50	0.50	
v/c Ratio		0.57			0.69	0.13	0.47	0.56		0.12	0.48	
Control Delay		14.8			21.6	3.8	15.9	13.5		10.4	12.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		14.8			21.6	3.8	15.9	13.5		10.4	12.2	
LOS		B			C	A	B	B		B	B	
Approach Delay		14.8			18.6			14.2			12.1	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		53			103	0	35	98		6	79	
Queue Length 95th (ft)		89			176	20	110	230		25	188	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1248			865	849	398	918		338	914	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.39			0.46	0.09	0.47	0.56		0.12	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.1			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 78.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	667	6	95	771	678	4	100	161	267	61	78
Future Volume (vph)	59	667	6	95	771	678	4	100	161	267	61	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.918				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3536	0	1770	1863	1583	0	1708	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.998		0.462		
Satd. Flow (perm)	1770	3536	0	1770	1863	1583	0	1707	0	861	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				636		102				143
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			2981			502			2170	
Travel Time (s)		9.3			81.3			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	725	7	103	838	737	4	109	175	290	66	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	732	0	103	838	737	0	288	0	290	66	85
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



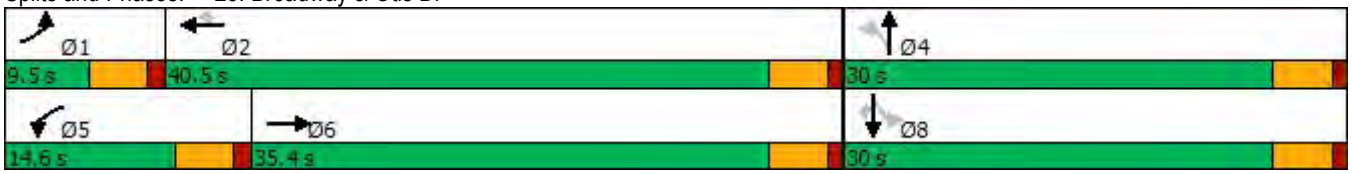
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	32.5		8.9	36.1	36.1		25.6		25.6	25.6	25.6
Actuated g/C Ratio	0.06	0.42		0.11	0.46	0.46		0.33		0.33	0.33	0.33
v/c Ratio	0.57	0.50		0.51	0.97	0.69		0.46		1.03	0.11	0.14
Control Delay	57.5	19.2		42.5	48.4	6.5		16.4		92.6	20.0	1.4
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	57.5	19.2		42.5	48.4	6.5		16.4		92.6	20.0	1.4
LOS	E	B		D	D	A		B		F	B	A
Approach Delay		22.3			29.6			16.4			64.1	
Approach LOS		C			C			B			E	
Queue Length 50th (ft)	32	144		49	402	29		70		~161	23	0
Queue Length 95th (ft)	#86	197		97	#657	127		141		#309	51	9
Internal Link Dist (ft)		261			2901			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	113	1471		229	861	1073		627		281	609	614
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.57	0.50		0.45	0.97	0.69		0.46		1.03	0.11	0.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 78.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 31.4		Intersection LOS: C	
Intersection Capacity Utilization 89.9%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

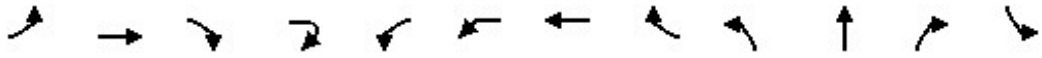
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	98	142	35	2	5	3	364	301	70	364	3	209
Future Volume (vph)	98	142	35	2	5	3	364	301	70	364	3	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.999			0.992		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1861	1583	0	1846	0	1770
Flt Permitted	0.229						0.995			0.862		0.950
Satd. Flow (perm)	427	1863	1583	0	0	0	1853	1583	0	1604	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								327				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	107	154	38	2	5	3	396	327	76	396	3	227
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	154	40	0	0	0	404	327	0	475	0	227
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

Lane Group	SBT	SBR	SBR2	NEL	NER	NER2
Lane Configurations						
Traffic Volume (vph)	380	82	65	116	4	4
Future Volume (vph)	380	82	65	116	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	50	
Storage Lanes		1		1	1	
Taper Length (ft)				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.995		0.850
Flt Protected				0.954		
Satd. Flow (prot)	1863	1583	0	1768	0	1583
Flt Permitted				0.954		
Satd. Flow (perm)	1863	1583	0	1768	0	1583
Right Turn on Red			No			Yes
Satd. Flow (RTOR)						88
Link Speed (mph)	25			25		
Link Distance (ft)	1133			459		
Travel Time (s)	30.9			12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	413	89	71	126	4	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	413	160	0	130	0	4
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Right	Right
Median Width(ft)	12			12		
Link Offset(ft)	0			0		
Crosswalk Width(ft)	16			16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	9	9
Number of Detectors	2	1		1		1
Detector Template	Thru	Right		Left		Right
Leading Detector (ft)	100	20		20		20
Trailing Detector (ft)	0	0		0		0
Detector 1 Position(ft)	0	0		0		0
Detector 1 Size(ft)	6	20		20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0		0.0
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA	Perm		Prot		Perm
Protected Phases	4			9		
Permitted Phases		4				9

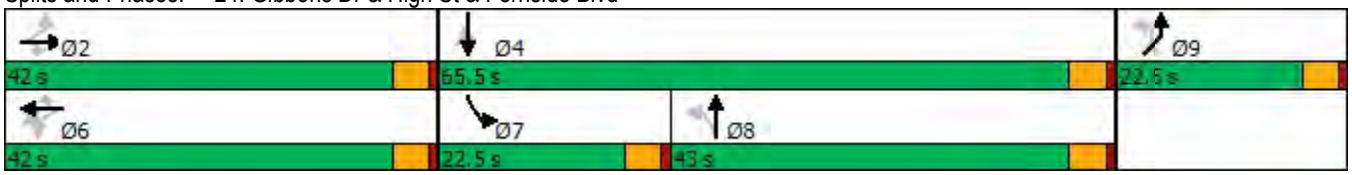


Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	42.0	42.0	42.0		42.0	42.0	42.0	42.0	43.0	43.0		22.5
Total Split (%)	32.3%	32.3%	32.3%		32.3%	32.3%	32.3%	32.3%	33.1%	33.1%		17.3%
Maximum Green (s)	37.5	37.5	37.5		37.5	37.5	37.5	37.5	38.5	38.5		18.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.5	37.5	37.5				37.5	37.5		38.5		18.0
Actuated g/C Ratio	0.30	0.30	0.30				0.30	0.30		0.31		0.14
v/c Ratio	0.84	0.28	0.09				0.73	0.47		0.97		0.90
Control Delay	91.1	36.3	33.8				49.5	6.0		77.7		89.5
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	91.1	36.3	33.8				49.5	6.0		77.7		89.5
LOS	F	D	C				D	A		E		F
Approach Delay		55.5					30.0			77.7		
Approach LOS		E					C			E		
Queue Length 50th (ft)	82	97	24				298	0		384		185
Queue Length 95th (ft)	#202	162	55				434	72		#631		#348
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	127	554	470				551	700		490		252
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.84	0.28	0.09				0.73	0.47		0.97		0.90

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 126.1			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 48.4		Intersection LOS: D	
Intersection Capacity Utilization 95.7%		ICU Level of Service F	
Analysis Period (min) 15			

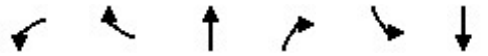
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd

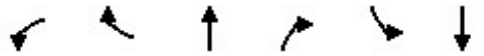


Lane Group	SBT	SBR	SBR2	NEL	NER	NER2
Detector Phase	4	4		9		9
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0		5.0
Minimum Split (s)	22.5	22.5		22.5		22.5
Total Split (s)	65.5	65.5		22.5		22.5
Total Split (%)	50.4%	50.4%		17.3%		17.3%
Maximum Green (s)	61.0	61.0		18.0		18.0
Yellow Time (s)	3.5	3.5		3.5		3.5
All-Red Time (s)	1.0	1.0		1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5		4.5		4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0		3.0
Recall Mode	None	None		None		None
Walk Time (s)	7.0	7.0		7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0		0		0
Act Effct Green (s)	61.0	61.0		14.0		14.0
Actuated g/C Ratio	0.48	0.48		0.11		0.11
v/c Ratio	0.46	0.21		0.66		0.02
Control Delay	24.2	20.2		70.1		0.0
Queue Delay	0.0	0.0		0.0		0.0
Total Delay	24.2	20.2		70.1		0.0
LOS	C	C		E		A
Approach Delay	41.9			68.0		
Approach LOS	D			E		
Queue Length 50th (ft)	219	74		103		0
Queue Length 95th (ft)	324	125		172		0
Internal Link Dist (ft)	1053			379		
Turn Bay Length (ft)						50
Base Capacity (vph)	901	766		252		301
Starvation Cap Reductn	0	0		0		0
Spillback Cap Reductn	0	0		0		0
Storage Cap Reductn	0	0		0		0
Reduced v/c Ratio	0.46	0.21		0.52		0.01

Intersection Summary



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	657	30	1602	954	64	1286
Future Volume (vph)	657	30	1602	954	64	1286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.993			0.850		
Flt Protected	0.954				0.950	
Satd. Flow (prot)	3423	0	3539	1583	1770	3539
Flt Permitted	0.954				0.950	
Satd. Flow (perm)	3423	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	4			152		
Link Speed (mph)	25		35			35
Link Distance (ft)	479		1340			2981
Travel Time (s)	13.1		26.1			58.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	714	33	1741	1037	70	1398
Shared Lane Traffic (%)						
Lane Group Flow (vph)	747	0	1741	1037	70	1398
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		



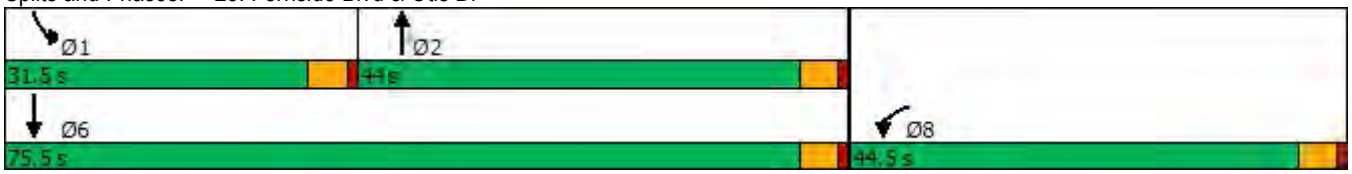
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	44.5		44.0	44.0	31.5	75.5
Total Split (%)	37.1%		36.7%	36.7%	26.3%	62.9%
Maximum Green (s)	40.0		39.5	39.5	27.0	71.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	29.0		59.2	59.2	9.7	71.2
Actuated g/C Ratio	0.27		0.54	0.54	0.09	0.65
v/c Ratio	0.82		0.91	1.12	0.45	0.61
Control Delay	45.4		33.2	91.4	57.0	13.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	45.4		33.2	91.4	57.0	13.1
LOS	D		C	F	E	B
Approach Delay	45.4		54.9			15.2
Approach LOS	D		D			B
Queue Length 50th (ft)	252		583	~812	47	273
Queue Length 95th (ft)	320		#926	#1205	96	415
Internal Link Dist (ft)	399		1260			2901
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	1259		1919	928	438	2306
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.59		0.91	1.12	0.16	0.61

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 109.2			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.12			
Intersection Signal Delay: 41.8		Intersection LOS: D	
Intersection Capacity Utilization 79.4%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Fernside Blvd & Otis Dr



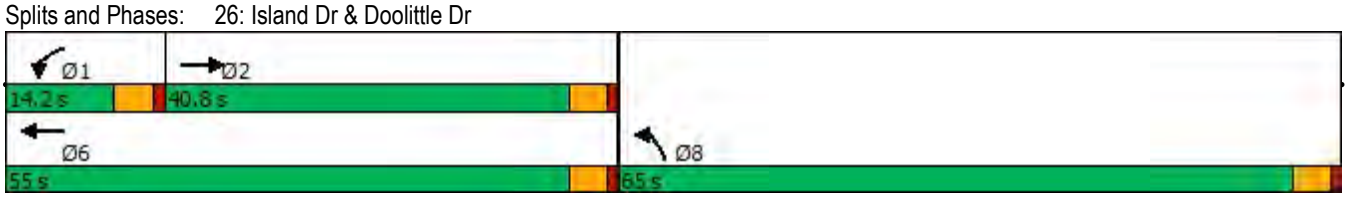
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	928	1019	118	1018	1549	121
Future Volume (vph)	928	1019	118	1018	1549	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		250				50
Link Speed (mph)	25			25	25	
Link Distance (ft)	1340			365	455	
Travel Time (s)	36.5			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1009	1108	128	1107	1684	132
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1009	1108	128	1107	1684	132
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.3	119.7	9.7	50.5	60.2	119.7
Actuated g/C Ratio	0.30	1.00	0.08	0.42	0.50	1.00
v/c Ratio	0.94	0.70	0.90	0.74	0.98	0.08
Control Delay	57.5	2.6	105.9	32.9	46.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	2.6	105.9	32.9	46.2	0.1
LOS	E	A	F	C	D	A
Approach Delay	28.7			40.5	42.8	
Approach LOS	C			D	D	
Queue Length 50th (ft)	400	0	100	374	633	0
Queue Length 95th (ft)	#535	0	#218	457	#817	0
Internal Link Dist (ft)	1260			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1073	1583	143	1493	1735	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.70	0.90	0.74	0.97	0.08

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 119.7			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 36.5		Intersection LOS: D	
Intersection Capacity Utilization 87.6%		ICU Level of Service E	
Analysis Period (min) 15			

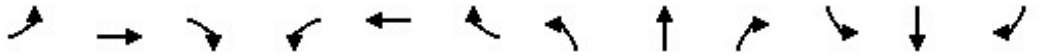
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 26: Island Dr & Doolittle Dr



2020 Existing Condition

PM Peak Hour



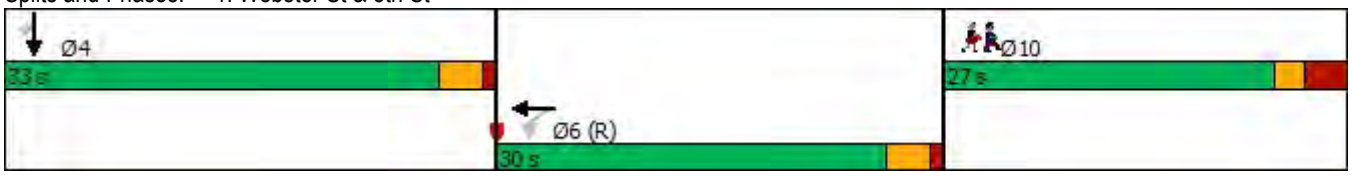
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	385	436	0	0	0	0	0	911	276
Future Volume (vph)	0	0	0	385	436	0	0	0	0	0	911	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.996	0.850
Flt Protected				0.950	0.986							
Satd. Flow (prot)	0	0	0	1332	4541	0	0	0	0	0	4633	1203
Flt Permitted				0.950	0.986							
Satd. Flow (perm)	0	0	0	1332	4541	0	0	0	0	0	4633	1203
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				219	118						5	267
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	414	469	0	0	0	0	0	980	297
Shared Lane Traffic (%)				47%								10%
Lane Group Flow (vph)	0	0	0	219	664	0	0	0	0	0	1010	267
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	25.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				33.4	33.4						29.4	29.4
Actuated g/C Ratio				0.37	0.37						0.33	0.33
v/c Ratio				0.35	0.38						0.67	0.47
Control Delay				5.4	19.9						28.0	5.7
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				5.4	19.9						28.0	5.7
LOS				A	B						C	A
Approach Delay					16.3						23.3	
Approach LOS					B						C	
Queue Length 50th (ft)				0	97						179	0
Queue Length 95th (ft)				60	135						227	59
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				631	1758						1588	587
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.35	0.38						0.64	0.45

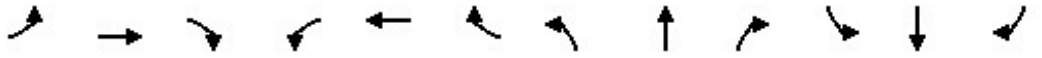
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St



Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

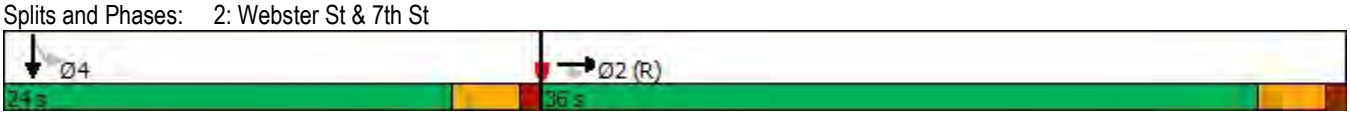


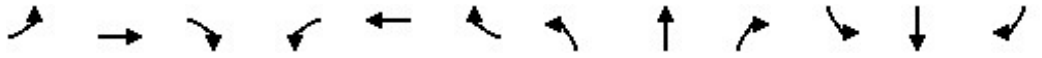
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	933	1013	0	0	0	0	0	0	242	1054	0
Future Volume (vph)	0	933	1013	0	0	0	0	0	0	242	1054	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.947	0.850									
Flt Protected											0.991	
Satd. Flow (prot)	0	4311	1375	0	0	0	0	0	0	0	4883	0
Flt Permitted											0.991	
Satd. Flow (perm)	0	4311	1375	0	0	0	0	0	0	0	4883	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		8	18								80	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			383			184			292	
Travel Time (s)		9.3			10.4			5.0			8.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	1048	1138	0	0	0	0	0	0	272	1184	0
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1617	569	0	0	0	0	0	0	0	1456	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		36.0	36.0							24.0	24.0	
Total Split (s)		36.0	36.0							24.0	24.0	
Total Split (%)		60.0%	60.0%							40.0%	40.0%	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		32.0	32.0							20.0	20.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		22.0	22.0							8.0	8.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		32.0	32.0								20.0	
Actuated g/C Ratio		0.53	0.53								0.33	
v/c Ratio		0.70	0.77								0.87	
Control Delay		12.5	19.9								24.9	
Queue Delay		0.0	0.0								2.4	
Total Delay		12.5	19.9								27.3	
LOS		B	B								C	
Approach Delay		14.4									27.3	
Approach LOS		B									C	
Queue Length 50th (ft)		152	166								168	
Queue Length 95th (ft)		199	#365								#230	
Internal Link Dist (ft)		260			303			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2302	741								1681	
Starvation Cap Reductn		0	0								126	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.70	0.77								0.94	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 9.5 (16%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 19.6		Intersection LOS: B	
Intersection Capacity Utilization 73.8%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

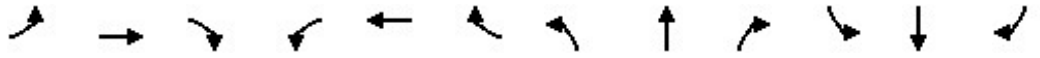
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	1057	0	0	0	0	0	707	1425	0	0	0
Future Volume (vph)	117	1057	0	0	0	0	0	707	1425	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.995										
Satd. Flow (prot)	0	4751	0	0	0	0	0	5136	2718	0	0	0
Flt Permitted		0.995										
Satd. Flow (perm)	0	4751	0	0	0	0	0	5136	2718	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47							47			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		383			364			367			319	
Travel Time (s)		10.4			9.9			10.0			8.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	3%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	129	1162	0	0	0	0	0	777	1566	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1291	0	0	0	0	0	777	1566	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								37.0				
Total Split (%)								61.7%				
Maximum Green (s)								31.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		17.4						31.4	31.4			
Actuated g/C Ratio		0.29						0.52	0.52			
v/c Ratio		0.91						0.29	1.08			
Control Delay		36.4						8.4	67.5			
Queue Delay		0.0						0.0	0.0			
Total Delay		36.4						8.4	67.5			
LOS		D						A	E			
Approach Delay		36.4						47.9				
Approach LOS		D						D				
Queue Length 50th (ft)		161						52	~382			
Queue Length 95th (ft)		m#229						73	#523			
Internal Link Dist (ft)		303			284			287			239	
Turn Bay Length (ft)												
Base Capacity (vph)		1411						2687	1444			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.91						0.29	1.08			

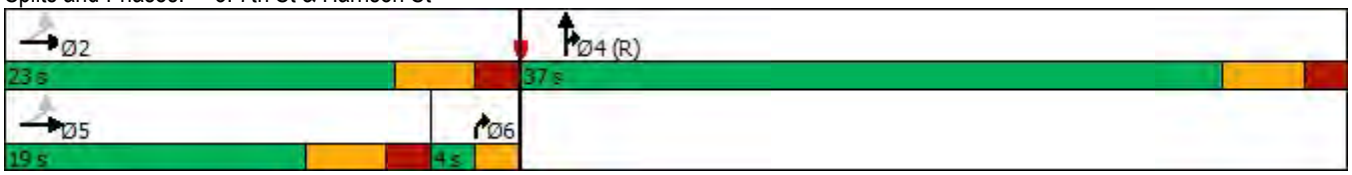
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 22.5 (38%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 43.8		Intersection LOS: D	
Intersection Capacity Utilization 82.0%		ICU Level of Service D	
Analysis Period (min) 15			
* User Entered Value			
~ Volume exceeds capacity, queue is theoretically infinite.			

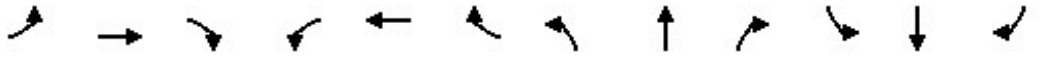
Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	3.0
Total Split (s)	23.0	19.0	4.0
Total Split (%)	38%	32%	7%
Maximum Green (s)	17.4	13.4	2.0
Yellow Time (s)	3.6	3.6	2.0
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
! Phase conflict between lane groups.

Splits and Phases: 3: 7th St & Harrison St



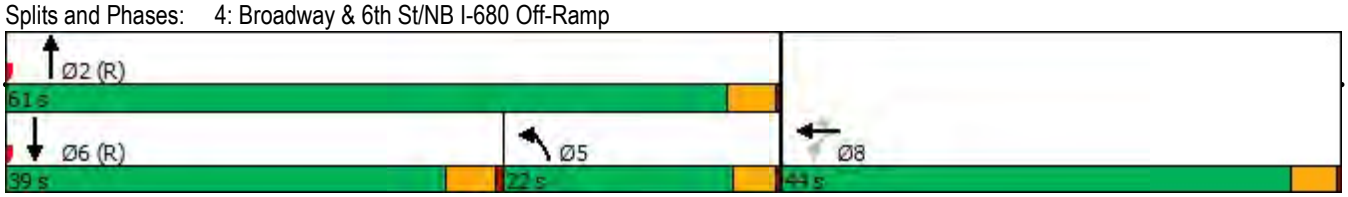


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	423	109	567	38	318	0	0	548	30
Future Volume (vph)	0	0	0	423	109	567	38	318	0	0	548	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.992	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	3610	1599	1805	3406	0	0	5003	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1805	3610	1599	1805	3406	0	0	5003	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						487					8	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			312			469	
Travel Time (s)		11.3			8.0			8.5			12.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	6%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	20
Adj. Flow (vph)	0	0	0	450	116	603	40	338	0	0	583	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	450	116	603	40	338	0	0	615	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.0	31.0	31.0	9.5	23.5			23.5	
Total Split (s)				44.0	44.0	44.0	22.0	61.0			39.0	
Total Split (%)				41.9%	41.9%	41.9%	21.0%	58.1%			37.1%	
Maximum Green (s)				40.0	40.0	40.0	18.0	56.5			34.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	C-Max			C-Max	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				33.3	33.3	33.3	12.9	63.2			50.0	
Actuated g/C Ratio				0.32	0.32	0.32	0.12	0.60			0.48	
v/c Ratio				0.79	0.10	0.72	0.18	0.16			0.26	
Control Delay				42.3	23.7	11.0	40.2	2.7			20.0	
Queue Delay				0.5	0.0	0.0	0.0	0.0			0.0	
Total Delay				42.9	23.7	11.0	40.2	2.7			20.0	
LOS				D	C	B	D	A			C	
Approach Delay					24.5			6.7			20.0	
Approach LOS					C			A			C	
Queue Length 50th (ft)				268	28	56	28	2			104	
Queue Length 95th (ft)				358	45	171	m47	m48			147	
Internal Link Dist (ft)		335			213			232			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				687	1375	910	309	2049			2385	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				51	0	0	0	0			135	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.71	0.08	0.66	0.13	0.16			0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 16 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp



Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	14	1003	443	96	341	282	45	391	211	370
Future Volume (vph)	14	1003	443	96	341	282	45	391	211	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.994	0.850	0.850	0.927					
Flt Protected		0.999						0.950	0.950	
Satd. Flow (prot)	0	3016	1441	1615	4712	0	0	1787	1787	1810
Flt Permitted		0.999						0.950	0.950	
Satd. Flow (perm)	0	3016	1441	1615	4712	0	0	1787	1787	1810
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				101	10					
Link Speed (mph)		25			25					25
Link Distance (ft)		525			667					312
Travel Time (s)		14.3			18.2					8.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	2%	0%	4%	0%	0%	1%	1%	5%
Adj. Flow (vph)	15	1056	466	101	359	297	47	412	222	389
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	1118	419	101	703	0	0	412	222	389
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	23.0			9.5	9.5	23.0
Total Split (s)	46.0	46.0	46.0	46.0	30.8			28.2	28.2	59.0
Total Split (%)	43.8%	43.8%	43.8%	43.8%	29.3%			26.9%	26.9%	56.2%
Maximum Green (s)	42.0	42.0	42.0	42.0	25.8			24.2	24.2	55.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0			3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0			1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0	5.0			4.0	4.0	4.0
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	C-Max			None	None	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0					11.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		41.8	41.8	41.8	25.8			24.4	24.4	55.2
Actuated g/C Ratio		0.40	0.40	0.40	0.25			0.23	0.23	0.53
v/c Ratio		0.93	0.73	0.14	0.60			1.00	0.54	0.41
Control Delay		44.9	35.7	4.6	37.1			86.6	46.8	16.5
Queue Delay		0.0	0.0	0.0	0.0			34.9	1.6	1.8
Total Delay		44.9	35.7	4.6	37.1			121.5	48.4	18.3
LOS		D	D	A	D			F	D	B
Approach Delay		40.1			37.1					66.4
Approach LOS		D			D					E
Queue Length 50th (ft)		440	257	0	151			~252	120	64
Queue Length 95th (ft)		#607	391	32	194			#479	198	185
Internal Link Dist (ft)		445			587					232
Turn Bay Length (ft)										
Base Capacity (vph)		1206	576	706	1165			414	414	951
Starvation Cap Reductn		0	0	0	0			61	80	395
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.93	0.73	0.14	0.60			1.17	0.66	0.70

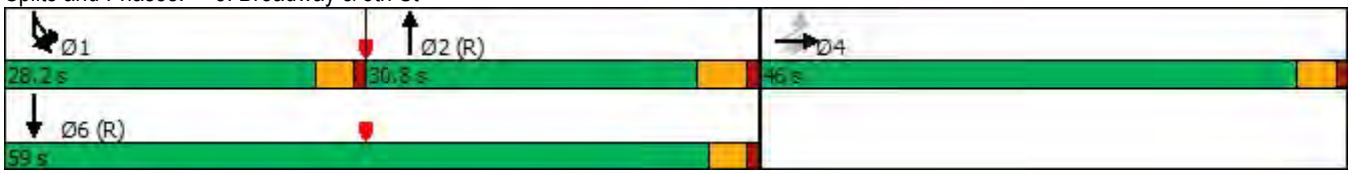
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 47.5		Intersection LOS: D	
Intersection Capacity Utilization 79.3%		ICU Level of Service D	
Analysis Period (min) 15			

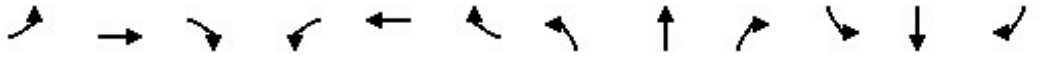
* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Broadway & 5th St



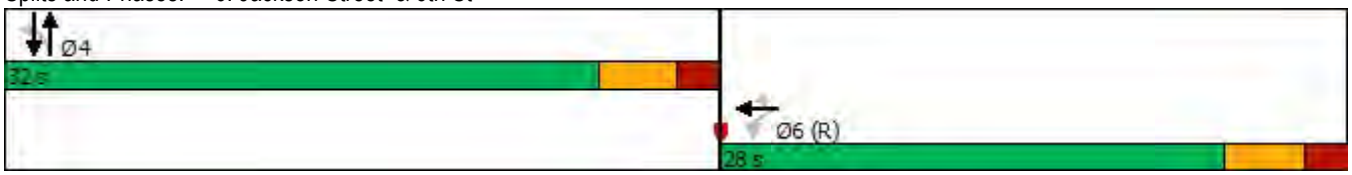


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	9	368	42	424	386	0	0	175	1207
Future Volume (vph)	0	0	0	9	368	42	424	386	0	0	175	1207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.946	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1900	1615	1805	1900	0	0	1701	1599
Flt Permitted				0.950			0.557					
Satd. Flow (perm)	0	0	0	1805	1900	1615	1058	1900	0	0	1701	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						45					60	298
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	0	0	0	9	379	43	437	398	0	0	180	1244
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	9	379	43	437	398	0	0	280	1144
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.01	0.53	0.07	0.94	0.47			0.36	0.72
Control Delay				12.0	18.0	4.7	48.6	14.2			10.2	2.8
Queue Delay				0.0	0.0	0.0	0.0	1.6			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				12.0	18.0	4.7	48.6	15.8			10.2	2.8
LOS				B	B	A	D	B			B	A
Approach Delay					16.6			33.0			4.2	
Approach LOS					B			C			A	
Queue Length 50th (ft)				2	104	0	142	96			50	0
Queue Length 95th (ft)				9	176	16	#311	162			101	0
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	712	633	467	839			784	1599
Starvation Cap Reductn				0	0	0	0	270			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.01	0.53	0.07	0.94	0.70			0.36	0.72

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 90.5%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Jackson Street & 6th St

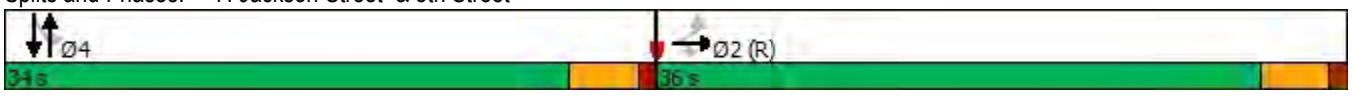


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	418	565	428	0	0	0	0	392	36	90	94	0
Future Volume (vph)	418	565	428	0	0	0	0	392	36	90	94	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.989				
Flt Protected		0.979									0.976	
Satd. Flow (prot)	0	3474	1615	0	0	0	0	1879	0	0	1623	0
Flt Permitted		0.979									0.509	
Satd. Flow (perm)	0	3474	1615	0	0	0	0	1879	0	0	846	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			231					8				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	475	642	486	0	0	0	0	445	41	102	107	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1117	486	0	0	0	0	486	0	0	209	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					25.6		25.6	25.6	
Total Split (s)	36.0	36.0	36.0					34.0		34.0	34.0	
Total Split (%)	51.4%	51.4%	51.4%					48.6%		48.6%	48.6%	
Maximum Green (s)	31.4	31.4	31.4					29.4		29.4	29.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		31.4	31.4					29.4			29.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.45	0.45					0.42			0.42	
v/c Ratio		0.72	0.57					0.61			0.59	
Control Delay		18.9	10.2					19.7			24.0	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		18.9	10.2					19.7			24.0	
LOS		B	B					B			C	
Approach Delay		16.3						19.7			24.0	
Approach LOS		B						B			C	
Queue Length 50th (ft)		196	69					155			67	
Queue Length 95th (ft)		256	146					239			133	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1558	851					793			355	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.72	0.57					0.61			0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 34 (49%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 17.7		Intersection LOS: B	
Intersection Capacity Utilization 72.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 7: Jackson Street & 5th Street



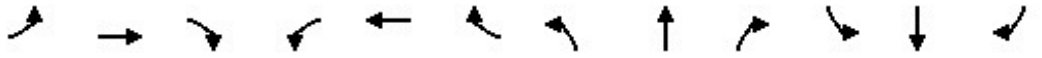
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	441	192	148	649	1084	814
Future Volume (vph)	441	192	148	649	1084	814
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3505	5136	2814
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3505	5136	2814
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	3%	1%	1%
Adj. Flow (vph)	459	200	154	676	1129	848
Shared Lane Traffic (%)						
Lane Group Flow (vph)	459	200	154	676	1129	848
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	22.5	22.5	10.8	37.5	26.7	
Total Split (%)	37.5%	37.5%	18.0%	62.5%	44.5%	
Maximum Green (s)	18.0	18.0	6.3	33.0	22.2	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	15.0	15.0	6.3	33.1	22.3	41.8
Actuated g/C Ratio	0.26	0.26	0.11	0.58	0.39	0.73
v/c Ratio	0.50	0.47	0.77	0.33	0.56	0.41
Control Delay	19.7	21.5	55.1	7.3	15.5	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	21.5	55.1	7.3	15.5	3.6
LOS	B	C	E	A	B	A
Approach Delay	20.3			16.2	10.4	
Approach LOS	C			B	B	
Queue Length 50th (ft)	68	57	54	58	110	44
Queue Length 95th (ft)	104	108	#145	93	156	66
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1106	510	199	2030	2001	2208
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.39	0.77	0.33	0.56	0.38

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 57.1			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 53.0%		ICU Level of Service A	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Webster Street & Willie Stargell Ave

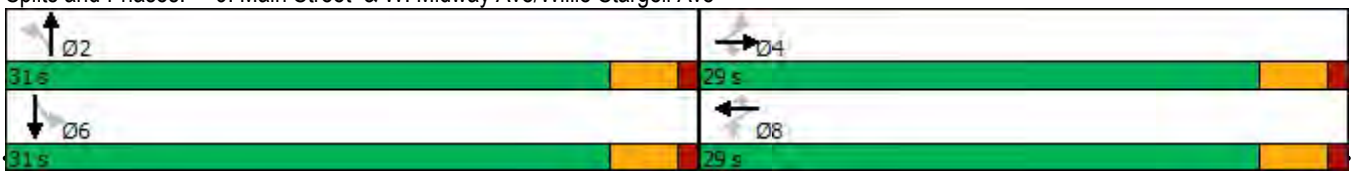


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	134	36	24	105	114	34	98	24	106	171	9
Future Volume (vph)	3	134	36	24	105	114	34	98	24	106	171	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.977			0.995	
Flt Protected		0.999			0.991			0.989			0.982	
Satd. Flow (prot)	0	1898	1615	0	1838	1615	0	3344	0	0	3527	0
Flt Permitted		0.992			0.915			0.860			0.793	
Satd. Flow (perm)	0	1885	1615	0	1697	1615	0	2908	0	0	2848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			45			143		30			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	11%	3%	0%	0%	0%	0%
Adj. Flow (vph)	4	168	45	30	131	143	43	123	30	133	214	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	172	45	0	161	143	0	196	0	0	358	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0		31.0	31.0	
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		9.7	9.7		9.7	9.7		29.1			29.1	
Actuated g/C Ratio		0.21	0.21		0.21	0.21		0.62			0.62	
v/c Ratio		0.44	0.12		0.46	0.32		0.11			0.20	
Control Delay		19.0	6.2		19.7	5.5		3.8			4.7	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		19.0	6.2		19.7	5.5		3.8			4.7	
LOS		B	A		B	A		A			A	
Approach Delay		16.3			13.0			3.8			4.7	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		38	0		36	0		7			16	
Queue Length 95th (ft)		68	14		65	23		18			34	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		1009	885		908	931		1819			1772	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.17	0.05		0.18	0.15		0.11			0.20	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 46.9			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 40.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave

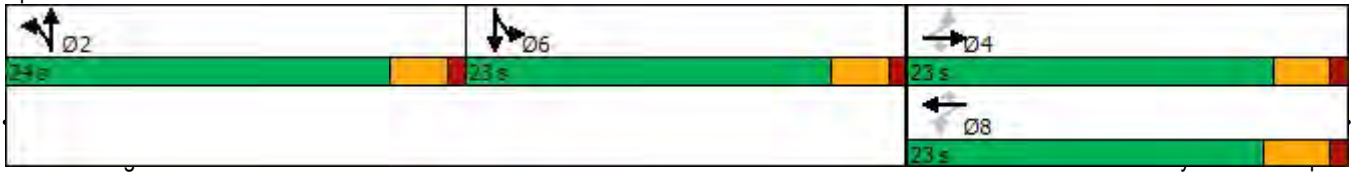


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	109	54	41	154	67	46	79	21	85	147	8
Future Volume (vph)	2	109	54	41	154	67	46	79	21	85	147	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.969			0.993	
Flt Protected		0.999			0.990		0.950			0.950	0.997	
Satd. Flow (prot)	0	3606	1615	0	3491	1538	1805	3391	0	1643	3423	0
Flt Permitted		0.948			0.859		0.950			0.950	0.997	
Satd. Flow (perm)	0	3422	1615	0	3029	1538	1805	3391	0	1643	3423	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78			84		26			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	3%	5%	0%	4%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	3	136	68	51	193	84	58	99	26	106	184	10
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	0	139	68	0	244	84	58	125	0	95	205	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		10.0	10.0		9.5	9.5	20.1	20.1		8.7	8.7	
Actuated g/C Ratio		0.20	0.20		0.19	0.19	0.39	0.39		0.17	0.17	
v/c Ratio		0.21	0.18		0.43	0.24	0.08	0.09		0.34	0.35	
Control Delay		18.3	5.9		21.2	7.2	11.8	9.5		22.6	20.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		18.3	5.9		21.2	7.2	11.8	9.5		22.6	20.0	
LOS		B	A		C	A	B	A		C	B	
Approach Delay		14.2			17.6			10.2			20.8	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)		17	0		33	0	10	8		27	28	
Queue Length 95th (ft)		35	17		57	22	30	23		60	51	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		1285	655		1108	616	713	1356		617	1290	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.11	0.10		0.22	0.14	0.08	0.09		0.15	0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 50.9			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 28.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Main Street & Atlantic Avenue



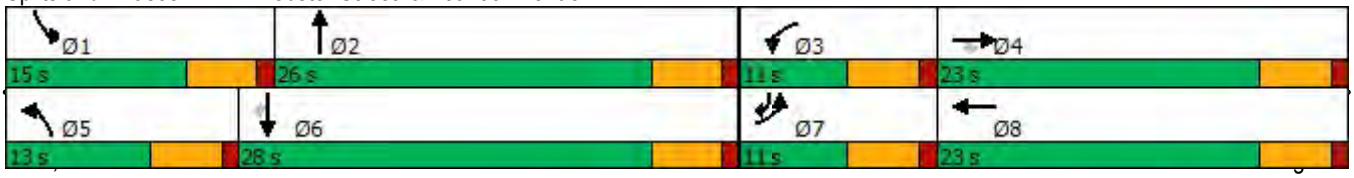
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	305	142	63	280	123	94	503	57	179	930	286
Future Volume (vph)	172	305	142	63	280	123	94	503	57	179	930	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.954			0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3539	1615	1805	3420	0	1805	3463	0	1805	3505	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3539	1615	1805	3420	0	1805	3463	0	1805	3505	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175		87			16				241
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	3%	0%	0%	3%	1%
Adj. Flow (vph)	187	332	154	68	304	134	102	547	62	195	1011	311
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	332	154	68	438	0	102	609	0	195	1011	311
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	23.0	23.0	11.0	23.0		13.0	26.0		15.0	28.0	11.0
Total Split (%)	14.7%	30.7%	30.7%	14.7%	30.7%		17.3%	34.7%		20.0%	37.3%	14.7%
Maximum Green (s)	6.0	18.0	18.0	6.0	18.0		8.0	21.0		10.0	23.0	6.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	6.0	17.7	17.7	5.9	13.1		7.5	21.0		9.8	25.7	36.7
Actuated g/C Ratio	0.09	0.25	0.25	0.08	0.19		0.11	0.30		0.14	0.37	0.52
v/c Ratio	0.62	0.37	0.29	0.45	0.62		0.53	0.58		0.77	0.79	0.33
Control Delay	42.2	24.3	4.8	41.7	24.7		41.0	23.4		52.3	27.8	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	42.2	24.3	4.8	41.7	24.7		41.0	23.4		52.3	27.8	4.3
LOS	D	C	A	D	C		D	C		D	C	A
Approach Delay		24.8			27.0			25.9			26.1	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	41	68	0	29	73		42	113		83	215	16
Queue Length 95th (ft)	#86	105	34	#70	115		#94	178		#196	#362	62
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	301	968	569	155	945		206	1052		258	1287	953
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.62	0.34	0.27	0.44	0.46		0.50	0.58		0.76	0.79	0.33

Intersection Summary

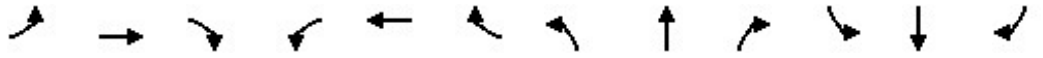
Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 70
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 26.0 Intersection LOS: C
Intersection Capacity Utilization 64.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Webster Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1114	290	74	995	0	0	0	0	680	7
Future Volume (vph)	0	0	1114	290	74	995	0	0	0	0	680	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.962							
Satd. Flow (prot)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Flt Permitted					0.962							
Satd. Flow (perm)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					69							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1211	315	80	1082	0	0	0	0	739	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	1211	0	395	1082	0	0	0	0	739	8
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			67.1		29.1	67.1					30.0	67.1
Actuated g/C Ratio			1.00		0.43	1.00					0.45	1.00
v/c Ratio			0.43		0.48	0.39					0.89	0.01
Control Delay			0.5		13.4	0.4					32.9	0.0
Queue Delay			0.0		1.1	0.0					0.0	0.0
Total Delay			0.5		14.5	0.4					32.9	0.0
LOS			A		B	A					C	A
Approach Delay		0.5			4.2						32.5	
Approach LOS		A			A						C	
Queue Length 50th (ft)			0		89	0					272	0
Queue Length 95th (ft)			0		159	0					#487	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		840	2787					833	1583
Starvation Cap Reductn			0		234	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.43		0.65	0.39					0.89	0.01

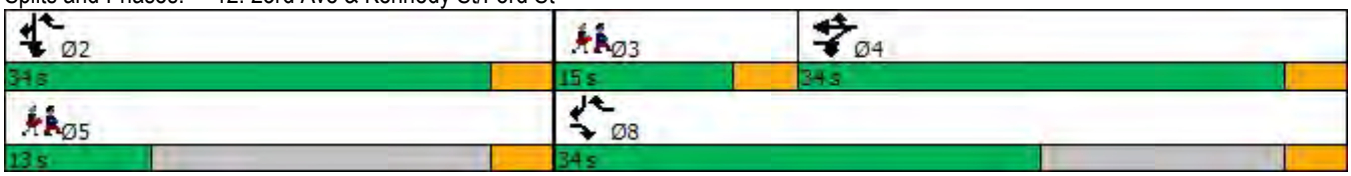
Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 67.1			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 9.0		Intersection LOS: A	
Intersection Capacity Utilization 104.7%		ICU Level of Service G	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

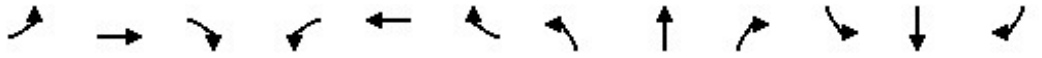
Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

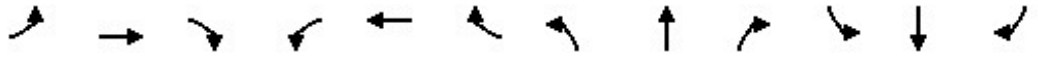
! Phase conflict between lane groups.

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	51	9	1004	769	22	59	0	283
Future Volume (vph)	0	0	0	0	51	9	1004	769	22	59	0	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.996				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				308
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	55	10	1091	836	24	64	0	308
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	65	0	1091	860	0	64	0	308
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

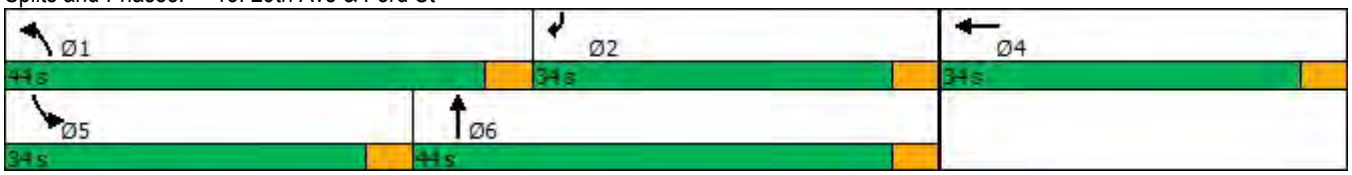


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					8.8		21.4	43.3		7.1		23.0
Actuated g/C Ratio					0.14		0.34	0.69		0.11		0.36
v/c Ratio					0.25		0.94	0.68		0.32		0.40
Control Delay					25.7		35.5	15.9		34.6		5.6
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					25.7		35.5	15.9		34.6		5.6
LOS					C		D	B		C		A
Approach Delay					25.7			26.9			10.6	
Approach LOS					C			C			B	
Queue Length 50th (ft)					22		~228	215		24		0
Queue Length 95th (ft)					55		314	#708		70		72
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					914		2347	1272		883		944
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.07		0.46	0.68		0.07		0.33

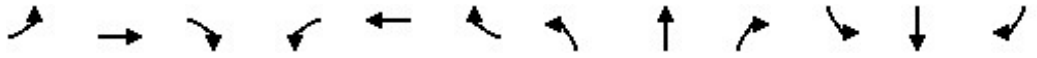
Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 63.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 24.3		Intersection LOS: C	
Intersection Capacity Utilization 60.3%		ICU Level of Service B	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	121	46	58	32	16	236	526	111	17	546	209
Future Volume (vph)	209	121	46	58	32	16	236	526	111	17	546	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.980			0.974			0.958	
Flt Protected		0.973			0.973		0.950			0.950		
Satd. Flow (prot)	0	1782	0	0	1776	0	1770	1814	0	1770	1785	0
Flt Permitted		0.768			0.717		0.081			0.368		
Satd. Flow (perm)	0	1406	0	0	1309	0	151	1814	0	685	1785	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			8			20			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	227	132	50	63	35	17	257	572	121	18	593	227
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	0	0	115	0	257	693	0	18	820	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		



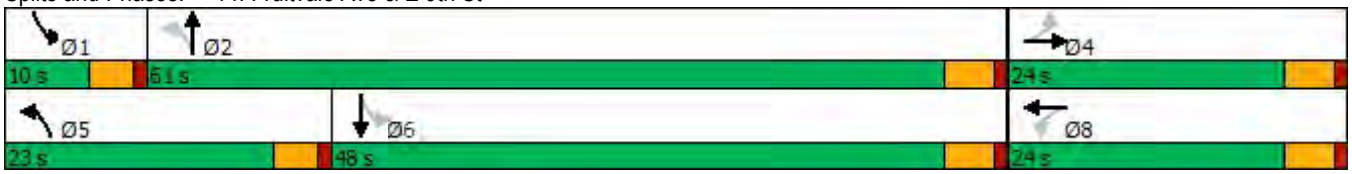
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		19.5			19.5		63.4	59.1		49.4	43.1	
Actuated g/C Ratio		0.21			0.21		0.69	0.65		0.54	0.47	
v/c Ratio		1.34			0.40		0.67	0.59		0.04	0.96	
Control Delay		204.7			34.7		27.4	12.4		5.9	47.0	
Queue Delay		0.0			0.0		4.4	52.8		0.0	0.0	
Total Delay		204.7			34.7		31.9	65.2		5.9	47.0	
LOS		F			C		C	E		A	D	
Approach Delay		204.7			34.7			56.2			46.1	
Approach LOS		F			C			E			D	
Queue Length 50th (ft)		~321			55		87	169		3	444	
Queue Length 95th (ft)		#517			110		169	363		9	#732	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		305			286		441	1182		443	864	
Starvation Cap Reductn		0			0		118	588		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		1.34			0.40		0.80	1.17		0.04	0.95	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 91.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.34			
Intersection Signal Delay: 77.7		Intersection LOS: E	
Intersection Capacity Utilization 91.0%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St



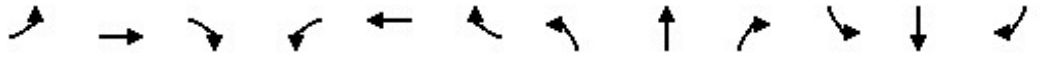
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	98	446	7	0	121	0	591	21	108	549	0
Future Volume (vph)	188	98	446	7	0	121	0	591	21	108	549	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.873			0.995				
Flt Protected		0.968			0.997					0.950		
Satd. Flow (prot)	0	1803	1583	0	1621	0	0	3522	0	1770	1863	0
Flt Permitted		0.751			0.979					0.245		
Satd. Flow (perm)	0	1399	1583	0	1592	0	0	3522	0	456	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			272		132			4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	204	107	485	8	0	132	0	642	23	117	597	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	311	485	0	140	0	0	665	0	117	597	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		22.2	22.2		21.1			20.0		29.8	29.2	
Actuated g/C Ratio		0.37	0.37		0.35			0.33		0.49	0.48	
v/c Ratio		0.61	0.64		0.22			0.57		0.29	0.66	
Control Delay		22.9	12.1		4.9			21.0		11.3	16.8	
Queue Delay		0.0	0.0		0.0			0.0		0.1	0.3	
Total Delay		22.9	12.1		4.9			21.0		11.4	17.1	
LOS		C	B		A			C		B	B	
Approach Delay		16.3			4.9			21.0			16.2	
Approach LOS		B			A			C			B	
Queue Length 50th (ft)		92	57		2			108		21	151	
Queue Length 95th (ft)		206	179		37			205		59	330	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		859	1077		1011			1944		716	1570	
Starvation Cap Reductn		0	0		0			0		114	431	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.36	0.45		0.14			0.34		0.19	0.52	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 60.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 75.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	491	378	196	400	574	71	18	544	91
Future Volume (vph)	0	0	0	491	378	196	400	574	71	18	544	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.972			0.984			0.979	
Flt Protected					0.977		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3361	0	1770	3483	0	0	3461	0
Flt Permitted					0.977		0.950				0.922	
Satd. Flow (perm)	0	0	0	0	3361	0	1770	3483	0	0	3195	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					29			25			19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	534	411	213	435	624	77	20	591	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1158	0	435	701	0	0	710	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	



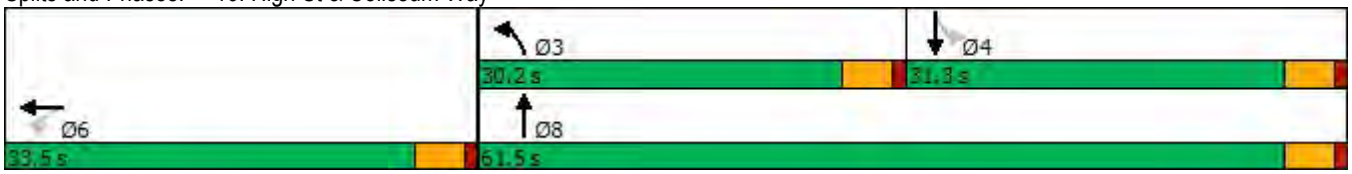
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		30.2	61.5		31.3	31.3	
Total Split (%)				35.3%	35.3%		31.8%	64.7%		32.9%	32.9%	
Maximum Green (s)				29.0	29.0		25.7	57.0		26.8	26.8	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		25.7	57.0			26.8	
Actuated g/C Ratio					0.31		0.27	0.60			0.28	
v/c Ratio					1.11		0.91	0.33			0.78	
Control Delay					93.8		59.0	9.7			37.4	
Queue Delay					0.0		49.7	2.1			0.0	
Total Delay					93.8		108.7	11.8			37.4	
LOS					F		F	B			D	
Approach Delay					93.8			48.9			37.4	
Approach LOS					F			D			D	
Queue Length 50th (ft)					~417		254	98			201	
Queue Length 95th (ft)					#550		#432	131			270	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1046		478	2099			914	
Starvation Cap Reductn					0		155	1213			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					1.11		1.35	0.79			0.78	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 63.5		Intersection LOS: E	
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			

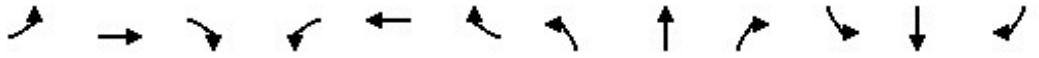
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	398	158	37	0	173	0	779	274	255	777	0
Future Volume (vph)	92	398	158	37	0	173	0	779	274	255	777	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.961				
Flt Protected		0.991		0.950						0.950		
Satd. Flow (prot)	0	3507	1583	1770	0	1583	0	3401	0	1770	3539	0
Flt Permitted		0.991		0.323						0.950		
Satd. Flow (perm)	0	3507	1583	602	0	1583	0	3401	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						188		55				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	433	172	40	0	188	0	847	298	277	845	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	533	172	40	0	188	0	1145	0	277	845	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	33.0	33.0	33.0	33.0		33.0		36.0		26.0	62.0	
Total Split (%)	34.7%	34.7%	34.7%	34.7%		34.7%		37.9%		27.4%	65.3%	
Maximum Green (s)	29.0	29.0	29.0	28.5		28.5		31.5		21.5	57.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		29.0	29.0	28.5		28.5		31.5		21.5	57.5	
Actuated g/C Ratio		0.31	0.31	0.30		0.30		0.33		0.23	0.61	
v/c Ratio		0.50	0.36	0.22		0.31		0.98		0.69	0.39	
Control Delay		29.0	28.4	29.0		5.3		53.8		44.0	10.4	
Queue Delay		0.0	0.0	0.0		0.0		0.0		17.6	4.1	
Total Delay		29.0	28.4	29.0		5.3		53.8		61.6	14.5	
LOS		C	C	C		A		D		E	B	
Approach Delay		28.8			9.5			53.8			26.1	
Approach LOS		C			A			D			C	
Queue Length 50th (ft)		137	80	18		0		343		154	127	
Queue Length 95th (ft)		188	139	47		48		#493		#244	166	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1070	483	180		606		1164		400	2142	
Starvation Cap Reductn		0	0	0		0		0		111	1193	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.50	0.36	0.22		0.31		0.98		0.96	0.89	

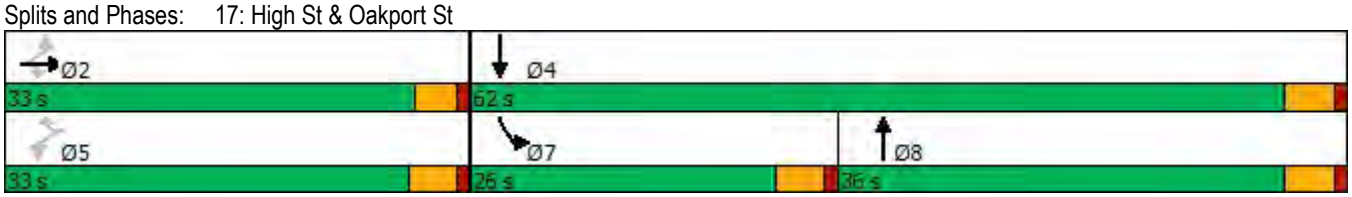
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 35.4		Intersection LOS: D	
Intersection Capacity Utilization 75.6%		ICU Level of Service D	

Analysis Period (min) 15

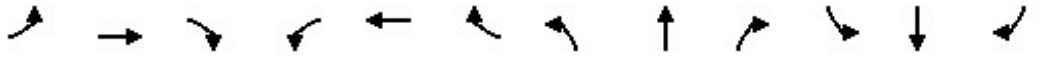
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	75	19	22	125	198	0	1100	35	11	931	322
Future Volume (vph)	255	75	19	22	125	198	0	1100	35	11	931	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.969				0.850		0.995			0.962	
Flt Protected	0.950				0.993							
Satd. Flow (prot)	1770	1805	0	0	1850	1583	0	3522	0	0	3405	0
Flt Permitted	0.656				0.951						0.942	
Satd. Flow (perm)	1222	1805	0	0	1771	1583	0	3522	0	0	3207	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		21						8			123	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	277	82	21	24	136	215	0	1196	38	12	1012	350
Shared Lane Traffic (%)												
Lane Group Flow (vph)	277	103	0	0	160	215	0	1234	0	0	1374	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		



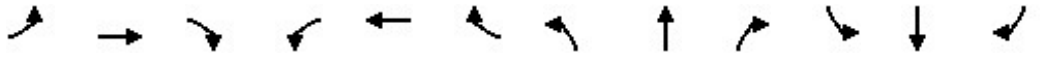
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	16.3	16.3			16.3	16.3		32.6			32.6	
Actuated g/C Ratio	0.28	0.28			0.28	0.28		0.56			0.56	
v/c Ratio	0.81	0.20			0.32	0.48		0.62			0.74	
Control Delay	39.7	13.9			18.2	21.3		10.6			12.1	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	39.7	13.9			18.2	21.3		10.6			12.1	
LOS	D	B			B	C		B			B	
Approach Delay		32.7			19.9			10.6			12.1	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)	88	21			43	61		148			167	
Queue Length 95th (ft)	#196	52			85	116		207			245	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	391	593			568	507		1987			1860	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.71	0.17			0.28	0.42		0.62			0.74	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 57.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 14.8 Intersection LOS: B
Intersection Capacity Utilization 77.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Park St & Blanding Ave

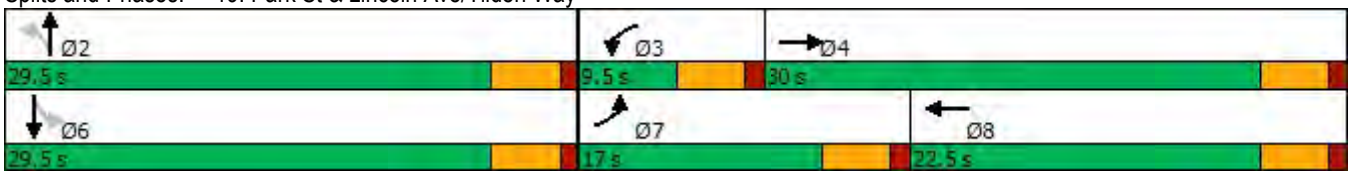
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	234	84	108	293	11	34	491	44	51	788	76
Future Volume (vph)	149	234	84	108	293	11	34	491	44	51	788	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.960			0.995			0.988			0.987	
Flt Protected	0.950			0.950				0.997			0.997	
Satd. Flow (prot)	1770	3398	0	1770	3522	0	0	3486	0	0	3483	0
Flt Permitted	0.950			0.950				0.846			0.887	
Satd. Flow (perm)	1770	3398	0	1770	3522	0	0	2958	0	0	3098	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59			5			14			15	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	162	254	91	117	318	12	37	534	48	55	857	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	162	345	0	117	330	0	0	619	0	0	995	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		



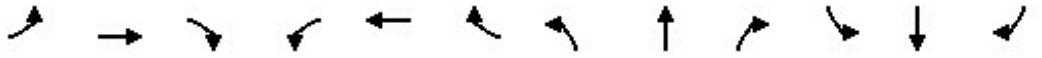
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	10.1	15.5		5.0	13.0			25.2			25.2	
Actuated g/C Ratio	0.17	0.26		0.08	0.22			0.42			0.42	
v/c Ratio	0.54	0.37		0.78	0.43			0.49			0.75	
Control Delay	30.3	15.2		66.5	23.0			14.9			20.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	30.3	15.2		66.5	23.0			14.9			20.4	
LOS	C	B		E	C			B			C	
Approach Delay		20.0			34.4			14.9			20.4	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	54	42		43	56			80			152	
Queue Length 95th (ft)	112	71		#135	93			145			#294	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	376	1506		150	1080			1264			1324	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.43	0.23		0.78	0.31			0.49			0.75	

Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 59.4			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 21.4		Intersection LOS: C	
Intersection Capacity Utilization 73.3%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



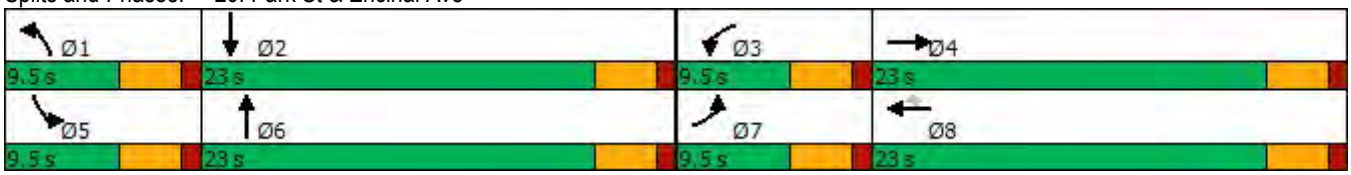
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	512	58	51	326	93	57	284	66	113	351	52
Future Volume (vph)	52	512	58	51	326	93	57	284	66	113	351	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985				0.850		0.972			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				151		44			26	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	557	63	55	354	101	62	309	72	123	382	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	620	0	55	354	101	62	381	0	123	439	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



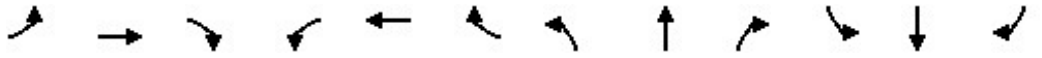
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.6	15.6		5.6	15.6	15.6	5.6	19.4		5.6	24.0	
Actuated g/C Ratio	0.10	0.27		0.10	0.27	0.27	0.10	0.33		0.10	0.41	
v/c Ratio	0.33	0.65		0.32	0.71	0.19	0.36	0.32		0.72	0.30	
Control Delay	33.2	22.2		32.9	28.4	2.3	33.9	15.3		56.1	15.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.2	22.2		32.9	28.4	2.3	33.9	15.3		56.1	15.0	
LOS	C	C		C	C	A	C	B		E	B	
Approach Delay		23.1			23.7			17.9			24.0	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	21	106		21	121	0	23	53		48	66	
Queue Length 95th (ft)	54	155		53	204	15	57	88		#134	106	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	171	1179		171	623	630	171	1180		171	1452	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.33	0.53		0.32	0.57	0.16	0.36	0.32		0.72	0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 58			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 22.4		Intersection LOS: C	
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	161	18	68	177	172	31	417	106	308	674	245
Future Volume (vph)	125	161	18	68	177	172	31	417	106	308	674	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.970			0.960	
Flt Protected		0.979			0.986		0.950			0.950		
Satd. Flow (prot)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Flt Permitted		0.979			0.986		0.950			0.950		
Satd. Flow (perm)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			187		32			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	175	20	74	192	187	34	453	115	335	733	266
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	311	20	0	266	187	34	568	0	335	999	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



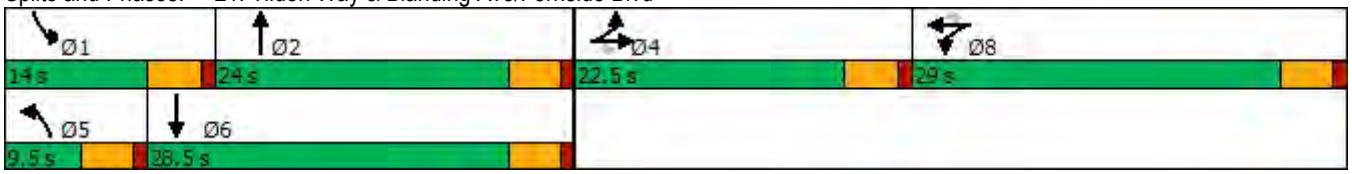
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		16.7	16.7		17.1	17.1	5.1	17.1		9.7	26.1	
Actuated g/C Ratio		0.21	0.21		0.22	0.22	0.06	0.22		0.12	0.33	
v/c Ratio		0.80	0.05		0.67	0.38	0.30	0.74		1.55	0.86	
Control Delay		48.7	0.2		37.8	6.7	46.2	34.5		297.3	35.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		48.7	0.2		37.8	6.7	46.2	34.5		297.3	35.5	
LOS		D	A		D	A	D	C		F	D	
Approach Delay		45.8			25.0			35.1			101.2	
Approach LOS		D			C			D			F	
Queue Length 50th (ft)		153	0		128	0	17	133		~256	256	
Queue Length 95th (ft)		#312	0		204	48	49	208		#450	#440	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		423	465		580	628	114	887		216	1162	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.74	0.04		0.46	0.30	0.30	0.64		1.55	0.86	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 78.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.55			
Intersection Signal Delay: 67.1		Intersection LOS: E	
Intersection Capacity Utilization 75.4%		ICU Level of Service D	
Analysis Period (min) 15			

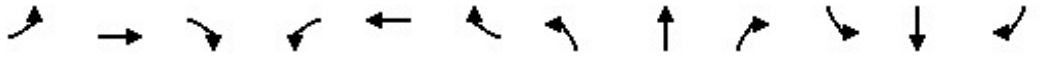
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



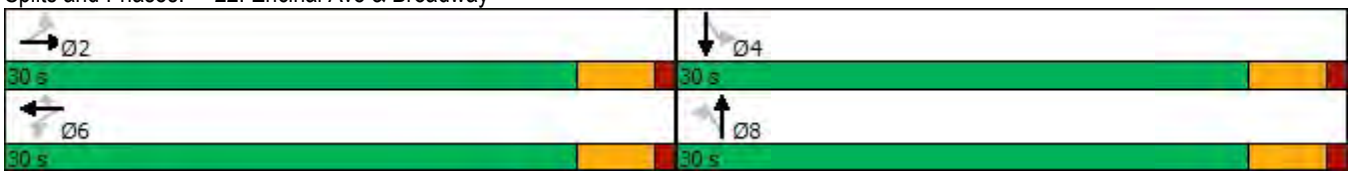
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	433	136	34	300	36	100	378	26	66	449	50
Future Volume (vph)	66	433	136	34	300	36	100	378	26	66	449	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968				0.850		0.990			0.985	
Flt Protected		0.995			0.995		0.950			0.950		
Satd. Flow (prot)	0	3409	0	0	1853	1636	1770	1844	0	1770	1835	0
Flt Permitted		0.831			0.888		0.338			0.429		
Satd. Flow (perm)	0	2847	0	0	1654	1636	630	1844	0	799	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71				39		7			12	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	471	148	37	326	39	109	411	28	72	488	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	691	0	0	363	39	109	439	0	72	542	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



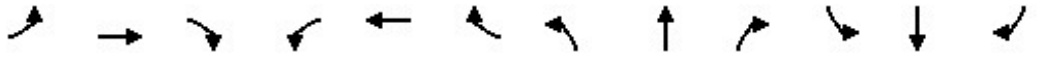
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		17.4			17.4	17.4	25.7	25.7		25.7	25.7	
Actuated g/C Ratio		0.33			0.33	0.33	0.49	0.49		0.49	0.49	
v/c Ratio		0.70			0.66	0.07	0.35	0.48		0.18	0.59	
Control Delay		17.2			20.9	4.5	14.4	12.3		10.9	14.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		17.2			20.9	4.5	14.4	12.3		10.9	14.1	
LOS		B			C	A	B	B		B	B	
Approach Delay		17.2			19.3			12.7			13.7	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		83			92	0	19	80		11	106	
Queue Length 95th (ft)		129			161	14	66	190		40	250	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1440			815	826	310	912		394	911	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.48			0.45	0.05	0.35	0.48		0.18	0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.2			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 15.5		Intersection LOS: B	
Intersection Capacity Utilization 83.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	876	14	131	726	298	6	82	146	318	96	138
Future Volume (vph)	138	876	14	131	726	298	6	82	146	318	96	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.916				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3532	0	1770	1863	1583	0	1705	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.994		0.500		
Satd. Flow (perm)	1770	3532	0	1770	1863	1583	0	1696	0	931	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				324		109				150
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			1523			502			2170	
Travel Time (s)		9.3			41.5			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	150	952	15	142	789	324	7	89	159	346	104	150
Shared Lane Traffic (%)												
Lane Group Flow (vph)	150	967	0	142	789	324	0	255	0	346	104	150
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



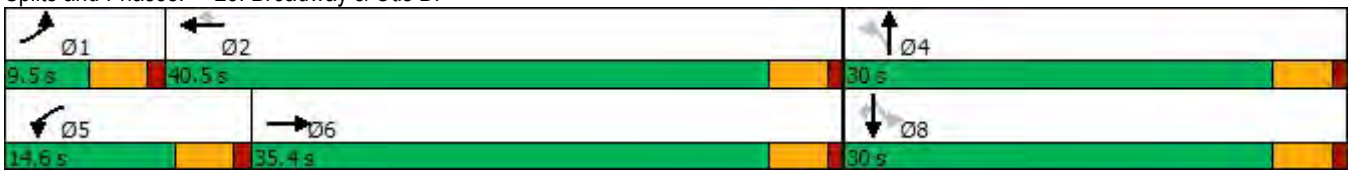
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	31.0		9.5	35.5	35.5		25.5		25.5	25.5	25.5
Actuated g/C Ratio	0.06	0.39		0.12	0.45	0.45		0.32		0.32	0.32	0.32
v/c Ratio	1.35	0.70		0.67	0.95	0.37		0.41		1.16	0.17	0.25
Control Delay	241.5	23.8		50.3	43.9	3.0		14.3		132.4	20.7	4.9
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	241.5	23.8		50.3	43.9	3.0		14.3		132.4	20.7	4.9
LOS	F	C		D	D	A		B		F	C	A
Approach Delay		53.1			34.1			14.3			81.1	
Approach LOS		D			C			B			F	
Queue Length 50th (ft)	~100	209		69	362	0		54		~209	37	0
Queue Length 95th (ft)	#213	278		#142	#602	43		116		#367	73	39
Internal Link Dist (ft)		261			1443			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	111	1377		224	843	893		617		298	597	609
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	1.35	0.70		0.63	0.94	0.36		0.41		1.16	0.17	0.25

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 79.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.35			
Intersection Signal Delay: 47.8		Intersection LOS: D	
Intersection Capacity Utilization 92.1%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

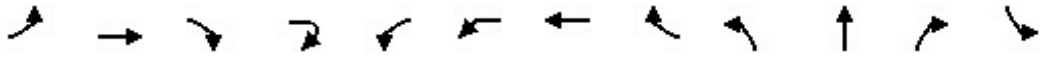
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	96	330	73	3	5	3	197	154	42	278	4	177
Future Volume (vph)	96	330	73	3	5	3	197	154	42	278	4	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.998		
Flt Protected	0.950						0.998			0.994		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1859	1583	0	1848	0	1770
Flt Permitted	0.512						0.985			0.889		0.950
Satd. Flow (perm)	954	1863	1583	0	0	0	1835	1583	0	1653	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								167				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	359	79	3	5	3	214	167	46	302	4	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	359	82	0	0	0	222	167	0	352	0	192
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations							
Traffic Volume (vph)	414	91	125	2	85	7	4
Future Volume (vph)	414	91	125	2	85	7	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0			0	50	
Storage Lanes		1			1	1	
Taper Length (ft)					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.988		0.850
Flt Protected					0.956		
Satd. Flow (prot)	1863	1583	0	0	1759	0	1583
Flt Permitted					0.992		
Satd. Flow (perm)	1863	1583	0	0	1826	0	1583
Right Turn on Red			No				Yes
Satd. Flow (RTOR)							88
Link Speed (mph)	25				25		
Link Distance (ft)	1133				459		
Travel Time (s)	30.9				12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	450	99	136	2	92	8	4
Shared Lane Traffic (%)							
Lane Group Flow (vph)	450	235	0	0	102	0	4
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Right
Median Width(ft)	12				12		
Link Offset(ft)	0				0		
Crosswalk Width(ft)	16				16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	15	9	9
Number of Detectors	2	1		1	1		1
Detector Template	Thru	Right		Left	Left		Right
Leading Detector (ft)	100	20		20	20		20
Trailing Detector (ft)	0	0		0	0		0
Detector 1 Position(ft)	0	0		0	0		0
Detector 1 Size(ft)	6	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm		Perm	Prot		Perm
Protected Phases	4				9		
Permitted Phases		4		9			9

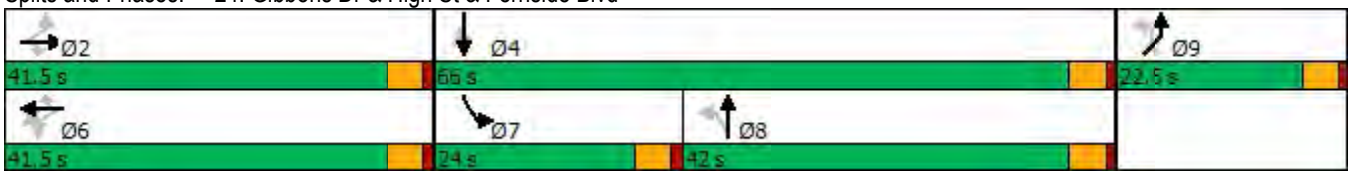


Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	41.5	41.5	41.5		41.5	41.5	41.5	41.5	42.0	42.0		24.0
Total Split (%)	31.9%	31.9%	31.9%		31.9%	31.9%	31.9%	31.9%	32.3%	32.3%		18.5%
Maximum Green (s)	37.0	37.0	37.0		37.0	37.0	37.0	37.0	37.5	37.5		19.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.3	37.3	37.3				37.3	37.3		28.7		19.7
Actuated g/C Ratio	0.32	0.32	0.32				0.32	0.32		0.25		0.17
v/c Ratio	0.34	0.60	0.16				0.38	0.27		0.86		0.64
Control Delay	36.7	39.9	32.1				34.7	6.2		62.1		57.6
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	36.7	39.9	32.1				34.7	6.2		62.1		57.6
LOS	D	D	C				C	A		E		E
Approach Delay		38.1					22.4			62.1		
Approach LOS		D					C			E		
Queue Length 50th (ft)	59	225	44				128	0		249		135
Queue Length 95th (ft)	127	378	96				229	53		384		#256
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	307	600	510				591	623		540		300
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.34	0.60	0.16				0.38	0.27		0.65		0.64

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 115.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 37.6		Intersection LOS: D	
Intersection Capacity Utilization 91.2%		ICU Level of Service F	
Analysis Period (min) 15			

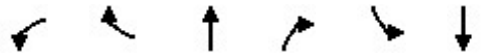
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd

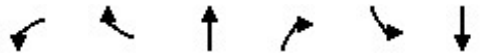


Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Detector Phase	4	4		9	9		9
Switch Phase							
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5
Total Split (s)	66.0	66.0		22.5	22.5		22.5
Total Split (%)	50.8%	50.8%		17.3%	17.3%		17.3%
Maximum Green (s)	61.5	61.5		18.0	18.0		18.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0
Total Lost Time (s)	4.5	4.5			4.5		4.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0
Act Effct Green (s)	52.9	52.9			11.8		11.8
Actuated g/C Ratio	0.46	0.46			0.10		0.10
v/c Ratio	0.53	0.32			0.55		0.02
Control Delay	25.2	21.6			62.0		0.2
Queue Delay	0.0	0.0			0.0		0.0
Total Delay	25.2	21.6			62.0		0.2
LOS	C	C			E		A
Approach Delay	31.4				59.6		
Approach LOS	C				E		
Queue Length 50th (ft)	232	108			74		0
Queue Length 95th (ft)	353	179			139		0
Internal Link Dist (ft)	1053				379		
Turn Bay Length (ft)							50
Base Capacity (vph)	998	848			286		322
Starvation Cap Reductn	0	0			0		0
Spillback Cap Reductn	0	0			0		0
Storage Cap Reductn	0	0			0		0
Reduced v/c Ratio	0.45	0.28			0.36		0.01

Intersection Summary



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	822	17	1155	823	63	1409
Future Volume (vph)	822	17	1155	823	63	1409
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.997			0.850		
Flt Protected	0.953				0.950	
Satd. Flow (prot)	3434	0	3539	1583	1770	3539
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	3434	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	2			273		
Link Speed (mph)	25		35			35
Link Distance (ft)	444		1406			1506
Travel Time (s)	12.1		27.4			29.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	893	18	1255	895	68	1532
Shared Lane Traffic (%)						
Lane Group Flow (vph)	911	0	1255	895	68	1532
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		

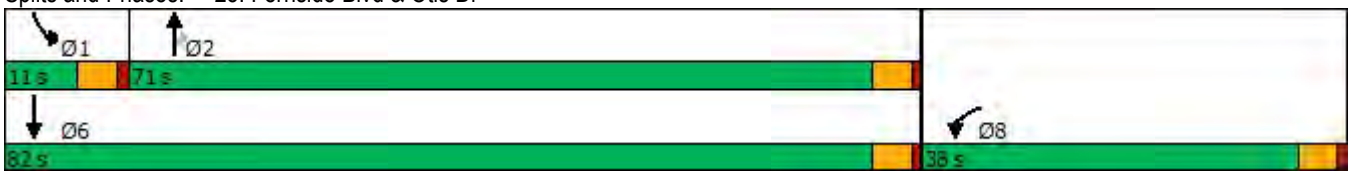


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	38.0		71.0	71.0	11.0	82.0
Total Split (%)	31.7%		59.2%	59.2%	9.2%	68.3%
Maximum Green (s)	33.5		66.5	66.5	6.5	77.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	33.1		68.7	68.7	6.5	77.5
Actuated g/C Ratio	0.28		0.57	0.57	0.05	0.65
v/c Ratio	0.96		0.62	0.87	0.72	0.67
Control Delay	63.3		19.1	26.6	93.0	15.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	63.3		19.1	26.6	93.0	15.0
LOS	E		B	C	F	B
Approach Delay	63.3		22.2			18.3
Approach LOS	E		C			B
Queue Length 50th (ft)	356		337	446	53	361
Queue Length 95th (ft)	#487		410	#786	#129	435
Internal Link Dist (ft)	364		1326			1426
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	963		2034	1025	95	2293
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.95		0.62	0.87	0.72	0.67

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 119.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 28.9		Intersection LOS: C	
Intersection Capacity Utilization 71.3%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Fernside Blvd & Otis Dr

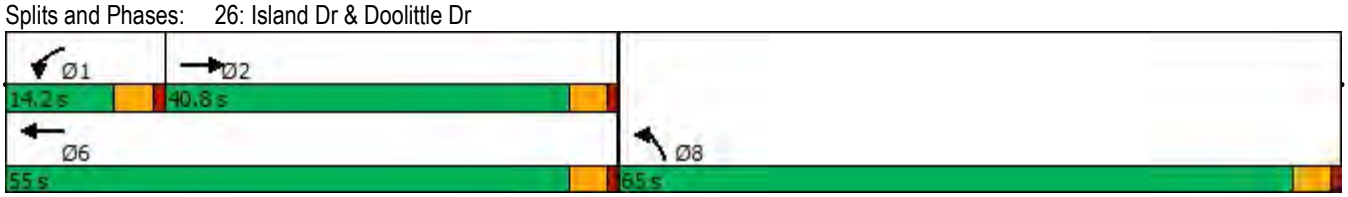


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	864	1346	139	1013	970	96
Future Volume (vph)	864	1346	139	1013	970	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		355				63
Link Speed (mph)	25			25	25	
Link Distance (ft)	1406			365	455	
Travel Time (s)	38.3			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	939	1463	151	1101	1054	104
Shared Lane Traffic (%)						
Lane Group Flow (vph)	939	1463	151	1101	1054	104
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.5	94.6	9.7	50.7	34.8	94.6
Actuated g/C Ratio	0.39	1.00	0.10	0.54	0.37	1.00
v/c Ratio	0.69	0.92	0.83	0.58	0.83	0.07
Control Delay	28.6	12.0	78.5	17.4	33.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	12.0	78.5	17.4	33.7	0.1
LOS	C	B	E	B	C	A
Approach Delay	18.5			24.7	30.7	
Approach LOS	B			C	C	
Queue Length 50th (ft)	243	0	90	221	291	0
Queue Length 95th (ft)	370	#93	#225	354	367	0
Internal Link Dist (ft)	1326			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1364	1583	182	1897	2205	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.92	0.83	0.58	0.48	0.07

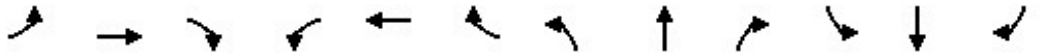
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 94.6			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 23.0		Intersection LOS: C	
Intersection Capacity Utilization 70.5%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 26: Island Dr & Doolittle Dr



2020 Existing Condition

Saturday Peak Hour



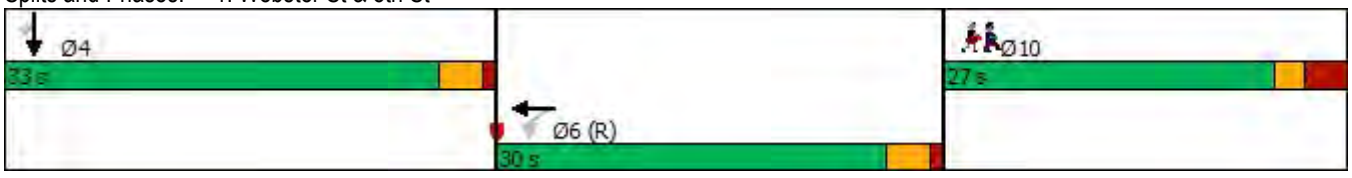
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	342	412	0	0	0	0	0	596	336
Future Volume (vph)	0	0	0	342	412	0	0	0	0	0	596	336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.974	0.850
Flt Protected				0.950	0.986							
Satd. Flow (prot)	0	0	0	1358	4534	0	0	0	0	0	4278	1191
Flt Permitted				0.950	0.986							
Satd. Flow (perm)	0	0	0	1358	4534	0	0	0	0	0	4278	1191
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				194	109						47	223
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	8%	2%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	360	434	0	0	0	0	0	627	354
Shared Lane Traffic (%)				46%								37%
Lane Group Flow (vph)	0	0	0	194	600	0	0	0	0	0	758	223
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				38.1	38.1						24.7	24.7
Actuated g/C Ratio				0.42	0.42						0.27	0.27
v/c Ratio				0.28	0.30						0.63	0.46
Control Delay				4.9	17.0						28.6	6.4
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				4.9	17.0						28.6	6.4
LOS				A	B						C	A
Approach Delay					14.0						23.6	
Approach LOS					B						C	
Queue Length 50th (ft)				0	74						137	0
Queue Length 95th (ft)				56	122						159	54
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				687	1983						1438	541
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.28	0.30						0.53	0.41

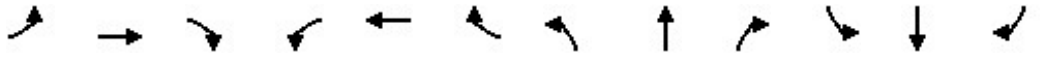
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 19.3		Intersection LOS: B	
Intersection Capacity Utilization 31.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St

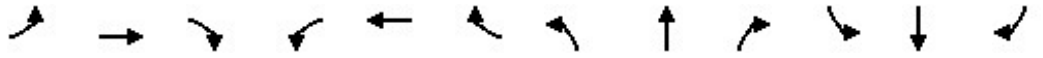


Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



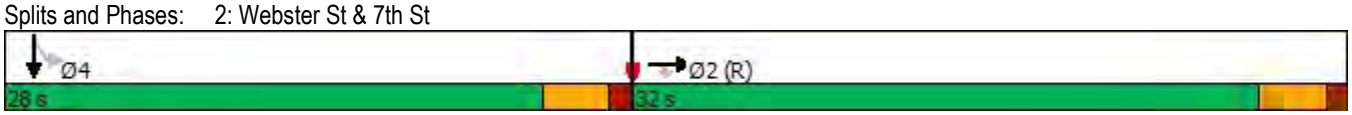
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	687	387	0	0	0	0	0	0	208	675	0
Future Volume (vph)	0	687	387	0	0	0	0	0	0	208	675	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.974	0.850									
Flt Protected											0.988	
Satd. Flow (prot)	0	4404	1348	0	0	0	0	0	0	0	4832	0
Flt Permitted											0.988	
Satd. Flow (perm)	0	4404	1348	0	0	0	0	0	0	0	4832	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		90	93								129	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			387			184			292	
Travel Time (s)		9.3			10.6			5.0			8.0	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	3%	3%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	755	425	0	0	0	0	0	0	229	742	0
Shared Lane Traffic (%)			37%									
Lane Group Flow (vph)	0	912	268	0	0	0	0	0	0	0	971	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		32.0	32.0							28.0	28.0	
Total Split (s)		32.0	32.0							28.0	28.0	
Total Split (%)		53.3%	53.3%							46.7%	46.7%	

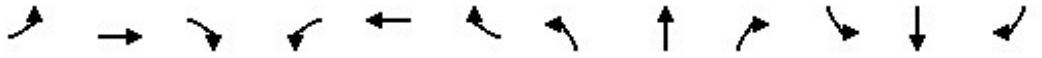


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		28.0	28.0							24.0	24.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		18.0	18.0							12.0	12.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		32.3	32.3								19.7	
Actuated g/C Ratio		0.54	0.54								0.33	
v/c Ratio		0.38	0.35								0.58	
Control Delay		8.4	7.5								15.3	
Queue Delay		0.0	0.0								0.1	
Total Delay		8.4	7.5								15.4	
LOS		A	A								B	
Approach Delay		8.2									15.4	
Approach LOS		A									B	
Queue Length 50th (ft)		59	36								88	
Queue Length 95th (ft)		100	96								110	
Internal Link Dist (ft)		260			307			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2412	768								2010	
Starvation Cap Reductn		0	0								211	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.38	0.35								0.54	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 40.1%		ICU Level of Service A	
Analysis Period (min) 15			

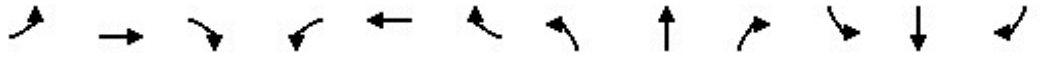
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	307	547	0	0	0	0	0	603	1504	0	0	0
Future Volume (vph)	307	547	0	0	0	0	0	603	1504	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.982										
Satd. Flow (prot)	0	4656	0	0	0	0	0	5136	2718	0	0	0
Flt Permitted		0.982										
Satd. Flow (perm)	0	4656	0	0	0	0	0	5136	2718	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		178							148			
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		387			379			445			307	
Travel Time (s)		10.6			10.3			10.1			7.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	5%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	345	615	0	0	0	0	0	678	1690	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	960	0	0	0	0	0	678	1690	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								35.0				
Total Split (%)								58.3%				
Maximum Green (s)								29.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		19.4						29.4	37.1			
Actuated g/C Ratio		0.32						0.49	0.62			
v/c Ratio		0.59						0.27	0.97			
Control Delay		10.4						9.4	29.3			
Queue Delay		0.0						0.0	0.0			
Total Delay		10.4						9.4	29.3			
LOS		B						A	C			
Approach Delay		10.4						23.6				
Approach LOS		B						C				
Queue Length 50th (ft)		45						49	~308			
Queue Length 95th (ft)		59						68	#511			
Internal Link Dist (ft)		307			299			365			227	
Turn Bay Length (ft)												
Base Capacity (vph)		1625						2516	1737			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.59						0.27	0.97			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 51 (85%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 19.8		Intersection LOS: B	
Intersection Capacity Utilization 79.0%		ICU Level of Service D	
Analysis Period (min) 15			

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	4.6
Total Split (s)	25.0	19.0	6.0
Total Split (%)	42%	32%	10%
Maximum Green (s)	19.4	13.4	2.4
Yellow Time (s)	3.6	3.6	3.6
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	Max
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

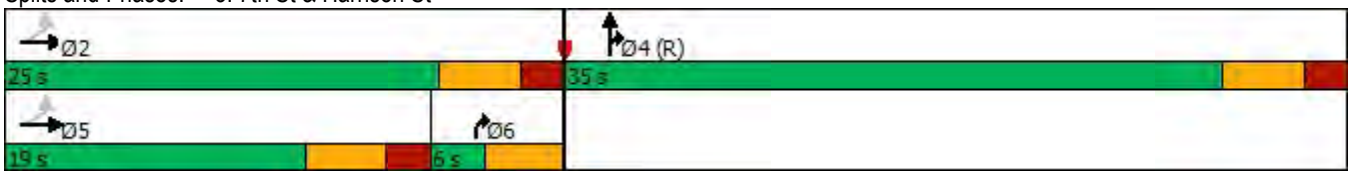
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

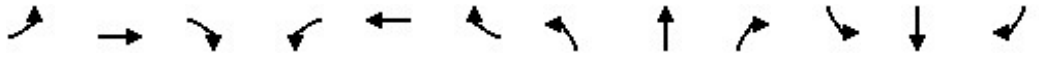
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 3: 7th St & Harrison St



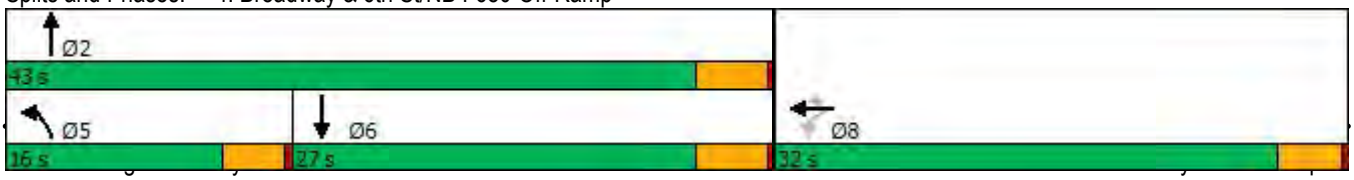
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	277	154	580	51	205	0	0	411	138
Future Volume (vph)	0	0	0	277	154	580	51	205	0	0	411	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.962	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1752	3252	1583	1687	3610	0	0	4916	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1752	3252	1583	1687	3610	0	0	4916	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						626					116	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			328			469	
Travel Time (s)		11.3			8.0			8.9			12.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	11%	2%	7%	0%	0%	0%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	14
Adj. Flow (vph)	0	0	0	301	167	630	55	223	0	0	447	150
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	301	167	630	55	223	0	0	597	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.0	31.0	31.0	9.5	23.5			23.5	
Total Split (s)				32.0	32.0	32.0	16.0	43.0			27.0	
Total Split (%)				42.7%	42.7%	42.7%	21.3%	57.3%			36.0%	
Maximum Green (s)				28.0	28.0	28.0	12.0	38.5			22.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	None			None	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				15.9	15.9	15.9	6.9	13.4			10.1	
Actuated g/C Ratio				0.40	0.40	0.40	0.18	0.34			0.26	
v/c Ratio				0.43	0.13	0.62	0.19	0.18			0.44	
Control Delay				12.0	9.1	4.4	21.7	9.7			12.9	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				12.0	9.1	4.4	21.7	9.7			12.9	
LOS				B	A	A	C	A			B	
Approach Delay					7.2			12.0			12.9	
Approach LOS					A			B			B	
Queue Length 50th (ft)				31	7	1	9	15			24	
Queue Length 95th (ft)				135	36	54	49	45			89	
Internal Link Dist (ft)		335			213			248			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				1334	2476	1354	606	3138			3304	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.23	0.07	0.47	0.09	0.07			0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 39.4			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 48.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp



Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	55	576	124	53	97	90	253	325	140	225
Future Volume (vph)	55	576	124	53	97	90	253	325	140	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.997	0.850	0.850	0.883					
Flt Protected		0.996						0.950	0.950	
Satd. Flow (prot)	0	3018	1441	1429	4560	0	0	1787	1787	1863
Flt Permitted		0.996						0.950	0.950	
Satd. Flow (perm)	0	3018	1441	1429	4560	0	0	1787	1787	1863
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				73	269					
Link Speed (mph)		25			25					25
Link Distance (ft)		582			693					328
Travel Time (s)		15.9			18.9					8.9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	2%	13%	2%	0%	0%	1%	1%	2%
Adj. Flow (vph)	59	613	132	56	103	96	269	346	149	239
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	685	119	56	468	0	0	346	149	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	30.5	30.5	30.5	30.5	23.5			9.5	9.5	22.5
Total Split (s)	30.5	30.5	30.5	30.5	23.5			21.0	21.0	44.5
Total Split (%)	40.7%	40.7%	40.7%	40.7%	31.3%			28.0%	28.0%	59.3%
Maximum Green (s)	27.0	27.0	27.0	27.0	19.0			17.5	17.5	41.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0			3.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		3.5	3.5	3.5	4.5			3.5	3.5	3.5
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	None			None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	12.0					12.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		19.1	19.1	19.1	8.2			15.3	15.3	28.2
Actuated g/C Ratio		0.35	0.35	0.35	0.15			0.28	0.28	0.52
v/c Ratio		0.65	0.24	0.10	0.51			0.69	0.30	0.25
Control Delay		18.6	14.7	3.3	12.3			28.9	19.9	9.2
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Delay		18.6	14.7	3.3	12.3			28.9	19.9	9.2
LOS		B	B	A	B			C	B	A
Approach Delay		17.0			12.3					20.6
Approach LOS		B			B					C
Queue Length 50th (ft)		116	29	0	22			97	37	39
Queue Length 95th (ft)		198	72	15	53			#255	98	93
Internal Link Dist (ft)		502			613					248
Turn Bay Length (ft)										
Base Capacity (vph)		1563	746	775	1833			600	600	1427
Starvation Cap Reductn		0	0	0	0			0	0	0
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.44	0.16	0.07	0.26			0.58	0.25	0.17

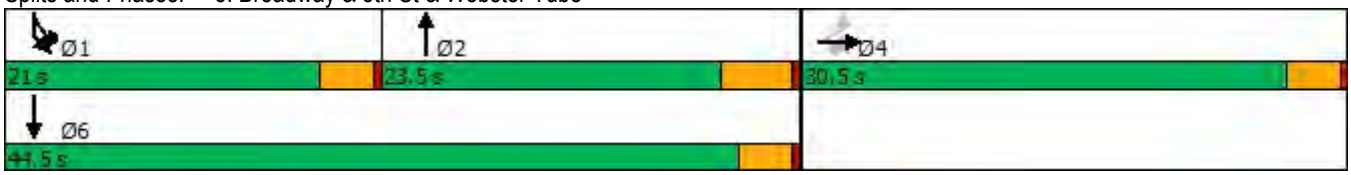
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 54.6			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 17.2		Intersection LOS: B	
Intersection Capacity Utilization 56.9%		ICU Level of Service B	
Analysis Period (min) 15			

* User Entered Value

\# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Broadway & 5th St & Webster Tube

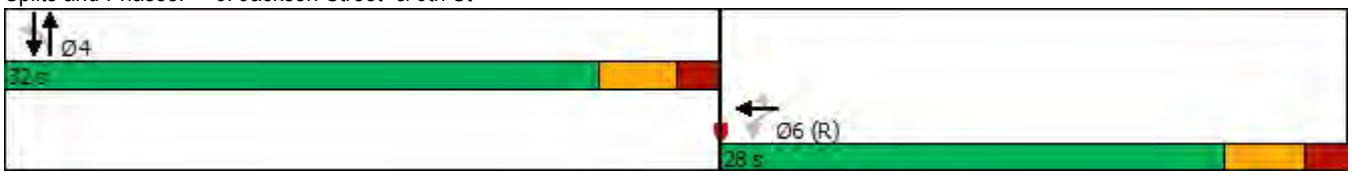


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	8	322	46	235	245	0	0	246	1327
Future Volume (vph)	0	0	0	8	322	46	235	245	0	0	246	1327
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.955	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1759	1615	1805	1900	0	0	1713	1583
Flt Permitted				0.950			0.455					
Satd. Flow (perm)	0	0	0	1805	1759	1615	864	1900	0	0	1713	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						48					46	443
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	0%	2%
Adj. Flow (vph)	0	0	0	8	339	48	247	258	0	0	259	1397
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	8	339	48	247	258	0	0	371	1285
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.01	0.51	0.08	0.65	0.31			0.47	0.81
Control Delay				11.9	18.0	4.7	21.1	10.7			12.7	5.2
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				11.9	18.0	4.7	21.1	10.7			12.7	5.2
LOS				B	B	A	C	B			B	A
Approach Delay					16.2			15.8			6.9	
Approach LOS					B			B			A	
Queue Length 50th (ft)				2	92	0	56	54			81	0
Queue Length 95th (ft)				9	160	17	#171	92			148	0
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	659	635	381	839			782	1583
Starvation Cap Reductn				0	0	0	0	0			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.01	0.51	0.08	0.65	0.31			0.47	0.81

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 10.1		Intersection LOS: B	
Intersection Capacity Utilization 83.8%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Jackson Street & 6th St

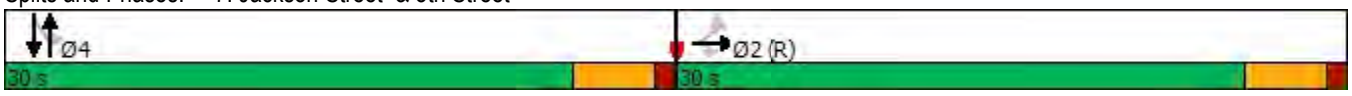


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	189	253	0	0	0	0	245	43	138	97	0
Future Volume (vph)	246	189	253	0	0	0	0	245	43	138	97	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.980				
Flt Protected		0.972									0.971	
Satd. Flow (prot)	0	3479	1615	0	0	0	0	1862	0	0	1614	0
Flt Permitted		0.972									0.626	
Satd. Flow (perm)	0	3479	1615	0	0	0	0	1862	0	0	1041	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			272					18				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	265	203	272	0	0	0	0	263	46	148	104	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	468	272	0	0	0	0	309	0	0	252	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					25.6		25.6	25.6	
Total Split (s)	30.0	30.0	30.0					30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%					50.0%		50.0%	50.0%	
Maximum Green (s)	25.4	25.4	25.4					25.4		25.4	25.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		25.4	25.4					25.4			25.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.42	0.42					0.42			0.42	
v/c Ratio		0.32	0.32					0.39			0.57	
Control Delay		12.3	2.9					13.0			27.1	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		12.3	2.9					13.0			27.1	
LOS		B	A					B			C	
Approach Delay		8.8						13.0			27.1	
Approach LOS		A						B			C	
Queue Length 50th (ft)		56	0					68			99	
Queue Length 95th (ft)		86	36					123			168	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1472	840					798			440	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.32	0.32					0.39			0.57	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 51 (85%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 50			
Control Type: Pretimed			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 53.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Jackson Street & 5th Street



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	198	81	38	1037	844	266
Future Volume (vph)	198	81	38	1037	844	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3505	4988	2842
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3505	4988	2842
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	3%	4%	0%
Adj. Flow (vph)	208	85	40	1092	888	280
Shared Lane Traffic (%)						
Lane Group Flow (vph)	208	85	40	1092	888	280
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	23.0	23.0	11.0	37.0	26.0	
Total Split (%)	38.3%	38.3%	18.3%	61.7%	43.3%	
Maximum Green (s)	18.5	18.5	6.5	32.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	8.9	8.9	6.2	35.3	30.8	47.0
Actuated g/C Ratio	0.17	0.17	0.12	0.66	0.58	0.88
v/c Ratio	0.35	0.31	0.19	0.47	0.31	0.11
Control Delay	20.3	21.2	22.8	5.6	7.7	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	21.2	22.8	5.6	7.7	1.6
LOS	C	C	C	A	A	A
Approach Delay	20.5			6.2	6.3	
Approach LOS	C			A	A	
Queue Length 50th (ft)	28	22	11	64	30	0
Queue Length 95th (ft)	51	53	34	124	99	20
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1224	564	221	2320	2883	2669
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.15	0.18	0.47	0.31	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 53.3			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 7.9		Intersection LOS: A	
Intersection Capacity Utilization 41.8%		ICU Level of Service A	
Analysis Period (min) 15			

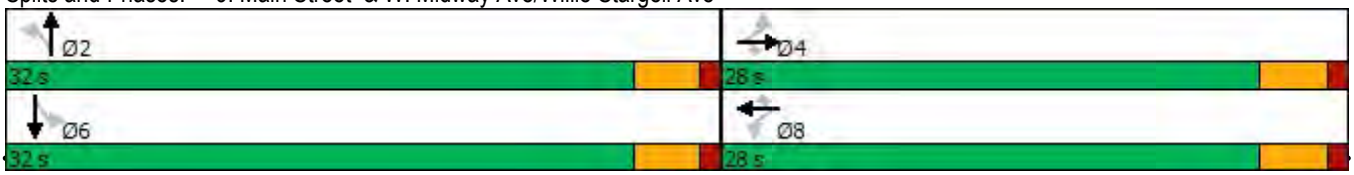
Splits and Phases: 8: Webster Street & Willie Stargell Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	55	48	9	71	73	42	161	8	55	166	3
Future Volume (vph)	5	55	48	9	71	73	42	161	8	55	166	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.994			0.998	
Flt Protected		0.996			0.995			0.990			0.988	
Satd. Flow (prot)	0	1892	1442	0	1890	1524	0	3447	0	0	3560	0
Flt Permitted		0.969			0.958			0.870			0.848	
Satd. Flow (perm)	0	1841	1442	0	1820	1524	0	3030	0	0	3055	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			60			91		9			3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	12%	0%	0%	6%	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	6	69	60	11	89	91	53	201	10	69	208	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	75	60	0	100	91	0	264	0	0	281	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	28.0	28.0	28.0	28.0	28.0	28.0	32.0	32.0		32.0	32.0	
Total Split (%)	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%	53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	28.0	28.0		28.0	28.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		7.7	7.7		7.7	7.7		31.9			31.9	
Actuated g/C Ratio		0.17	0.17		0.17	0.17		0.71			0.71	
v/c Ratio		0.24	0.20		0.32	0.27		0.12			0.13	
Control Delay		17.3	7.2		18.6	6.9		3.3			3.4	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		17.3	7.2		18.6	6.9		3.3			3.4	
LOS		B	A		B	A		A			A	
Approach Delay		12.8			13.0			3.3			3.4	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		16	0		22	0		10			10	
Queue Length 95th (ft)		37	17		46	21		20			21	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		982	797		971	856		2148			2164	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.08	0.08		0.10	0.11		0.12			0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 45			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.32			
Intersection Signal Delay: 6.9		Intersection LOS: A	
Intersection Capacity Utilization 33.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave

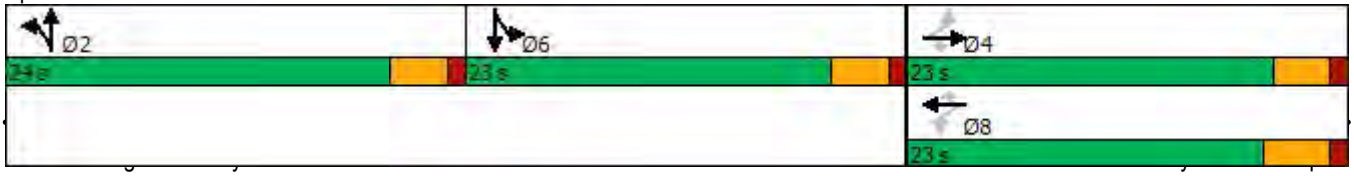


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	278	75	12	193	116	68	95	46	137	85	7
Future Volume (vph)	2	278	75	12	193	116	68	95	46	137	85	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.951			0.993	
Flt Protected					0.997		0.950			0.950	0.980	
Satd. Flow (prot)	0	3610	1553	0	3572	1568	1805	3343	0	1610	3302	0
Flt Permitted		0.952			0.920		0.950			0.950	0.980	
Satd. Flow (perm)	0	3437	1553	0	3296	1568	1805	3343	0	1610	3302	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			94			145		58			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	4%	13%	0%	3%	0%	4%	0%	2%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	3	348	94	15	241	145	85	119	58	171	106	9
Shared Lane Traffic (%)										45%		
Lane Group Flow (vph)	0	351	94	0	256	145	85	177	0	94	192	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	

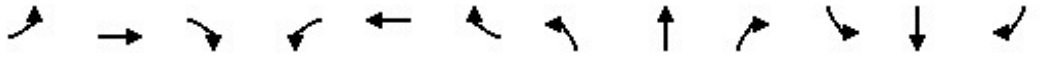
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		11.2	11.2		10.7	10.7	20.2	20.2		8.8	8.8	
Actuated g/C Ratio		0.21	0.21		0.20	0.20	0.39	0.39		0.17	0.17	
v/c Ratio		0.48	0.23		0.38	0.33	0.12	0.13		0.35	0.34	
Control Delay		20.5	6.4		19.8	6.4	12.9	8.9		23.7	20.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		20.5	6.4		19.8	6.4	12.9	8.9		23.7	20.7	
LOS		C	A		B	A	B	A		C	C	
Approach Delay		17.5			15.0			10.2			21.7	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)		48	0		35	0	16	11		28	28	
Queue Length 95th (ft)		77	23		59	27	43	30		62	50	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		1259	628		1176	652	696	1325		590	1214	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.28	0.15		0.22	0.22	0.12	0.13		0.16	0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 52.3			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 33.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Main Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	221	142	56	173	127	78	635	47	163	677	228
Future Volume (vph)	293	221	142	56	173	127	78	635	47	163	677	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.937			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3610	1568	1805	3306	0	1805	3477	0	1805	3471	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3610	1568	1805	3306	0	1805	3477	0	1805	3471	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			187		132			11				238
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	0%	3%	0%	4%	0%	0%	3%	0%	0%	4%	2%
Adj. Flow (vph)	305	230	148	58	180	132	81	661	49	170	705	238
Shared Lane Traffic (%)												
Lane Group Flow (vph)	305	230	148	58	312	0	81	710	0	170	705	238
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	13.0	25.0	25.0	11.0	23.0		10.0	24.0		10.0	24.0	13.0
Total Split (%)	18.6%	35.7%	35.7%	15.7%	32.9%		14.3%	34.3%		14.3%	34.3%	18.6%
Maximum Green (s)	8.0	20.0	20.0	6.0	18.0		5.0	19.0		5.0	19.0	8.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	8.0	15.5	15.5	5.9	8.9		5.0	19.0		5.0	21.1	34.2
Actuated g/C Ratio	0.13	0.25	0.25	0.10	0.15		0.08	0.31		0.08	0.35	0.56
v/c Ratio	0.68	0.25	0.28	0.33	0.52		0.55	0.65		1.15	0.59	0.24
Control Delay	35.4	20.6	3.7	32.2	16.8		44.3	21.6		153.4	20.2	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	35.4	20.6	3.7	32.2	16.8		44.3	21.6		153.4	20.2	2.1
LOS	D	C	A	C	B		D	C		F	C	A
Approach Delay		23.5			19.2			23.9			36.7	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	56	39	0	20	32		29	114		~75	115	0
Queue Length 95th (ft)	#112	66	26	54	64		#87	183		#193	184	30
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	446	1191	642	177	1070		148	1092		148	1202	991
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.68	0.19	0.23	0.33	0.29		0.55	0.65		1.15	0.59	0.24

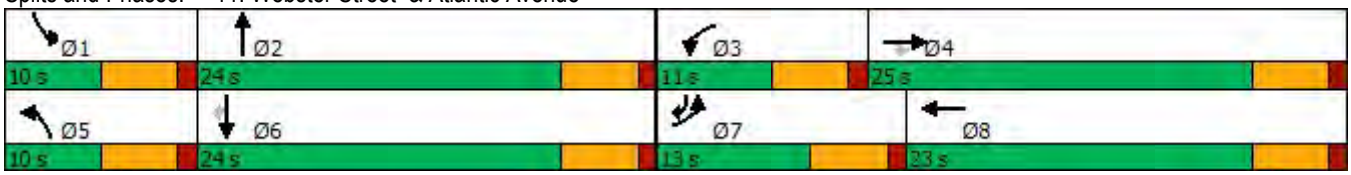
Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 61
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.15
Intersection Signal Delay: 28.1 Intersection LOS: C
Intersection Capacity Utilization 62.0% ICU Level of Service B
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

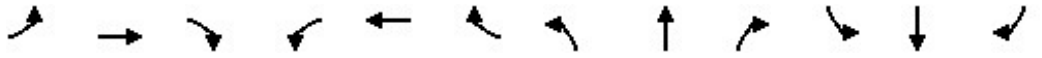
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Webster Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	890	232	59	795	0	0	0	0	543	6
Future Volume (vph)	0	0	890	232	59	795	0	0	0	0	543	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.962							
Satd. Flow (prot)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Flt Permitted					0.962							
Satd. Flow (perm)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					107							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	967	252	64	864	0	0	0	0	590	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	967	0	316	864	0	0	0	0	590	7
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

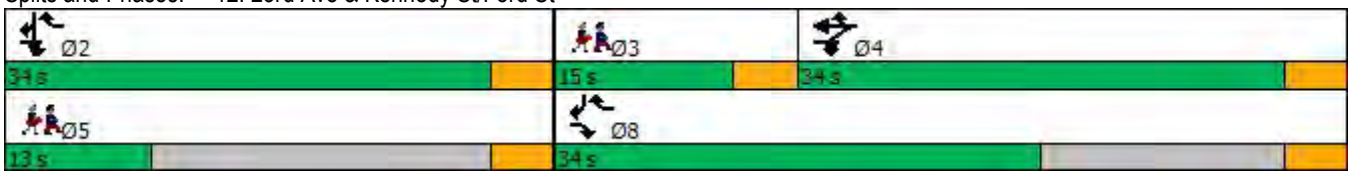
Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			62.8		25.2	62.8					29.4	62.8
Actuated g/C Ratio			1.00		0.40	1.00					0.47	1.00
v/c Ratio			0.35		0.40	0.31					0.68	0.00
Control Delay			0.3		10.0	0.3					19.2	0.0
Queue Delay			0.0		0.4	0.0					0.0	0.0
Total Delay			0.3		10.4	0.3					19.2	0.0
LOS			A		B	A					B	A
Approach Delay		0.3			3.0						19.0	
Approach LOS		A			A						B	
Queue Length 50th (ft)			0		53	0					192	0
Queue Length 95th (ft)			0		106	0					307	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		928	2787					907	1583
Starvation Cap Reductn			0		248	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.35		0.46	0.31					0.65	0.00

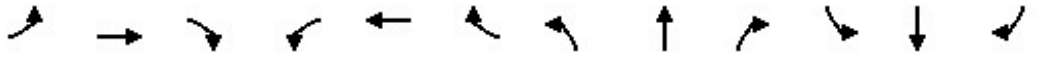
Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 62.8			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 5.5		Intersection LOS: A	
Intersection Capacity Utilization 85.7%		ICU Level of Service E	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St



Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

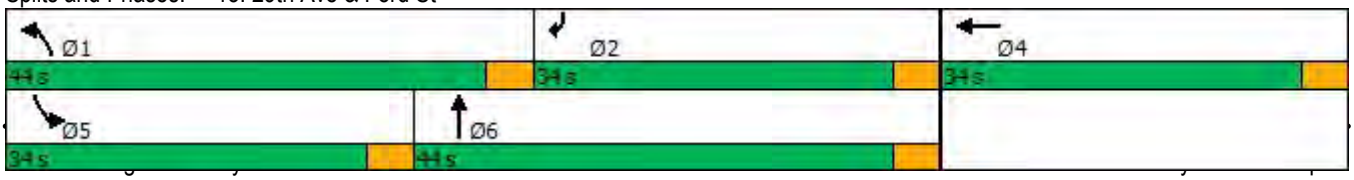


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	41	7	802	614	18	50	0	226
Future Volume (vph)	0	0	0	0	41	7	802	614	18	50	0	226
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.980			0.996				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1825	0	3433	1855	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1825	0	3433	1855	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				246
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	45	8	872	667	20	54	0	246
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	53	0	872	687	0	54	0	246
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

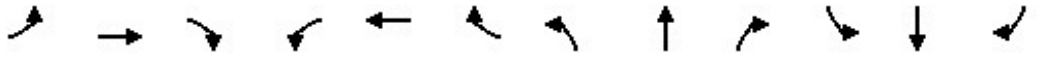
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					8.5		18.4	39.3		7.0		19.8
Actuated g/C Ratio					0.16		0.34	0.72		0.13		0.36
v/c Ratio					0.18		0.75	0.51		0.24		0.34
Control Delay					22.0		22.6	12.0		30.5		5.0
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					22.0		22.6	12.0		30.5		5.0
LOS					C		C	B		C		A
Approach Delay					22.0			17.9			9.6	
Approach LOS					C			B			A	
Queue Length 50th (ft)					14		138	139		17		0
Queue Length 95th (ft)					45		277	440		62		55
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					1117		2646	1430		1080		1062
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.05		0.33	0.48		0.05		0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 54.6			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	167	97	37	46	26	13	189	420	89	14	436	167
Future Volume (vph)	167	97	37	46	26	13	189	420	89	14	436	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.979			0.974			0.958	
Flt Protected		0.973			0.974		0.950			0.950		
Satd. Flow (prot)	0	1782	0	0	1776	0	1770	1814	0	1770	1785	0
Flt Permitted		0.800			0.743		0.143			0.457		
Satd. Flow (perm)	0	1465	0	0	1355	0	266	1814	0	851	1785	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			9			20			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	182	105	40	50	28	14	205	457	97	15	474	182
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	327	0	0	92	0	205	554	0	15	656	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		

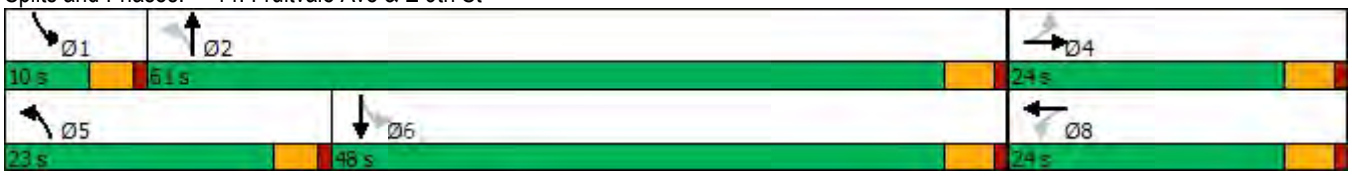


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		20.0			20.0		48.6	46.3		37.9	31.5	
Actuated g/C Ratio		0.26			0.26		0.63	0.60		0.49	0.41	
v/c Ratio		0.85			0.26		0.50	0.51		0.03	0.88	
Control Delay		52.9			27.2		11.6	10.5		5.7	34.5	
Queue Delay		0.0			0.0		0.4	1.5		0.0	0.0	
Total Delay		52.9			27.2		12.0	12.0		5.7	34.5	
LOS		D			C		B	B		A	C	
Approach Delay		52.9			27.2			12.0			33.9	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)		151			32		35	119		2	274	
Queue Length 95th (ft)		#369			85		80	259		8	433	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		383			356		546	1369		494	1040	
Starvation Cap Reductn		0			0		87	596		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.85			0.26		0.45	0.72		0.03	0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 77.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 27.9		Intersection LOS: C	
Intersection Capacity Utilization 75.0%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St



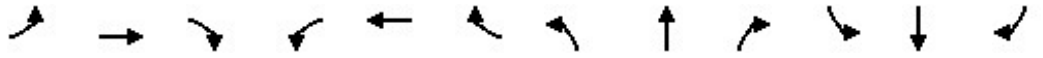
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	78	356	6	0	97	0	472	17	86	439	0
Future Volume (vph)	150	78	356	6	0	97	0	472	17	86	439	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.873			0.995				
Flt Protected		0.968			0.997					0.950		
Satd. Flow (prot)	0	1803	1583	0	1621	0	0	3522	0	1770	1863	0
Flt Permitted		0.742			0.978					0.317		
Satd. Flow (perm)	0	1382	1583	0	1590	0	0	3522	0	590	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			361		105			4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	85	387	7	0	105	0	513	18	93	477	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	248	387	0	112	0	0	531	0	93	477	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		16.2	16.2		15.1			14.9		24.0	23.5	
Actuated g/C Ratio		0.33	0.33		0.31			0.31		0.49	0.48	
v/c Ratio		0.54	0.50		0.20			0.49		0.19	0.53	
Control Delay		19.6	5.1		5.1			17.4		8.5	11.8	
Queue Delay		0.0	0.0		0.0			0.0		0.0	0.1	
Total Delay		19.6	5.1		5.1			17.4		8.5	11.9	
LOS		B	A		A			B		A	B	
Approach Delay		10.7			5.1			17.4			11.4	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		57	5		1			66		12	81	
Queue Length 95th (ft)		142	58		31			141		41	208	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		991	1237		1148			2302		861	1754	
Starvation Cap Reductn		0	0		0			0		153	432	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.25	0.31		0.10			0.23		0.13	0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 48.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 62.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	392	302	157	320	459	57	14	435	73
Future Volume (vph)	0	0	0	392	302	157	320	459	57	14	435	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.972			0.983			0.979	
Flt Protected					0.977		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3361	0	1770	3479	0	0	3461	0
Flt Permitted					0.977		0.950				0.932	
Satd. Flow (perm)	0	0	0	0	3361	0	1770	3479	0	0	3229	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					38			25			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	426	328	171	348	499	62	15	473	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	925	0	348	561	0	0	567	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	

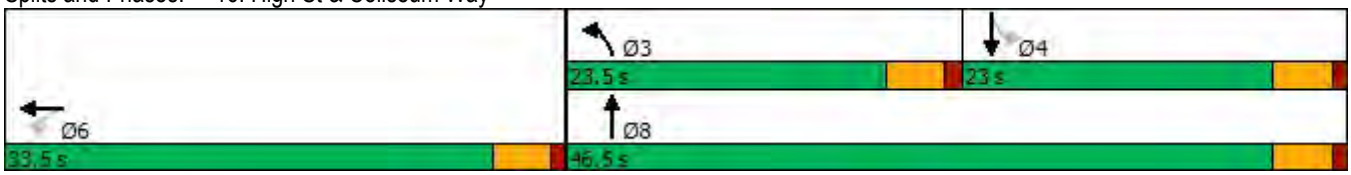


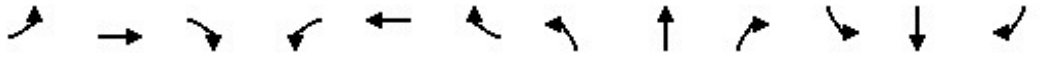
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		23.5	46.5		23.0	23.0	
Total Split (%)				41.9%	41.9%		29.4%	58.1%		28.8%	28.8%	
Maximum Green (s)				29.0	29.0		19.0	42.0		18.5	18.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		19.0	42.0			18.5	
Actuated g/C Ratio					0.36		0.24	0.52			0.23	
v/c Ratio					0.74		0.83	0.31			0.74	
Control Delay					25.8		47.7	10.8			34.4	
Queue Delay					0.0		28.9	1.0			0.0	
Total Delay					25.8		76.5	11.8			34.4	
LOS					C		E	B			C	
Approach Delay					25.8			36.6			34.4	
Approach LOS					C			D			C	
Queue Length 50th (ft)					200		166	74			133	
Queue Length 95th (ft)					271		#305	105			191	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1242		420	1838			762	
Starvation Cap Reductn					0		82	979			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.74		1.03	0.65			0.74	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 31.9		Intersection LOS: C	
Intersection Capacity Utilization 68.5%		ICU Level of Service C	
Analysis Period (min) 15			

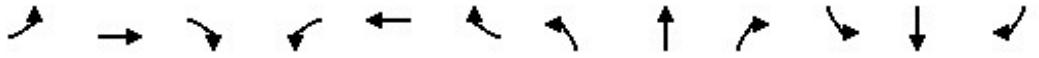
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	318	126	30	0	138	0	622	219	204	621	0
Future Volume (vph)	74	318	126	30	0	138	0	622	219	204	621	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.961				
Flt Protected		0.991		0.950						0.950		
Satd. Flow (prot)	0	3507	1583	1770	0	1583	0	3401	0	1770	3539	0
Flt Permitted		0.991		0.425						0.950		
Satd. Flow (perm)	0	3507	1583	792	0	1583	0	3401	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						150		65				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	346	137	33	0	150	0	676	238	222	675	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	426	137	33	0	150	0	914	0	222	675	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						

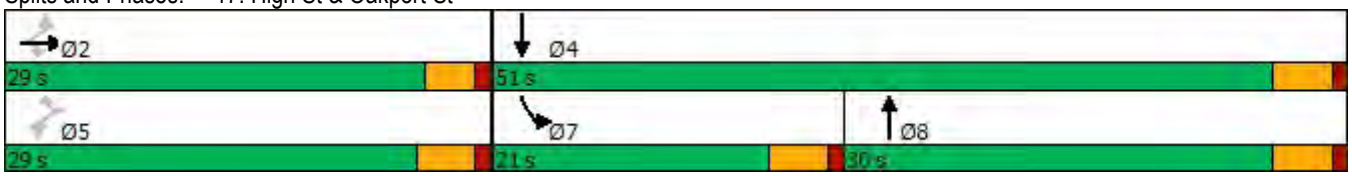


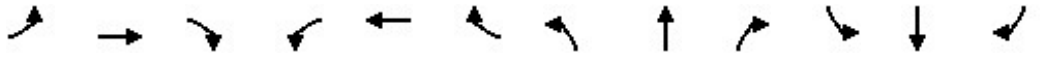
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	29.0	29.0	29.0	29.0		29.0		30.0		21.0	51.0	
Total Split (%)	36.3%	36.3%	36.3%	36.3%		36.3%		37.5%		26.3%	63.8%	
Maximum Green (s)	25.0	25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Actuated g/C Ratio		0.31	0.31	0.31		0.31		0.32		0.21	0.58	
v/c Ratio		0.39	0.28	0.14		0.26		0.81		0.61	0.33	
Control Delay		22.8	22.6	22.0		5.1		30.1		36.9	9.2	
Queue Delay		0.0	0.0	0.0		0.0		0.0		1.3	1.4	
Total Delay		22.8	22.6	22.0		5.1		30.1		38.2	10.6	
LOS		C	C	C		A		C		D	B	
Approach Delay		22.8			8.1			30.1			17.4	
Approach LOS		C			A			C			B	
Queue Length 50th (ft)		86	51	12		0		204		102	83	
Queue Length 95th (ft)		126	96	33		39		278		172	115	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1095	494	242		588		1128		365	2057	
Starvation Cap Reductn		0	0	0		0		0		42	1126	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.39	0.28	0.14		0.26		0.81		0.69	0.73	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 22.5		Intersection LOS: C	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	

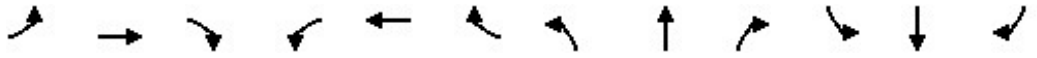
Analysis Period (min) 15

Splits and Phases: 17: High St & Oakport St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	60	15	18	100	158	0	879	28	9	744	257
Future Volume (vph)	204	60	15	18	100	158	0	879	28	9	744	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.970				0.850		0.995			0.962	
Flt Protected	0.950				0.992							
Satd. Flow (prot)	1770	1807	0	0	1848	1583	0	3522	0	0	3405	0
Flt Permitted	0.674				0.953						0.946	
Satd. Flow (perm)	1255	1807	0	0	1775	1583	0	3522	0	0	3221	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		16						8			122	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	222	65	16	20	109	172	0	955	30	10	809	279
Shared Lane Traffic (%)												
Lane Group Flow (vph)	222	81	0	0	129	172	0	985	0	0	1098	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		

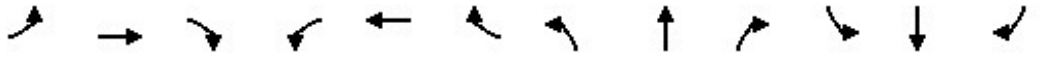


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	14.3	14.3			14.3	14.3		33.9			33.9	
Actuated g/C Ratio	0.25	0.25			0.25	0.25		0.59			0.59	
v/c Ratio	0.71	0.17			0.29	0.43		0.47			0.56	
Control Delay	31.9	14.0			18.2	20.9		8.2			8.3	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	31.9	14.0			18.2	20.9		8.2			8.3	
LOS	C	B			B	C		A			A	
Approach Delay		27.2			19.7			8.2			8.3	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)	67	17			34	48		88			93	
Queue Length 95th (ft)	130	43			71	93		150			165	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	406	596			574	512		2087			1956	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.55	0.14			0.22	0.34		0.47			0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 57.2			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 60.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 18: Park St & Blanding Ave

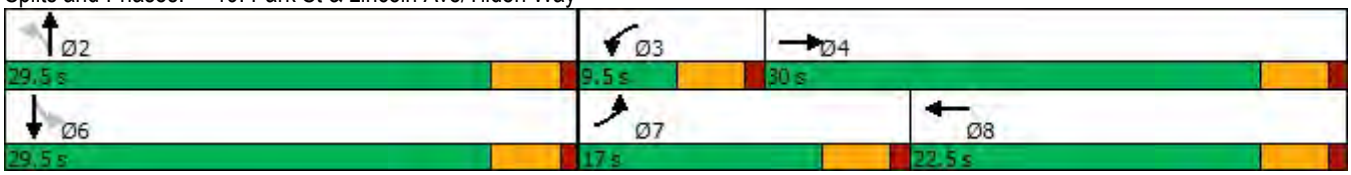
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	187	67	86	234	9	27	392	35	41	630	61
Future Volume (vph)	119	187	67	86	234	9	27	392	35	41	630	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.960			0.994			0.988			0.988	
Flt Protected	0.950			0.950				0.997			0.997	
Satd. Flow (prot)	1770	3398	0	1770	3518	0	0	3486	0	0	3486	0
Flt Permitted	0.950			0.950				0.890			0.905	
Satd. Flow (perm)	1770	3398	0	1770	3518	0	0	3112	0	0	3165	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73			5			14			15	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	203	73	93	254	10	29	426	38	45	685	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	129	276	0	93	264	0	0	493	0	0	796	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		



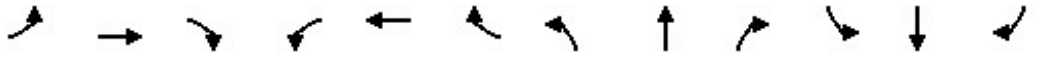
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	9.3	13.3		5.1	9.5			25.6			25.6	
Actuated g/C Ratio	0.17	0.24		0.09	0.17			0.46			0.46	
v/c Ratio	0.44	0.32		0.57	0.43			0.34			0.54	
Control Delay	27.2	13.4		44.0	23.7			11.9			14.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	27.2	13.4		44.0	23.7			11.9			14.0	
LOS	C	B		D	C			B			B	
Approach Delay		17.8			29.0			11.9			14.0	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	41	29		32	42			54			100	
Queue Length 95th (ft)	88	55		#100	77			103			178	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	409	1643		163	1175			1448			1473	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.32	0.17		0.57	0.22			0.34			0.54	

Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 55.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 16.8		Intersection LOS: B	
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



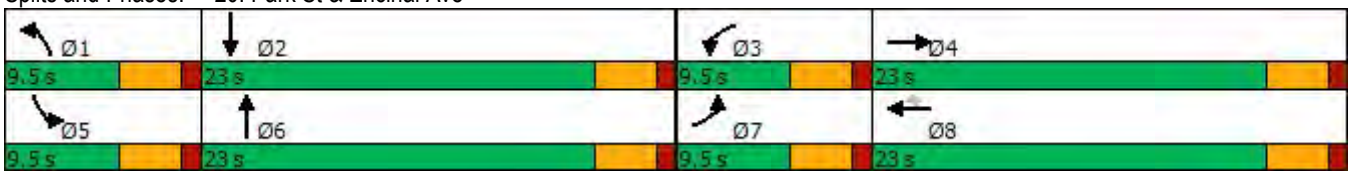
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	409	46	41	260	74	46	227	53	90	280	42
Future Volume (vph)	42	409	46	41	260	74	46	227	53	90	280	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985				0.850		0.971			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3486	0	1770	1863	1583	1770	3437	0	1770	3468	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3486	0	1770	1863	1583	1770	3437	0	1770	3468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				151		44			26	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	445	50	45	283	80	50	247	58	98	304	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	495	0	45	283	80	50	305	0	98	350	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



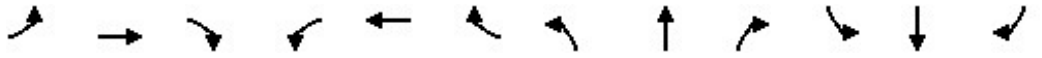
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.8	13.6		5.8	13.6	13.6	5.8	20.1		5.8	22.3	
Actuated g/C Ratio	0.11	0.25		0.11	0.25	0.25	0.11	0.37		0.11	0.41	
v/c Ratio	0.24	0.56		0.24	0.60	0.16	0.26	0.23		0.52	0.24	
Control Delay	30.3	20.4		30.3	25.3	1.2	30.7	13.7		40.0	14.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	30.3	20.4		30.3	25.3	1.2	30.7	13.7		40.0	14.0	
LOS	C	C		C	C	A	C	B		D	B	
Approach Delay		21.3			21.1			16.1			19.7	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	16	80		16	93	0	17	36		35	45	
Queue Length 95th (ft)	46	121		45	160	5	49	70		#104	84	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	189	1304		189	690	681	189	1302		189	1441	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.24	0.38		0.24	0.41	0.12	0.26	0.23		0.52	0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 54.2			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 19.8		Intersection LOS: B	
Intersection Capacity Utilization 44.4%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	129	14	54	141	137	25	333	85	246	539	196
Future Volume (vph)	100	129	14	54	141	137	25	333	85	246	539	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.970			0.960	
Flt Protected		0.979			0.986		0.950			0.950		
Satd. Flow (prot)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Flt Permitted		0.979			0.986		0.950			0.950		
Satd. Flow (perm)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			149		32			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	140	15	59	153	149	27	362	92	267	586	213
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	249	15	0	212	149	27	454	0	267	799	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



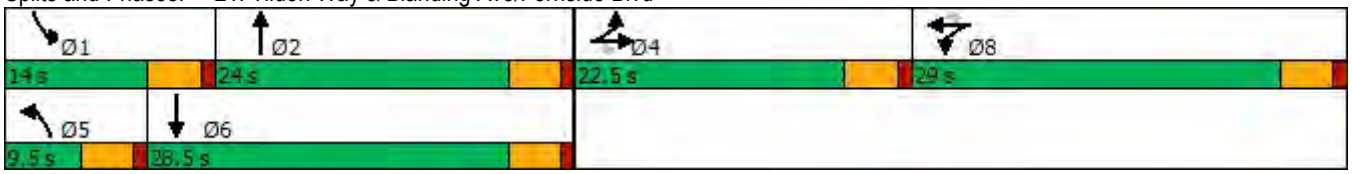
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		14.4	14.4		14.1	14.1	5.1	14.9		9.8	26.0	
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.07	0.21		0.14	0.36	
v/c Ratio		0.68	0.04		0.59	0.35	0.21	0.62		1.11	0.63	
Control Delay		38.4	0.1		34.5	7.5	40.8	28.7		124.9	22.8	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		38.4	0.1		34.5	7.5	40.8	28.7		124.9	22.8	
LOS		D	A		C	A	D	C		F	C	
Approach Delay		36.3			23.3			29.4			48.4	
Approach LOS		D			C			C			D	
Queue Length 50th (ft)		101	0		86	0	12	89		~141	128	
Queue Length 95th (ft)		204	0		165	45	40	156		#342	#270	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		472	504		647	654	127	985		241	1279	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.53	0.03		0.33	0.23	0.21	0.46		1.11	0.62	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 71.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 38.5		Intersection LOS: D	
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

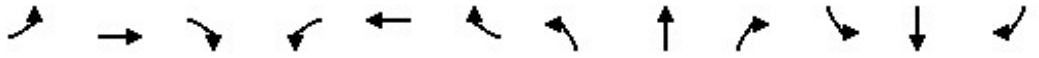
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



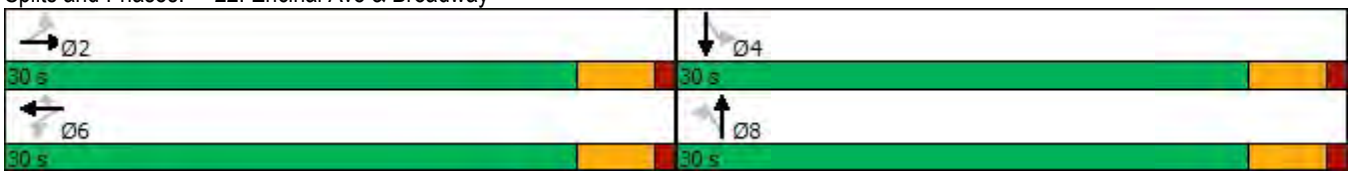
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	346	109	27	240	29	80	302	21	53	359	40
Future Volume (vph)	53	346	109	27	240	29	80	302	21	53	359	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968				0.850		0.990			0.985	
Flt Protected		0.995			0.995		0.950			0.950		
Satd. Flow (prot)	0	3409	0	0	1853	1636	1770	1844	0	1770	1835	0
Flt Permitted		0.886			0.909		0.456			0.528		
Satd. Flow (perm)	0	3035	0	0	1693	1636	849	1844	0	984	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71				32		7			12	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	376	118	29	261	32	87	328	23	58	390	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	552	0	0	290	32	87	351	0	58	433	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



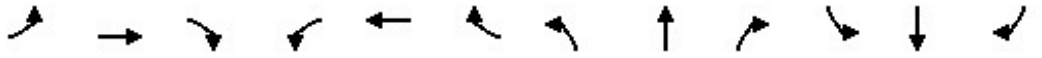
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		13.9			13.9	13.9	25.6	25.6		25.6	25.6	
Actuated g/C Ratio		0.29			0.29	0.29	0.53	0.53		0.53	0.53	
v/c Ratio		0.60			0.60	0.07	0.19	0.36		0.11	0.45	
Control Delay		15.6			20.3	5.4	8.9	8.9		7.9	9.7	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		15.6			20.3	5.4	8.9	8.9		7.9	9.7	
LOS		B			C	A	A	A		A	A	
Approach Delay		15.6			18.8			8.9			9.5	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		59			69	0	11	49		7	63	
Queue Length 95th (ft)		97			127	13	40	121		27	154	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1634			893	878	447	975		518	973	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.34			0.32	0.04	0.19	0.36		0.11	0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 48.6			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 69.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	700	11	105	580	238	5	66	117	254	77	110
Future Volume (vph)	110	700	11	105	580	238	5	66	117	254	77	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.916				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3532	0	1770	1863	1583	0	1705	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.996		0.584		
Satd. Flow (perm)	1770	3532	0	1770	1863	1583	0	1699	0	1088	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				259		109				143
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			1523			502			2170	
Travel Time (s)		9.3			41.5			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	761	12	114	630	259	5	72	127	276	84	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	773	0	114	630	259	0	204	0	276	84	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



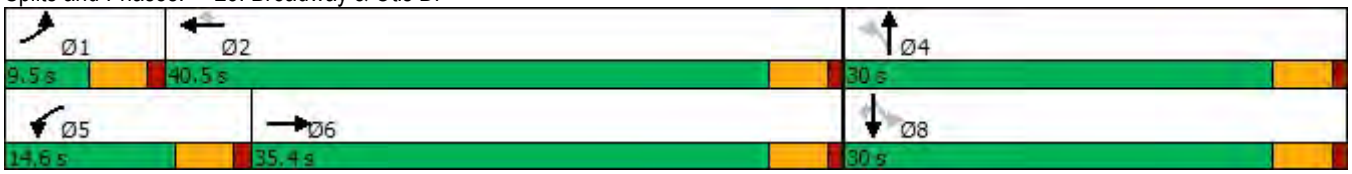
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	28.8		8.9	30.2	30.2		25.7		25.7	25.7	25.7
Actuated g/C Ratio	0.07	0.39		0.12	0.41	0.41		0.34		0.34	0.34	0.34
v/c Ratio	1.01	0.57		0.54	0.83	0.33		0.31		0.74	0.13	0.19
Control Delay	126.8	20.6		42.2	30.6	3.1		11.2		37.7	19.5	3.5
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	126.8	20.6		42.2	30.6	3.1		11.2		37.7	19.5	3.5
LOS	F	C		D	C	A		B		D	B	A
Approach Delay		34.9			24.8			11.2			26.0	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	~64	155		52	251	0		32		118	28	0
Queue Length 95th (ft)	#171	211		105	383	39		85		#253	62	26
Internal Link Dist (ft)		261			1443			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	119	1476		241	906	903		656		374	641	639
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	1.01	0.52		0.47	0.70	0.29		0.31		0.74	0.13	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 74.5			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 27.4		Intersection LOS: C	
Intersection Capacity Utilization 76.6%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

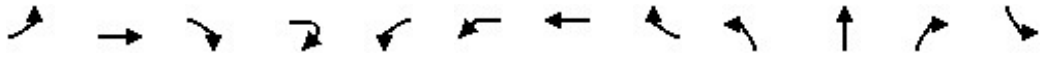
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	77	264	58	3	4	2	157	123	34	222	3	141
Future Volume (vph)	77	264	58	3	4	2	157	123	34	222	3	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.998			0.993		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1859	1583	0	1848	0	1770
Flt Permitted	0.590						0.989			0.907		0.950
Satd. Flow (perm)	1099	1863	1583	0	0	0	1842	1583	0	1688	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								134				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	287	63	3	4	2	171	134	37	241	3	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	287	66	0	0	0	177	134	0	281	0	153
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

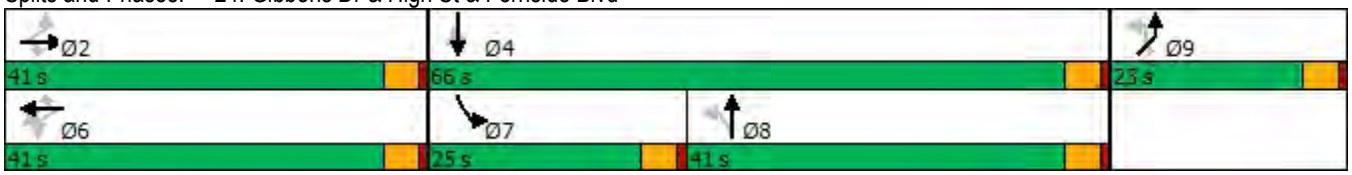
Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations							
Traffic Volume (vph)	331	65	100	2	68	6	3
Future Volume (vph)	331	65	100	2	68	6	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0			0	50	
Storage Lanes		1			1	1	
Taper Length (ft)					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.987		0.850
Flt Protected					0.956		
Satd. Flow (prot)	1863	1583	0	0	1758	0	1583
Flt Permitted					0.990		
Satd. Flow (perm)	1863	1583	0	0	1820	0	1583
Right Turn on Red			No				Yes
Satd. Flow (RTOR)							88
Link Speed (mph)	25				25		
Link Distance (ft)	1133				459		
Travel Time (s)	30.9				12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	360	71	109	2	74	7	3
Shared Lane Traffic (%)							
Lane Group Flow (vph)	360	180	0	0	83	0	3
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Right
Median Width(ft)	12				12		
Link Offset(ft)	0				0		
Crosswalk Width(ft)	16				16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	15	9	9
Number of Detectors	2	1		1	1		1
Detector Template	Thru	Right		Left	Left		Right
Leading Detector (ft)	100	20		20	20		20
Trailing Detector (ft)	0	0		0	0		0
Detector 1 Position(ft)	0	0		0	0		0
Detector 1 Size(ft)	6	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm		Perm	Prot		Perm
Protected Phases	4				9		
Permitted Phases		4		9			9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	41.0	41.0	41.0		41.0	41.0	41.0	41.0	41.0	41.0		25.0
Total Split (%)	31.5%	31.5%	31.5%		31.5%	31.5%	31.5%	31.5%	31.5%	31.5%		19.2%
Maximum Green (s)	36.5	36.5	36.5		36.5	36.5	36.5	36.5	36.5	36.5		20.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.1	37.1	37.1				37.1	37.1		22.8		20.8
Actuated g/C Ratio	0.35	0.35	0.35				0.35	0.35		0.21		0.20
v/c Ratio	0.22	0.44	0.12				0.28	0.21		0.78		0.44
Control Delay	30.9	32.5	29.0				29.8	6.1		55.6		46.0
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	30.9	32.5	29.0				29.8	6.1		55.6		46.0
LOS	C	C	C				C	A		E		D
Approach Delay		31.6					19.6			55.6		
Approach LOS		C					B			E		
Queue Length 50th (ft)	42	155	31				90	0		186		95
Queue Length 95th (ft)	97	280	76				175	47		293		184
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	382	648	551				641	638		587		346
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.22	0.44	0.12				0.28	0.21		0.48		0.44

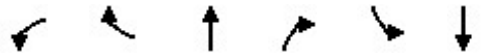
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 106.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 32.6		Intersection LOS: C	
Intersection Capacity Utilization 76.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd

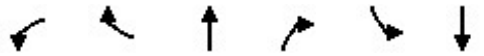


Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Detector Phase	4	4		9	9		9
Switch Phase							
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5
Total Split (s)	66.0	66.0		23.0	23.0		23.0
Total Split (%)	50.8%	50.8%		17.7%	17.7%		17.7%
Maximum Green (s)	61.5	61.5		18.5	18.5		18.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0
Total Lost Time (s)	4.5	4.5			4.5		4.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0
Act Effct Green (s)	48.2	48.2			10.3		10.3
Actuated g/C Ratio	0.45	0.45			0.10		0.10
v/c Ratio	0.43	0.25			0.47		0.01
Control Delay	22.3	19.9			57.3		0.0
Queue Delay	0.0	0.0			0.0		0.0
Total Delay	22.3	19.9			57.3		0.0
LOS	C	B			E		A
Approach Delay	26.9				55.3		
Approach LOS	C				E		
Queue Length 50th (ft)	168	77			56		0
Queue Length 95th (ft)	262	133			115		0
Internal Link Dist (ft)	1053				379		
Turn Bay Length (ft)							50
Base Capacity (vph)	1092	928			321		351
Starvation Cap Reductn	0	0			0		0
Spillback Cap Reductn	0	0			0		0
Storage Cap Reductn	0	0			0		0
Reduced v/c Ratio	0.33	0.19			0.26		0.01

Intersection Summary



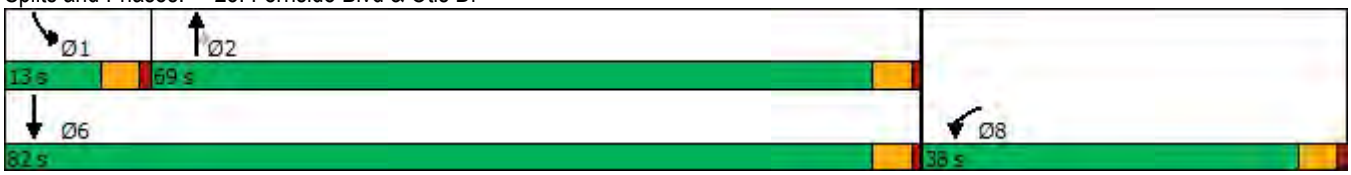
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	657	14	923	658	50	1126
Future Volume (vph)	657	14	923	658	50	1126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.997			0.850		
Flt Protected	0.953				0.950	
Satd. Flow (prot)	3434	0	3539	1583	1770	3539
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	3434	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	2			264		
Link Speed (mph)	25		35			35
Link Distance (ft)	312		1414			1511
Travel Time (s)	8.5		27.5			29.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	714	15	1003	715	54	1224
Shared Lane Traffic (%)						
Lane Group Flow (vph)	729	0	1003	715	54	1224
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	38.0		69.0	69.0	13.0	82.0
Total Split (%)	31.7%		57.5%	57.5%	10.8%	68.3%
Maximum Green (s)	33.5		64.5	64.5	8.5	77.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	29.0		67.6	67.6	7.7	77.6
Actuated g/C Ratio	0.25		0.58	0.58	0.07	0.67
v/c Ratio	0.85		0.49	0.69	0.46	0.52
Control Delay	51.1		16.3	15.5	66.0	11.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	51.1		16.3	15.5	66.0	11.0
LOS	D		B	B	E	B
Approach Delay	51.1		15.9			13.3
Approach LOS	D		B			B
Queue Length 50th (ft)	265		237	245	40	228
Queue Length 95th (ft)	337		312	425	84	304
Internal Link Dist (ft)	232		1334			1431
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	998		2068	1034	130	2375
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.73		0.49	0.69	0.42	0.52

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 115.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 21.9		Intersection LOS: C	
Intersection Capacity Utilization 60.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 25: Fernside Blvd & Otis Dr

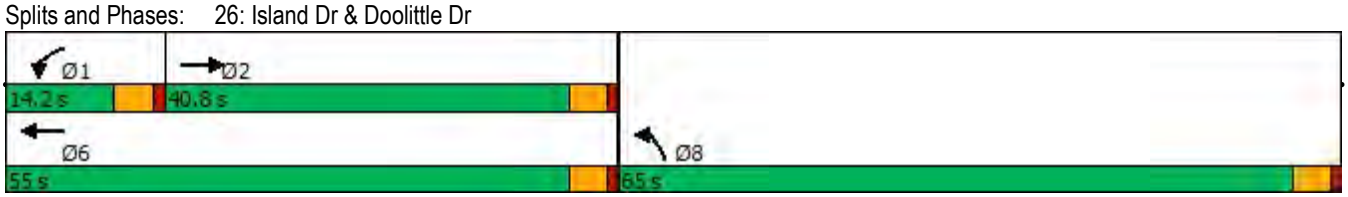


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	690	1075	111	809	775	77
Future Volume (vph)	690	1075	111	809	775	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		355				64
Link Speed (mph)	25			25	25	
Link Distance (ft)	1414			365	455	
Travel Time (s)	38.6			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	750	1168	121	879	842	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	750	1168	121	879	842	84
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.4	86.1	9.5	50.5	26.6	86.1
Actuated g/C Ratio	0.42	1.00	0.11	0.59	0.31	1.00
v/c Ratio	0.50	0.74	0.62	0.42	0.79	0.05
Control Delay	20.5	3.1	53.1	11.3	33.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	3.1	53.1	11.3	33.3	0.1
LOS	C	A	D	B	C	A
Approach Delay	9.9			16.4	30.3	
Approach LOS	A			B	C	
Queue Length 50th (ft)	152	0	64	126	213	0
Queue Length 95th (ft)	237	0	#149	209	279	0
Internal Link Dist (ft)	1334			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1497	1583	200	2082	2420	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.74	0.60	0.42	0.35	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 86.1			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 58.6%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 26: Island Dr & Doolittle Dr



2025 No Action Condition

AM Peak Hour

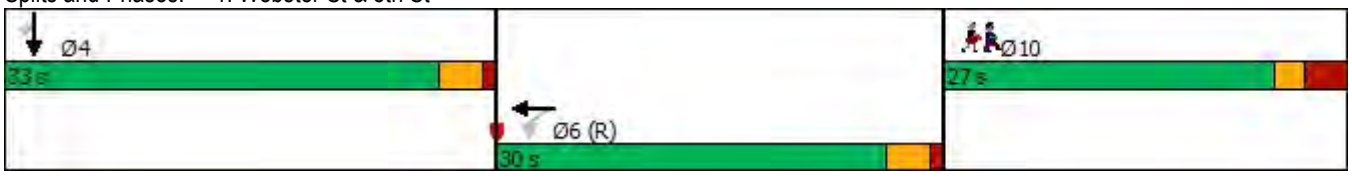
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	370	608	0	0	0	0	0	497	185
Future Volume (vph)	0	0	0	370	608	0	0	0	0	0	497	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.987	0.850
Flt Protected				0.950	0.992							
Satd. Flow (prot)	0	0	0	1345	4466	0	0	0	0	0	4579	1169
Flt Permitted				0.950	0.992							
Satd. Flow (perm)	0	0	0	1345	4466	0	0	0	0	0	4579	1169
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				271	73						18	147
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	1%	5%	0%	0%	0%	0%	0%	1%	4%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	398	654	0	0	0	0	0	534	199
Shared Lane Traffic (%)				32%								26%
Lane Group Flow (vph)	0	0	0	271	781	0	0	0	0	0	586	147
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				43.6	43.6						19.2	19.2
Actuated g/C Ratio				0.48	0.48						0.21	0.21
v/c Ratio				0.34	0.35						0.59	0.40
Control Delay				3.9	15.9						32.8	8.2
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				3.9	15.9						32.8	8.2
LOS				A	B						C	A
Approach Delay					12.8						27.9	
Approach LOS					B						C	
Queue Length 50th (ft)				0	102						113	0
Queue Length 95th (ft)				58	155						139	51
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				791	2200						1487	476
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.34	0.35						0.39	0.31

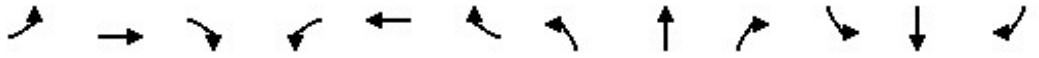
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 19.0		Intersection LOS: B	
Intersection Capacity Utilization 32.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St

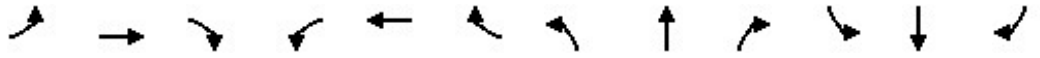


Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



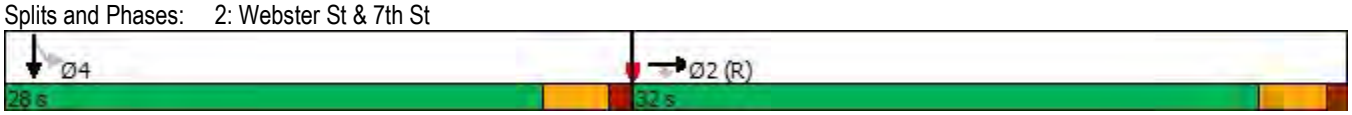
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	346	346	0	0	0	0	0	0	163	727	0
Future Volume (vph)	0	346	346	0	0	0	0	0	0	163	727	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.950	0.850									
Flt Protected											0.991	
Satd. Flow (prot)	0	4135	1298	0	0	0	0	0	0	0	4699	0
Flt Permitted											0.991	
Satd. Flow (perm)	0	4135	1298	0	0	0	0	0	0	0	4699	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		69	69								100	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			405			184			292	
Travel Time (s)		9.3			11.0			5.0			8.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	7%	7%	0%	0%	0%	0%	0%	0%	17%	1%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	393	393	0	0	0	0	0	0	185	826	0
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	590	196	0	0	0	0	0	0	0	1011	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		32.0	32.0							28.0	28.0	
Total Split (s)		32.0	32.0							28.0	28.0	
Total Split (%)		53.3%	53.3%							46.7%	46.7%	

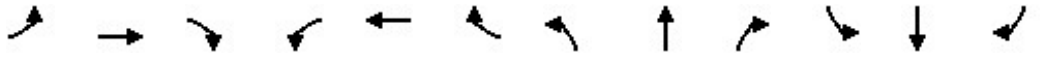


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		28.0	28.0							24.0	24.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		18.0	18.0							12.0	12.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		31.4	31.4								20.6	
Actuated g/C Ratio		0.52	0.52								0.34	
v/c Ratio		0.27	0.28								0.60	
Control Delay		8.0	7.3								15.8	
Queue Delay		0.0	0.0								0.2	
Total Delay		8.0	7.3								15.9	
LOS		A	A								B	
Approach Delay		7.8									15.9	
Approach LOS		A									B	
Queue Length 50th (ft)		37	26								93	
Queue Length 95th (ft)		61	68								117	
Internal Link Dist (ft)		260			325			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2196	712								1939	
Starvation Cap Reductn		0	0								240	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.27	0.28								0.60	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 38.3%		ICU Level of Service A	
Analysis Period (min) 15			

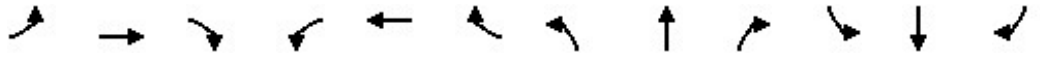
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	391	0	0	0	0	0	938	1873	0	0	0
Future Volume (vph)	57	391	0	0	0	0	0	938	1873	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.994										
Satd. Flow (prot)	0	4467	0	0	0	0	0	5187	2666	0	0	0
Flt Permitted		0.994										
Satd. Flow (perm)	0	4467	0	0	0	0	0	5187	2666	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47							566			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		405			362			410			260	
Travel Time (s)		11.0			9.9			11.2			7.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	14%	9%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	59	403	0	0	0	0	0	967	1931	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	462	0	0	0	0	0	967	1931	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								28.0				
Total Split (%)								46.7%				
Maximum Green (s)								22.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		26.4						22.4	41.4			
Actuated g/C Ratio		0.44						0.37	0.69			
v/c Ratio		0.23						0.50	0.96			
Control Delay		11.3						15.6	21.2			
Queue Delay		0.0						0.0	0.0			
Total Delay		11.3						15.6	21.2			
LOS		B						B	C			
Approach Delay		11.3						19.3				
Approach LOS		B						B				
Queue Length 50th (ft)		38						95	202			
Queue Length 95th (ft)		59						129	#542			
Internal Link Dist (ft)		325			282			330			180	
Turn Bay Length (ft)												
Base Capacity (vph)		1991						1936	2014			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.23						0.50	0.96			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 25 (42%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 83.6%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			

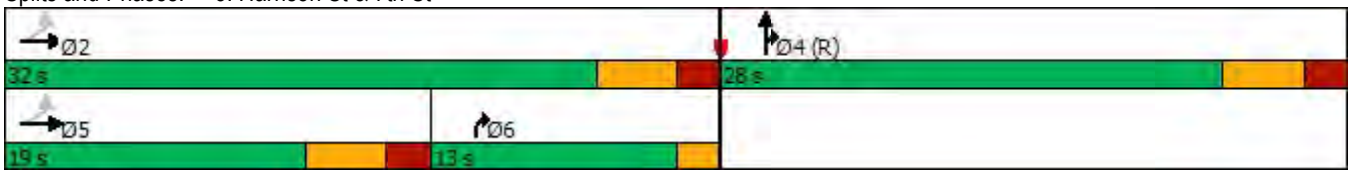
Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	3.0
Total Split (s)	32.0	19.0	13.0
Total Split (%)	53%	32%	22%
Maximum Green (s)	26.4	13.4	11.0
Yellow Time (s)	3.6	3.6	2.0
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

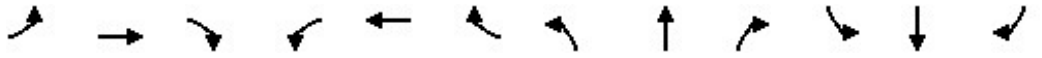
Intersection Summary

Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 3: Harrison St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	393	160	612	26	172	0	0	342	42
Future Volume (vph)	0	0	0	393	160	612	26	172	0	0	342	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.984	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1687	3406	1599	1805	3059	0	0	4716	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1687	3406	1599	1805	3059	0	0	4716	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						644					29	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			342			469	
Travel Time (s)		11.3			8.0			9.3			12.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	7%	6%	1%	0%	18%	0%	0%	8%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	20
Adj. Flow (vph)	0	0	0	414	168	644	27	181	0	0	360	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	414	168	644	27	181	0	0	404	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.5	31.5	31.5	9.5	24.0			24.0	
Total Split (s)				32.0	32.0	32.0	16.0	43.0			27.0	
Total Split (%)				42.7%	42.7%	42.7%	21.3%	57.3%			36.0%	
Maximum Green (s)				28.0	28.0	28.0	12.0	38.5			22.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	C-Max			C-Max	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				24.0	24.0	24.0	7.9	42.5			36.1	
Actuated g/C Ratio				0.32	0.32	0.32	0.11	0.57			0.48	
v/c Ratio				0.77	0.15	0.68	0.14	0.10			0.18	
Control Delay				32.5	17.3	5.7	29.0	3.9			13.4	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				32.5	17.3	5.7	29.0	3.9			13.4	
LOS				C	B	A	C	A			B	
Approach Delay					16.4			7.2			13.4	
Approach LOS					B			A			B	
Queue Length 50th (ft)				163	27	0	13	2			30	
Queue Length 95th (ft)				252	46	64	m28	m15			72	
Internal Link Dist (ft)		335			213			262			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				629	1271	1000	288	1732			2283	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.66	0.13	0.64	0.09	0.10			0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 16 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 49.7%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	28	731	172	107	175	212	62	323	129	299
Future Volume (vph)	28	731	172	107	175	212	62	323	129	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.997	0.850	0.850	0.909					
Flt Protected		0.998						0.950	0.950	
Satd. Flow (prot)	0	2427	1361	1615	4238	0	0	1770	1770	1681
Flt Permitted		0.998						0.950	0.950	
Satd. Flow (perm)	0	2427	1361	1615	4238	0	0	1770	1770	1681
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				116	39					
Link Speed (mph)		25			25					25
Link Distance (ft)		558			823					342
Travel Time (s)		15.2			22.4					9.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	25%	25%	8%	0%	21%	5%	5%	2%	2%	13%
Adj. Flow (vph)	30	795	187	116	190	230	67	351	140	325
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	844	168	116	487	0	0	351	140	325
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	31.0	31.0	31.0	31.0	23.5			9.5	9.5	23.5
Total Split (s)	31.0	31.0	31.0	31.0	24.0			20.0	20.0	44.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	32.0%			26.7%	26.7%	58.7%
Maximum Green (s)	27.0	27.0	27.0	27.0	19.5			16.5	16.5	39.5
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0			3.0	3.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0	4.5			3.5	3.5	4.5
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	C-Max			None	None	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	12.0					12.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		27.0	27.0	27.0	19.8			16.2	16.2	39.5
Actuated g/C Ratio		0.36	0.36	0.36	0.26			0.22	0.22	0.53
v/c Ratio		0.97	0.34	0.18	0.42			0.92	0.37	0.37
Control Delay		49.0	20.1	4.4	22.4			68.3	38.2	12.4
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.5
Total Delay		49.0	20.1	4.4	22.4			68.3	38.2	12.9
LOS		D	C	A	C			E	D	B
Approach Delay		40.1			22.4					41.1
Approach LOS		D			C					D
Queue Length 50th (ft)		236	61	0	63			164	61	68
Queue Length 95th (ft)		#383	115	31	93			#310	m111	117
Internal Link Dist (ft)		478			743					262
Turn Bay Length (ft)										
Base Capacity (vph)		873	489	655	1146			389	389	885
Starvation Cap Reductn		0	0	0	0			0	0	235
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.97	0.34	0.18	0.42			0.90	0.36	0.50

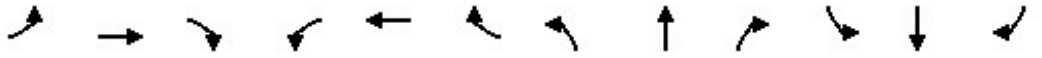
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 36.9		Intersection LOS: D	
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			

* User Entered Value

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Broadway & 5th St & Webster Tube



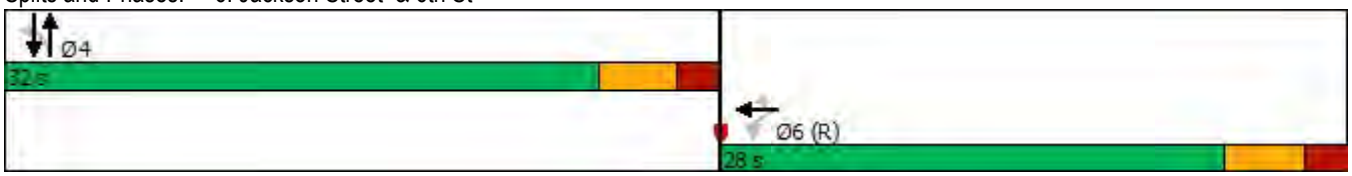
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	2	302	52	237	291	0	0	128	1610
Future Volume (vph)	0	0	0	2	302	52	237	291	0	0	128	1610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.925	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1776	1509	1752	1881	0	0	1629	1568
Flt Permitted				0.950			0.558					
Satd. Flow (perm)	0	0	0	1805	1776	1509	1029	1881	0	0	1629	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						57					108	440
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	7%	7%	3%	1%	0%	0%	2%	3%
Adj. Flow (vph)	0	0	0	2	328	57	258	316	0	0	139	1750
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	2	328	57	258	316	0	0	279	1610
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.00	0.49	0.09	0.57	0.38			0.36	1.03
Control Delay				12.0	17.5	4.6	16.5	12.0			8.1	34.8
Queue Delay				0.0	0.0	0.0	0.0	0.5			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				12.0	17.5	4.6	16.5	12.5			8.1	34.8
LOS				B	B	A	B	B			A	C
Approach Delay					15.6			14.3			30.9	
Approach LOS					B			B			C	
Queue Length 50th (ft)				1	88	0	54	63			38	~33
Queue Length 95th (ft)				4	154	19	m113	m128			86	#265
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	666	601	454	830			779	1568
Starvation Cap Reductn				0	0	0	0	220			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.00	0.49	0.09	0.57	0.52			0.36	1.03

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 21 (35%), Referenced to phase 2: and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 25.5 Intersection LOS: C
Intersection Capacity Utilization 82.6% ICU Level of Service E
Analysis Period (min) 15
* User Entered Value
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Jackson Street & 6th St

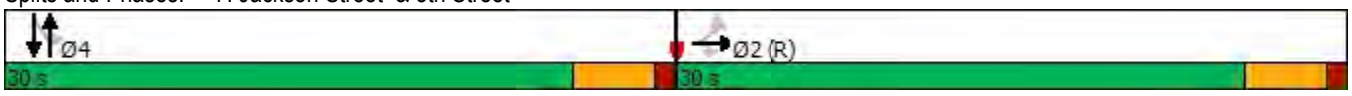


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	312	468	567	0	0	0	0	230	21	70	63	0
Future Volume (vph)	312	468	567	0	0	0	0	230	21	70	63	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.989				
Flt Protected		0.980									0.974	
Satd. Flow (prot)	0	3382	1568	0	0	0	0	1862	0	0	1578	0
Flt Permitted		0.980									0.737	
Satd. Flow (perm)	0	3382	1568	0	0	0	0	1862	0	0	1194	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			432					9				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	4%	5%	3%	0%	0%	0%	0%	0%	11%	5%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	371	557	675	0	0	0	0	274	25	83	75	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	928	675	0	0	0	0	299	0	0	158	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					26.5		26.5	26.5	
Total Split (s)	30.0	30.0	30.0					30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%					50.0%		50.0%	50.0%	
Maximum Green (s)	25.4	25.4	25.4					25.4		25.4	25.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		25.4	25.4					25.4			25.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.42	0.42					0.42			0.42	
v/c Ratio		0.65	0.74					0.38			0.31	
Control Delay		16.4	11.1					13.2			21.2	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		16.4	11.1					13.2			21.2	
LOS		B	B					B			C	
Approach Delay		14.1						13.2			21.2	
Approach LOS		B						B			C	
Queue Length 50th (ft)		133	57					68			53	
Queue Length 95th (ft)		171	139					110			99	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1431	912					793			505	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.65	0.74					0.38			0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 55 (92%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Jackson Street & 5th Street



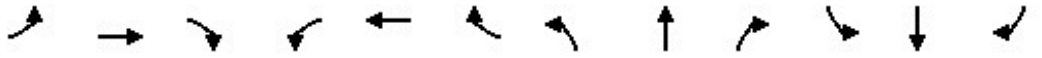
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	531	74	72	846	620	675
Future Volume (vph)	531	74	72	846	620	675
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3539	4940	2760
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3539	4940	2760
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	2%	5%	3%
Adj. Flow (vph)	648	90	88	1032	756	823
Shared Lane Traffic (%)						
Lane Group Flow (vph)	648	90	88	1032	756	823
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	22.5	22.5	10.0	37.5	27.5	
Total Split (%)	37.5%	37.5%	16.7%	62.5%	45.8%	
Maximum Green (s)	18.0	18.0	5.5	33.0	23.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	16.5	16.5	5.5	33.0	25.2	47.1
Actuated g/C Ratio	0.28	0.28	0.09	0.56	0.43	0.81
v/c Ratio	0.66	0.20	0.52	0.52	0.36	0.37
Control Delay	22.1	17.1	38.6	9.3	13.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	17.1	38.6	9.3	13.0	2.8
LOS	C	B	D	A	B	A
Approach Delay	21.5			11.6	7.7	
Approach LOS	C			B	A	
Queue Length 50th (ft)	102	24	31	112	70	39
Queue Length 95th (ft)	132	48	#66	136	87	50
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1078	497	169	1998	2126	2236
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.18	0.52	0.52	0.36	0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.5			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 11.9		Intersection LOS: B	
Intersection Capacity Utilization 46.0%		ICU Level of Service A	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Webster Street & Willie Stargell Ave

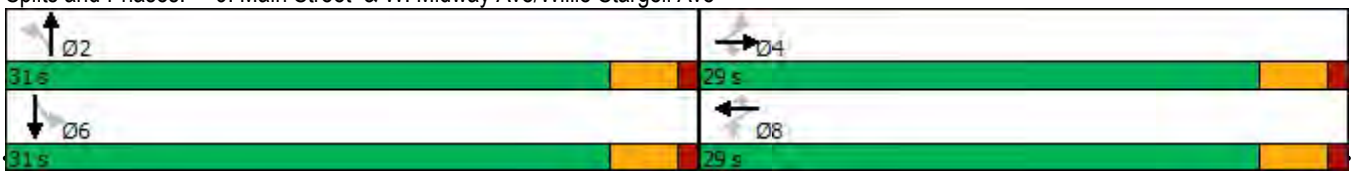


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	82	52	51	149	100	83	235	48	64	63	6
Future Volume (vph)	2	82	52	51	149	100	83	235	48	64	63	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.980			0.993	
Flt Protected		0.999			0.987			0.989			0.977	
Satd. Flow (prot)	0	1898	1292	0	1745	1615	0	3391	0	0	3406	0
Flt Permitted		0.991			0.897			0.853			0.733	
Satd. Flow (perm)	0	1883	1292	0	1586	1615	0	2925	0	0	2555	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			65			125		36			8	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	25%	0%	10%	0%	14%	0%	0%	0%	6%	0%
Adj. Flow (vph)	3	103	65	64	186	125	104	294	60	80	79	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	106	65	0	250	125	0	458	0	0	167	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0		31.0	31.0	
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		13.3	13.3		13.3	13.3		28.8			28.8	
Actuated g/C Ratio		0.27	0.27		0.27	0.27		0.57			0.57	
v/c Ratio		0.21	0.17		0.60	0.24		0.27			0.11	
Control Delay		14.1	5.1		21.6	4.4		6.3			6.0	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		14.1	5.1		21.6	4.4		6.3			6.0	
LOS		B	A		C	A		A			A	
Approach Delay		10.7			15.8			6.3			6.0	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		23	0		60	0		25			8	
Queue Length 95th (ft)		44	16		96	20		55			23	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		943	679		794	871		1697			1472	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.11	0.10		0.31	0.14		0.27			0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 50.1			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 41.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave

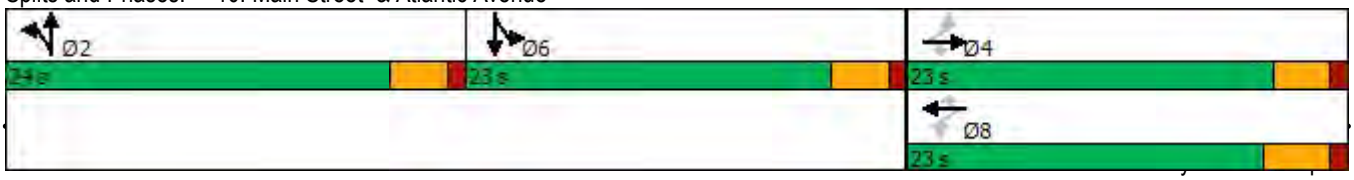


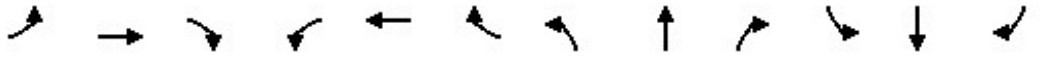
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	76	34	136	129	125	93	274	94	43	129	17
Future Volume (vph)	3	76	34	136	129	125	93	274	94	43	129	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.962			0.983	
Flt Protected		0.998			0.975		0.950			0.950	0.998	
Satd. Flow (prot)	0	2640	1077	0	3420	1568	1656	3447	0	1273	3361	0
Flt Permitted		0.941			0.777		0.950			0.950	0.998	
Satd. Flow (perm)	0	2489	1077	0	2725	1568	1656	3447	0	1273	3361	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78			156		68			18	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	38%	50%	0%	6%	3%	9%	1%	0%	29%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	4	95	43	170	161	156	116	343	118	54	161	21
Shared Lane Traffic (%)										11%		
Lane Group Flow (vph)	0	99	43	0	331	156	116	461	0	48	188	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		13.1	13.1		12.6	12.6	20.2	20.2		8.1	8.1	
Actuated g/C Ratio		0.24	0.24		0.24	0.24	0.38	0.38		0.15	0.15	
v/c Ratio		0.16	0.13		0.52	0.32	0.19	0.34		0.25	0.36	
Control Delay		16.4	2.7		20.8	5.5	14.1	12.0		24.8	21.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		16.4	2.7		20.8	5.5	14.1	12.0		24.8	21.2	
LOS		B	A		C	A	B	B		C	C	
Approach Delay		12.3			15.9			12.4			21.9	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)		12	0		47	0	24	44		15	26	
Queue Length 95th (ft)		25	6		72	26	57	79		40	50	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		892	436		951	648	624	1342		456	1216	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.11	0.10		0.35	0.24	0.19	0.34		0.11	0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 53.5			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 39.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Main Street & Atlantic Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	328	147	25	433	49	135	678	67	79	397	324
Future Volume (vph)	214	328	147	25	433	49	135	678	67	79	397	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.985			0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1524	1444	3432	0	1736	3471	0	1805	3406	1553
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1524	1444	3432	0	1736	3471	0	1805	3406	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238		14			14				168
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	2%	2%	6%	25%	4%	0%	4%	2%	8%	0%	6%	4%
Adj. Flow (vph)	268	410	184	31	541	61	169	848	84	99	496	405
Shared Lane Traffic (%)												
Lane Group Flow (vph)	268	410	184	31	602	0	169	932	0	99	496	405
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	14.0	26.0	26.0	11.0	23.0		16.0	31.0		10.0	25.0	14.0
Total Split (%)	17.9%	33.3%	33.3%	14.1%	29.5%		20.5%	39.7%		12.8%	32.1%	17.9%
Maximum Green (s)	9.0	21.0	21.0	6.0	18.0		11.0	26.0		5.0	20.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	8.8	26.3	26.3	5.9	16.8		10.4	26.0		5.0	20.6	34.5
Actuated g/C Ratio	0.11	0.34	0.34	0.08	0.22		0.14	0.34		0.07	0.27	0.45
v/c Ratio	0.68	0.34	0.27	0.28	0.79		0.72	0.79		0.85	0.54	0.51
Control Delay	42.6	20.9	2.5	40.8	36.0		50.9	28.6		89.5	27.2	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	42.6	20.9	2.5	40.8	36.0		50.9	28.6		89.5	27.2	11.6
LOS	D	C	A	D	D		D	C		F	C	B
Approach Delay		23.7			36.2			32.0			27.0	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	65	67	0	15	140		79	210		49	110	75
Queue Length 95th (ft)	91	111	11	36	170		#128	238		#113	137	121
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	403	1214	679	113	816		249	1186		117	916	793
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.67	0.34	0.27	0.27	0.74		0.68	0.79		0.85	0.54	0.51

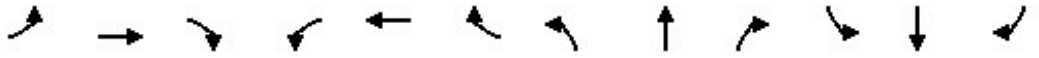
Intersection Summary

Area Type: Other
Cycle Length: 78
Actuated Cycle Length: 76.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 29.4 Intersection LOS: C
Intersection Capacity Utilization 61.6% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Webster Street & Atlantic Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	619	182	189	1643	0	0	0	0	379	15
Future Volume (vph)	0	0	619	182	189	1643	0	0	0	0	379	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.976							
Satd. Flow (prot)	0	0	2787	0	1818	2787	0	0	0	0	1863	1583
Flt Permitted					0.976							
Satd. Flow (perm)	0	0	2787	0	1818	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					66							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	673	198	205	1786	0	0	0	0	412	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	673	0	403	1786	0	0	0	0	412	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

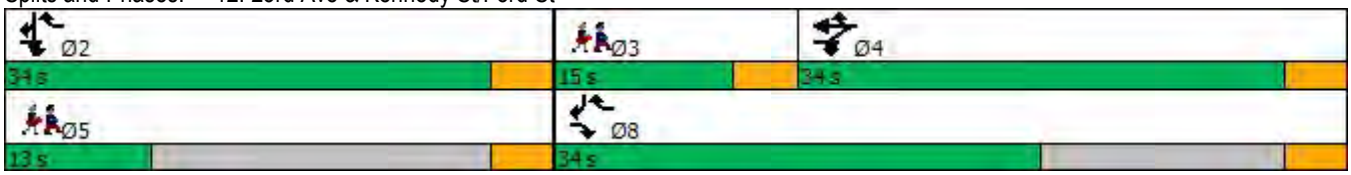
Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			67.5		30.0	67.5					29.5	67.5
Actuated g/C Ratio			1.00		0.44	1.00					0.44	1.00
v/c Ratio			0.24		0.48	0.64					0.51	0.01
Control Delay			0.2		13.3	1.1					16.4	0.0
Queue Delay			0.0		1.2	0.0					0.0	0.0
Total Delay			0.2		14.5	1.1					16.4	0.0
LOS			A		B	A					B	A
Approach Delay		0.2			3.6						15.8	
Approach LOS		A			A						B	
Queue Length 50th (ft)			0		93	0					117	0
Queue Length 95th (ft)			0		163	0					192	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2774		844	2774					827	1576
Starvation Cap Reductn			0		243	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.24		0.67	0.64					0.50	0.01

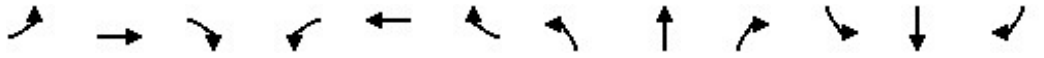
Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 67.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 4.5		Intersection LOS: A	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St



Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

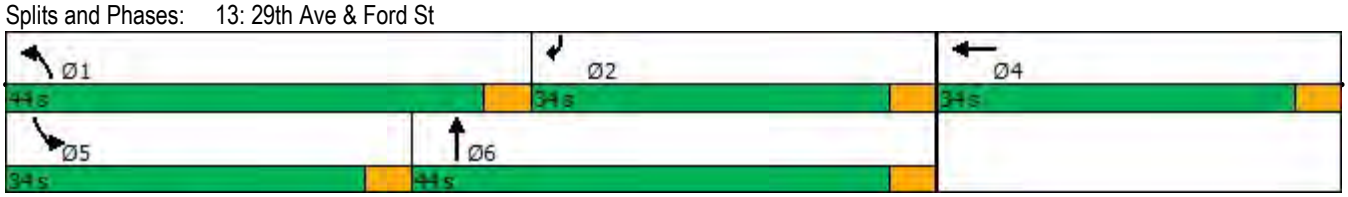


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	74	14	1690	932	13	53	0	254
Future Volume (vph)	0	0	0	0	74	14	1690	932	13	53	0	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.998				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1859	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1859	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				276
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	80	15	1837	1013	14	58	0	276
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	95	0	1837	1027	0	58	0	276
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

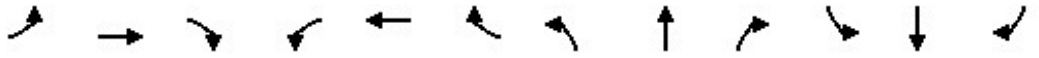
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					9.5		41.1	46.8		6.9		7.2
Actuated g/C Ratio					0.14		0.61	0.69		0.10		0.11
v/c Ratio					0.36		0.88	0.80		0.32		0.67
Control Delay					29.0		21.5	20.5		36.4		13.2
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					29.0		21.5	20.5		36.4		13.2
LOS					C		C	C		D		B
Approach Delay					29.0			21.1			17.2	
Approach LOS					C			C			B	
Queue Length 50th (ft)					33		285	323		22		0
Queue Length 95th (ft)					77		#769	#910		67		68
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					832		2079	1283		804		869
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.11		0.88	0.80		0.07		0.32

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 67.8			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 21.0		Intersection LOS: C	
Intersection Capacity Utilization 78.7%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	65	25	69	152	19	423	590	72	11	457	327
Future Volume (vph)	92	65	25	69	152	19	423	590	72	11	457	327
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.989			0.984			0.937	
Flt Protected		0.975			0.986		0.950			0.950		
Satd. Flow (prot)	0	1783	0	0	1816	0	1770	1833	0	1770	1745	0
Flt Permitted		0.556			0.818		0.079			0.392		
Satd. Flow (perm)	0	1017	0	0	1507	0	147	1833	0	730	1745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			4			11			50	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	71	27	75	165	21	460	641	78	12	497	355
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	198	0	0	261	0	460	719	0	12	852	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		



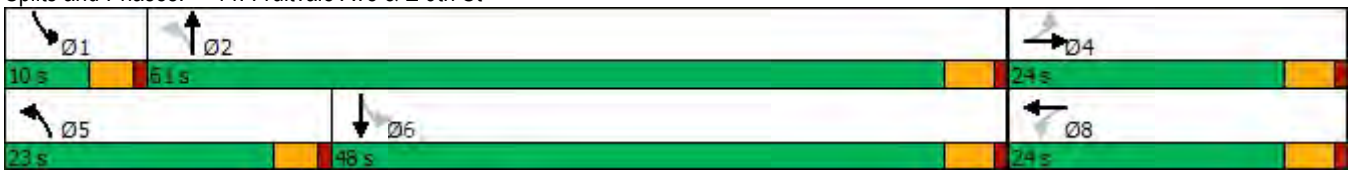
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		18.9			18.9		67.0	64.5		49.7	43.5	
Actuated g/C Ratio		0.20			0.20		0.71	0.68		0.53	0.46	
v/c Ratio		0.94			0.86		1.07	0.57		0.03	1.03	
Control Delay		87.3			62.9		91.3	10.8		5.9	63.4	
Queue Delay		0.0			0.0		15.3	44.7		0.0	0.0	
Total Delay		87.3			62.9		106.6	55.5		5.9	63.4	
LOS		F			E		F	E		A	E	
Approach Delay		87.3			62.9			75.4			62.6	
Approach LOS		F			E			E			E	
Queue Length 50th (ft)		114			150		~263	182		2	~538	
Queue Length 95th (ft)		#249			#287		#455	387		7	#772	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		216			314		431	1256		452	831	
Starvation Cap Reductn		0			0		116	591		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.92			0.83		1.46	1.08		0.03	1.03	

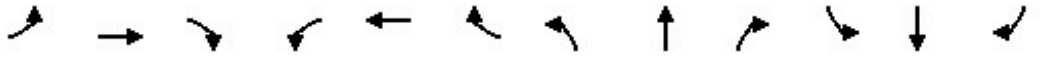
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 94.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 70.6		Intersection LOS: E	
Intersection Capacity Utilization 95.7%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St





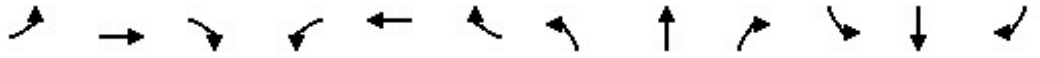
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	52	159	14	0	82	0	856	14	85	483	0
Future Volume (vph)	126	52	159	14	0	82	0	856	14	85	483	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.884			0.998				
Flt Protected		0.966			0.993					0.950		
Satd. Flow (prot)	0	1799	1583	0	1635	0	0	3532	0	1770	1863	0
Flt Permitted		0.782			0.942					0.179		
Satd. Flow (perm)	0	1457	1583	0	1551	0	0	3532	0	333	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173		89			2				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	57	173	15	0	89	0	930	15	92	525	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	194	173	0	104	0	0	945	0	92	525	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		13.9	13.9		12.8			24.0		32.8	32.2	
Actuated g/C Ratio		0.25	0.25		0.23			0.44		0.60	0.59	
v/c Ratio		0.53	0.33		0.24			0.61		0.24	0.48	
Control Delay		25.5	5.7		8.2			15.2		6.6	8.4	
Queue Delay		0.0	0.0		0.0			0.0		0.0	0.3	
Total Delay		25.5	5.7		8.2			15.2		6.6	8.7	
LOS		C	A		A			B		A	A	
Approach Delay		16.2			8.2			15.2			8.4	
Approach LOS		B			A			B			A	
Queue Length 50th (ft)		57	0		4			124		10	80	
Queue Length 95th (ft)		126	40		38			231		32	186	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		957	1099		1029			2070		755	1680	
Starvation Cap Reductn		0	0		0			0		95	567	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.20	0.16		0.10			0.46		0.14	0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 54.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 13.0		Intersection LOS: B	
Intersection Capacity Utilization 55.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	381	287	170	372	491	89	12	591	142
Future Volume (vph)	0	0	0	381	287	170	372	491	89	12	591	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.970			0.977			0.971	
Flt Protected					0.978		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3358	0	1770	3458	0	0	3433	0
Flt Permitted					0.978		0.950				0.940	
Satd. Flow (perm)	0	0	0	0	3358	0	1770	3458	0	0	3230	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					44			39			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	414	312	185	404	534	97	13	642	154
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	911	0	404	631	0	0	809	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	



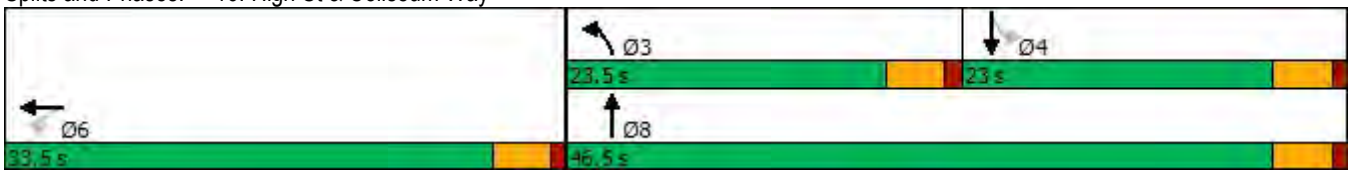
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		23.5	46.5		23.0	23.0	
Total Split (%)				41.9%	41.9%		29.4%	58.1%		28.8%	28.8%	
Maximum Green (s)				29.0	29.0		19.0	42.0		18.5	18.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		19.0	42.0			18.5	
Actuated g/C Ratio					0.36		0.24	0.52			0.23	
v/c Ratio					0.73		0.96	0.34			1.05	
Control Delay					25.2		68.1	10.9			76.5	
Queue Delay					0.0		41.9	1.3			0.0	
Total Delay					25.2		110.0	12.2			76.5	
LOS					C		F	B			E	
Approach Delay					25.2			50.4			76.5	
Approach LOS					C			D			E	
Queue Length 50th (ft)					194		200	83			~228	
Queue Length 95th (ft)					264		#373	117			#343	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1245		420	1833			772	
Starvation Cap Reductn					0		78	943			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.73		1.18	0.71			1.05	

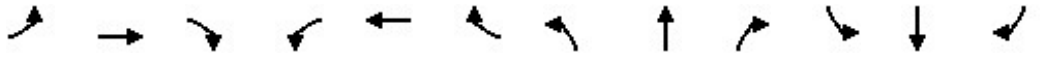
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 49.7		Intersection LOS: D	
Intersection Capacity Utilization 77.5%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

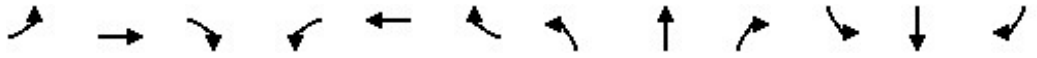
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	485	209	57	0	194	0	562	317	234	756	0
Future Volume (vph)	128	485	209	57	0	194	0	562	317	234	756	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.946				
Flt Protected		0.990		0.950						0.950		
Satd. Flow (prot)	0	3504	1583	1770	0	1583	0	3348	0	1770	3539	0
Flt Permitted		0.990		0.247						0.950		
Satd. Flow (perm)	0	3504	1583	460	0	1583	0	3348	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						211		144				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	139	527	227	62	0	211	0	611	345	254	822	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	666	227	62	0	211	0	956	0	254	822	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	29.0	29.0	29.0	29.0		29.0		30.0		21.0	51.0	
Total Split (%)	36.3%	36.3%	36.3%	36.3%		36.3%		37.5%		26.3%	63.8%	
Maximum Green (s)	25.0	25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Actuated g/C Ratio		0.31	0.31	0.31		0.31		0.32		0.21	0.58	
v/c Ratio		0.61	0.46	0.44		0.33		0.82		0.70	0.40	
Control Delay		26.2	25.8	34.3		4.9		28.4		41.1	9.9	
Queue Delay		0.0	0.0	0.0		0.0		0.0		2.4	2.3	
Total Delay		26.2	25.8	34.3		4.9		28.4		43.5	12.2	
LOS		C	C	C		A		C		D	B	
Approach Delay		26.1			11.6			28.4			19.6	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)		147	90	25		0		197		118	107	
Queue Length 95th (ft)		203	155	65		46		#274		#216	145	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1095	494	140		631		1165		365	2057	
Starvation Cap Reductn		0	0	0		0		0		41	1063	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.61	0.46	0.44		0.33		0.82		0.78	0.83	

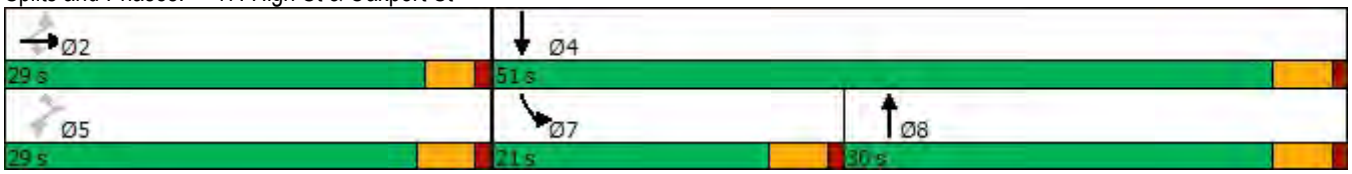
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 23.3		Intersection LOS: C	
Intersection Capacity Utilization 73.3%		ICU Level of Service D	

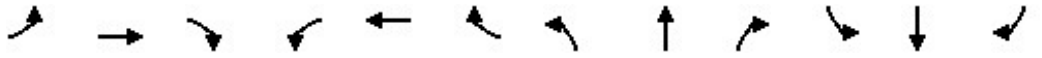
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

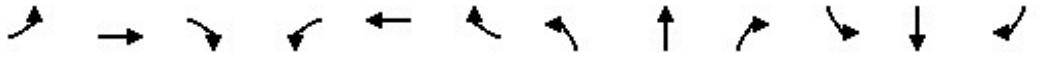
Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	296	18	8	13	93	327	0	1387	8	5	681	201
Future Volume (vph)	296	18	8	13	93	327	0	1387	8	5	681	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.953				0.850		0.999			0.966	
Flt Protected	0.950				0.994							
Satd. Flow (prot)	1770	1775	0	0	1852	1583	0	3536	0	0	3419	0
Flt Permitted	0.683				0.973						0.947	
Satd. Flow (perm)	1272	1775	0	0	1812	1583	0	3536	0	0	3238	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9						1			99	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	322	20	9	14	101	355	0	1508	9	5	740	218
Shared Lane Traffic (%)												
Lane Group Flow (vph)	322	29	0	0	115	355	0	1517	0	0	963	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		

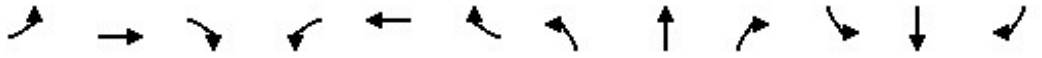


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	17.3	17.3			17.3	17.3		32.6			32.6	
Actuated g/C Ratio	0.29	0.29			0.29	0.29		0.55			0.55	
v/c Ratio	0.86	0.05			0.22	0.76		0.78			0.53	
Control Delay	44.6	12.0			16.7	31.7		14.1			8.8	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	44.6	12.0			16.7	31.7		14.1			8.8	
LOS	D	B			B	C		B			A	
Approach Delay		41.9			28.0			14.1			8.8	
Approach LOS		D			C			B			A	
Queue Length 50th (ft)	106	5			30	113		208			93	
Queue Length 95th (ft)	#234	20			64	#227		292			138	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	400	564			570	498		1955			1834	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.81	0.05			0.20	0.71		0.78			0.53	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.9			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 86.5%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 18: Park St & Blanding Ave

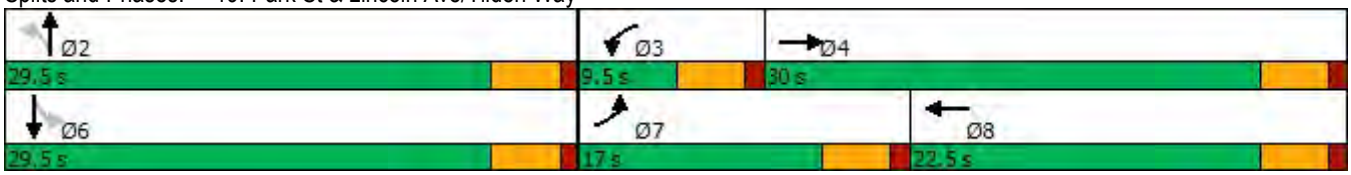
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	244	25	12	263	88	44	639	44	14	455	85
Future Volume (vph)	189	244	25	12	263	88	44	639	44	14	455	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.986			0.962			0.991			0.977	
Flt Protected	0.950			0.950				0.997			0.999	
Satd. Flow (prot)	1770	3490	0	1770	3405	0	0	3497	0	0	3454	0
Flt Permitted	0.950			0.950				0.886			0.930	
Satd. Flow (perm)	1770	3490	0	1770	3405	0	0	3108	0	0	3216	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			65			11			33	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	205	265	27	13	286	96	48	695	48	15	495	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	205	292	0	13	382	0	0	791	0	0	602	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		



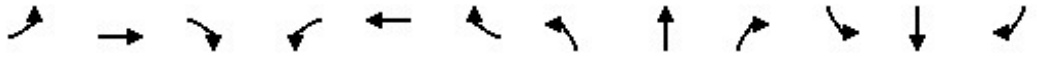
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	11.0	25.2		5.0	11.3			25.1			25.1	
Actuated g/C Ratio	0.18	0.41		0.08	0.18			0.41			0.41	
v/c Ratio	0.64	0.20		0.09	0.56			0.62			0.45	
Control Delay	34.1	11.7		29.7	22.0			17.4			14.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	34.1	11.7		29.7	22.0			17.4			14.4	
LOS	C	B		C	C			B			B	
Approach Delay		20.9			22.3			17.4			14.4	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	70	30		5	57			118			78	
Queue Length 95th (ft)	#146	67		20	94			195			134	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	364	1558		145	1055			1285			1343	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.56	0.19		0.09	0.36			0.62			0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 61.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



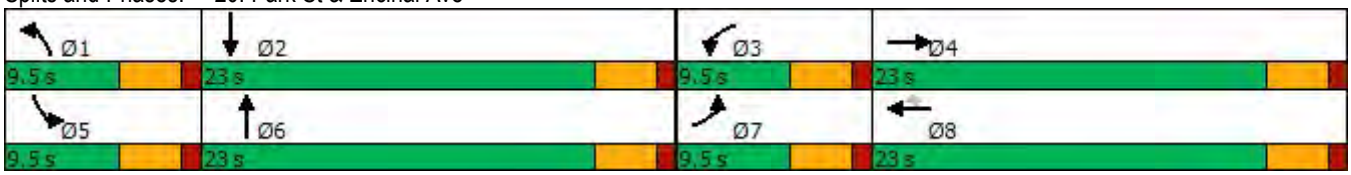
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	321	43	45	430	79	81	288	25	54	227	52
Future Volume (vph)	79	321	43	45	430	79	81	288	25	54	227	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.982				0.850		0.988			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3476	0	1770	1863	1583	1770	3497	0	1770	3440	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3476	0	1770	1863	1583	1770	3497	0	1770	3440	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				151		14			43	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	349	47	49	467	86	88	313	27	59	247	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	396	0	49	467	86	88	340	0	59	304	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



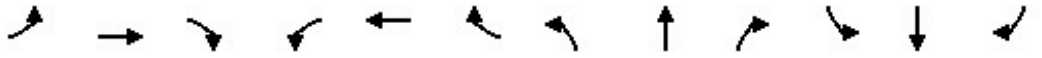
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.7	19.4		5.7	17.7	17.7	5.7	21.5		5.7	19.8	
Actuated g/C Ratio	0.10	0.32		0.10	0.30	0.30	0.10	0.36		0.10	0.33	
v/c Ratio	0.51	0.35		0.29	0.85	0.15	0.52	0.27		0.35	0.26	
Control Delay	41.5	16.8		32.9	38.4	1.4	42.2	16.3		34.4	15.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	41.5	16.8		32.9	38.4	1.4	42.2	16.3		34.4	15.5	
LOS	D	B		C	D	A	D	B		C	B	
Approach Delay		21.2			32.7			21.6			18.6	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)	34	61		19	173	0	34	52		23	41	
Queue Length 95th (ft)	#89	96		49	#328	8	#92	84		56	70	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	169	1267		169	616	624	169	1269		169	1167	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.51	0.31		0.29	0.76	0.14	0.52	0.27		0.35	0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 59.8			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 24.5		Intersection LOS: C	
Intersection Capacity Utilization 53.3%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



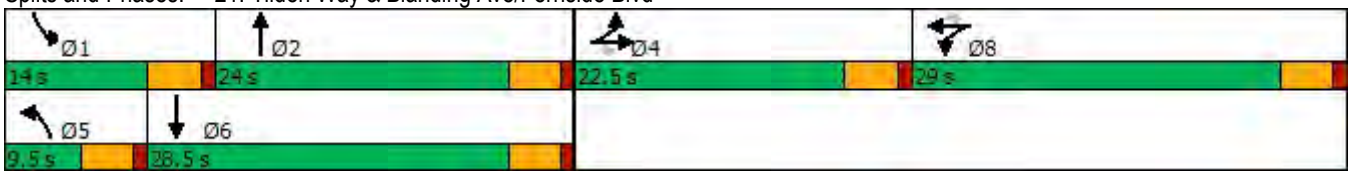
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	87	14	56	366	435	13	440	66	141	576	208
Future Volume (vph)	96	87	14	56	366	435	13	440	66	141	576	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.980			0.960	
Flt Protected		0.975			0.993		0.950			0.950		
Satd. Flow (prot)	0	1816	1583	0	1850	1583	1770	3468	0	1770	3398	0
Flt Permitted		0.975			0.993		0.950			0.950		
Satd. Flow (perm)	0	1816	1583	0	1850	1583	1770	3468	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			393		17			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	95	15	61	398	473	14	478	72	153	626	226
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	199	15	0	459	473	14	550	0	153	852	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



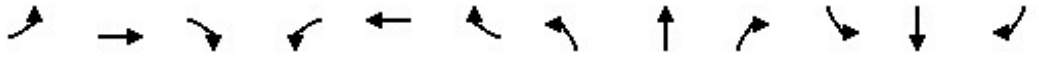
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		13.8	13.8		23.4	23.4	5.1	17.2		9.4	29.5	
Actuated g/C Ratio		0.17	0.17		0.29	0.29	0.06	0.21		0.11	0.36	
v/c Ratio		0.65	0.04		0.87	0.65	0.13	0.74		0.75	0.68	
Control Delay		43.3	0.2		48.3	10.3	42.5	36.8		62.2	25.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		43.3	0.2		48.3	10.3	42.5	36.8		62.2	25.9	
LOS		D	A		D	B	D	D		E	C	
Approach Delay		40.3			29.0			37.0			31.4	
Approach LOS		D			C			D			C	
Queue Length 50th (ft)		101	0		234	32	7	140		82	179	
Queue Length 95th (ft)		171	0		#430	134	27	205		#190	#341	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		403	450		558	752	109	846		207	1255	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.49	0.03		0.82	0.63	0.13	0.65		0.74	0.68	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 82.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 32.4		Intersection LOS: C	
Intersection Capacity Utilization 74.0%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



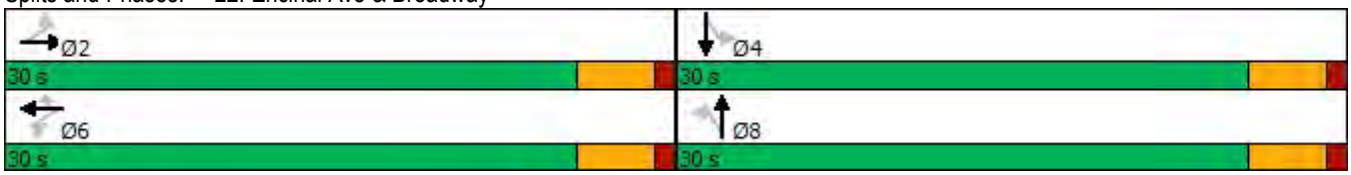
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	277	89	28	343	74	175	451	20	36	376	27
Future Volume (vph)	86	277	89	28	343	74	175	451	20	36	376	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970				0.850		0.994			0.990	
Flt Protected		0.991			0.996		0.950			0.950		
Satd. Flow (prot)	0	3402	0	0	1855	1636	1770	1852	0	1770	1844	0
Flt Permitted		0.716			0.940		0.430			0.365		
Satd. Flow (perm)	0	2458	0	0	1751	1636	801	1852	0	680	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		63				80		5			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	301	97	30	373	80	190	490	22	39	409	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	491	0	0	403	80	190	512	0	39	438	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



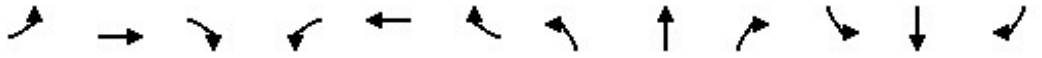
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		17.3			17.3	17.3	25.8	25.8		25.8	25.8	
Actuated g/C Ratio		0.33			0.33	0.33	0.49	0.49		0.49	0.49	
v/c Ratio		0.57			0.69	0.13	0.48	0.56		0.12	0.48	
Control Delay		14.8			21.6	3.8	16.1	13.6		10.5	12.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		14.8			21.6	3.8	16.1	13.6		10.5	12.3	
LOS		B			C	A	B	B		B	B	
Approach Delay		14.8			18.7			14.3			12.1	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		54			104	0	35	99		6	80	
Queue Length 95th (ft)		90			178	20	111	231		25	190	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1246			865	848	395	917		336	914	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.39			0.47	0.09	0.48	0.56		0.12	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.2			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 78.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	691	6	98	799	702	4	104	167	277	63	81
Future Volume (vph)	61	691	6	98	799	702	4	104	167	277	63	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.918				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3536	0	1770	1863	1583	0	1708	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.998		0.450		
Satd. Flow (perm)	1770	3536	0	1770	1863	1583	0	1707	0	838	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				625		103				143
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			2981			502			2170	
Travel Time (s)		9.3			81.3			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	751	7	107	868	763	4	113	182	301	68	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	758	0	107	868	763	0	299	0	301	68	88
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



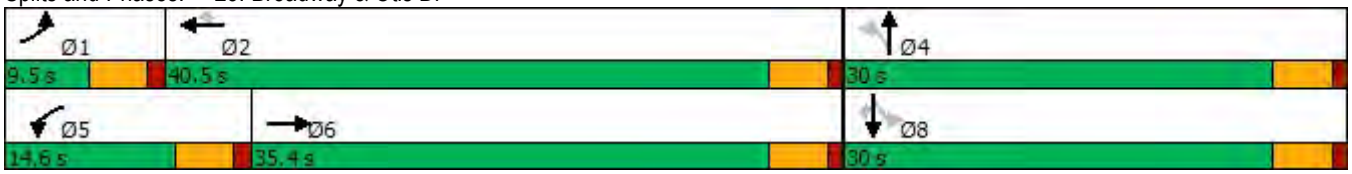
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	32.4		8.9	36.1	36.1		25.6		25.6	25.6	25.6
Actuated g/C Ratio	0.06	0.41		0.11	0.46	0.46		0.33		0.33	0.33	0.33
v/c Ratio	0.58	0.52		0.53	1.01	0.71		0.48		1.10	0.11	0.14
Control Delay	59.0	19.5		43.0	56.9	7.7		16.9		113.0	20.0	1.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	59.0	19.5		43.0	56.9	7.7		16.9		113.0	20.0	1.6
LOS	E	B		D	E	A		B		F	B	A
Approach Delay		22.7			34.5			16.9			77.7	
Approach LOS		C			C			B			E	
Queue Length 50th (ft)	33	151		51	~474	40		75		~177	24	0
Queue Length 95th (ft)	#90	206		100	#692	160		148		#327	52	10
Internal Link Dist (ft)		261			2901			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	113	1468		229	861	1068		628		274	609	614
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.58	0.52		0.47	1.01	0.71		0.48		1.10	0.11	0.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 78.1			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 35.9		Intersection LOS: D	
Intersection Capacity Utilization 92.5%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

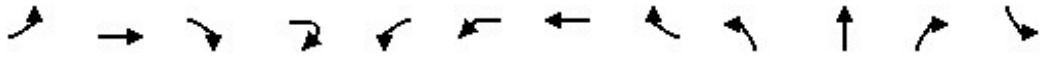
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	102	148	36	2	5	3	379	314	73	379	3	218
Future Volume (vph)	102	148	36	2	5	3	379	314	73	379	3	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.999			0.992		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1861	1583	0	1846	0	1770
Flt Permitted	0.206						0.995			0.857		0.950
Satd. Flow (perm)	384	1863	1583	0	0	0	1853	1583	0	1595	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								341				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	161	39	2	5	3	412	341	79	412	3	237
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	161	41	0	0	0	420	341	0	494	0	237
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

Lane Group	SBT	SBR	SBR2	NEL	NER	NER2
Lane Configurations						
Traffic Volume (vph)	396	85	68	121	4	4
Future Volume (vph)	396	85	68	121	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	50	
Storage Lanes		1		1	1	
Taper Length (ft)				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.996		0.850
Flt Protected				0.954		
Satd. Flow (prot)	1863	1583	0	1770	0	1583
Flt Permitted				0.954		
Satd. Flow (perm)	1863	1583	0	1770	0	1583
Right Turn on Red			No			Yes
Satd. Flow (RTOR)						88
Link Speed (mph)	25			25		
Link Distance (ft)	1133			459		
Travel Time (s)	30.9			12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	430	92	74	132	4	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	430	166	0	136	0	4
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Right	Right
Median Width(ft)	12			12		
Link Offset(ft)	0			0		
Crosswalk Width(ft)	16			16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	9	9
Number of Detectors	2	1		1		1
Detector Template	Thru	Right		Left		Right
Leading Detector (ft)	100	20		20		20
Trailing Detector (ft)	0	0		0		0
Detector 1 Position(ft)	0	0		0		0
Detector 1 Size(ft)	6	20		20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0		0.0
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA	Perm		Prot		Perm
Protected Phases	4			9		
Permitted Phases		4				9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	42.0	42.0	42.0		42.0	42.0	42.0	42.0	43.0	43.0		22.5
Total Split (%)	32.3%	32.3%	32.3%		32.3%	32.3%	32.3%	32.3%	33.1%	33.1%		17.3%
Maximum Green (s)	37.5	37.5	37.5		37.5	37.5	37.5	37.5	38.5	38.5		18.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.5	37.5	37.5				37.5	37.5		38.5		18.0
Actuated g/C Ratio	0.30	0.30	0.30				0.30	0.30		0.30		0.14
v/c Ratio	0.98	0.29	0.09				0.77	0.48		1.02		0.94
Control Delay	125.2	36.7	34.0				51.5	6.0		89.3		97.8
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	125.2	36.7	34.0				51.5	6.0		89.3		97.8
LOS	F	D	C				D	A		F		F
Approach Delay		67.7					31.1			89.3		
Approach LOS		E					C			F		
Queue Length 50th (ft)	91	102	24				315	0		~431		196
Queue Length 95th (ft)	#222	169	55				#458	72		#667		#368
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	113	552	469				549	709		485		252
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.98	0.29	0.09				0.77	0.48		1.02		0.94

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 126.5			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 53.4		Intersection LOS: D	
Intersection Capacity Utilization 98.9%		ICU Level of Service F	
Analysis Period (min) 15			

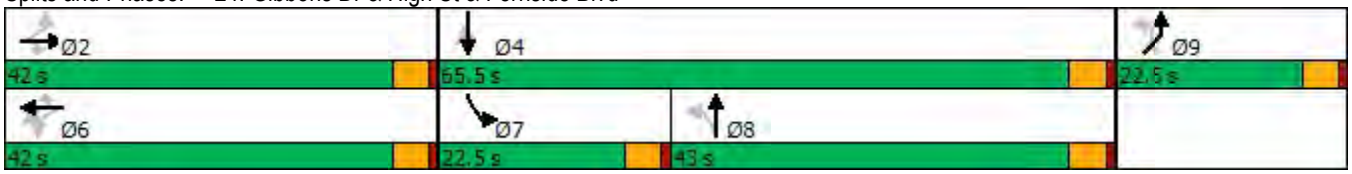
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

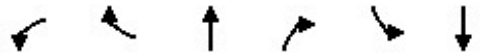
Lane Group	SBT	SBR	SBR2	NEL	NER	NER2
Detector Phase	4	4		9		9
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0		5.0
Minimum Split (s)	22.5	22.5		22.5		22.5
Total Split (s)	65.5	65.5		22.5		22.5
Total Split (%)	50.4%	50.4%		17.3%		17.3%
Maximum Green (s)	61.0	61.0		18.0		18.0
Yellow Time (s)	3.5	3.5		3.5		3.5
All-Red Time (s)	1.0	1.0		1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5		4.5		4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0		3.0
Recall Mode	None	None		None		None
Walk Time (s)	7.0	7.0		7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0		0		0
Act Effct Green (s)	61.0	61.0		14.4		14.4
Actuated g/C Ratio	0.48	0.48		0.11		0.11
v/c Ratio	0.48	0.22		0.68		0.02
Control Delay	24.7	20.5		70.6		0.0
Queue Delay	0.0	0.0		0.0		0.0
Total Delay	24.7	20.5		70.6		0.0
LOS	C	C		E		A
Approach Delay	44.7			68.6		
Approach LOS	D			E		
Queue Length 50th (ft)	233	77		109		0
Queue Length 95th (ft)	341	130		178		0
Internal Link Dist (ft)	1053			379		
Turn Bay Length (ft)						50
Base Capacity (vph)	899	763		252		300
Starvation Cap Reductn	0	0		0		0
Spillback Cap Reductn	0	0		0		0
Storage Cap Reductn	0	0		0		0
Reduced v/c Ratio	0.48	0.22		0.54		0.01

Intersection Summary

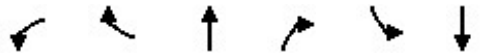
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd





Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	686	31	1673	996	67	1343
Future Volume (vph)	686	31	1673	996	67	1343
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.993			0.850		
Flt Protected	0.954				0.950	
Satd. Flow (prot)	3423	0	3539	1583	1770	3539
Flt Permitted	0.954				0.950	
Satd. Flow (perm)	3423	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	4			152		
Link Speed (mph)	25		35			35
Link Distance (ft)	479		1340			2981
Travel Time (s)	13.1		26.1			58.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	746	34	1818	1083	73	1460
Shared Lane Traffic (%)						
Lane Group Flow (vph)	780	0	1818	1083	73	1460
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		



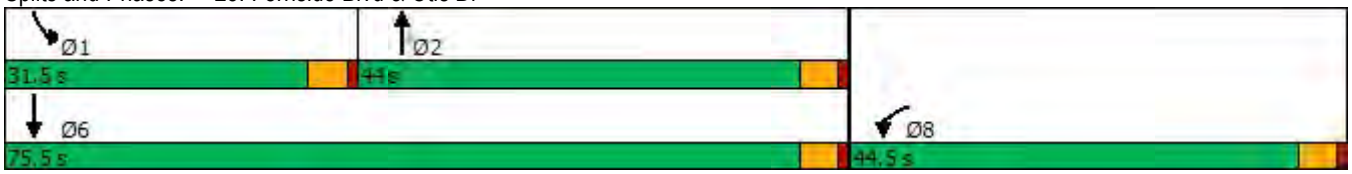
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	44.5		44.0	44.0	31.5	75.5
Total Split (%)	37.1%		36.7%	36.7%	26.3%	62.9%
Maximum Green (s)	40.0		39.5	39.5	27.0	71.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	30.3		59.0	59.0	9.9	71.2
Actuated g/C Ratio	0.27		0.53	0.53	0.09	0.64
v/c Ratio	0.83		0.96	1.18	0.46	0.64
Control Delay	45.6		40.8	117.2	57.9	14.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	45.6		40.8	117.2	57.9	14.4
LOS	D		D	F	E	B
Approach Delay	45.6		69.3			16.5
Approach LOS	D		E			B
Queue Length 50th (ft)	265		~664	~899	50	306
Queue Length 95th (ft)	336		#1017	#1309	100	464
Internal Link Dist (ft)	399		1260			2901
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	1244		1890	916	433	2279
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.63		0.96	1.18	0.17	0.64

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 110.5			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 50.3		Intersection LOS: D	
Intersection Capacity Utilization 82.2%		ICU Level of Service E	
Analysis Period (min) 15			

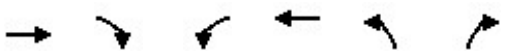
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Fernside Blvd & Otis Dr



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	979	1075	124	1074	1634	128
Future Volume (vph)	979	1075	124	1074	1634	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		250				50
Link Speed (mph)	25			25	25	
Link Distance (ft)	1340			365	455	
Travel Time (s)	36.5			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1064	1168	135	1167	1776	139
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1064	1168	135	1167	1776	139
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

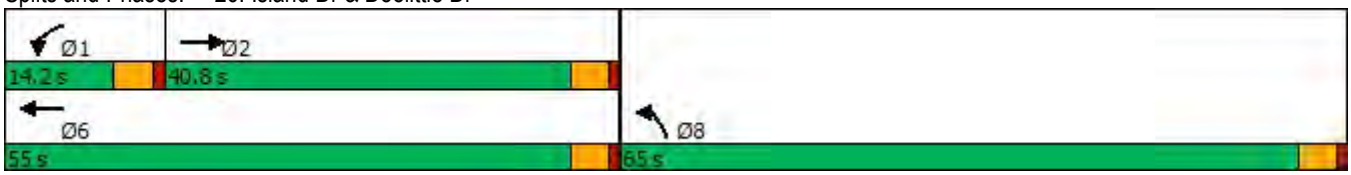


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.3	120.0	9.7	50.5	60.5	120.0
Actuated g/C Ratio	0.30	1.00	0.08	0.42	0.50	1.00
v/c Ratio	0.99	0.74	0.94	0.78	1.03	0.09
Control Delay	68.2	3.1	117.0	34.6	58.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	3.1	117.0	34.6	58.7	0.1
LOS	E	A	F	C	E	A
Approach Delay	34.1			43.2	54.4	
Approach LOS	C			D	D	
Queue Length 50th (ft)	432	0	106	404	~756	0
Queue Length 95th (ft)	#582	0	#233	493	#892	0
Internal Link Dist (ft)	1260			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1070	1583	143	1489	1730	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.74	0.94	0.78	1.03	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 43.4		Intersection LOS: D	
Intersection Capacity Utilization 91.8%		ICU Level of Service F	
Analysis Period (min) 15			

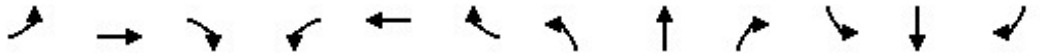
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 26: Island Dr & Doolittle Dr



2025 No Action Condition

PM Peak Hour



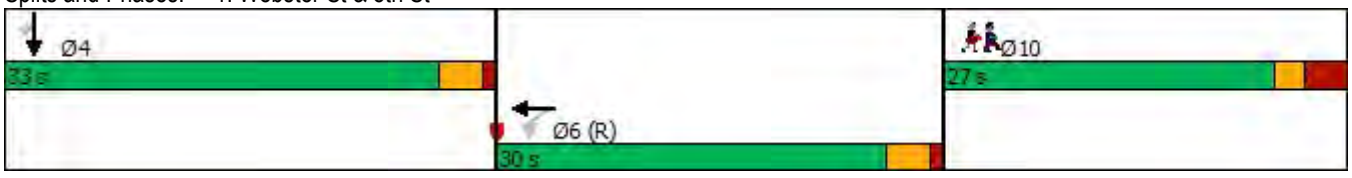
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	401	454	0	0	0	0	0	948	287
Future Volume (vph)	0	0	0	401	454	0	0	0	0	0	948	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.996	0.850
Flt Protected				0.950	0.986							
Satd. Flow (prot)	0	0	0	1332	4541	0	0	0	0	0	4633	1203
Flt Permitted				0.950	0.986							
Satd. Flow (perm)	0	0	0	1332	4541	0	0	0	0	0	4633	1203
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				228	118						5	278
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	431	488	0	0	0	0	0	1019	309
Shared Lane Traffic (%)				47%								10%
Lane Group Flow (vph)	0	0	0	228	691	0	0	0	0	0	1050	278
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	25.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				32.8	32.8						30.0	30.0
Actuated g/C Ratio				0.36	0.36						0.33	0.33
v/c Ratio				0.36	0.40						0.68	0.48
Control Delay				5.4	20.4						28.0	5.7
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				5.4	20.4						28.0	5.7
LOS				A	C						C	A
Approach Delay					16.7						23.3	
Approach LOS					B						C	
Queue Length 50th (ft)				0	103						189	0
Queue Length 95th (ft)				61	142						237	61
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				630	1730						1592	595
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.36	0.40						0.66	0.47

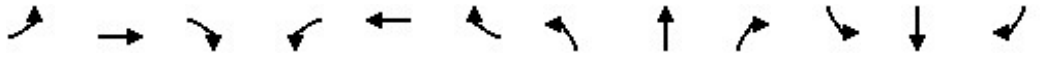
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 39.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St



Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



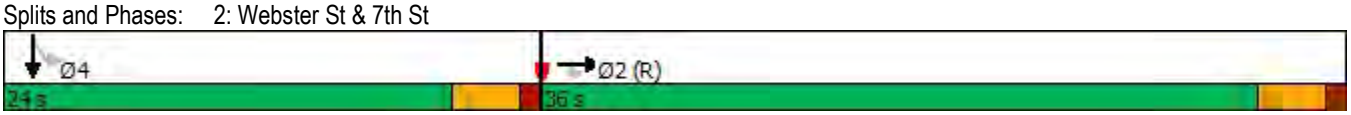
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	959	1041	0	0	0	0	0	0	249	1083	0
Future Volume (vph)	0	959	1041	0	0	0	0	0	0	249	1083	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.947	0.850									
Flt Protected											0.991	
Satd. Flow (prot)	0	4311	1375	0	0	0	0	0	0	0	4883	0
Flt Permitted											0.991	
Satd. Flow (perm)	0	4311	1375	0	0	0	0	0	0	0	4883	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		7	18								74	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			383			184			292	
Travel Time (s)		9.3			10.4			5.0			8.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	1078	1170	0	0	0	0	0	0	280	1217	0
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1663	585	0	0	0	0	0	0	0	1497	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		36.0	36.0							24.0	24.0	
Total Split (s)		36.0	36.0							24.0	24.0	
Total Split (%)		60.0%	60.0%							40.0%	40.0%	

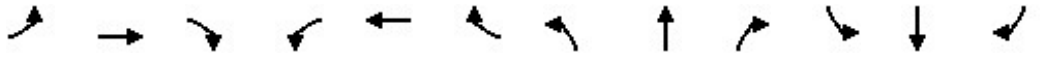
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		32.0	32.0							20.0	20.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		22.0	22.0							8.0	8.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		32.0	32.0								20.0	
Actuated g/C Ratio		0.53	0.53								0.33	
v/c Ratio		0.72	0.79								0.89	
Control Delay		12.9	21.2								26.8	
Queue Delay		0.0	0.0								4.1	
Total Delay		12.9	21.2								31.0	
LOS		B	C								C	
Approach Delay		15.0									31.0	
Approach LOS		B									C	
Queue Length 50th (ft)		159	173								176	
Queue Length 95th (ft)		208	#381								#259	
Internal Link Dist (ft)		260			303			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2302	741								1677	
Starvation Cap Reductn		0	0								125	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.72	0.79								0.96	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 9.5 (16%), Referenced to phase 2:EBT and 6:, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 21.4 Intersection LOS: C
Intersection Capacity Utilization 75.6% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

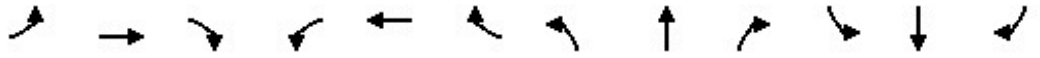
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	1094	0	0	0	0	0	732	1476	0	0	0
Future Volume (vph)	121	1094	0	0	0	0	0	732	1476	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.995										
Satd. Flow (prot)	0	4751	0	0	0	0	0	5136	2718	0	0	0
Flt Permitted		0.995										
Satd. Flow (perm)	0	4751	0	0	0	0	0	5136	2718	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47							47			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		383			364			367			319	
Travel Time (s)		10.4			9.9			10.0			8.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	3%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	133	1202	0	0	0	0	0	804	1622	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1335	0	0	0	0	0	804	1622	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								37.0				
Total Split (%)								61.7%				
Maximum Green (s)								31.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		17.4						31.4	31.4			
Actuated g/C Ratio		0.29						0.52	0.52			
v/c Ratio		0.95						0.30	1.12			
Control Delay		39.2						8.5	82.8			
Queue Delay		0.0						0.0	0.0			
Total Delay		39.2						8.5	82.8			
LOS		D						A	F			
Approach Delay		39.2						58.2				
Approach LOS		D						E				
Queue Length 50th (ft)		168						54	~409			
Queue Length 95th (ft)		m#243						75	#551			
Internal Link Dist (ft)		303			284			287			239	
Turn Bay Length (ft)												
Base Capacity (vph)		1411						2687	1444			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.95						0.30	1.12			

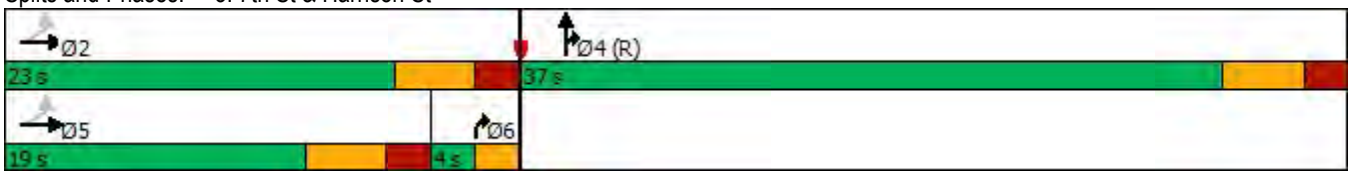
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 22.5 (38%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.12			
Intersection Signal Delay: 51.4		Intersection LOS: D	
Intersection Capacity Utilization 84.6%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
~ Volume exceeds capacity, queue is theoretically infinite.			

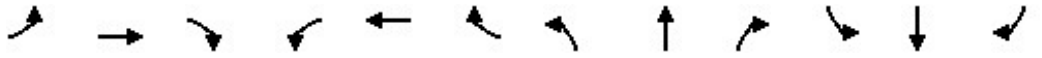
Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	3.0
Total Split (s)	23.0	19.0	4.0
Total Split (%)	38%	32%	7%
Maximum Green (s)	17.4	13.4	2.0
Yellow Time (s)	3.6	3.6	2.0
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
! Phase conflict between lane groups.

Splits and Phases: 3: 7th St & Harrison St



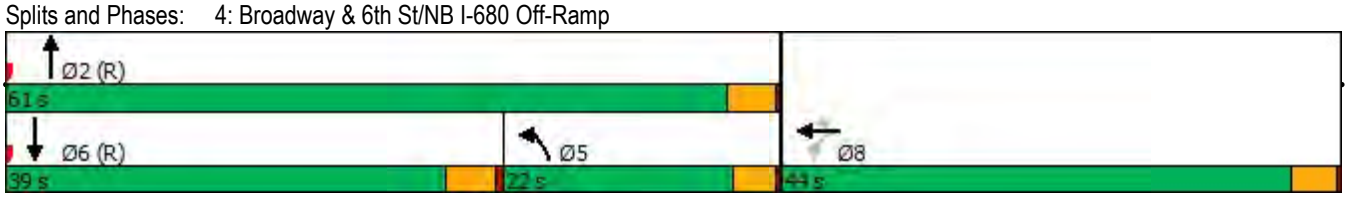


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	419	108	562	38	315	0	0	543	30
Future Volume (vph)	0	0	0	419	108	562	38	315	0	0	543	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.992	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	3610	1599	1805	3406	0	0	5003	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1805	3610	1599	1805	3406	0	0	5003	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						490					9	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			312			469	
Travel Time (s)		11.3			8.0			8.5			12.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	6%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	20
Adj. Flow (vph)	0	0	0	446	115	598	40	335	0	0	578	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	446	115	598	40	335	0	0	610	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.0	31.0	31.0	9.5	23.5			23.5	
Total Split (s)				44.0	44.0	44.0	22.0	61.0			39.0	
Total Split (%)				41.9%	41.9%	41.9%	21.0%	58.1%			37.1%	
Maximum Green (s)				40.0	40.0	40.0	18.0	56.5			34.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	C-Max			C-Max	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				33.0	33.0	33.0	12.9	63.5			50.3	
Actuated g/C Ratio				0.31	0.31	0.31	0.12	0.60			0.48	
v/c Ratio				0.79	0.10	0.71	0.18	0.16			0.25	
Control Delay				42.5	23.9	10.6	40.1	2.5			19.8	
Queue Delay				0.5	0.0	0.0	0.0	0.0			0.0	
Total Delay				43.1	23.9	10.6	40.1	2.5			19.8	
LOS				D	C	B	D	A			B	
Approach Delay					24.4			6.5			19.8	
Approach LOS					C			A			B	
Queue Length 50th (ft)				266	27	52	29	1			102	
Queue Length 95th (ft)				354	44	164	m47	m46			145	
Internal Link Dist (ft)		335			213			232			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				687	1375	912	309	2058			2399	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				51	0	0	0	0			135	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.70	0.08	0.66	0.13	0.16			0.27	

Intersection Summary	
Area Type:	Other
Cycle Length: 105	
Actuated Cycle Length: 105	
Offset: 16 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 20.0	Intersection LOS: B
Intersection Capacity Utilization 50.6%	ICU Level of Service A
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp



Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	14	1002	442	96	341	281	45	391	210	369
Future Volume (vph)	14	1002	442	96	341	281	45	391	210	369
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.994	0.850	0.850	0.927					
Flt Protected		0.999						0.950	0.950	
Satd. Flow (prot)	0	3016	1441	1615	4712	0	0	1787	1787	1810
Flt Permitted		0.999						0.950	0.950	
Satd. Flow (perm)	0	3016	1441	1615	4712	0	0	1787	1787	1810
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				101	10					
Link Speed (mph)		25			25					25
Link Distance (ft)		525			667					312
Travel Time (s)		14.3			18.2					8.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	2%	0%	4%	0%	0%	1%	1%	5%
Adj. Flow (vph)	15	1055	465	101	359	296	47	412	221	388
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	1117	418	101	702	0	0	412	221	388
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	23.0			9.5	9.5	23.0
Total Split (s)	46.0	46.0	46.0	46.0	30.8			28.2	28.2	59.0
Total Split (%)	43.8%	43.8%	43.8%	43.8%	29.3%			26.9%	26.9%	56.2%
Maximum Green (s)	42.0	42.0	42.0	42.0	25.8			24.2	24.2	55.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0			3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0			1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0	5.0			4.0	4.0	4.0
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	C-Max			None	None	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0					11.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		41.8	41.8	41.8	25.8			24.4	24.4	55.2
Actuated g/C Ratio		0.40	0.40	0.40	0.25			0.23	0.23	0.53
v/c Ratio		0.93	0.73	0.14	0.60			0.99	0.53	0.41
Control Delay		44.9	35.6	4.6	37.1			86.3	46.6	16.0
Queue Delay		0.0	0.0	0.0	0.0			35.5	1.6	1.8
Total Delay		44.9	35.6	4.6	37.1			121.8	48.2	17.8
LOS		D	D	A	D			F	D	B
Approach Delay		40.0			37.1					66.3
Approach LOS		D			D					E
Queue Length 50th (ft)		438	256	0	151			~250	119	60
Queue Length 95th (ft)		#606	391	32	193			#479	197	184
Internal Link Dist (ft)		445			587					232
Turn Bay Length (ft)										
Base Capacity (vph)		1206	576	706	1165			415	415	952
Starvation Cap Reductn		0	0	0	0			61	80	393
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.93	0.73	0.14	0.60			1.16	0.66	0.69

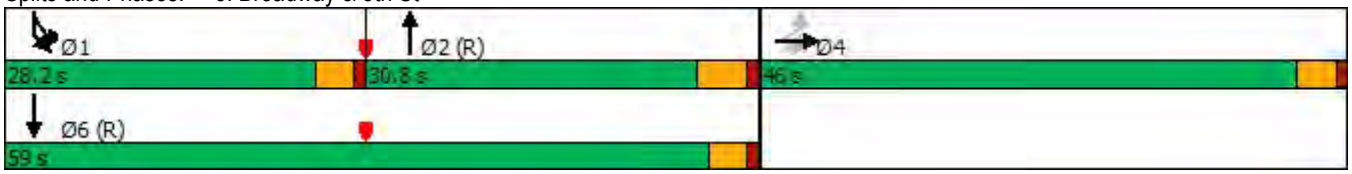
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 47.4		Intersection LOS: D	
Intersection Capacity Utilization 79.2%		ICU Level of Service D	
Analysis Period (min) 15			

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Broadway & 5th St

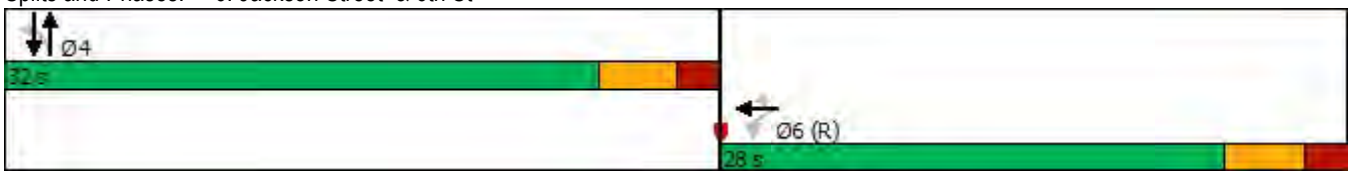


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	9	370	42	426	388	0	0	176	1213
Future Volume (vph)	0	0	0	9	370	42	426	388	0	0	176	1213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.947	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1900	1615	1805	1900	0	0	1703	1599
Flt Permitted				0.950			0.555					
Satd. Flow (perm)	0	0	0	1805	1900	1615	1054	1900	0	0	1703	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						45					59	296
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	0	0	0	9	381	43	439	400	0	0	181	1251
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	9	381	43	439	400	0	0	281	1151
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.01	0.54	0.07	0.94	0.48			0.36	0.72
Control Delay				12.0	18.1	4.7	50.3	14.2			10.2	2.8
Queue Delay				0.0	0.0	0.0	0.0	1.6			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				12.0	18.1	4.7	50.3	15.9			10.2	2.8
LOS				B	B	A	D	B			B	A
Approach Delay					16.6			33.9			4.3	
Approach LOS					B			C			A	
Queue Length 50th (ft)				2	104	0	144	97			51	0
Queue Length 95th (ft)				9	177	16	#313	164			102	0
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	712	633	465	839			785	1599
Starvation Cap Reductn				0	0	0	0	269			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.01	0.54	0.07	0.94	0.70			0.36	0.72

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 15.4		Intersection LOS: B	
Intersection Capacity Utilization 90.9%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Jackson Street & 6th St

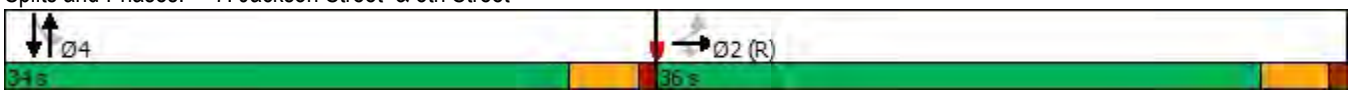


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	456	617	467	0	0	0	0	428	39	98	103	0
Future Volume (vph)	456	617	467	0	0	0	0	428	39	98	103	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.989				
Flt Protected		0.979									0.976	
Satd. Flow (prot)	0	3474	1615	0	0	0	0	1879	0	0	1623	0
Flt Permitted		0.979									0.439	
Satd. Flow (perm)	0	3474	1615	0	0	0	0	1879	0	0	730	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			231					8				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	518	701	531	0	0	0	0	486	44	111	117	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1219	531	0	0	0	0	530	0	0	228	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					25.6		25.6	25.6	
Total Split (s)	36.0	36.0	36.0					34.0		34.0	34.0	
Total Split (%)	51.4%	51.4%	51.4%					48.6%		48.6%	48.6%	
Maximum Green (s)	31.4	31.4	31.4					29.4		29.4	29.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		31.4	31.4					29.4			29.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.45	0.45					0.42			0.42	
v/c Ratio		0.78	0.62					0.67			0.75	
Control Delay		20.8	11.8					21.2			35.4	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		20.8	11.8					21.2			35.4	
LOS		C	B					C			D	
Approach Delay		18.1						21.2			35.4	
Approach LOS		B						C			D	
Queue Length 50th (ft)		223	87					175			80	
Queue Length 95th (ft)		291	175					268			#187	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1558	851					793			306	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.78	0.62					0.67			0.75	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 34 (49%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 77.5%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Jackson Street & 5th Street



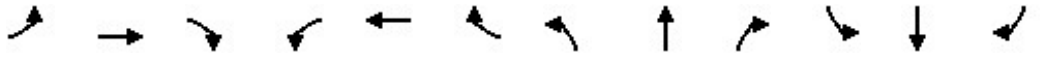
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	454	198	152	668	1115	837
Future Volume (vph)	454	198	152	668	1115	837
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3505	5136	2814
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3505	5136	2814
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	3%	1%	1%
Adj. Flow (vph)	473	206	158	696	1161	872
Shared Lane Traffic (%)						
Lane Group Flow (vph)	473	206	158	696	1161	872
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	22.5	22.5	10.8	37.5	26.7	
Total Split (%)	37.5%	37.5%	18.0%	62.5%	44.5%	
Maximum Green (s)	18.0	18.0	6.3	33.0	22.2	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	15.1	15.1	6.3	33.1	22.3	41.9
Actuated g/C Ratio	0.26	0.26	0.11	0.58	0.39	0.73
v/c Ratio	0.51	0.48	0.79	0.34	0.58	0.42
Control Delay	19.8	21.8	57.9	7.4	15.7	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	21.8	57.9	7.4	15.7	3.7
LOS	B	C	E	A	B	A
Approach Delay	20.4			16.8	10.5	
Approach LOS	C			B	B	
Queue Length 50th (ft)	70	59	55	61	115	46
Queue Length 95th (ft)	107	112	#149	97	161	68
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1104	509	199	2025	1997	2203
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.40	0.79	0.34	0.58	0.40

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 57.3			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 13.9		Intersection LOS: B	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Webster Street & Willie Stargell Ave

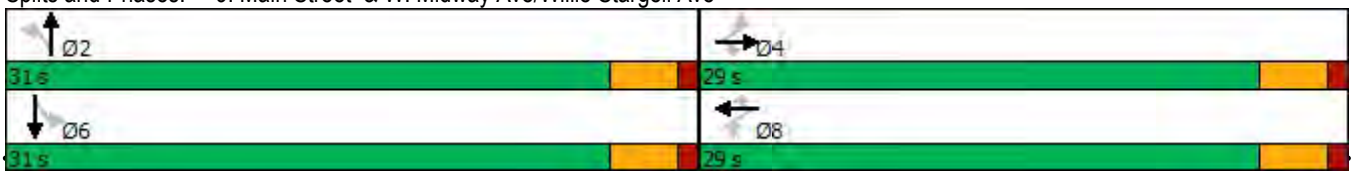


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	162	44	29	127	138	41	118	29	128	207	11
Future Volume (vph)	4	162	44	29	127	138	41	118	29	128	207	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.977			0.995	
Flt Protected		0.999			0.991			0.989			0.982	
Satd. Flow (prot)	0	1898	1615	0	1838	1615	0	3345	0	0	3527	0
Flt Permitted		0.992			0.909			0.840			0.770	
Satd. Flow (perm)	0	1885	1615	0	1686	1615	0	2841	0	0	2766	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			55			173		36			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	11%	3%	0%	0%	0%	0%
Adj. Flow (vph)	5	203	55	36	159	173	51	148	36	160	259	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	208	55	0	195	173	0	235	0	0	433	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0		31.0	31.0	
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		10.9	10.9		10.9	10.9		27.6			27.6	
Actuated g/C Ratio		0.23	0.23		0.23	0.23		0.59			0.59	
v/c Ratio		0.47	0.13		0.49	0.34		0.14			0.26	
Control Delay		18.6	5.5		19.5	4.9		4.5			5.7	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		18.6	5.5		19.5	4.9		4.5			5.7	
LOS		B	A		B	A		A			A	
Approach Delay		15.8			12.6			4.5			5.7	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		47	0		44	0		9			22	
Queue Length 95th (ft)		79	15		77	24		24			48	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		1018	897		910	951		1699			1642	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.20	0.06		0.21	0.18		0.14			0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 46.5			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 45.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave

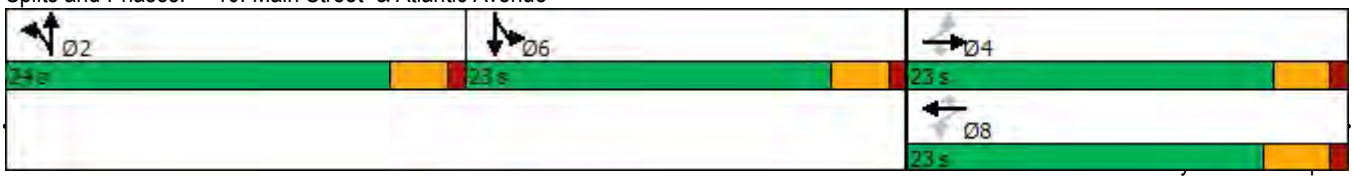


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	145	72	55	205	89	61	105	28	113	196	11
Future Volume (vph)	3	145	72	55	205	89	61	105	28	113	196	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.968			0.992	
Flt Protected		0.999			0.989		0.950			0.950	0.997	
Satd. Flow (prot)	0	3606	1615	0	3488	1538	1805	3388	0	1643	3420	0
Flt Permitted		0.947			0.842		0.950			0.950	0.997	
Satd. Flow (perm)	0	3419	1615	0	2969	1538	1805	3388	0	1643	3420	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			90			111		35			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	3%	5%	0%	4%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	4	181	90	69	256	111	76	131	35	141	245	14
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	0	185	90	0	325	111	76	166	0	127	273	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		12.4	12.4		11.9	11.9	20.3	20.3		10.4	10.4	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.37	0.37		0.19	0.19	
v/c Ratio		0.24	0.21		0.51	0.27	0.11	0.13		0.41	0.42	
Control Delay		18.7	6.3		22.4	6.5	14.7	11.4		24.7	21.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		18.7	6.3		22.4	6.5	14.7	11.4		24.7	21.7	
LOS		B	A		C	A	B	B		C	C	
Approach Delay		14.6			18.3			12.4			22.6	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)		25	0		47	0	15	14		40	42	
Queue Length 95th (ft)		46	23		79	25	44	35		81	70	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		1192	621		1008	595	662	1265		573	1197	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.16	0.14		0.32	0.19	0.11	0.13		0.22	0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 55.2			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 17.8		Intersection LOS: B	
Intersection Capacity Utilization 35.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Main Street & Atlantic Avenue



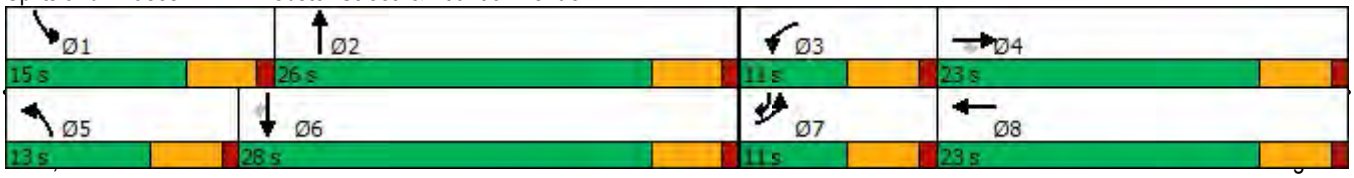
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	325	151	67	298	131	100	535	61	191	990	304
Future Volume (vph)	183	325	151	67	298	131	100	535	61	191	990	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.954			0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3539	1615	1805	3420	0	1805	3463	0	1805	3505	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3539	1615	1805	3420	0	1805	3463	0	1805	3505	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175		87			16				217
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	3%	0%	0%	3%	1%
Adj. Flow (vph)	199	353	164	73	324	142	109	582	66	208	1076	330
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	353	164	73	466	0	109	648	0	208	1076	330
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0

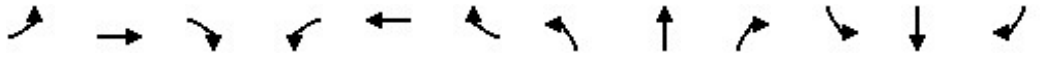
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	23.0	23.0	11.0	23.0		13.0	26.0		15.0	28.0	11.0
Total Split (%)	14.7%	30.7%	30.7%	14.7%	30.7%		17.3%	34.7%		20.0%	37.3%	14.7%
Maximum Green (s)	6.0	18.0	18.0	6.0	18.0		8.0	21.0		10.0	23.0	6.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	6.0	15.9	15.9	5.9	13.5		7.6	21.1		10.0	25.8	36.9
Actuated g/C Ratio	0.08	0.22	0.22	0.08	0.19		0.11	0.30		0.14	0.36	0.52
v/c Ratio	0.67	0.44	0.33	0.49	0.64		0.56	0.62		0.82	0.84	0.35
Control Delay	44.8	26.4	5.7	43.8	25.4		43.0	24.5		57.3	31.0	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	44.8	26.4	5.7	43.8	25.4		43.0	24.5		57.3	31.0	5.7
LOS	D	C	A	D	C		D	C		E	C	A
Approach Delay		26.8			27.9			27.2			29.2	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	44	73	0	31	79		46	124		90	239	26
Queue Length 95th (ft)	#93	111	39	#80	124		#107	191		#212	#398	80
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	298	924	551	153	937		204	1042		255	1281	937
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.67	0.38	0.30	0.48	0.50		0.53	0.62		0.82	0.84	0.35

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 70.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 28.1 Intersection LOS: C
Intersection Capacity Utilization 67.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

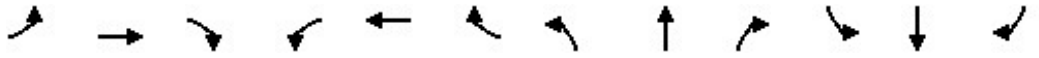
Splits and Phases: 11: Webster Street & Atlantic Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1194	311	79	1067	0	0	0	0	729	8
Future Volume (vph)	0	0	1194	311	79	1067	0	0	0	0	729	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.962							
Satd. Flow (prot)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Flt Permitted					0.962							
Satd. Flow (perm)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					66							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1298	338	86	1160	0	0	0	0	792	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	1298	0	424	1160	0	0	0	0	792	9
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			68.0		30.0	68.0					30.0	68.0
Actuated g/C Ratio			1.00		0.44	1.00					0.44	1.00
v/c Ratio			0.47		0.51	0.42					0.96	0.01
Control Delay			0.6		14.1	0.5					45.1	0.0
Queue Delay			0.0		1.5	0.0					0.0	0.0
Total Delay			0.6		15.5	0.5					45.1	0.0
LOS			A		B	A					D	A
Approach Delay		0.6			4.5						44.6	
Approach LOS		A			A						D	
Queue Length 50th (ft)			0		101	0					307	0
Queue Length 95th (ft)			0		176	0					#538	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		827	2787					821	1583
Starvation Cap Reductn			0		228	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.47		0.71	0.42					0.96	0.01

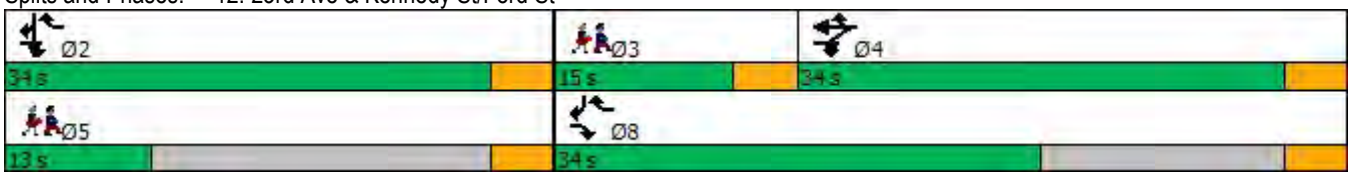
Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 68			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 11.8		Intersection LOS: B	
Intersection Capacity Utilization 111.5%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

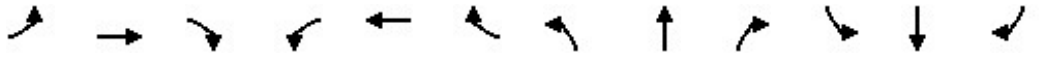
Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

! Phase conflict between lane groups.

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St



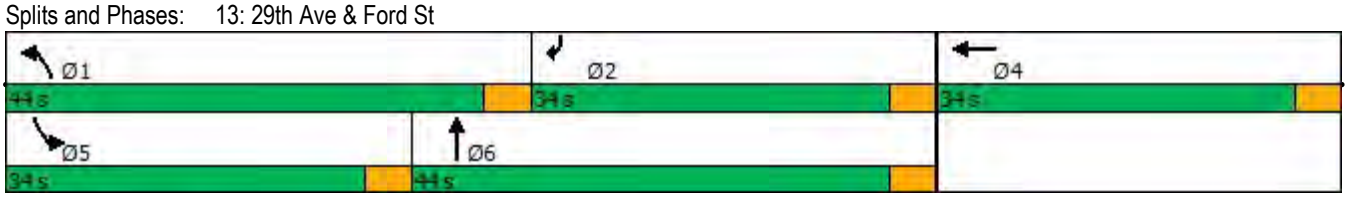


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	55	10	1076	824	24	63	0	303
Future Volume (vph)	0	0	0	0	55	10	1076	824	24	63	0	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.996				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				329
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	60	11	1170	896	26	68	0	329
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	71	0	1170	922	0	68	0	329
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

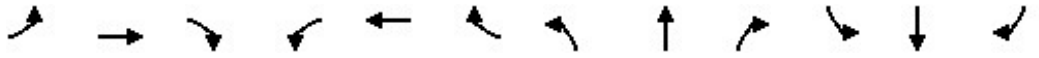
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					9.0		25.0	43.6		7.3		22.0
Actuated g/C Ratio					0.14		0.38	0.66		0.11		0.33
v/c Ratio					0.28		0.90	0.75		0.35		0.44
Control Delay					27.3		29.5	18.8		36.1		6.0
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					27.3		29.5	18.8		36.1		6.0
LOS					C		C	B		D		A
Approach Delay					27.3			24.8			11.2	
Approach LOS					C			C			B	
Queue Length 50th (ft)					24		221	250		26		0
Queue Length 95th (ft)					60		350	#791		75		75
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					876		2251	1228		846		928
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.08		0.52	0.75		0.08		0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 65.9			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 22.7		Intersection LOS: C	
Intersection Capacity Utilization 63.6%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	123	47	59	32	16	240	534	113	17	554	212
Future Volume (vph)	212	123	47	59	32	16	240	534	113	17	554	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.980			0.974			0.959	
Flt Protected		0.973			0.973		0.950			0.950		
Satd. Flow (prot)	0	1782	0	0	1776	0	1770	1814	0	1770	1786	0
Flt Permitted		0.767			0.715		0.080			0.362		
Satd. Flow (perm)	0	1404	0	0	1305	0	149	1814	0	674	1786	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			8			20			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	230	134	51	64	35	17	261	580	123	18	602	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	415	0	0	116	0	261	703	0	18	832	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		



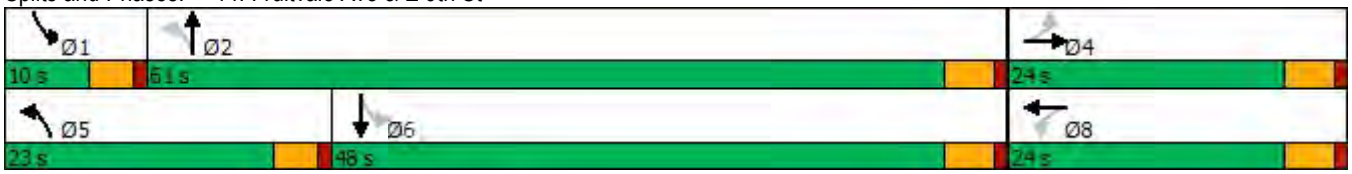
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		19.5			19.5		64.1	59.7		49.8	43.6	
Actuated g/C Ratio		0.21			0.21		0.70	0.65		0.54	0.47	
v/c Ratio		1.37			0.41		0.68	0.59		0.04	0.97	
Control Delay		217.9			35.0		28.1	12.5		5.9	49.1	
Queue Delay		0.0			0.0		5.3	52.7		0.0	0.0	
Total Delay		217.9			35.0		33.5	65.2		5.9	49.1	
LOS		F			D		C	E		A	D	
Approach Delay		217.9			35.0			56.6			48.1	
Approach LOS		F			D			E			D	
Queue Length 50th (ft)		~330			56		91	174		3	458	
Queue Length 95th (ft)		#525			111		174	371		9	#749	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		303			283		438	1183		438	859	
Starvation Cap Reductn		0			0		120	583		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		1.37			0.41		0.82	1.17		0.04	0.97	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 92.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.37			
Intersection Signal Delay: 81.0		Intersection LOS: F	
Intersection Capacity Utilization 92.1%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St



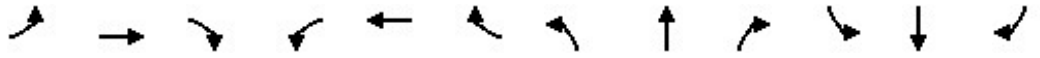
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	99	452	7	0	123	0	599	21	109	556	0
Future Volume (vph)	191	99	452	7	0	123	0	599	21	109	556	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.873			0.995				
Flt Protected		0.968			0.997					0.950		
Satd. Flow (prot)	0	1803	1583	0	1621	0	0	3522	0	1770	1863	0
Flt Permitted		0.748			0.979					0.240		
Satd. Flow (perm)	0	1393	1583	0	1592	0	0	3522	0	447	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			267		134			4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	208	108	491	8	0	134	0	651	23	118	604	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	316	491	0	142	0	0	674	0	118	604	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		22.6	22.6		21.5			20.3		30.1	29.5	
Actuated g/C Ratio		0.37	0.37		0.35			0.33		0.49	0.48	
v/c Ratio		0.61	0.65		0.22			0.58		0.29	0.67	
Control Delay		23.3	12.6		4.9			21.3		11.5	17.2	
Queue Delay		0.0	0.0		0.0			0.0		0.1	0.3	
Total Delay		23.3	12.6		4.9			21.3		11.6	17.5	
LOS		C	B		A			C		B	B	
Approach Delay		16.8			4.9			21.3			16.5	
Approach LOS		B			A			C			B	
Queue Length 50th (ft)		96	61		2			112		22	157	
Queue Length 95th (ft)		211	188		37			208		59	335	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		848	1069		1005			1920		707	1561	
Starvation Cap Reductn		0	0		0			0		110	430	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.37	0.46		0.14			0.35		0.20	0.53	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 61.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 76.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	513	395	205	418	600	74	19	569	95
Future Volume (vph)	0	0	0	513	395	205	418	600	74	19	569	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.972			0.984			0.979	
Flt Protected					0.977		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3361	0	1770	3483	0	0	3461	0
Flt Permitted					0.977		0.950				0.920	
Satd. Flow (perm)	0	0	0	0	3361	0	1770	3483	0	0	3188	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					29			25			19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	558	429	223	454	652	80	21	618	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1210	0	454	732	0	0	742	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	



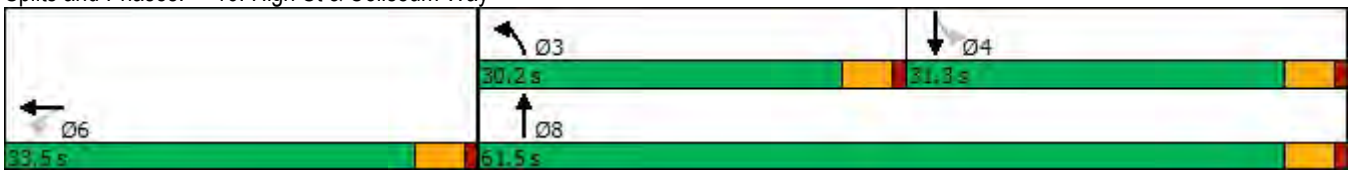
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		30.2	61.5		31.3	31.3	
Total Split (%)				35.3%	35.3%		31.8%	64.7%		32.9%	32.9%	
Maximum Green (s)				29.0	29.0		25.7	57.0		26.8	26.8	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		25.7	57.0			26.8	
Actuated g/C Ratio					0.31		0.27	0.60			0.28	
v/c Ratio					1.16		0.95	0.35			0.81	
Control Delay					112.8		66.0	9.8			39.4	
Queue Delay					0.0		45.5	2.4			0.0	
Total Delay					112.8		111.6	12.2			39.4	
LOS					F		F	B			D	
Approach Delay					112.8			50.2			39.4	
Approach LOS					F			D			D	
Queue Length 50th (ft)					~452		268	104			213	
Queue Length 95th (ft)					#585		#460	138			#287	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1046		478	2099			912	
Starvation Cap Reductn					0		153	1199			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					1.16		1.40	0.81			0.81	

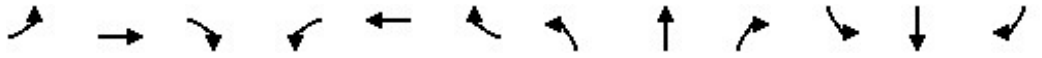
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 71.8		Intersection LOS: E	
Intersection Capacity Utilization 86.1%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

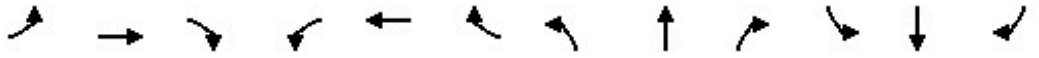
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	414	164	38	0	180	0	809	285	265	807	0
Future Volume (vph)	96	414	164	38	0	180	0	809	285	265	807	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.961				
Flt Protected		0.991		0.950						0.950		
Satd. Flow (prot)	0	3507	1583	1770	0	1583	0	3401	0	1770	3539	0
Flt Permitted		0.991		0.308						0.950		
Satd. Flow (perm)	0	3507	1583	574	0	1583	0	3401	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						196		56				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	450	178	41	0	196	0	879	310	288	877	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	554	178	41	0	196	0	1189	0	288	877	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	33.0	33.0	33.0	33.0		33.0		36.0		26.0	62.0	
Total Split (%)	34.7%	34.7%	34.7%	34.7%		34.7%		37.9%		27.4%	65.3%	
Maximum Green (s)	29.0	29.0	29.0	28.5		28.5		31.5		21.5	57.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		29.0	29.0	28.5		28.5		31.5		21.5	57.5	
Actuated g/C Ratio		0.31	0.31	0.30		0.30		0.33		0.23	0.61	
v/c Ratio		0.52	0.37	0.24		0.32		1.02		0.72	0.41	
Control Delay		29.3	28.6	29.6		5.3		62.8		45.6	10.6	
Queue Delay		0.0	0.0	0.0		0.0		0.0		24.0	4.9	
Total Delay		29.3	28.6	29.6		5.3		62.8		69.5	15.4	
LOS		C	C	C		A		E		E	B	
Approach Delay		29.1			9.5			62.8			28.8	
Approach LOS		C			A			E			C	
Queue Length 50th (ft)		144	84	19		0		~377		161	134	
Queue Length 95th (ft)		196	143	48		49		#523		#270	174	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1070	483	172		612		1165		400	2142	
Starvation Cap Reductn		0	0	0		0		0		110	1178	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.52	0.37	0.24		0.32		1.02		0.99	0.91	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 39.6		Intersection LOS: D	
Intersection Capacity Utilization 77.9%		ICU Level of Service D	

Analysis Period (min) 15

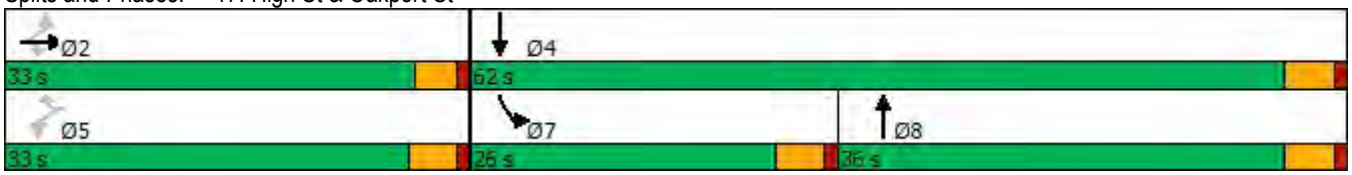
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

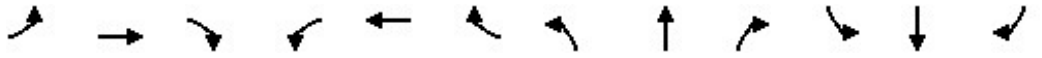
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	273	80	20	24	134	212	0	1179	38	12	998	345
Future Volume (vph)	273	80	20	24	134	212	0	1179	38	12	998	345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.970				0.850		0.995			0.962	
Flt Protected	0.950				0.992							
Satd. Flow (prot)	1770	1807	0	0	1848	1583	0	3522	0	0	3405	0
Flt Permitted	0.649				0.950						0.939	
Satd. Flow (perm)	1209	1807	0	0	1770	1583	0	3522	0	0	3197	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		22						8			123	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	297	87	22	26	146	230	0	1282	41	13	1085	375
Shared Lane Traffic (%)												
Lane Group Flow (vph)	297	109	0	0	172	230	0	1323	0	0	1473	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		

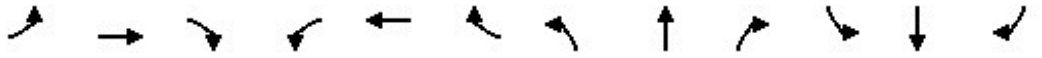


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	17.0	17.0			17.0	17.0		32.5			32.5	
Actuated g/C Ratio	0.29	0.29			0.29	0.29		0.56			0.56	
v/c Ratio	0.85	0.20			0.34	0.50		0.67			0.80	
Control Delay	44.2	13.9			18.3	21.5		11.7			14.5	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	44.2	13.9			18.3	21.5		11.7			14.5	
LOS	D	B			B	C		B			B	
Approach Delay		36.1			20.1			11.7			14.5	
Approach LOS		D			C			B			B	
Queue Length 50th (ft)	97	23			47	66		165			192	
Queue Length 95th (ft)	#217	54			91	124		231			283	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	382	587			560	501		1962			1833	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.78	0.19			0.31	0.46		0.67			0.80	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 82.1%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 18: Park St & Blanding Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	245	88	113	307	12	36	514	46	53	825	80
Future Volume (vph)	156	245	88	113	307	12	36	514	46	53	825	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.960			0.994			0.988			0.987	
Flt Protected	0.950			0.950				0.997			0.997	
Satd. Flow (prot)	1770	3398	0	1770	3518	0	0	3486	0	0	3483	0
Flt Permitted	0.950			0.950				0.816			0.882	
Satd. Flow (perm)	1770	3398	0	1770	3518	0	0	2853	0	0	3081	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			5			14			15	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	266	96	123	334	13	39	559	50	58	897	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	362	0	123	347	0	0	648	0	0	1042	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		

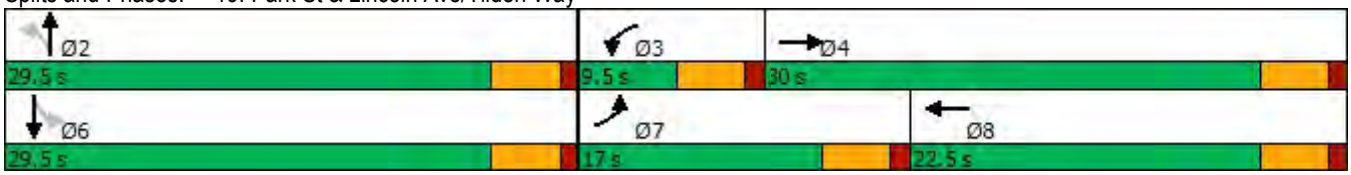


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	10.3	15.9		5.0	13.4			25.2			25.2	
Actuated g/C Ratio	0.17	0.27		0.08	0.22			0.42			0.42	
v/c Ratio	0.56	0.38		0.83	0.44			0.54			0.80	
Control Delay	31.1	15.8		73.6	23.2			15.8			22.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	31.1	15.8		73.6	23.2			15.8			22.5	
LOS	C	B		E	C			B			C	
Approach Delay		20.7			36.3			15.8			22.5	
Approach LOS		C			D			B			C	
Queue Length 50th (ft)	57	46		46	60			88			167	
Queue Length 95th (ft)	118	76		#143	98			156			#322	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	373	1490		149	1071			1210			1307	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.46	0.24		0.83	0.32			0.54			0.80	

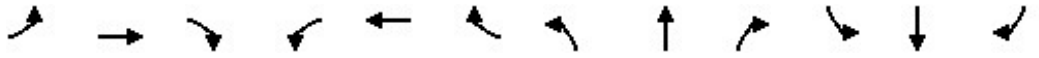
Intersection Summary

Area Type: Other
Cycle Length: 69
Actuated Cycle Length: 59.8
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 23.0 Intersection LOS: C
Intersection Capacity Utilization 76.1% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



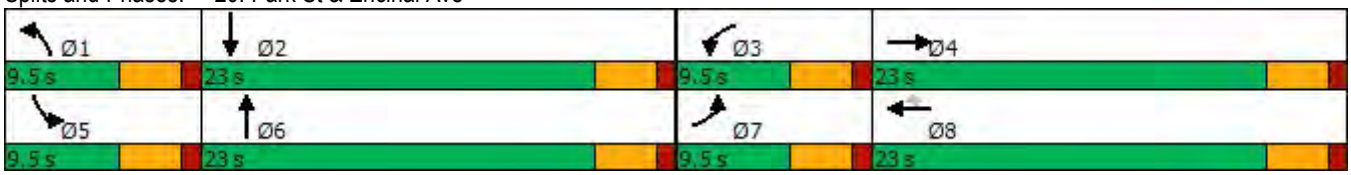
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	534	60	53	340	97	59	296	69	118	366	54
Future Volume (vph)	54	534	60	53	340	97	59	296	69	118	366	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985				0.850		0.972			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				151		44			25	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	580	65	58	370	105	64	322	75	128	398	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	645	0	58	370	105	64	397	0	128	457	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



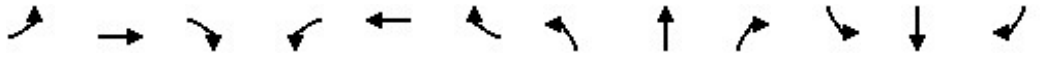
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.6	15.9		5.6	15.9	15.9	5.6	19.4		5.6	24.0	
Actuated g/C Ratio	0.10	0.27		0.10	0.27	0.27	0.10	0.33		0.10	0.41	
v/c Ratio	0.35	0.67		0.34	0.73	0.19	0.38	0.34		0.75	0.32	
Control Delay	33.6	22.5		33.5	29.4	2.5	34.5	15.6		59.8	15.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.6	22.5		33.5	29.4	2.5	34.5	15.6		59.8	15.3	
LOS	C	C		C	C	A	C	B		E	B	
Approach Delay		23.5			24.6			18.2			25.0	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	23	112		22	128	0	25	56		51	71	
Queue Length 95th (ft)	56	163		55	#215	16	59	92		#140	111	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	170	1173		170	620	628	170	1175		170	1444	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.35	0.55		0.34	0.60	0.17	0.38	0.34		0.75	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 58.3			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 23.1		Intersection LOS: C	
Intersection Capacity Utilization 52.3%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	173	19	73	190	185	33	448	114	331	724	263
Future Volume (vph)	134	173	19	73	190	185	33	448	114	331	724	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.970			0.960	
Flt Protected		0.979			0.986		0.950			0.950		
Satd. Flow (prot)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Flt Permitted		0.979			0.986		0.950			0.950		
Satd. Flow (perm)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			201		32			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	188	21	79	207	201	36	487	124	360	787	286
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	334	21	0	286	201	36	611	0	360	1073	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



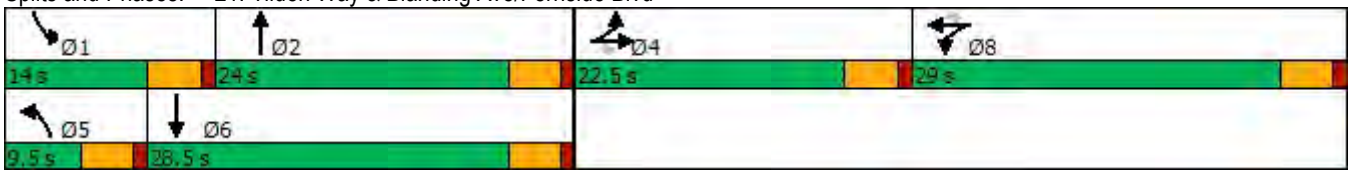
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		17.4	17.4		18.1	18.1	5.1	17.7		9.6	26.6	
Actuated g/C Ratio		0.21	0.21		0.22	0.22	0.06	0.22		0.12	0.33	
v/c Ratio		0.85	0.05		0.70	0.39	0.33	0.79		1.72	0.93	
Control Delay		54.3	0.2		38.9	6.5	47.9	37.5		370.8	43.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		54.3	0.2		38.9	6.5	47.9	37.5		370.8	43.7	
LOS		D	A		D	A	D	D		F	D	
Approach Delay		51.1			25.5			38.1			125.9	
Approach LOS		D			C			D			F	
Queue Length 50th (ft)		170	0		139	0	19	149		~288	~320	
Queue Length 95th (ft)		#344	0		221	50	51	#230		#485	#490	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		409	454		561	623	110	859		209	1150	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.82	0.05		0.51	0.32	0.33	0.71		1.72	0.93	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 81.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.72			
Intersection Signal Delay: 80.6		Intersection LOS: F	
Intersection Capacity Utilization 79.9%		ICU Level of Service D	
Analysis Period (min) 15			

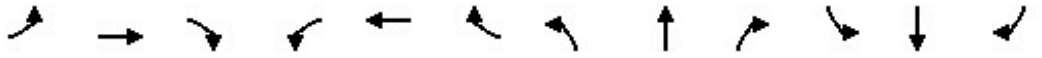
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



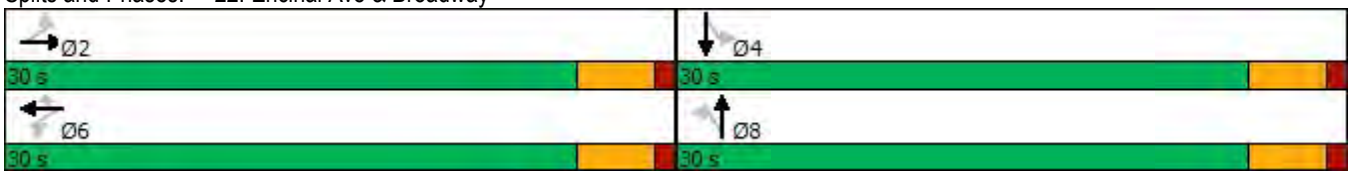
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	437	137	34	303	36	101	382	26	67	453	50
Future Volume (vph)	67	437	137	34	303	36	101	382	26	67	453	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968				0.850		0.991			0.985	
Flt Protected		0.995			0.995		0.950			0.950		
Satd. Flow (prot)	0	3409	0	0	1853	1636	1770	1846	0	1770	1835	0
Flt Permitted		0.829			0.888		0.333			0.423		
Satd. Flow (perm)	0	2840	0	0	1654	1636	620	1846	0	788	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71				39		7			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	475	149	37	329	39	110	415	28	73	492	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	697	0	0	366	39	110	443	0	73	546	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



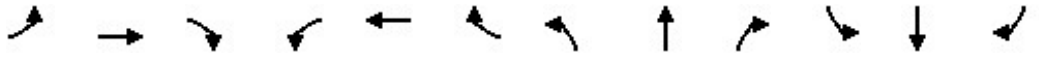
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		17.7			17.7	17.7	25.7	25.7		25.7	25.7	
Actuated g/C Ratio		0.34			0.34	0.34	0.49	0.49		0.49	0.49	
v/c Ratio		0.70			0.66	0.07	0.36	0.49		0.19	0.60	
Control Delay		17.1			20.7	4.5	14.8	12.4		11.0	14.4	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		17.1			20.7	4.5	14.8	12.4		11.0	14.4	
LOS		B			C	A	B	B		B	B	
Approach Delay		17.1			19.1			12.9			14.0	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		84			93	0	19	81		12	108	
Queue Length 95th (ft)		131			163	14	68	192		41	253	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1428			811	822	303	908		386	905	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.49			0.45	0.05	0.36	0.49		0.19	0.60	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.5			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 15.6		Intersection LOS: B	
Intersection Capacity Utilization 83.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	916	15	137	759	312	6	86	153	333	100	144
Future Volume (vph)	144	916	15	137	759	312	6	86	153	333	100	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.916				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3532	0	1770	1863	1583	0	1705	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.994		0.485		
Satd. Flow (perm)	1770	3532	0	1770	1863	1583	0	1696	0	903	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				339		110				157
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			1523			502			2170	
Travel Time (s)		9.3			41.5			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	157	996	16	149	825	339	7	93	166	362	109	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	1012	0	149	825	339	0	266	0	362	109	157
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



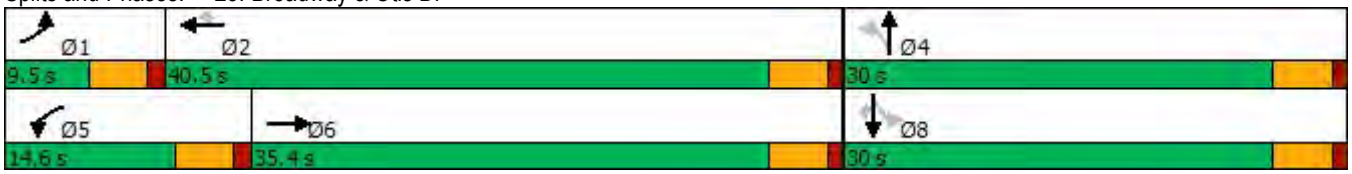
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	31.4		9.6	36.0	36.0		25.5		25.5	25.5	25.5
Actuated g/C Ratio	0.06	0.39		0.12	0.45	0.45		0.32		0.32	0.32	0.32
v/c Ratio	1.43	0.73		0.70	0.98	0.38		0.43		1.26	0.18	0.26
Control Delay	268.8	24.6		52.6	51.4	3.0		14.8		170.5	20.8	4.8
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	268.8	24.6		52.6	51.4	3.0		14.8		170.5	20.8	4.8
LOS	F	C		D	D	A		B		F	C	A
Approach Delay		57.4			39.1			14.8			103.1	
Approach LOS		E			D			B			F	
Queue Length 50th (ft)	~107	222		72	391	0		58		~230	39	0
Queue Length 95th (ft)	#223	295		#152	#643	43		123		#392	76	39
Internal Link Dist (ft)		261			1443			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	110	1386		223	838	898		615		287	593	611
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	1.43	0.73		0.67	0.98	0.38		0.43		1.26	0.18	0.26

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.43			
Intersection Signal Delay: 55.4		Intersection LOS: E	
Intersection Capacity Utilization 95.6%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

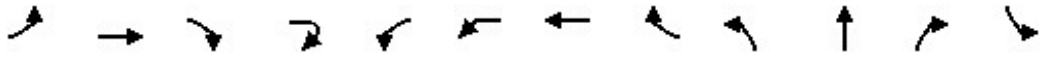
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	99	339	75	4	5	3	202	158	43	286	4	182
Future Volume (vph)	99	339	75	4	5	3	202	158	43	286	4	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.998			0.994		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1859	1583	0	1850	0	1770
Flt Permitted	0.500						0.985			0.888		0.950
Satd. Flow (perm)	931	1863	1583	0	0	0	1835	1583	0	1652	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								172				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	368	82	4	5	3	220	172	47	311	4	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	368	86	0	0	0	228	172	0	362	0	198
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

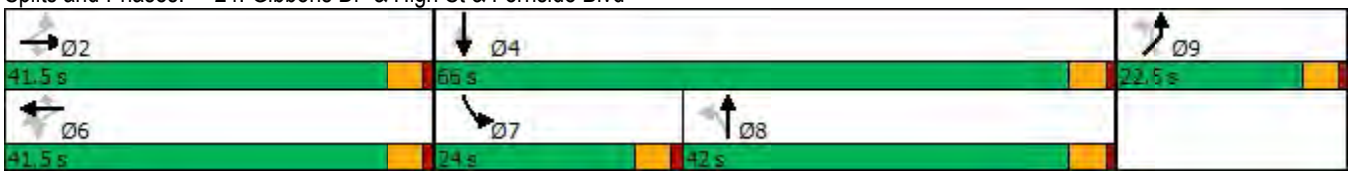
Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations							
Traffic Volume (vph)	425	83	128	2	87	7	4
Future Volume (vph)	425	83	128	2	87	7	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0			0	50	
Storage Lanes		1			1	1	
Taper Length (ft)					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.989		0.850
Flt Protected					0.956		
Satd. Flow (prot)	1863	1583	0	0	1761	0	1583
Flt Permitted					0.993		
Satd. Flow (perm)	1863	1583	0	0	1829	0	1583
Right Turn on Red			No				Yes
Satd. Flow (RTOR)							88
Link Speed (mph)	25				25		
Link Distance (ft)	1133				459		
Travel Time (s)	30.9				12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	462	90	139	2	95	8	4
Shared Lane Traffic (%)							
Lane Group Flow (vph)	462	229	0	0	105	0	4
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Right
Median Width(ft)	12				12		
Link Offset(ft)	0				0		
Crosswalk Width(ft)	16				16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	15	9	9
Number of Detectors	2	1		1	1		1
Detector Template	Thru	Right		Left	Left		Right
Leading Detector (ft)	100	20		20	20		20
Trailing Detector (ft)	0	0		0	0		0
Detector 1 Position(ft)	0	0		0	0		0
Detector 1 Size(ft)	6	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm		Perm	Prot		Perm
Protected Phases	4				9		
Permitted Phases		4		9			9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	41.5	41.5	41.5		41.5	41.5	41.5	41.5	42.0	42.0		24.0
Total Split (%)	31.9%	31.9%	31.9%		31.9%	31.9%	31.9%	31.9%	32.3%	32.3%		18.5%
Maximum Green (s)	37.0	37.0	37.0		37.0	37.0	37.0	37.0	37.5	37.5		19.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.3	37.3	37.3				37.3	37.3		29.7		19.6
Actuated g/C Ratio	0.32	0.32	0.32				0.32	0.32		0.25		0.17
v/c Ratio	0.36	0.62	0.17				0.39	0.28		0.86		0.67
Control Delay	38.0	41.2	32.8				35.5	6.2		62.5		59.6
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	38.0	41.2	32.8				35.5	6.2		62.5		59.6
LOS	D	D	C				D	A		E		E
Approach Delay		39.3					22.9			62.5		
Approach LOS		D					C			E		
Queue Length 50th (ft)	63	237	47				135	0		260		142
Queue Length 95th (ft)	132	389	99				235	54		397		#270
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	297	594	505				585	622		534		297
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.36	0.62	0.17				0.39	0.28		0.68		0.67

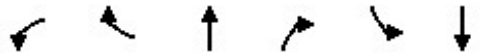
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 116.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 38.3		Intersection LOS: D	
Intersection Capacity Utilization 93.1%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd

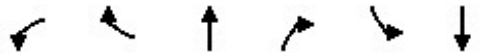


Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Detector Phase	4	4		9	9		9
Switch Phase							
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5
Total Split (s)	66.0	66.0		22.5	22.5		22.5
Total Split (%)	50.8%	50.8%		17.3%	17.3%		17.3%
Maximum Green (s)	61.5	61.5		18.0	18.0		18.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0
Total Lost Time (s)	4.5	4.5			4.5		4.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0
Act Effct Green (s)	53.9	53.9			12.1		12.1
Actuated g/C Ratio	0.46	0.46			0.10		0.10
v/c Ratio	0.54	0.31			0.56		0.02
Control Delay	25.5	21.4			62.7		0.0
Queue Delay	0.0	0.0			0.0		0.0
Total Delay	25.5	21.4			62.7		0.0
LOS	C	C			E		A
Approach Delay	32.0				60.4		
Approach LOS	C				E		
Queue Length 50th (ft)	241	105			77		0
Queue Length 95th (ft)	365	175			143		0
Internal Link Dist (ft)	1053				379		
Turn Bay Length (ft)							50
Base Capacity (vph)	987	839			284		319
Starvation Cap Reductn	0	0			0		0
Spillback Cap Reductn	0	0			0		0
Storage Cap Reductn	0	0			0		0
Reduced v/c Ratio	0.47	0.27			0.37		0.01

Intersection Summary



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	827	17	1162	828	63	1418
Future Volume (vph)	827	17	1162	828	63	1418
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.997			0.850		
Flt Protected	0.953				0.950	
Satd. Flow (prot)	3434	0	3539	1583	1770	3539
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	3434	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	2			273		
Link Speed (mph)	25		35			35
Link Distance (ft)	444		1406			1506
Travel Time (s)	12.1		27.4			29.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	899	18	1263	900	68	1541
Shared Lane Traffic (%)						
Lane Group Flow (vph)	917	0	1263	900	68	1541
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		

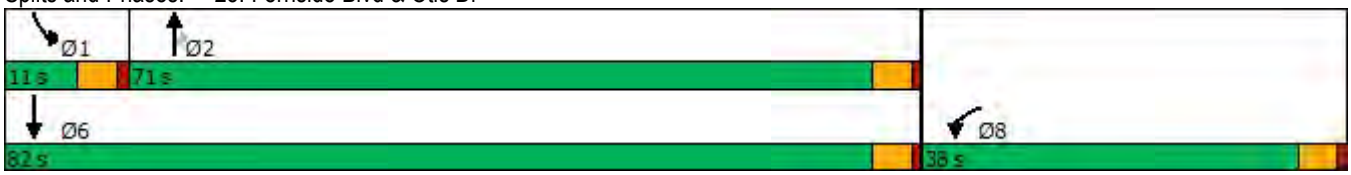


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	38.0		71.0	71.0	11.0	82.0
Total Split (%)	31.7%		59.2%	59.2%	9.2%	68.3%
Maximum Green (s)	33.5		66.5	66.5	6.5	77.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	33.2		68.7	68.7	6.5	77.5
Actuated g/C Ratio	0.28		0.57	0.57	0.05	0.65
v/c Ratio	0.96		0.62	0.88	0.72	0.67
Control Delay	64.0		19.2	27.2	93.0	15.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	64.0		19.2	27.2	93.0	15.1
LOS	E		B	C	F	B
Approach Delay	64.0		22.5			18.4
Approach LOS	E		C			B
Queue Length 50th (ft)	359		341	454	53	364
Queue Length 95th (ft)	#491		414	#792	#129	440
Internal Link Dist (ft)	364		1326			1426
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	962		2031	1024	95	2290
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.95		0.62	0.88	0.72	0.67

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 119.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Fernside Blvd & Otis Dr

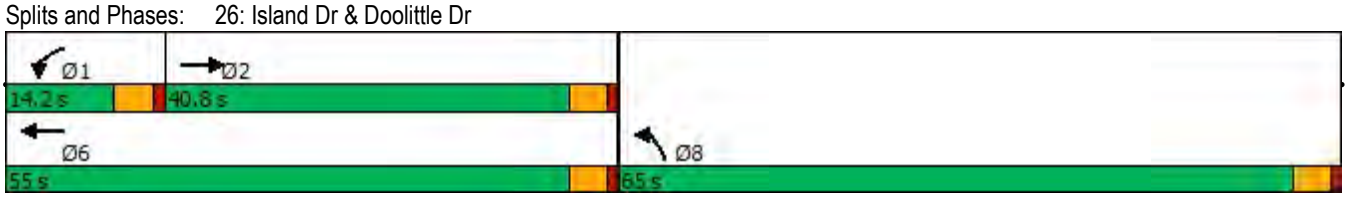


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	867	1350	139	1016	973	96
Future Volume (vph)	867	1350	139	1016	973	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		355				63
Link Speed (mph)	25			25	25	
Link Distance (ft)	1406			365	455	
Travel Time (s)	38.3			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	942	1467	151	1104	1058	104
Shared Lane Traffic (%)						
Lane Group Flow (vph)	942	1467	151	1104	1058	104
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.5	94.8	9.7	50.8	35.0	94.8
Actuated g/C Ratio	0.39	1.00	0.10	0.54	0.37	1.00
v/c Ratio	0.69	0.93	0.83	0.58	0.84	0.07
Control Delay	28.8	12.3	78.8	17.5	33.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	12.3	78.8	17.5	33.7	0.1
LOS	C	B	E	B	C	A
Approach Delay	18.7			24.9	30.7	
Approach LOS	B			C	C	
Queue Length 50th (ft)	245	0	90	223	293	0
Queue Length 95th (ft)	372	#97	#225	357	369	0
Internal Link Dist (ft)	1326			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1362	1583	182	1895	2202	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.93	0.83	0.58	0.48	0.07

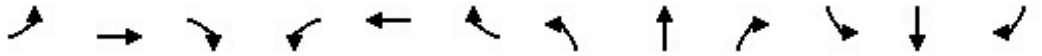
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 94.8			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 23.2		Intersection LOS: C	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 26: Island Dr & Doolittle Dr



2025 No Action Condition

Saturday Peak Hour



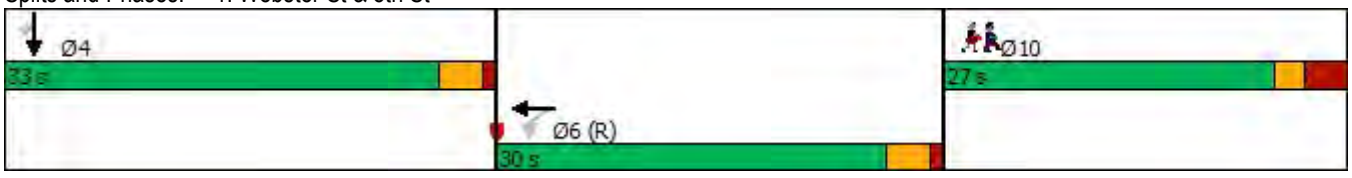
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	356	429	0	0	0	0	0	620	350
Future Volume (vph)	0	0	0	356	429	0	0	0	0	0	620	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.974	0.850
Flt Protected				0.950	0.986							
Satd. Flow (prot)	0	0	0	1358	4534	0	0	0	0	0	4278	1191
Flt Permitted				0.950	0.986							
Satd. Flow (perm)	0	0	0	1358	4534	0	0	0	0	0	4278	1191
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				202	108						47	232
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	8%	2%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	375	452	0	0	0	0	0	653	368
Shared Lane Traffic (%)				46%								37%
Lane Group Flow (vph)	0	0	0	202	625	0	0	0	0	0	789	232
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				37.4	37.4						25.4	25.4
Actuated g/C Ratio				0.42	0.42						0.28	0.28
v/c Ratio				0.30	0.32						0.63	0.46
Control Delay				5.0	17.7						28.3	6.3
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				5.0	17.7						28.3	6.3
LOS				A	B						C	A
Approach Delay					14.6						23.3	
Approach LOS					B						C	
Queue Length 50th (ft)				0	81						141	0
Queue Length 95th (ft)				58	128						167	55
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				681	1945						1438	547
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.30	0.32						0.55	0.42

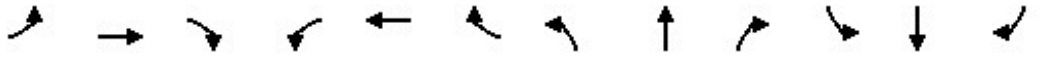
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 19.4		Intersection LOS: B	
Intersection Capacity Utilization 32.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St



Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

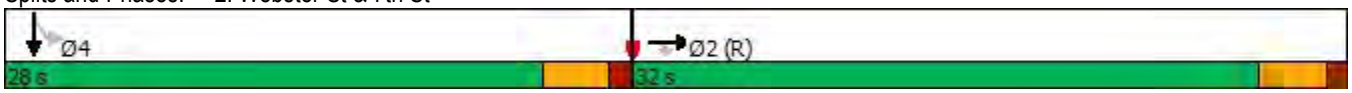


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	706	398	0	0	0	0	0	0	214	694	0
Future Volume (vph)	0	706	398	0	0	0	0	0	0	214	694	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.974	0.850									
Flt Protected											0.988	
Satd. Flow (prot)	0	4404	1348	0	0	0	0	0	0	0	4832	0
Flt Permitted											0.988	
Satd. Flow (perm)	0	4404	1348	0	0	0	0	0	0	0	4832	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		86	86								121	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			387			184			292	
Travel Time (s)		9.3			10.6			5.0			8.0	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	3%	3%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	776	437	0	0	0	0	0	0	235	763	0
Shared Lane Traffic (%)			37%									
Lane Group Flow (vph)	0	938	275	0	0	0	0	0	0	0	998	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		32.0	32.0							28.0	28.0	
Total Split (s)		32.0	32.0							28.0	28.0	
Total Split (%)		53.3%	53.3%							46.7%	46.7%	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		28.0	28.0							24.0	24.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		18.0	18.0							12.0	12.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		32.0	32.0								20.0	
Actuated g/C Ratio		0.53	0.53								0.33	
v/c Ratio		0.39	0.36								0.59	
Control Delay		8.6	8.0								15.5	
Queue Delay		0.0	0.0								0.1	
Total Delay		8.6	8.0								15.7	
LOS		A	A								B	
Approach Delay		8.5									15.7	
Approach LOS		A									B	
Queue Length 50th (ft)		63	39								92	
Queue Length 95th (ft)		104	103								115	
Internal Link Dist (ft)		260			307			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2391	759								2005	
Starvation Cap Reductn		0	0								222	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.39	0.36								0.56	

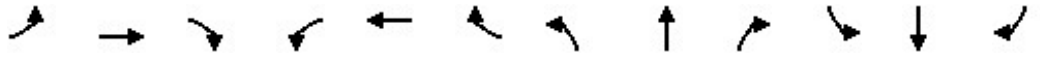
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 41.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Webster St & 7th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	566	0	0	0	0	0	624	1557	0	0	0
Future Volume (vph)	318	566	0	0	0	0	0	624	1557	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.982										
Satd. Flow (prot)	0	4656	0	0	0	0	0	5136	2718	0	0	0
Flt Permitted		0.982										
Satd. Flow (perm)	0	4656	0	0	0	0	0	5136	2718	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		167							135			
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		387			379			445			307	
Travel Time (s)		10.6			10.3			10.1			7.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	5%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	357	636	0	0	0	0	0	701	1749	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	993	0	0	0	0	0	701	1749	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								35.0				
Total Split (%)								58.3%				
Maximum Green (s)								29.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		19.4						29.4	36.7			
Actuated g/C Ratio		0.32						0.49	0.61			
v/c Ratio		0.61						0.28	1.02			
Control Delay		10.8						9.4	41.7			
Queue Delay		0.0						0.0	0.0			
Total Delay		10.8						9.4	41.7			
LOS		B						A	D			
Approach Delay		10.8						32.4				
Approach LOS		B						C				
Queue Length 50th (ft)		48						50	~408			
Queue Length 95th (ft)		63						70	#542			
Internal Link Dist (ft)		307			299			365			227	
Turn Bay Length (ft)												
Base Capacity (vph)		1618						2516	1713			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.61						0.28	1.02			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 51 (85%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 26.2		Intersection LOS: C	
Intersection Capacity Utilization 81.4%		ICU Level of Service D	
Analysis Period (min) 15			
* User Entered Value			
~ Volume exceeds capacity, queue is theoretically infinite.			

Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	4.6
Total Split (s)	25.0	19.0	6.0
Total Split (%)	42%	32%	10%
Maximum Green (s)	19.4	13.4	2.4
Yellow Time (s)	3.6	3.6	3.6
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	Max
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

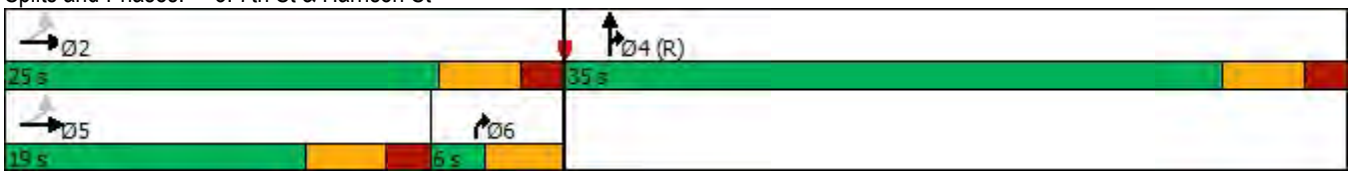
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 3: 7th St & Harrison St

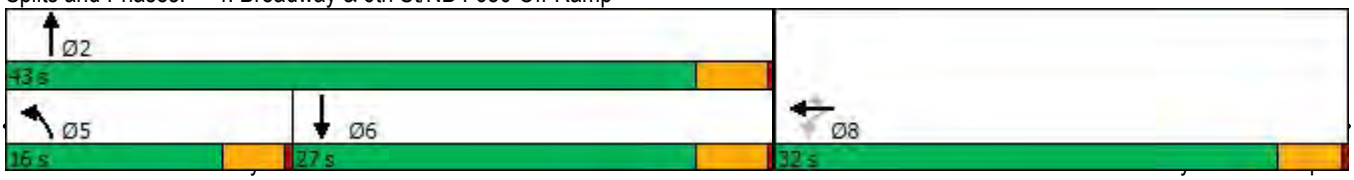


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	274	153	575	51	203	0	0	407	137
Future Volume (vph)	0	0	0	274	153	575	51	203	0	0	407	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.962	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1752	3252	1583	1687	3610	0	0	4916	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1752	3252	1583	1687	3610	0	0	4916	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						625					116	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			328			469	
Travel Time (s)		11.3			8.0			8.9			12.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	11%	2%	7%	0%	0%	0%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	14
Adj. Flow (vph)	0	0	0	298	166	625	55	221	0	0	442	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	298	166	625	55	221	0	0	591	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.0	31.0	31.0	9.5	23.5			23.5	
Total Split (s)				32.0	32.0	32.0	16.0	43.0			27.0	
Total Split (%)				42.7%	42.7%	42.7%	21.3%	57.3%			36.0%	
Maximum Green (s)				28.0	28.0	28.0	12.0	38.5			22.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	None			None	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				15.9	15.9	15.9	7.0	13.4			10.1	
Actuated g/C Ratio				0.40	0.40	0.40	0.18	0.34			0.26	
v/c Ratio				0.42	0.13	0.62	0.18	0.18			0.44	
Control Delay				11.9	9.0	4.3	21.6	9.6			12.8	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				11.9	9.0	4.3	21.6	9.6			12.8	
LOS				B	A	A	C	A			B	
Approach Delay					7.1			12.0			12.8	
Approach LOS					A			B			B	
Queue Length 50th (ft)				31	7	0	9	15			23	
Queue Length 95th (ft)				133	36	53	49	44			88	
Internal Link Dist (ft)		335			213			248			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				1336	2480	1355	609	3141			3311	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.22	0.07	0.46	0.09	0.07			0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 39.3			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 48.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp



Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	55	576	123	53	97	90	253	324	140	225
Future Volume (vph)	55	576	123	53	97	90	253	324	140	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.997	0.850	0.850	0.883					
Flt Protected		0.996						0.950	0.950	
Satd. Flow (prot)	0	3018	1441	1429	4560	0	0	1787	1787	1863
Flt Permitted		0.996						0.950	0.950	
Satd. Flow (perm)	0	3018	1441	1429	4560	0	0	1787	1787	1863
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				73	269					
Link Speed (mph)		25			25					25
Link Distance (ft)		582			693					328
Travel Time (s)		15.9			18.9					8.9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	2%	13%	2%	0%	0%	1%	1%	2%
Adj. Flow (vph)	59	613	131	56	103	96	269	345	149	239
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	685	118	56	468	0	0	345	149	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	30.5	30.5	30.5	30.5	23.5			9.5	9.5	22.5
Total Split (s)	30.5	30.5	30.5	30.5	23.5			21.0	21.0	44.5
Total Split (%)	40.7%	40.7%	40.7%	40.7%	31.3%			28.0%	28.0%	59.3%
Maximum Green (s)	27.0	27.0	27.0	27.0	19.0			17.5	17.5	41.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0			3.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		3.5	3.5	3.5	4.5			3.5	3.5	3.5
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	None			None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	12.0					12.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		19.1	19.1	19.1	8.2			15.3	15.3	28.2
Actuated g/C Ratio		0.35	0.35	0.35	0.15			0.28	0.28	0.52
v/c Ratio		0.65	0.23	0.10	0.51			0.69	0.30	0.25
Control Delay		18.5	14.7	3.3	12.3			28.8	19.9	9.2
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Delay		18.5	14.7	3.3	12.3			28.8	19.9	9.2
LOS		B	B	A	B			C	B	A
Approach Delay		17.0			12.3					20.6
Approach LOS		B			B					C
Queue Length 50th (ft)		116	29	0	22			97	37	39
Queue Length 95th (ft)		198	71	15	53			#254	98	93
Internal Link Dist (ft)		502			613					248
Turn Bay Length (ft)										
Base Capacity (vph)		1564	746	776	1834			600	600	1428
Starvation Cap Reductn		0	0	0	0			0	0	0
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.44	0.16	0.07	0.26			0.57	0.25	0.17

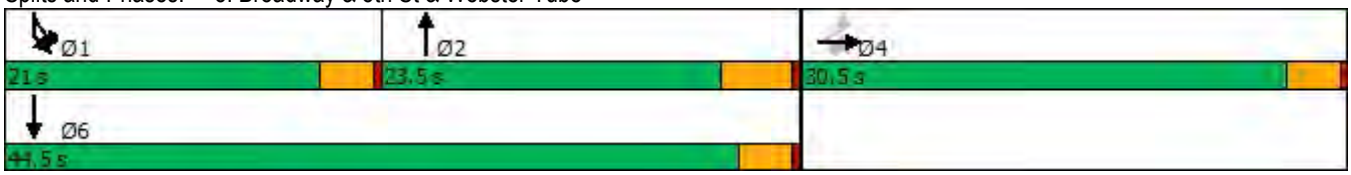
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 54.6			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 17.2		Intersection LOS: B	
Intersection Capacity Utilization 56.8%		ICU Level of Service B	
Analysis Period (min) 15			

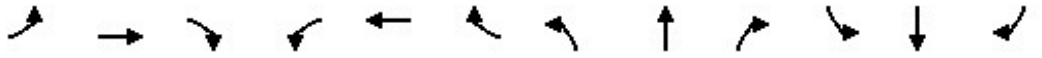
* User Entered Value

\# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Broadway & 5th St & Webster Tube



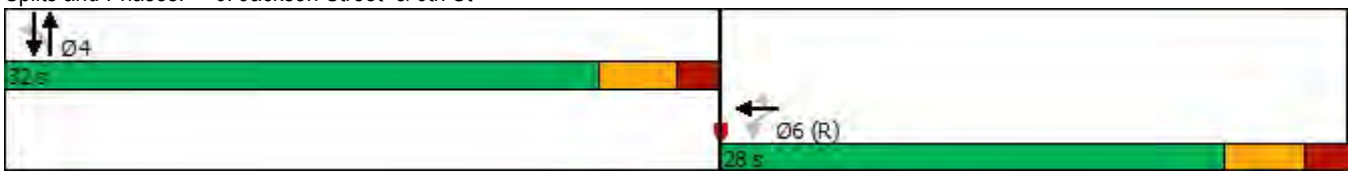


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	8	324	46	236	246	0	0	247	1333
Future Volume (vph)	0	0	0	8	324	46	236	246	0	0	247	1333
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.955	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1759	1615	1805	1900	0	0	1713	1583
Flt Permitted				0.950			0.454					
Satd. Flow (perm)	0	0	0	1805	1759	1615	863	1900	0	0	1713	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						48					46	441
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	0%	2%
Adj. Flow (vph)	0	0	0	8	341	48	248	259	0	0	260	1403
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	8	341	48	248	259	0	0	372	1291
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.01	0.52	0.08	0.65	0.31			0.48	0.82
Control Delay				11.9	18.0	4.7	21.0	10.6			12.8	5.4
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				11.9	18.0	4.7	21.0	10.6			12.8	5.4
LOS				B	B	A	C	B			B	A
Approach Delay					16.3			15.7			7.0	
Approach LOS					B			B			A	
Queue Length 50th (ft)				2	93	0	57	54			81	0
Queue Length 95th (ft)				9	161	17	#172	92			148	0
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	659	635	381	839			782	1583
Starvation Cap Reductn				0	0	0	0	0			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.01	0.52	0.08	0.65	0.31			0.48	0.82

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 84.1%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Jackson Street & 6th St

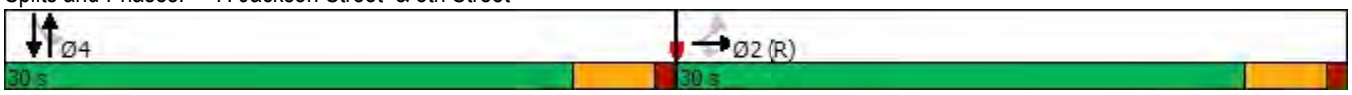


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	269	206	276	0	0	0	0	267	47	151	106	0
Future Volume (vph)	269	206	276	0	0	0	0	267	47	151	106	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.980				
Flt Protected		0.972									0.971	
Satd. Flow (prot)	0	3479	1615	0	0	0	0	1862	0	0	1614	0
Flt Permitted		0.972									0.574	
Satd. Flow (perm)	0	3479	1615	0	0	0	0	1862	0	0	954	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			297					18				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	289	222	297	0	0	0	0	287	51	162	114	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	511	297	0	0	0	0	338	0	0	276	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					25.6		25.6	25.6	
Total Split (s)	30.0	30.0	30.0					30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%					50.0%		50.0%	50.0%	
Maximum Green (s)	25.4	25.4	25.4					25.4		25.4	25.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		25.4	25.4					25.4			25.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.42	0.42					0.42			0.42	
v/c Ratio		0.35	0.35					0.42			0.68	
Control Delay		12.5	2.9					13.5			32.5	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		12.5	2.9					13.5			32.5	
LOS		B	A					B			C	
Approach Delay		9.0						13.5			32.5	
Approach LOS		A						B			C	
Queue Length 50th (ft)		62	0					77			110	
Queue Length 95th (ft)		94	37					136			#198	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1472	854					798			403	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.35	0.35					0.42			0.68	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 51 (85%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 50			
Control Type: Pretimed			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 57.2%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Jackson Street & 5th Street

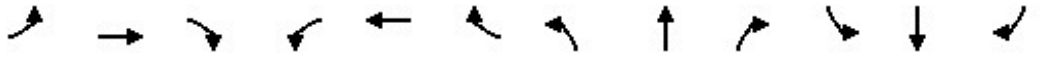


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	204	83	39	1067	868	274
Future Volume (vph)	204	83	39	1067	868	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3505	4988	2842
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3505	4988	2842
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	3%	4%	0%
Adj. Flow (vph)	215	87	41	1123	914	288
Shared Lane Traffic (%)						
Lane Group Flow (vph)	215	87	41	1123	914	288
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	23.0	23.0	11.0	37.0	26.0	
Total Split (%)	38.3%	38.3%	18.3%	61.7%	43.3%	
Maximum Green (s)	18.5	18.5	6.5	32.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	9.2	9.2	6.2	35.3	30.9	47.3
Actuated g/C Ratio	0.17	0.17	0.12	0.66	0.58	0.88
v/c Ratio	0.36	0.31	0.20	0.49	0.32	0.11
Control Delay	20.2	20.9	23.2	5.9	8.0	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	20.9	23.2	5.9	8.0	1.6
LOS	C	C	C	A	A	A
Approach Delay	20.4			6.5	6.4	
Approach LOS	C			A	A	
Queue Length 50th (ft)	29	23	11	68	32	0
Queue Length 95th (ft)	52	53	36	138	106	21
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1218	561	220	2308	2872	2658
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.16	0.19	0.49	0.32	0.11

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 53.6			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 42.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Webster Street & Willie Stargell Ave

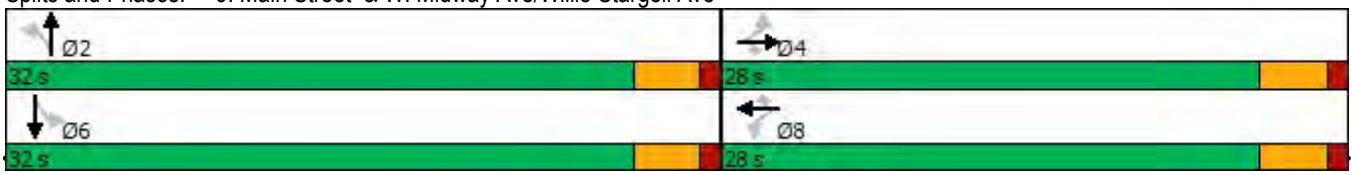


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	66	58	11	86	88	51	195	10	66	201	4
Future Volume (vph)	6	66	58	11	86	88	51	195	10	66	201	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.994			0.998	
Flt Protected		0.996			0.994			0.990			0.988	
Satd. Flow (prot)	0	1892	1442	0	1889	1524	0	3448	0	0	3560	0
Flt Permitted		0.965			0.955			0.853			0.828	
Satd. Flow (perm)	0	1834	1442	0	1814	1524	0	2971	0	0	2983	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73			110		9			3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	12%	0%	0%	6%	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	8	83	73	14	108	110	64	244	13	83	251	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	91	73	0	122	110	0	321	0	0	339	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	28.0	28.0	28.0	28.0	28.0	28.0	32.0	32.0		32.0	32.0	
Total Split (%)	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%	53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	28.0	28.0		28.0	28.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		8.4	8.4		8.4	8.4		31.7			31.7	
Actuated g/C Ratio		0.18	0.18		0.18	0.18		0.70			0.70	
v/c Ratio		0.27	0.22		0.36	0.30		0.15			0.16	
Control Delay		17.2	6.7		18.7	6.4		3.8			3.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		17.2	6.7		18.7	6.4		3.8			3.8	
LOS		B	A		B	A		A			A	
Approach Delay		12.5			12.9			3.8			3.8	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		20	0		27	0		13			14	
Queue Length 95th (ft)		42	18		53	22		27			29	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		968	796		958	856		2073			2079	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.09	0.09		0.13	0.13		0.15			0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 45.5			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 7.1		Intersection LOS: A	
Intersection Capacity Utilization 36.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave

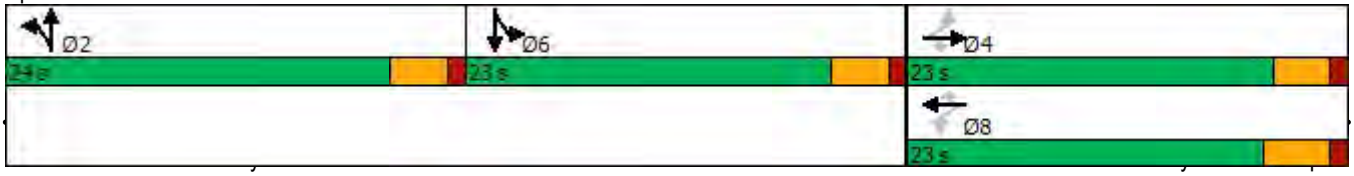


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	370	100	16	257	154	90	126	61	182	113	9
Future Volume (vph)	3	370	100	16	257	154	90	126	61	182	113	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.951			0.994	
Flt Protected					0.997		0.950			0.950	0.980	
Satd. Flow (prot)	0	3610	1553	0	3572	1568	1805	3343	0	1610	3305	0
Flt Permitted		0.952			0.911		0.950			0.950	0.980	
Satd. Flow (perm)	0	3437	1553	0	3264	1568	1805	3343	0	1610	3305	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			193		76			6	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	4%	13%	0%	3%	0%	4%	0%	2%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	4	463	125	20	321	193	113	158	76	228	141	11
Shared Lane Traffic (%)										45%		
Lane Group Flow (vph)	0	467	125	0	341	193	113	234	0	125	255	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	

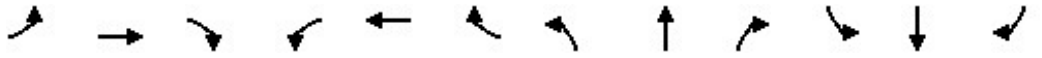
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		13.9	13.9		13.4	13.4	20.3	20.3		10.5	10.5	
Actuated g/C Ratio		0.24	0.24		0.24	0.24	0.36	0.36		0.18	0.18	
v/c Ratio		0.56	0.26		0.44	0.37	0.18	0.19		0.42	0.41	
Control Delay		21.8	5.9		20.8	5.8	16.0	10.5		25.8	22.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		21.8	5.9		20.8	5.8	16.0	10.5		25.8	22.5	
LOS		C	A		C	A	B	B		C	C	
Approach Delay		18.4			15.4			12.3			23.6	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)		70	0		50	0	25	18		41	41	
Queue Length 95th (ft)		108	26		81	30	62	42		82	67	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		1164	608		1076	646	643	1240		545	1123	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.40	0.21		0.32	0.30	0.18	0.19		0.23	0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 56.9			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 40.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Main Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	312	235	151	60	184	135	83	676	50	173	721	243
Future Volume (vph)	312	235	151	60	184	135	83	676	50	173	721	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.936			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3610	1568	1805	3303	0	1805	3477	0	1805	3471	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3610	1568	1805	3303	0	1805	3477	0	1805	3471	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			187		141			11				253
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	0%	3%	0%	4%	0%	0%	3%	0%	0%	4%	2%
Adj. Flow (vph)	325	245	157	63	192	141	86	704	52	180	751	253
Shared Lane Traffic (%)												
Lane Group Flow (vph)	325	245	157	63	333	0	86	756	0	180	751	253
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0



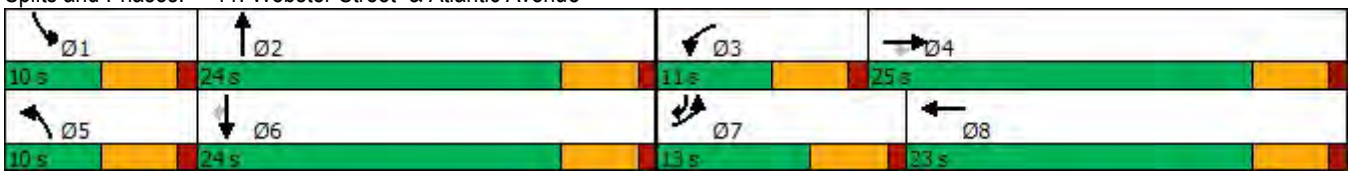
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	13.0	25.0	25.0	11.0	23.0		10.0	24.0		10.0	24.0	13.0
Total Split (%)	18.6%	35.7%	35.7%	15.7%	32.9%		14.3%	34.3%		14.3%	34.3%	18.6%
Maximum Green (s)	8.0	20.0	20.0	6.0	18.0		5.0	19.0		5.0	19.0	8.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	8.0	15.8	15.8	5.9	9.2		5.0	19.0		5.0	21.2	34.2
Actuated g/C Ratio	0.13	0.26	0.26	0.10	0.15		0.08	0.31		0.08	0.35	0.56
v/c Ratio	0.73	0.26	0.29	0.36	0.54		0.59	0.70		1.22	0.63	0.25
Control Delay	38.1	20.6	4.2	33.2	16.9		47.0	22.8		179.2	21.1	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	38.1	20.6	4.2	33.2	16.9		47.0	22.8		179.2	21.1	2.2
LOS	D	C	A	C	B		D	C		F	C	A
Approach Delay		24.9			19.5			25.3			41.1	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	60	42	0	22	34		31	125		~84	126	0
Queue Length 95th (ft)	#124	70	30	58	67		#94	200		#206	201	31
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	444	1188	641	177	1071		147	1087		147	1197	994
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.73	0.21	0.24	0.36	0.31		0.59	0.70		1.22	0.63	0.25

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 61.3			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.22			
Intersection Signal Delay: 30.4		Intersection LOS: C	
Intersection Capacity Utilization 64.8%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

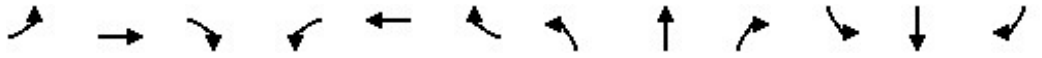
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Webster Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	954	248	63	852	0	0	0	0	583	6
Future Volume (vph)	0	0	954	248	63	852	0	0	0	0	583	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.962							
Satd. Flow (prot)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Flt Permitted					0.962							
Satd. Flow (perm)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					94							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1037	270	68	926	0	0	0	0	634	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	1037	0	338	926	0	0	0	0	634	7
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			65.4		26.8	65.4					30.6	65.4
Actuated g/C Ratio			1.00		0.41	1.00					0.47	1.00
v/c Ratio			0.37		0.43	0.33					0.73	0.00
Control Delay			0.4		11.2	0.3					21.7	0.0
Queue Delay			0.0		0.6	0.0					0.0	0.0
Total Delay			0.4		11.8	0.3					21.7	0.0
LOS			A		B	A					C	A
Approach Delay		0.4			3.4						21.4	
Approach LOS		A			A						C	
Queue Length 50th (ft)			0		63	0					214	0
Queue Length 95th (ft)			0		121	0					#357	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		877	2787					870	1583
Starvation Cap Reductn			0		245	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.37		0.53	0.33					0.73	0.00

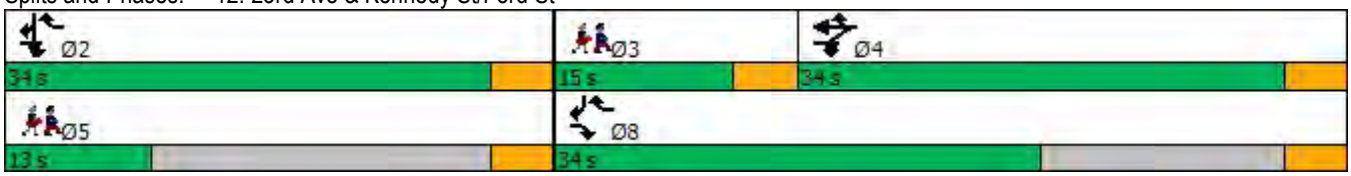
Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.4			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 6.3		Intersection LOS: A	
Intersection Capacity Utilization 91.1%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

! Phase conflict between lane groups.

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St

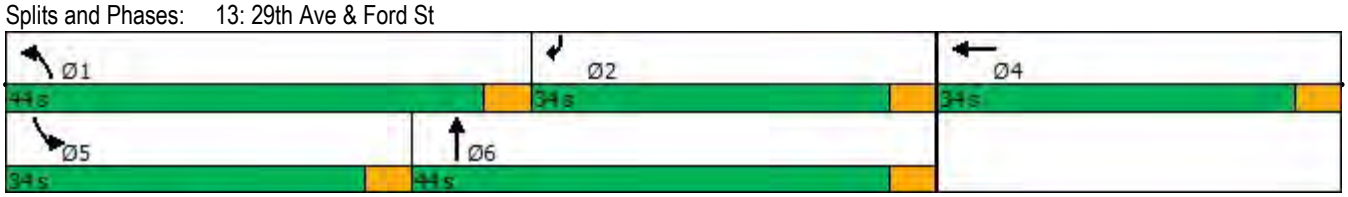


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	44	8	860	659	19	53	0	242
Future Volume (vph)	0	0	0	0	44	8	860	659	19	53	0	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.996				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				263
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	48	9	935	716	21	58	0	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	57	0	935	737	0	58	0	263
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

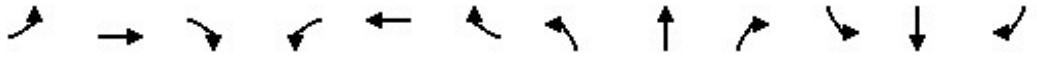
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					8.6		18.9	44.3		6.9		25.1
Actuated g/C Ratio					0.14		0.31	0.73		0.11		0.42
v/c Ratio					0.21		0.87	0.54		0.28		0.32
Control Delay					24.1		30.2	12.5		33.1		4.8
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					24.1		30.2	12.5		33.1		4.8
LOS					C		C	B		C		A
Approach Delay					24.1			22.4			9.9	
Approach LOS					C			C			A	
Queue Length 50th (ft)					18		185	159		22		0
Queue Length 95th (ft)					48		291	#549		65		59
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					970		2550	1378		937		962
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.06		0.37	0.53		0.06		0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 60.3			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 20.5		Intersection LOS: C	
Intersection Capacity Utilization 53.7%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: 29th Ave & Ford St



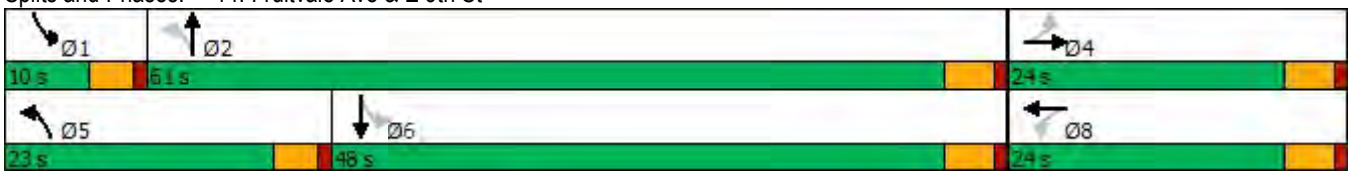
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	98	37	47	26	13	191	427	90	14	443	170
Future Volume (vph)	170	98	37	47	26	13	191	427	90	14	443	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.980			0.974			0.958	
Flt Protected		0.973			0.973		0.950			0.950		
Satd. Flow (prot)	0	1783	0	0	1776	0	1770	1814	0	1770	1785	0
Flt Permitted		0.799			0.738		0.138			0.453		
Satd. Flow (perm)	0	1465	0	0	1347	0	257	1814	0	844	1785	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			8			20			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	107	40	51	28	14	208	464	98	15	482	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	332	0	0	93	0	208	562	0	15	667	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		

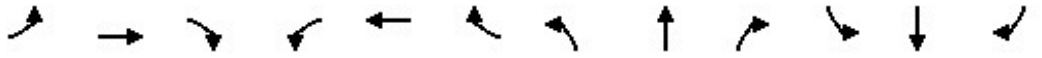


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		19.9			19.9		49.5	47.2		38.6	32.3	
Actuated g/C Ratio		0.25			0.25		0.63	0.60		0.49	0.41	
v/c Ratio		0.88			0.27		0.51	0.51		0.03	0.89	
Control Delay		56.4			28.0		12.1	10.5		5.7	35.0	
Queue Delay		0.0			0.0		0.4	1.7		0.0	0.0	
Total Delay		56.4			28.0		12.5	12.2		5.7	35.0	
LOS		E			C		B	B		A	D	
Approach Delay		56.4			28.0			12.3			34.4	
Approach LOS		E			C			B			C	
Queue Length 50th (ft)		158			34		36	122		2	282	
Queue Length 95th (ft)		#379			87		85	264		8	450	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		379			350		539	1357		493	1028	
Starvation Cap Reductn		0			0		88	599		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.88			0.27		0.46	0.74		0.03	0.65	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 78.1			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 28.9		Intersection LOS: C	
Intersection Capacity Utilization 75.9%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 14: Fruitvale Ave & E 9th St





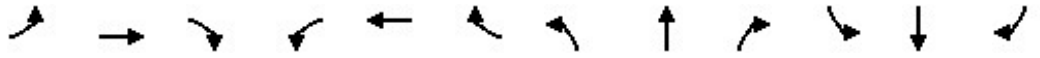
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	79	361	6	0	98	0	479	17	87	445	0
Future Volume (vph)	152	79	361	6	0	98	0	479	17	87	445	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.873			0.995				
Flt Protected		0.968			0.997					0.950		
Satd. Flow (prot)	0	1803	1583	0	1621	0	0	3522	0	1770	1863	0
Flt Permitted		0.740			0.978					0.313		
Satd. Flow (perm)	0	1378	1583	0	1590	0	0	3522	0	583	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			356		107			4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	86	392	7	0	107	0	521	18	95	484	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	251	392	0	114	0	0	539	0	95	484	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		16.5	16.5		15.3			15.2		24.3	23.8	
Actuated g/C Ratio		0.34	0.34		0.31			0.31		0.49	0.48	
v/c Ratio		0.55	0.51		0.20			0.49		0.20	0.54	
Control Delay		19.8	5.4		5.1			17.6		8.6	12.0	
Queue Delay		0.0	0.0		0.0			0.0		0.0	0.1	
Total Delay		19.8	5.4		5.1			17.6		8.7	12.2	
LOS		B	A		A			B		A	B	
Approach Delay		11.0			5.1			17.6			11.6	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		59	7		1			68		13	84	
Queue Length 95th (ft)		145	62		31			145		43	214	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		980	1228		1139			2283		854	1746	
Starvation Cap Reductn		0	0		0			0		151	433	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.26	0.32		0.10			0.24		0.14	0.37	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 49.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 63.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	410	316	164	334	480	59	15	454	76
Future Volume (vph)	0	0	0	410	316	164	334	480	59	15	454	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.972			0.984			0.979	
Flt Protected					0.977		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3361	0	1770	3483	0	0	3461	0
Flt Permitted					0.977		0.950				0.930	
Satd. Flow (perm)	0	0	0	0	3361	0	1770	3483	0	0	3222	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					38			25			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	446	343	178	363	522	64	16	493	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	967	0	363	586	0	0	592	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	

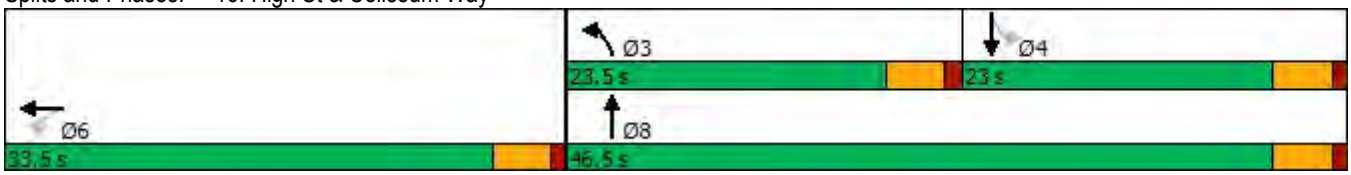


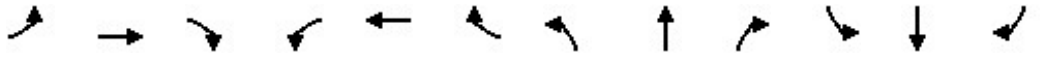
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		23.5	46.5		23.0	23.0	
Total Split (%)				41.9%	41.9%		29.4%	58.1%		28.8%	28.8%	
Maximum Green (s)				29.0	29.0		19.0	42.0		18.5	18.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		19.0	42.0			18.5	
Actuated g/C Ratio					0.36		0.24	0.52			0.23	
v/c Ratio					0.78		0.86	0.32			0.78	
Control Delay					27.0		51.7	10.9			36.1	
Queue Delay					0.0		40.6	1.1			0.0	
Total Delay					27.0		92.3	12.1			36.1	
LOS					C		F	B			D	
Approach Delay					27.0			42.7			36.1	
Approach LOS					C			D			D	
Queue Length 50th (ft)					213		175	78			141	
Queue Length 95th (ft)					287		#323	110			#205	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1242		420	1840			761	
Starvation Cap Reductn					0		81	972			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.78		1.07	0.68			0.78	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 35.1		Intersection LOS: D	
Intersection Capacity Utilization 71.1%		ICU Level of Service C	
Analysis Period (min) 15			

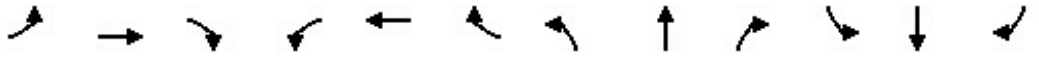
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	330	131	31	0	144	0	647	227	212	645	0
Future Volume (vph)	76	330	131	31	0	144	0	647	227	212	645	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.961				
Flt Protected		0.991		0.950						0.950		
Satd. Flow (prot)	0	3507	1583	1770	0	1583	0	3401	0	1770	3539	0
Flt Permitted		0.991		0.412						0.950		
Satd. Flow (perm)	0	3507	1583	767	0	1583	0	3401	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						157		64				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	359	142	34	0	157	0	703	247	230	701	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	442	142	34	0	157	0	950	0	230	701	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	29.0	29.0	29.0	29.0		29.0		30.0		21.0	51.0	
Total Split (%)	36.3%	36.3%	36.3%	36.3%		36.3%		37.5%		26.3%	63.8%	
Maximum Green (s)	25.0	25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Actuated g/C Ratio		0.31	0.31	0.31		0.31		0.32		0.21	0.58	
v/c Ratio		0.40	0.29	0.15		0.26		0.84		0.63	0.34	
Control Delay		23.0	22.8	22.2		5.1		32.1		37.7	9.3	
Queue Delay		0.0	0.0	0.0		0.0		0.0		1.5	1.5	
Total Delay		23.0	22.8	22.2		5.1		32.1		39.2	10.8	
LOS		C	C	C		A		C		D	B	
Approach Delay		22.9			8.1			32.1			17.8	
Approach LOS		C			A			C			B	
Queue Length 50th (ft)		90	53	12		0		216		106	87	
Queue Length 95th (ft)		131	99	34		40		#319		179	120	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1095	494	234		593		1127		365	2057	
Starvation Cap Reductn		0	0	0		0		0		42	1114	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.40	0.29	0.15		0.26		0.84		0.71	0.74	

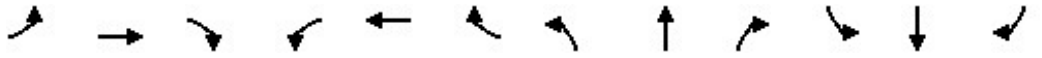
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 23.4		Intersection LOS: C	
Intersection Capacity Utilization 65.7%		ICU Level of Service C	

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	64	16	19	107	170	0	942	30	9	798	276
Future Volume (vph)	218	64	16	19	107	170	0	942	30	9	798	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.971				0.850		0.995			0.962	
Flt Protected	0.950				0.992							
Satd. Flow (prot)	1770	1809	0	0	1848	1583	0	3522	0	0	3405	0
Flt Permitted	0.669				0.953						0.946	
Satd. Flow (perm)	1246	1809	0	0	1775	1583	0	3522	0	0	3221	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		17						8			123	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	237	70	17	21	116	185	0	1024	33	10	867	300
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	87	0	0	137	185	0	1057	0	0	1177	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		

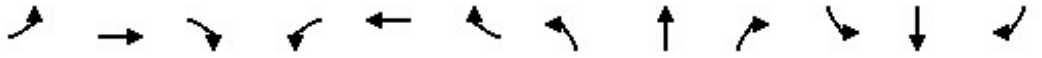


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	14.8	14.8			14.8	14.8		33.4			33.4	
Actuated g/C Ratio	0.26	0.26			0.26	0.26		0.58			0.58	
v/c Ratio	0.74	0.18			0.30	0.45		0.51			0.61	
Control Delay	33.6	14.0			18.1	21.0		8.8			9.1	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	33.6	14.0			18.1	21.0		8.8			9.1	
LOS	C	B			B	C		A			A	
Approach Delay		28.3			19.8			8.8			9.1	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)	72	18			37	52		103			110	
Queue Length 95th (ft)	#143	46			74	100		165			185	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	404	598			575	513		2058			1930	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.59	0.15			0.24	0.36		0.51			0.61	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 57.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 18: Park St & Blanding Ave

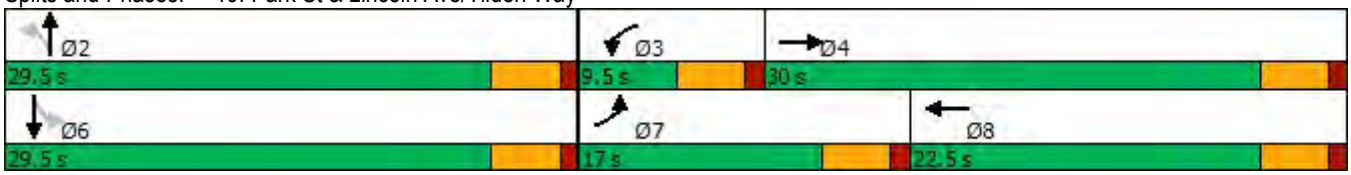
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	196	70	90	245	9	28	411	37	43	659	64
Future Volume (vph)	125	196	70	90	245	9	28	411	37	43	659	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.961			0.995			0.988			0.987	
Flt Protected	0.950			0.950				0.997			0.997	
Satd. Flow (prot)	1770	3401	0	1770	3522	0	0	3486	0	0	3483	0
Flt Permitted	0.950			0.950				0.886			0.902	
Satd. Flow (perm)	1770	3401	0	1770	3522	0	0	3098	0	0	3151	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			5			14			16	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	213	76	98	266	10	30	447	40	47	716	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	289	0	98	276	0	0	517	0	0	833	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		



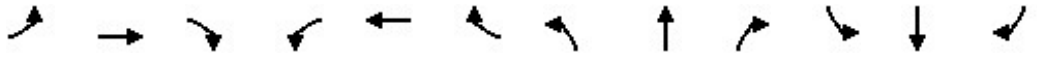
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	9.4	13.7		5.1	9.7			25.6			25.6	
Actuated g/C Ratio	0.17	0.25		0.09	0.17			0.46			0.46	
v/c Ratio	0.45	0.32		0.60	0.45			0.36			0.57	
Control Delay	27.6	13.4		46.5	23.8			12.2			14.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	27.6	13.4		46.5	23.8			12.2			14.6	
LOS	C	B		D	C			B			B	
Approach Delay		17.9			29.8			12.2			14.6	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	43	31		34	45			58			108	
Queue Length 95th (ft)	92	57		#107	80			109			191	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	407	1636		162	1170			1433			1458	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.33	0.18		0.60	0.24			0.36			0.57	

Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 55.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 63.8%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



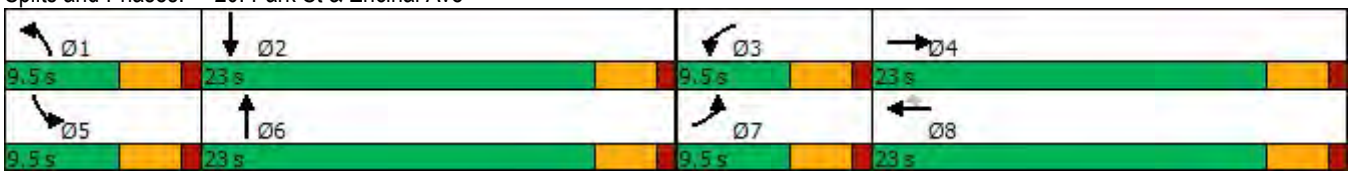
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	427	48	42	272	77	47	237	55	94	292	43
Future Volume (vph)	43	427	48	42	272	77	47	237	55	94	292	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985				0.850		0.972			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				151		44			25	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	464	52	46	296	84	51	258	60	102	317	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	516	0	46	296	84	51	318	0	102	364	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						

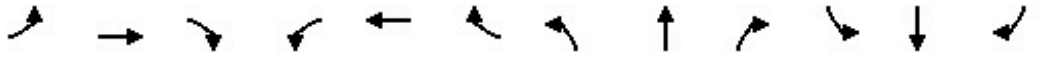


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.8	13.9		5.8	13.9	13.9	5.8	20.1		5.8	22.3	
Actuated g/C Ratio	0.11	0.26		0.11	0.26	0.26	0.11	0.37		0.11	0.41	
v/c Ratio	0.25	0.57		0.24	0.62	0.16	0.27	0.25		0.54	0.25	
Control Delay	30.6	20.6		30.5	25.6	1.5	31.0	13.9		41.4	14.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	30.6	20.6		30.5	25.6	1.5	31.0	13.9		41.4	14.2	
LOS	C	C		C	C	A	C	B		D	B	
Approach Delay		21.5			21.4			16.3			20.2	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	17	85		16	98	0	18	38		37	48	
Queue Length 95th (ft)	47	127		46	168	7	50	73		#109	87	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	188	1297		188	687	679	188	1296		188	1434	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.40		0.24	0.43	0.12	0.27	0.25		0.54	0.25	

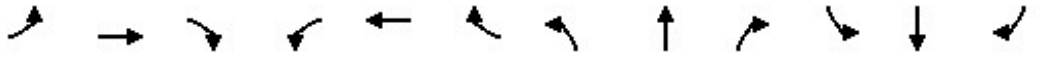
Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 54.5			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 45.4%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	138	15	58	152	148	27	358	91	264	578	210
Future Volume (vph)	107	138	15	58	152	148	27	358	91	264	578	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.970			0.960	
Flt Protected		0.979			0.986		0.950			0.950		
Satd. Flow (prot)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Flt Permitted		0.979			0.986		0.950			0.950		
Satd. Flow (perm)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			161		32			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	116	150	16	63	165	161	29	389	99	287	628	228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	266	16	0	228	161	29	488	0	287	856	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



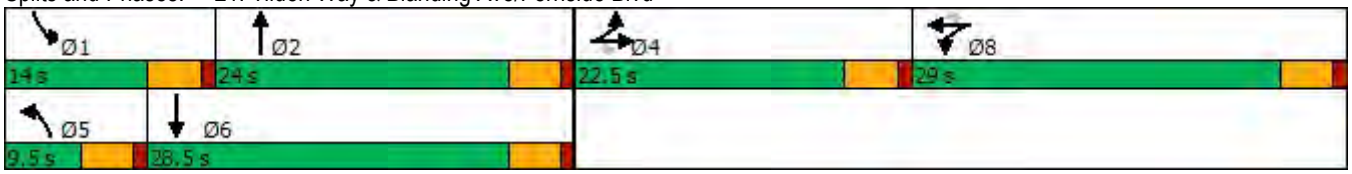
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		15.0	15.0		15.0	15.0	5.1	15.4		9.8	26.5	
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.07	0.21		0.13	0.36	
v/c Ratio		0.72	0.04		0.61	0.36	0.24	0.66		1.23	0.68	
Control Delay		41.1	0.1		35.0	7.1	42.5	30.6		167.6	25.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		41.1	0.1		35.0	7.1	42.5	30.6		167.6	25.0	
LOS		D	A		D	A	D	C		F	C	
Approach Delay		38.8			23.5			31.3			60.8	
Approach LOS		D			C			C			E	
Queue Length 50th (ft)		114	0		98	0	13	102		~173	150	
Queue Length 95th (ft)		#243	0		176	46	43	173		#380	#336	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		457	492		627	646	123	956		234	1257	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.58	0.03		0.36	0.25	0.24	0.51		1.23	0.68	

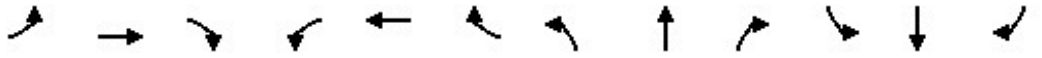
Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 73.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.23			
Intersection Signal Delay: 45.4		Intersection LOS: D	
Intersection Capacity Utilization 66.8%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

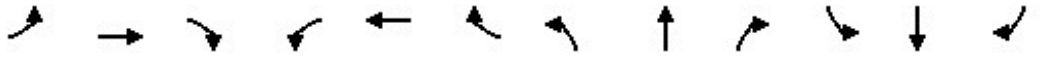
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd





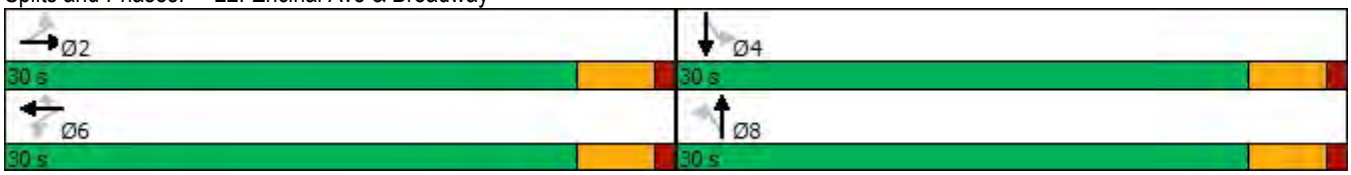
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	349	110	27	242	29	81	305	21	53	362	40
Future Volume (vph)	53	349	110	27	242	29	81	305	21	53	362	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968				0.850		0.990			0.985	
Flt Protected		0.995			0.995		0.950			0.950		
Satd. Flow (prot)	0	3409	0	0	1853	1636	1770	1844	0	1770	1835	0
Flt Permitted		0.886			0.909		0.453			0.524		
Satd. Flow (perm)	0	3035	0	0	1693	1636	844	1844	0	976	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72				32		7			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	379	120	29	263	32	88	332	23	58	393	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	557	0	0	292	32	88	355	0	58	436	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



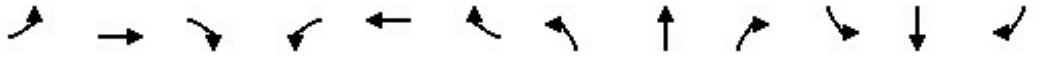
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		14.0			14.0	14.0	25.7	25.7		25.7	25.7	
Actuated g/C Ratio		0.29			0.29	0.29	0.53	0.53		0.53	0.53	
v/c Ratio		0.60			0.60	0.07	0.20	0.36		0.11	0.45	
Control Delay		15.6			20.3	5.4	9.0	8.9		7.9	9.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		15.6			20.3	5.4	9.0	8.9		7.9	9.8	
LOS		B			C	A	A	A		A	A	
Approach Delay		15.6			18.8			8.9			9.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		60			70	0	11	49		7	64	
Queue Length 95th (ft)		97			128	13	40	123		27	157	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1633			892	877	444	974		514	972	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.34			0.33	0.04	0.20	0.36		0.11	0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 48.7			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	732	12	109	607	249	5	69	122	266	80	115
Future Volume (vph)	115	732	12	109	607	249	5	69	122	266	80	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.916				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3532	0	1770	1863	1583	0	1705	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.996		0.566		
Satd. Flow (perm)	1770	3532	0	1770	1863	1583	0	1699	0	1054	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				271		110				143
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			1523			502			2170	
Travel Time (s)		9.3			41.5			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	796	13	118	660	271	5	75	133	289	87	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	809	0	118	660	271	0	213	0	289	87	125
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



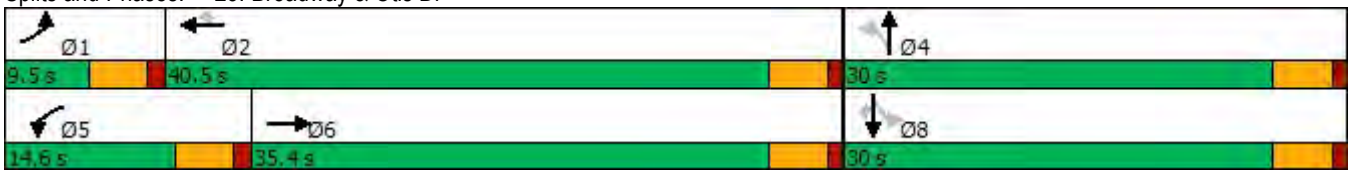
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	30.1		9.0	31.5	31.5		25.7		25.7	25.7	25.7
Actuated g/C Ratio	0.07	0.40		0.12	0.42	0.42		0.34		0.34	0.34	0.34
v/c Ratio	1.07	0.58		0.56	0.85	0.33		0.33		0.81	0.14	0.20
Control Delay	143.2	20.6		43.7	32.0	3.1		11.8		45.1	20.0	3.8
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	143.2	20.6		43.7	32.0	3.1		11.8		45.1	20.0	3.8
LOS	F	C		D	C	A		B		D	B	A
Approach Delay		37.1			25.8			11.8			30.5	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)	~74	164		56	270	0		37		134	31	0
Queue Length 95th (ft)	#177	222		108	#422	40		90		#276	64	28
Internal Link Dist (ft)		261			1443			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	117	1450		237	890	898		647		356	630	630
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	1.07	0.56		0.50	0.74	0.30		0.33		0.81	0.14	0.20

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 75.8			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 29.5		Intersection LOS: C	
Intersection Capacity Utilization 79.4%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

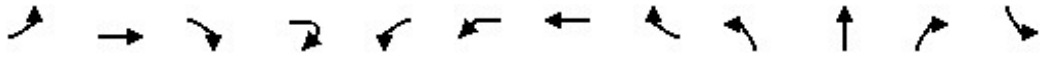
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	79	271	60	3	4	2	162	126	34	228	3	145
Future Volume (vph)	79	271	60	3	4	2	162	126	34	228	3	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.998			0.994		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1859	1583	0	1850	0	1770
Flt Permitted	0.581						0.990			0.908		0.950
Satd. Flow (perm)	1082	1863	1583	0	0	0	1844	1583	0	1690	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								137				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	295	65	3	4	2	176	137	37	248	3	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	295	68	0	0	0	182	137	0	288	0	158
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

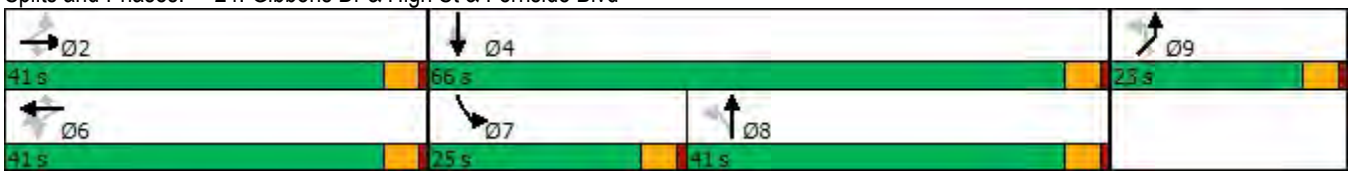
Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations							
Traffic Volume (vph)	340	66	103	2	70	6	3
Future Volume (vph)	340	66	103	2	70	6	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0			0	50	
Storage Lanes		1			1	1	
Taper Length (ft)					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.988		0.850
Flt Protected					0.956		
Satd. Flow (prot)	1863	1583	0	0	1759	0	1583
Flt Permitted					0.990		
Satd. Flow (perm)	1863	1583	0	0	1822	0	1583
Right Turn on Red			No				Yes
Satd. Flow (RTOR)							88
Link Speed (mph)	25				25		
Link Distance (ft)	1133				459		
Travel Time (s)	30.9				12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	72	112	2	76	7	3
Shared Lane Traffic (%)							
Lane Group Flow (vph)	370	184	0	0	85	0	3
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Right
Median Width(ft)	12				12		
Link Offset(ft)	0				0		
Crosswalk Width(ft)	16				16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	15	9	9
Number of Detectors	2	1		1	1		1
Detector Template	Thru	Right		Left	Left		Right
Leading Detector (ft)	100	20		20	20		20
Trailing Detector (ft)	0	0		0	0		0
Detector 1 Position(ft)	0	0		0	0		0
Detector 1 Size(ft)	6	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm		Perm	Prot		Perm
Protected Phases	4				9		
Permitted Phases		4		9			9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	41.0	41.0	41.0		41.0	41.0	41.0	41.0	41.0	41.0		25.0
Total Split (%)	31.5%	31.5%	31.5%		31.5%	31.5%	31.5%	31.5%	31.5%	31.5%		19.2%
Maximum Green (s)	36.5	36.5	36.5		36.5	36.5	36.5	36.5	36.5	36.5		20.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.1	37.1	37.1				37.1	37.1		23.7		20.8
Actuated g/C Ratio	0.34	0.34	0.34				0.34	0.34		0.22		0.19
v/c Ratio	0.23	0.46	0.12				0.29	0.22		0.78		0.46
Control Delay	31.5	33.2	29.5				30.4	6.2		54.9		46.9
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	31.5	33.2	29.5				30.4	6.2		54.9		46.9
LOS	C	C	C				C	A		D		D
Approach Delay		32.4					20.0			54.9		
Approach LOS		C					B			D		
Queue Length 50th (ft)	43	162	33				93	0		192		99
Queue Length 95th (ft)	100	292	79				181	47		301		191
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	372	642	545				635	635		582		342
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.23	0.46	0.12				0.29	0.22		0.49		0.46

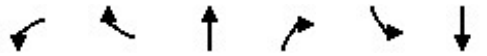
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 107.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 32.9		Intersection LOS: C	
Intersection Capacity Utilization 78.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd

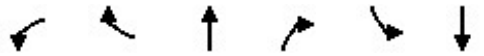


Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Detector Phase	4	4		9	9		9
Switch Phase							
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5
Total Split (s)	66.0	66.0		23.0	23.0		23.0
Total Split (%)	50.8%	50.8%		17.7%	17.7%		17.7%
Maximum Green (s)	61.5	61.5		18.5	18.5		18.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0
Total Lost Time (s)	4.5	4.5			4.5		4.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0
Act Effct Green (s)	49.1	49.1			10.5		10.5
Actuated g/C Ratio	0.46	0.46			0.10		0.10
v/c Ratio	0.44	0.25			0.48		0.01
Control Delay	22.5	19.9			57.8		0.0
Queue Delay	0.0	0.0			0.0		0.0
Total Delay	22.5	19.9			57.8		0.0
LOS	C	B			E		A
Approach Delay	27.2				55.9		
Approach LOS	C				E		
Queue Length 50th (ft)	175	79			57		0
Queue Length 95th (ft)	271	137			117		0
Internal Link Dist (ft)	1053				379		
Turn Bay Length (ft)							50
Base Capacity (vph)	1082	919			318		349
Starvation Cap Reductn	0	0			0		0
Spillback Cap Reductn	0	0			0		0
Storage Cap Reductn	0	0			0		0
Reduced v/c Ratio	0.34	0.20			0.27		0.01

Intersection Summary



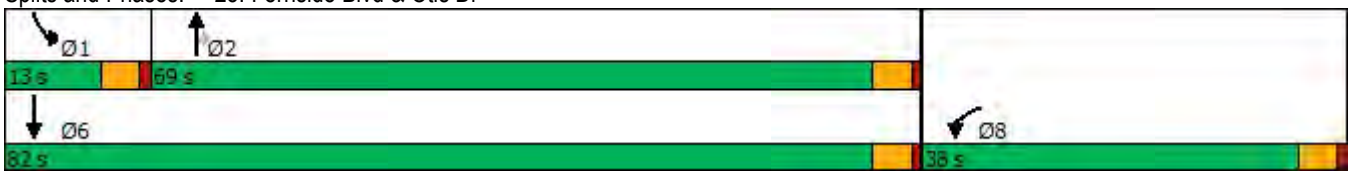
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	661	14	928	662	51	1133
Future Volume (vph)	661	14	928	662	51	1133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.997			0.850		
Flt Protected	0.953				0.950	
Satd. Flow (prot)	3434	0	3539	1583	1770	3539
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	3434	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	2			264		
Link Speed (mph)	25		35			35
Link Distance (ft)	312		1414			1511
Travel Time (s)	8.5		27.5			29.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	718	15	1009	720	55	1232
Shared Lane Traffic (%)						
Lane Group Flow (vph)	733	0	1009	720	55	1232
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	38.0		69.0	69.0	13.0	82.0
Total Split (%)	31.7%		57.5%	57.5%	10.8%	68.3%
Maximum Green (s)	33.5		64.5	64.5	8.5	77.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	29.1		67.5	67.5	7.7	77.6
Actuated g/C Ratio	0.25		0.58	0.58	0.07	0.67
v/c Ratio	0.85		0.49	0.70	0.47	0.52
Control Delay	51.3		16.3	15.7	66.3	11.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	51.3		16.3	15.7	66.3	11.0
LOS	D		B	B	E	B
Approach Delay	51.3		16.1			13.4
Approach LOS	D		B			B
Queue Length 50th (ft)	268		240	250	40	231
Queue Length 95th (ft)	339		314	433	86	306
Internal Link Dist (ft)	232		1334			1431
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	997		2066	1034	130	2374
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.74		0.49	0.70	0.42	0.52

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 115.7			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 22.0		Intersection LOS: C	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 25: Fernside Blvd & Otis Dr

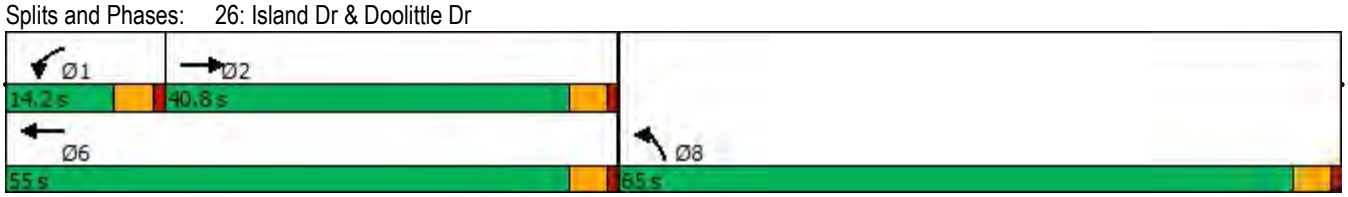


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	692	1079	111	812	777	77
Future Volume (vph)	692	1079	111	812	777	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		355				64
Link Speed (mph)	25			25	25	
Link Distance (ft)	1414			365	455	
Travel Time (s)	38.6			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	752	1173	121	883	845	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	752	1173	121	883	845	84
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.5	86.3	9.5	50.5	26.7	86.3
Actuated g/C Ratio	0.42	1.00	0.11	0.59	0.31	1.00
v/c Ratio	0.50	0.74	0.62	0.43	0.79	0.05
Control Delay	20.6	3.2	53.2	11.4	33.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	3.2	53.2	11.4	33.3	0.1
LOS	C	A	D	B	C	A
Approach Delay	10.0			16.4	30.3	
Approach LOS	A			B	C	
Queue Length 50th (ft)	153	0	64	127	214	0
Queue Length 95th (ft)	238	0	#149	210	280	0
Internal Link Dist (ft)	1334			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1494	1583	199	2079	2416	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.74	0.61	0.42	0.35	0.05

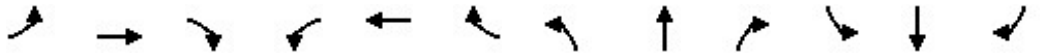
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 86.3			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 58.7%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 26: Island Dr & Doolittle Dr



2025 Proposed Action Condition

AM Peak Hour



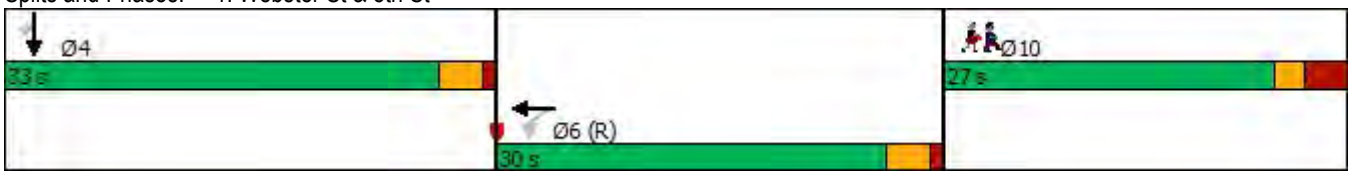
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	374	608	0	0	0	0	0	506	185
Future Volume (vph)	0	0	0	374	608	0	0	0	0	0	506	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.987	0.850
Flt Protected				0.950	0.992							
Satd. Flow (prot)	0	0	0	1345	4466	0	0	0	0	0	4579	1169
Flt Permitted				0.950	0.992							
Satd. Flow (perm)	0	0	0	1345	4466	0	0	0	0	0	4579	1169
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				273	73						17	147
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	1%	5%	0%	0%	0%	0%	0%	1%	4%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	402	654	0	0	0	0	0	544	199
Shared Lane Traffic (%)				32%								26%
Lane Group Flow (vph)	0	0	0	273	783	0	0	0	0	0	596	147
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				43.4	43.4						19.4	19.4
Actuated g/C Ratio				0.48	0.48						0.22	0.22
v/c Ratio				0.35	0.36						0.60	0.40
Control Delay				3.9	16.0						32.8	8.1
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				3.9	16.0						32.8	8.1
LOS				A	B						C	A
Approach Delay					12.9						27.9	
Approach LOS					B						C	
Queue Length 50th (ft)				0	103						115	0
Queue Length 95th (ft)				59	156						141	51
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				789	2190						1486	476
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.35	0.36						0.40	0.31

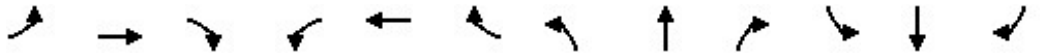
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 19.1		Intersection LOS: B	
Intersection Capacity Utilization 32.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St



Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

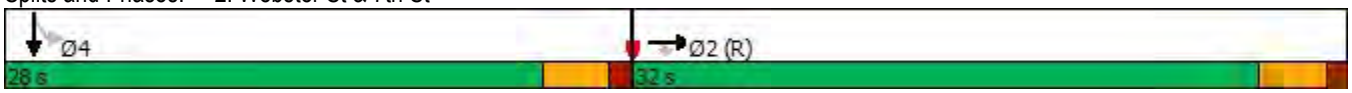


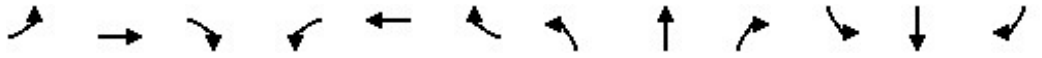
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	346	349	0	0	0	0	0	0	163	741	0
Future Volume (vph)	0	346	349	0	0	0	0	0	0	163	741	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.950	0.850									
Flt Protected											0.991	
Satd. Flow (prot)	0	4135	1298	0	0	0	0	0	0	0	4701	0
Flt Permitted											0.991	
Satd. Flow (perm)	0	4135	1298	0	0	0	0	0	0	0	4701	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		66	66								97	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			405			184			292	
Travel Time (s)		9.3			11.0			5.0			8.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	7%	7%	0%	0%	0%	0%	0%	0%	17%	1%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	393	397	0	0	0	0	0	0	185	842	0
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	592	198	0	0	0	0	0	0	0	1027	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		32.0	32.0							28.0	28.0	
Total Split (s)		32.0	32.0							28.0	28.0	
Total Split (%)		53.3%	53.3%							46.7%	46.7%	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		28.0	28.0							24.0	24.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		18.0	18.0							12.0	12.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		31.2	31.2								20.8	
Actuated g/C Ratio		0.52	0.52								0.35	
v/c Ratio		0.27	0.28								0.61	
Control Delay		8.1	7.5								15.8	
Queue Delay		0.0	0.0								0.2	
Total Delay		8.1	7.5								16.0	
LOS		A	A								B	
Approach Delay		8.0									16.0	
Approach LOS		A									B	
Queue Length 50th (ft)		38	27								95	
Queue Length 95th (ft)		62	70								119	
Internal Link Dist (ft)		260			325			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2184	707								1938	
Starvation Cap Reductn		0	0								247	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.27	0.28								0.61	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 38.7%		ICU Level of Service A	
Analysis Period (min) 15			

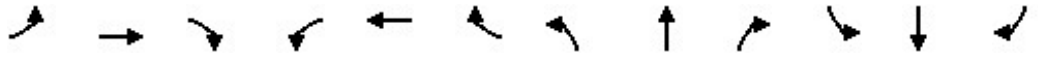
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	391	0	0	0	0	0	938	1876	0	0	0
Future Volume (vph)	57	391	0	0	0	0	0	938	1876	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.994										
Satd. Flow (prot)	0	4467	0	0	0	0	0	5187	2666	0	0	0
Flt Permitted		0.994										
Satd. Flow (perm)	0	4467	0	0	0	0	0	5187	2666	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47							566			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		405			362			410			260	
Travel Time (s)		11.0			9.9			11.2			7.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	14%	9%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	59	403	0	0	0	0	0	967	1934	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	462	0	0	0	0	0	967	1934	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								28.0				
Total Split (%)								46.7%				
Maximum Green (s)								22.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		26.4						22.4	41.4			
Actuated g/C Ratio		0.44						0.37	0.69			
v/c Ratio		0.23						0.50	0.96			
Control Delay		11.3						15.6	21.5			
Queue Delay		0.0						0.0	0.0			
Total Delay		11.3						15.6	21.5			
LOS		B						B	C			
Approach Delay		11.3						19.5				
Approach LOS		B						B				
Queue Length 50th (ft)		38						95	204			
Queue Length 95th (ft)		59						129	#544			
Internal Link Dist (ft)		325			282			330			180	
Turn Bay Length (ft)												
Base Capacity (vph)		1991						1936	2014			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.23						0.50	0.96			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 25 (42%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 18.4		Intersection LOS: B	
Intersection Capacity Utilization 83.7%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			

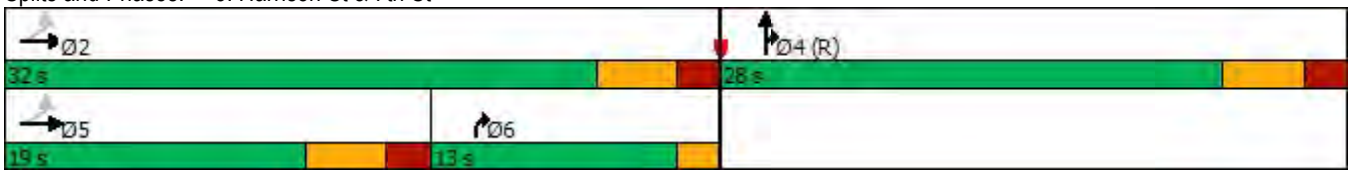
Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	3.0
Total Split (s)	32.0	19.0	13.0
Total Split (%)	53%	32%	22%
Maximum Green (s)	26.4	13.4	11.0
Yellow Time (s)	3.6	3.6	2.0
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

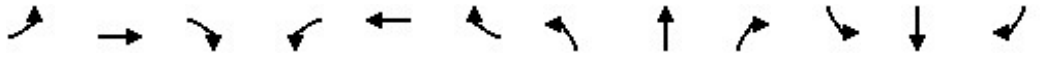
Intersection Summary

Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 3: Harrison St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	423	160	612	26	172	0	0	342	42
Future Volume (vph)	0	0	0	423	160	612	26	172	0	0	342	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.984	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1687	3406	1599	1805	3059	0	0	4716	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1687	3406	1599	1805	3059	0	0	4716	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						644					29	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			342			469	
Travel Time (s)		11.3			8.0			9.3			12.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	7%	6%	1%	0%	18%	0%	0%	8%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	20
Adj. Flow (vph)	0	0	0	445	168	644	27	181	0	0	360	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	445	168	644	27	181	0	0	404	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.5	31.5	31.5	9.5	24.0			24.0	
Total Split (s)				32.0	32.0	32.0	16.0	43.0			27.0	
Total Split (%)				42.7%	42.7%	42.7%	21.3%	57.3%			36.0%	
Maximum Green (s)				28.0	28.0	28.0	12.0	38.5			22.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	C-Max			C-Max	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				25.1	25.1	25.1	7.9	41.4			35.0	
Actuated g/C Ratio				0.33	0.33	0.33	0.11	0.55			0.47	
v/c Ratio				0.79	0.15	0.67	0.14	0.11			0.18	
Control Delay				33.1	16.8	5.5	29.0	4.3			13.8	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				33.1	16.8	5.5	29.0	4.3			13.8	
LOS				C	B	A	C	A			B	
Approach Delay					16.8			7.5			13.8	
Approach LOS					B			A			B	
Queue Length 50th (ft)				172	26	0	13	11			31	
Queue Length 95th (ft)				277	46	64	m27	m15			72	
Internal Link Dist (ft)		335			213			262			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				629	1271	1000	288	1687			2215	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.71	0.13	0.64	0.09	0.11			0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 16 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 49.7%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	28	805	172	107	175	213	62	353	129	299
Future Volume (vph)	28	805	172	107	175	213	62	353	129	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.997	0.850	0.850	0.908					
Flt Protected		0.998						0.950	0.950	
Satd. Flow (prot)	0	2427	1361	1615	4235	0	0	1770	1770	1681
Flt Permitted		0.998						0.950	0.950	
Satd. Flow (perm)	0	2427	1361	1615	4235	0	0	1770	1770	1681
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				116	39					
Link Speed (mph)		25			25					25
Link Distance (ft)		558			823					342
Travel Time (s)		15.2			22.4					9.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	25%	25%	8%	0%	21%	5%	5%	2%	2%	13%
Adj. Flow (vph)	30	875	187	116	190	232	67	384	140	325
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	924	168	116	489	0	0	384	140	325
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	31.0	31.0	31.0	31.0	23.5			9.5	9.5	23.5
Total Split (s)	31.0	31.0	31.0	31.0	24.0			20.0	20.0	44.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	32.0%			26.7%	26.7%	58.7%
Maximum Green (s)	27.0	27.0	27.0	27.0	19.5			16.5	16.5	39.5
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0			3.0	3.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0	4.5			3.5	3.5	4.5
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	C-Max			None	None	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	12.0					12.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		27.0	27.0	27.0	19.5			16.5	16.5	39.5
Actuated g/C Ratio		0.36	0.36	0.36	0.26			0.22	0.22	0.53
v/c Ratio		1.06	0.34	0.18	0.43			0.99	0.36	0.37
Control Delay		73.2	20.1	4.4	22.6			81.5	38.0	12.3
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.5
Total Delay		73.2	20.1	4.4	22.6			81.5	38.0	12.8
LOS		E	C	A	C			F	D	B
Approach Delay		59.2			22.6					48.0
Approach LOS		E			C					D
Queue Length 50th (ft)		~300	61	0	63			182	62	67
Queue Length 95th (ft)		#435	115	31	93			m#348	m107	m116
Internal Link Dist (ft)		478			743					262
Turn Bay Length (ft)										
Base Capacity (vph)		873	489	655	1129			389	389	885
Starvation Cap Reductn		0	0	0	0			0	0	241
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		1.06	0.34	0.18	0.43			0.99	0.36	0.50

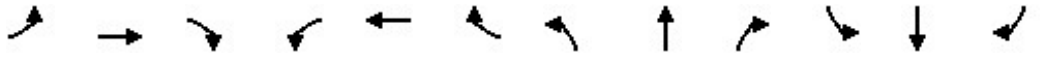
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 48.4		Intersection LOS: D	
Intersection Capacity Utilization 64.4%		ICU Level of Service C	
Analysis Period (min) 15			

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Broadway & 5th St & Webster Tube



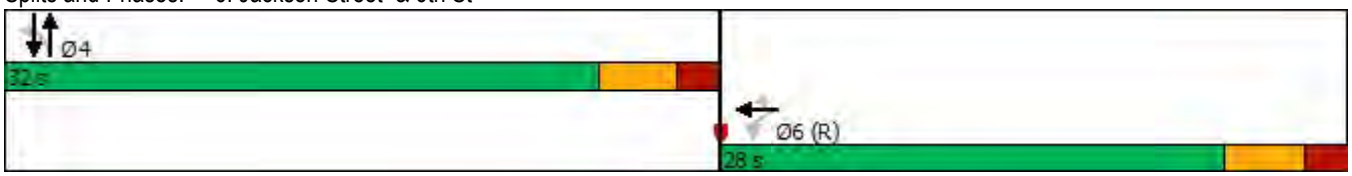
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	2	302	52	247	291	0	0	128	1612
Future Volume (vph)	0	0	0	2	302	52	247	291	0	0	128	1612
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.925	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1776	1509	1752	1881	0	0	1629	1568
Flt Permitted				0.950			0.558					
Satd. Flow (perm)	0	0	0	1805	1776	1509	1029	1881	0	0	1629	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						57					108	432
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	7%	7%	3%	1%	0%	0%	2%	3%
Adj. Flow (vph)	0	0	0	2	328	57	268	316	0	0	139	1752
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	2	328	57	268	316	0	0	279	1612
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.00	0.49	0.09	0.59	0.38			0.36	1.03
Control Delay				12.0	17.5	4.6	17.1	12.1			8.1	35.2
Queue Delay				0.0	0.0	0.0	0.0	0.5			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				12.0	17.5	4.6	17.1	12.6			8.1	35.2
LOS				B	B	A	B	B			A	D
Approach Delay					15.6			14.7			31.2	
Approach LOS					B			B			C	
Queue Length 50th (ft)				1	88	0	56	64			38	~34
Queue Length 95th (ft)				4	154	19	m116	m127			86	#268
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	666	601	454	830			779	1568
Starvation Cap Reductn				0	0	0	0	219			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.00	0.49	0.09	0.59	0.52			0.36	1.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 25.7		Intersection LOS: C	
Intersection Capacity Utilization 83.2%		ICU Level of Service E	
Analysis Period (min) 15			

* User Entered Value
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Jackson Street & 6th St

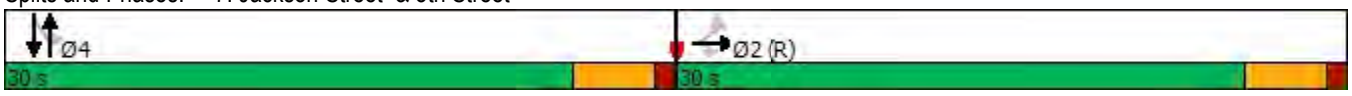


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	322	468	567	0	0	0	0	230	21	70	63	0
Future Volume (vph)	322	468	567	0	0	0	0	230	21	70	63	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.989				
Flt Protected		0.980									0.974	
Satd. Flow (prot)	0	3382	1568	0	0	0	0	1862	0	0	1578	0
Flt Permitted		0.980									0.737	
Satd. Flow (perm)	0	3382	1568	0	0	0	0	1862	0	0	1194	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			426					9				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	4%	5%	3%	0%	0%	0%	0%	0%	11%	5%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	383	557	675	0	0	0	0	274	25	83	75	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	940	675	0	0	0	0	299	0	0	158	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					26.5		26.5	26.5	
Total Split (s)	30.0	30.0	30.0					30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%					50.0%		50.0%	50.0%	
Maximum Green (s)	25.4	25.4	25.4					25.4		25.4	25.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		25.4	25.4					25.4			25.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.42	0.42					0.42			0.42	
v/c Ratio		0.66	0.74					0.38			0.31	
Control Delay		16.5	11.3					13.2			21.2	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		16.5	11.3					13.2			21.2	
LOS		B	B					B			C	
Approach Delay		14.4						13.2			21.2	
Approach LOS		B						B			C	
Queue Length 50th (ft)		136	59					68			53	
Queue Length 95th (ft)		174	143					110			99	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1431	909					793			505	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.66	0.74					0.38			0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 55 (92%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 54.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Jackson Street & 5th Street



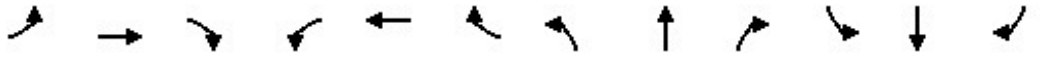
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	534	74	72	846	620	796
Future Volume (vph)	534	74	72	846	620	796
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3539	4940	2760
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3539	4940	2760
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	2%	5%	3%
Adj. Flow (vph)	651	90	88	1032	756	971
Shared Lane Traffic (%)						
Lane Group Flow (vph)	651	90	88	1032	756	971
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	22.5	22.5	10.0	37.5	27.5	
Total Split (%)	37.5%	37.5%	16.7%	62.5%	45.8%	
Maximum Green (s)	18.0	18.0	5.5	33.0	23.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	16.9	16.9	5.5	33.0	25.2	47.6
Actuated g/C Ratio	0.29	0.29	0.09	0.56	0.43	0.81
v/c Ratio	0.65	0.19	0.52	0.52	0.36	0.44
Control Delay	21.8	17.0	38.9	9.5	13.1	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	17.0	38.9	9.5	13.1	3.1
LOS	C	B	D	A	B	A
Approach Delay	21.2			11.8	7.5	
Approach LOS	C			B	A	
Queue Length 50th (ft)	103	24	31	112	70	50
Queue Length 95th (ft)	133	48	#66	136	87	63
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1069	493	168	1982	2107	2228
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.18	0.52	0.52	0.36	0.44

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 59			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 46.1%		ICU Level of Service A	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Webster Street & Willie Stargell Ave

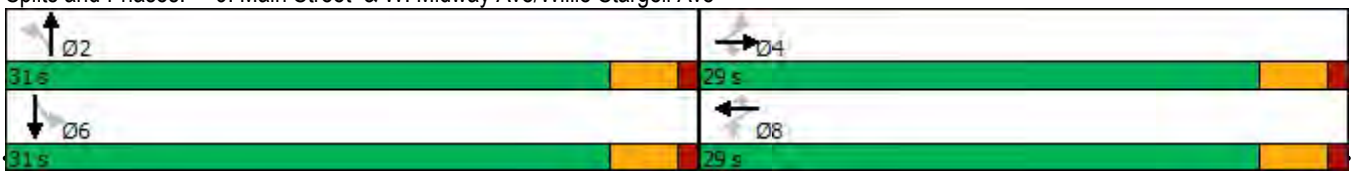


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	82	52	51	149	222	83	254	48	67	63	6
Future Volume (vph)	2	82	52	51	149	222	83	254	48	67	63	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.981			0.993	
Flt Protected		0.999			0.987			0.989			0.976	
Satd. Flow (prot)	0	1898	1292	0	1745	1615	0	3400	0	0	3404	0
Flt Permitted		0.991			0.898			0.856			0.722	
Satd. Flow (perm)	0	1883	1292	0	1588	1615	0	2943	0	0	2518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			65			278		34			8	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	25%	0%	10%	0%	14%	0%	0%	0%	6%	0%
Adj. Flow (vph)	3	103	65	64	186	278	104	318	60	84	79	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	106	65	0	250	278	0	482	0	0	171	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0		31.0	31.0	
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		13.7	13.7		13.7	13.7		27.3			27.3	
Actuated g/C Ratio		0.28	0.28		0.28	0.28		0.56			0.56	
v/c Ratio		0.20	0.16		0.56	0.43		0.29			0.12	
Control Delay		13.6	4.9		19.9	4.3		6.9			6.6	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		13.6	4.9		19.9	4.3		6.9			6.6	
LOS		B	A		B	A		A			A	
Approach Delay		10.3			11.7			6.9			6.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		23	0		60	0		30			10	
Queue Length 95th (ft)		43	15		95	26		64			26	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		969	696		817	966		1651			1403	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.11	0.09		0.31	0.29		0.29			0.12	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 49.1			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 42.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave

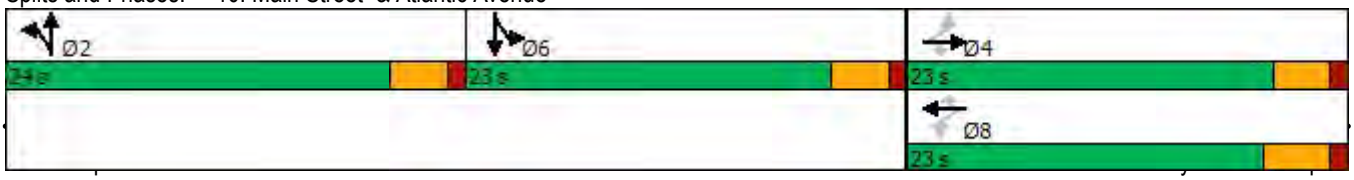


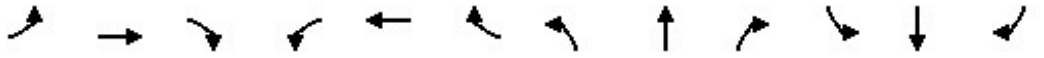
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	76	34	136	129	127	93	292	94	43	129	17
Future Volume (vph)	3	76	34	136	129	127	93	292	94	43	129	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.963			0.983	
Flt Protected		0.998			0.975		0.950			0.950	0.998	
Satd. Flow (prot)	0	2640	1077	0	3420	1568	1656	3450	0	1273	3361	0
Flt Permitted		0.941			0.777		0.950			0.950	0.998	
Satd. Flow (perm)	0	2489	1077	0	2725	1568	1656	3450	0	1273	3361	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78			159		62			18	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	38%	50%	0%	6%	3%	9%	1%	0%	29%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	4	95	43	170	161	159	116	365	118	54	161	21
Shared Lane Traffic (%)										11%		
Lane Group Flow (vph)	0	99	43	0	331	159	116	483	0	48	188	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		13.1	13.1		12.6	12.6	20.2	20.2		8.1	8.1	
Actuated g/C Ratio		0.24	0.24		0.24	0.24	0.38	0.38		0.15	0.15	
v/c Ratio		0.16	0.13		0.52	0.32	0.19	0.36		0.25	0.36	
Control Delay		16.4	2.7		20.8	5.5	14.1	12.4		24.8	21.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		16.4	2.7		20.8	5.5	14.1	12.4		24.8	21.2	
LOS		B	A		C	A	B	B		C	C	
Approach Delay		12.3			15.9			12.7			21.9	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)		12	0		47	0	24	47		15	26	
Queue Length 95th (ft)		25	6		72	26	57	84		40	50	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		892	436		951	650	624	1340		456	1216	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.11	0.10		0.35	0.24	0.19	0.36		0.11	0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 53.5			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 15.2		Intersection LOS: B	
Intersection Capacity Utilization 39.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Main Street & Atlantic Avenue





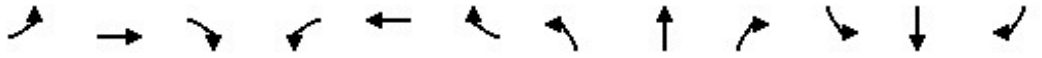
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	328	147	25	434	49	136	678	67	79	397	324
Future Volume (vph)	214	328	147	25	434	49	136	678	67	79	397	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.985			0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1524	1444	3432	0	1736	3471	0	1805	3406	1553
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1524	1444	3432	0	1736	3471	0	1805	3406	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238		14			14				168
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	2%	2%	6%	25%	4%	0%	4%	2%	8%	0%	6%	4%
Adj. Flow (vph)	268	410	184	31	543	61	170	848	84	99	496	405
Shared Lane Traffic (%)												
Lane Group Flow (vph)	268	410	184	31	604	0	170	932	0	99	496	405
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	14.0	26.0	26.0	11.0	23.0		16.0	31.0		10.0	25.0	14.0
Total Split (%)	17.9%	33.3%	33.3%	14.1%	29.5%		20.5%	39.7%		12.8%	32.1%	17.9%
Maximum Green (s)	9.0	21.0	21.0	6.0	18.0		11.0	26.0		5.0	20.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	8.8	26.3	26.3	5.9	16.9		10.4	26.0		5.0	20.6	34.4
Actuated g/C Ratio	0.11	0.34	0.34	0.08	0.22		0.14	0.34		0.07	0.27	0.45
v/c Ratio	0.68	0.34	0.27	0.28	0.79		0.72	0.79		0.85	0.54	0.51
Control Delay	42.6	20.9	2.5	40.8	36.1		51.2	28.6		89.8	27.2	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	42.6	20.9	2.5	40.8	36.1		51.2	28.6		89.8	27.2	11.6
LOS	D	C	A	D	D		D	C		F	C	B
Approach Delay		23.7			36.3			32.1			27.1	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	65	67	0	15	141		80	210		49	110	75
Queue Length 95th (ft)	91	111	11	36	170		#134	238		#113	137	121
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	403	1215	679	113	816		249	1186		117	916	793
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.67	0.34	0.27	0.27	0.74		0.68	0.79		0.85	0.54	0.51

Intersection Summary

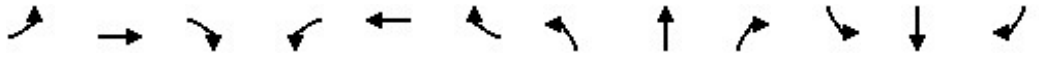
Area Type: Other
Cycle Length: 78
Actuated Cycle Length: 76.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 29.4 Intersection LOS: C
Intersection Capacity Utilization 61.6% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Webster Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	619	185	189	1643	0	0	0	0	379	15
Future Volume (vph)	0	0	619	185	189	1643	0	0	0	0	379	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.976							
Satd. Flow (prot)	0	0	2787	0	1818	2787	0	0	0	0	1863	1583
Flt Permitted					0.976							
Satd. Flow (perm)	0	0	2787	0	1818	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					67							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	673	201	205	1786	0	0	0	0	412	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	673	0	406	1786	0	0	0	0	412	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

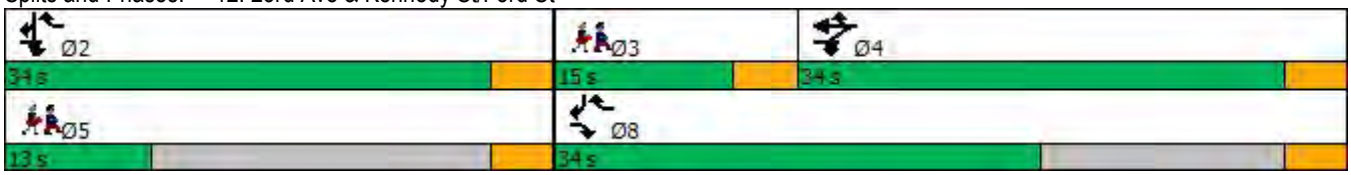
Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			67.5		30.0	67.5					29.5	67.5
Actuated g/C Ratio			1.00		0.44	1.00					0.44	1.00
v/c Ratio			0.24		0.48	0.64					0.51	0.01
Control Delay			0.2		13.3	1.1					16.4	0.0
Queue Delay			0.0		1.2	0.0					0.0	0.0
Total Delay			0.2		14.6	1.1					16.4	0.0
LOS			A		B	A					B	A
Approach Delay		0.2			3.6						15.8	
Approach LOS		A			A						B	
Queue Length 50th (ft)			0		94	0					117	0
Queue Length 95th (ft)			0		164	0					192	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2774		845	2774					827	1576
Starvation Cap Reductn			0		241	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.24		0.67	0.64					0.50	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 67.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 4.5		Intersection LOS: A	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St



Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

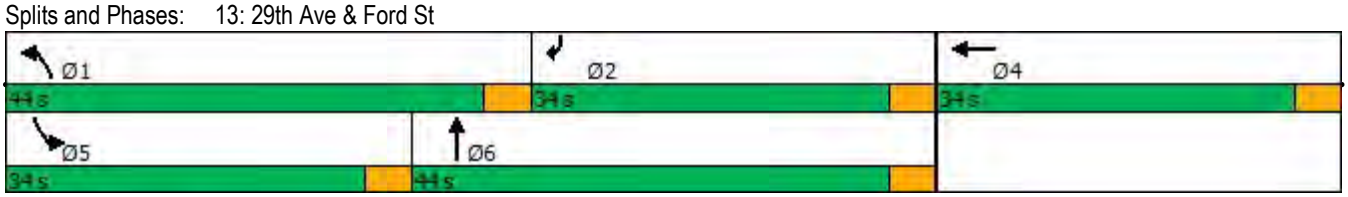
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	74	14	1690	932	13	53	0	257
Future Volume (vph)	0	0	0	0	74	14	1690	932	13	53	0	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.998				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1859	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1859	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				279
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	80	15	1837	1013	14	58	0	279
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	95	0	1837	1027	0	58	0	279
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

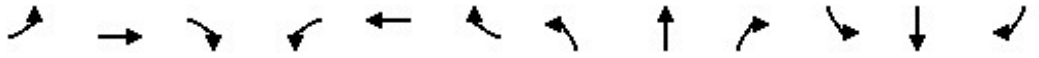
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					9.5		41.1	46.8		6.9		7.2
Actuated g/C Ratio					0.14		0.61	0.69		0.10		0.11
v/c Ratio					0.36		0.88	0.80		0.32		0.67
Control Delay					29.0		21.5	20.5		36.4		13.2
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					29.0		21.5	20.5		36.4		13.2
LOS					C		C	C		D		B
Approach Delay					29.0			21.1			17.2	
Approach LOS					C			C			B	
Queue Length 50th (ft)					33		285	323		22		0
Queue Length 95th (ft)					77		#769	#910		67		69
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					832		2079	1283		804		871
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.11		0.88	0.80		0.07		0.32

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 67.8			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 21.0		Intersection LOS: C	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	65	25	69	152	19	423	590	72	11	457	327
Future Volume (vph)	92	65	25	69	152	19	423	590	72	11	457	327
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.989			0.984			0.937	
Flt Protected		0.975			0.986		0.950			0.950		
Satd. Flow (prot)	0	1783	0	0	1816	0	1770	1833	0	1770	1745	0
Flt Permitted		0.556			0.818		0.079			0.392		
Satd. Flow (perm)	0	1017	0	0	1507	0	147	1833	0	730	1745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			4			11			50	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	71	27	75	165	21	460	641	78	12	497	355
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	198	0	0	261	0	460	719	0	12	852	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		



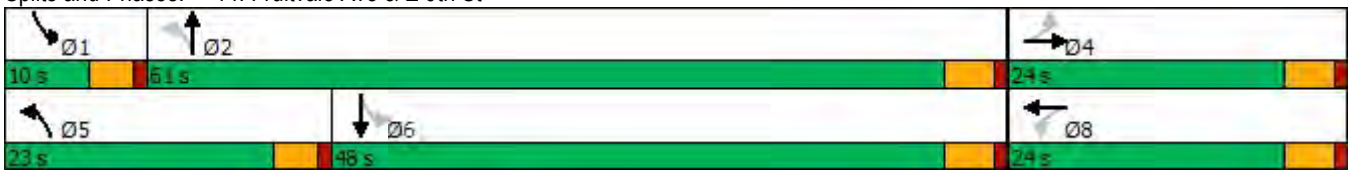
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		18.9			18.9		67.0	64.5		49.7	43.5	
Actuated g/C Ratio		0.20			0.20		0.71	0.68		0.53	0.46	
v/c Ratio		0.94			0.86		1.07	0.57		0.03	1.03	
Control Delay		87.3			62.9		91.3	10.8		5.9	63.4	
Queue Delay		0.0			0.0		15.3	44.7		0.0	0.0	
Total Delay		87.3			62.9		106.6	55.5		5.9	63.4	
LOS		F			E		F	E		A	E	
Approach Delay		87.3			62.9			75.4			62.6	
Approach LOS		F			E			E			E	
Queue Length 50th (ft)		114			150		~263	182		2	~538	
Queue Length 95th (ft)		#249			#287		#455	387		7	#772	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		216			314		431	1256		452	831	
Starvation Cap Reductn		0			0		116	591		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.92			0.83		1.46	1.08		0.03	1.03	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 94.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 70.6		Intersection LOS: E	
Intersection Capacity Utilization 95.7%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St



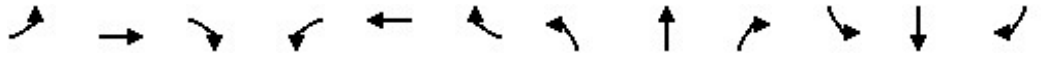
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	52	159	14	0	82	0	856	14	85	483	0
Future Volume (vph)	126	52	159	14	0	82	0	856	14	85	483	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.884			0.998				
Flt Protected		0.966			0.993					0.950		
Satd. Flow (prot)	0	1799	1583	0	1635	0	0	3532	0	1770	1863	0
Flt Permitted		0.782			0.942					0.179		
Satd. Flow (perm)	0	1457	1583	0	1551	0	0	3532	0	333	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173		89			2				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	57	173	15	0	89	0	930	15	92	525	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	194	173	0	104	0	0	945	0	92	525	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		13.9	13.9		12.8			24.0		32.8	32.2	
Actuated g/C Ratio		0.25	0.25		0.23			0.44		0.60	0.59	
v/c Ratio		0.53	0.33		0.24			0.61		0.24	0.48	
Control Delay		25.5	5.7		8.2			15.2		6.6	8.4	
Queue Delay		0.0	0.0		0.0			0.0		0.0	0.3	
Total Delay		25.5	5.7		8.2			15.2		6.6	8.7	
LOS		C	A		A			B		A	A	
Approach Delay		16.2			8.2			15.2			8.4	
Approach LOS		B			A			B			A	
Queue Length 50th (ft)		57	0		4			124		10	80	
Queue Length 95th (ft)		126	40		38			231		32	186	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		957	1099		1029			2070		755	1680	
Starvation Cap Reductn		0	0		0			0		95	567	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.20	0.16		0.10			0.46		0.14	0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 54.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 13.0		Intersection LOS: B	
Intersection Capacity Utilization 55.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	384	287	170	372	491	89	12	591	142
Future Volume (vph)	0	0	0	384	287	170	372	491	89	12	591	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.970			0.977			0.971	
Flt Protected					0.978		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3358	0	1770	3458	0	0	3433	0
Flt Permitted					0.978		0.950				0.940	
Satd. Flow (perm)	0	0	0	0	3358	0	1770	3458	0	0	3230	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					44			39			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	417	312	185	404	534	97	13	642	154
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	914	0	404	631	0	0	809	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	



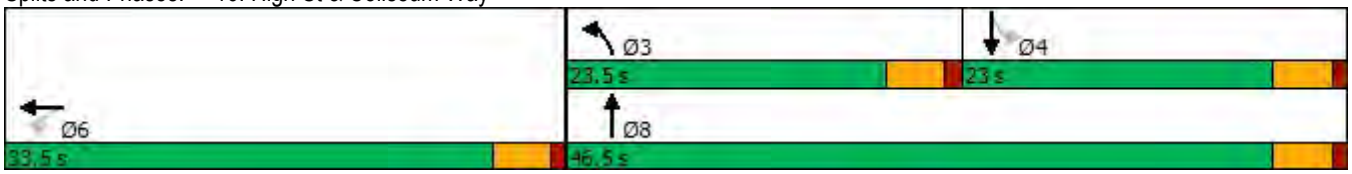
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		23.5	46.5		23.0	23.0	
Total Split (%)				41.9%	41.9%		29.4%	58.1%		28.8%	28.8%	
Maximum Green (s)				29.0	29.0		19.0	42.0		18.5	18.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		19.0	42.0			18.5	
Actuated g/C Ratio					0.36		0.24	0.52			0.23	
v/c Ratio					0.73		0.96	0.34			1.05	
Control Delay					25.3		68.1	10.9			76.5	
Queue Delay					0.0		41.9	1.3			0.0	
Total Delay					25.3		110.0	12.2			76.5	
LOS					C		F	B			E	
Approach Delay					25.3			50.4			76.5	
Approach LOS					C			D			E	
Queue Length 50th (ft)					195		200	83			~228	
Queue Length 95th (ft)					265		#373	117			#343	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1245		420	1833			772	
Starvation Cap Reductn					0		78	943			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.73		1.18	0.71			1.05	

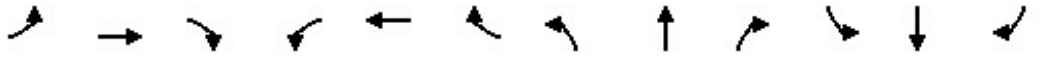
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 49.7		Intersection LOS: D	
Intersection Capacity Utilization 77.6%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

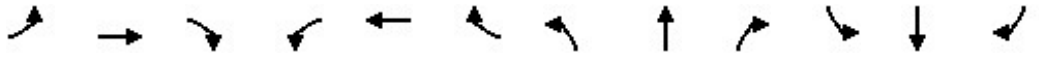
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	485	209	57	0	194	0	562	317	234	759	0
Future Volume (vph)	128	485	209	57	0	194	0	562	317	234	759	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.946				
Flt Protected		0.990		0.950						0.950		
Satd. Flow (prot)	0	3504	1583	1770	0	1583	0	3348	0	1770	3539	0
Flt Permitted		0.990		0.247						0.950		
Satd. Flow (perm)	0	3504	1583	460	0	1583	0	3348	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						211		144				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	139	527	227	62	0	211	0	611	345	254	825	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	666	227	62	0	211	0	956	0	254	825	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	29.0	29.0	29.0	29.0		29.0		30.0		21.0	51.0	
Total Split (%)	36.3%	36.3%	36.3%	36.3%		36.3%		37.5%		26.3%	63.8%	
Maximum Green (s)	25.0	25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Actuated g/C Ratio		0.31	0.31	0.31		0.31		0.32		0.21	0.58	
v/c Ratio		0.61	0.46	0.44		0.33		0.82		0.70	0.40	
Control Delay		26.2	25.8	34.3		4.9		28.4		41.1	9.9	
Queue Delay		0.0	0.0	0.0		0.0		0.0		2.4	2.4	
Total Delay		26.2	25.8	34.3		4.9		28.4		43.5	12.2	
LOS		C	C	C		A		C		D	B	
Approach Delay		26.1			11.6			28.4			19.6	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)		147	90	25		0		197		118	107	
Queue Length 95th (ft)		203	155	65		46		#274		#216	145	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1095	494	140		631		1165		365	2057	
Starvation Cap Reductn		0	0	0		0		0		41	1062	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.61	0.46	0.44		0.33		0.82		0.78	0.83	

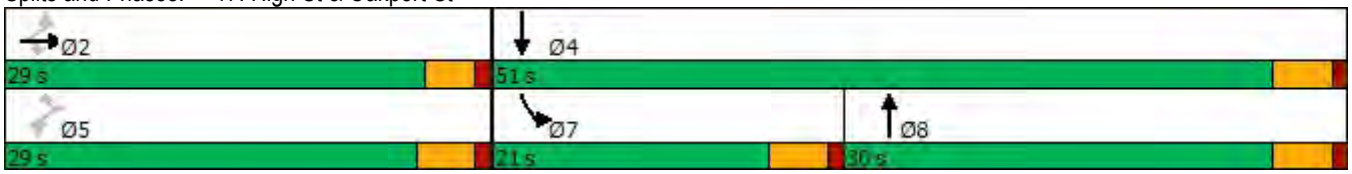
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 23.3		Intersection LOS: C	
Intersection Capacity Utilization 73.3%		ICU Level of Service D	

Analysis Period (min) 15

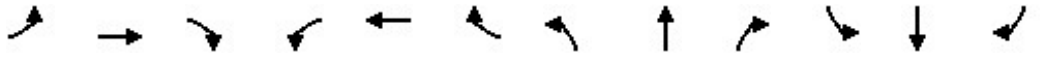
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	296	18	8	13	93	327	0	1387	8	5	684	201
Future Volume (vph)	296	18	8	13	93	327	0	1387	8	5	684	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.953				0.850		0.999			0.966	
Flt Protected	0.950				0.994							
Satd. Flow (prot)	1770	1775	0	0	1852	1583	0	3536	0	0	3419	0
Flt Permitted	0.683				0.973						0.947	
Satd. Flow (perm)	1272	1775	0	0	1812	1583	0	3536	0	0	3238	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9						1			98	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	322	20	9	14	101	355	0	1508	9	5	743	218
Shared Lane Traffic (%)												
Lane Group Flow (vph)	322	29	0	0	115	355	0	1517	0	0	966	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		

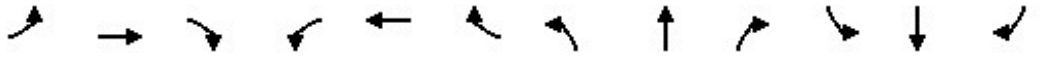


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	17.3	17.3			17.3	17.3		32.6			32.6	
Actuated g/C Ratio	0.29	0.29			0.29	0.29		0.55			0.55	
v/c Ratio	0.86	0.05			0.22	0.76		0.78			0.53	
Control Delay	44.6	12.0			16.7	31.7		14.1			8.9	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	44.6	12.0			16.7	31.7		14.1			8.9	
LOS	D	B			B	C		B			A	
Approach Delay		41.9			28.0			14.1			8.9	
Approach LOS		D			C			B			A	
Queue Length 50th (ft)	106	5			30	113		208			94	
Queue Length 95th (ft)	#234	20			64	#227		292			139	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	400	564			570	498		1955			1834	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.81	0.05			0.20	0.71		0.78			0.53	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.9			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 86.5%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 18: Park St & Blanding Ave

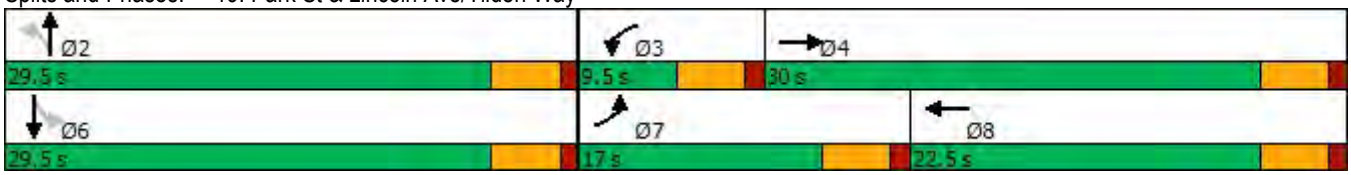
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	244	25	12	266	88	44	639	44	14	455	88
Future Volume (vph)	189	244	25	12	266	88	44	639	44	14	455	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.986			0.963			0.991			0.976	
Flt Protected	0.950			0.950				0.997			0.999	
Satd. Flow (prot)	1770	3490	0	1770	3408	0	0	3497	0	0	3451	0
Flt Permitted	0.950			0.950				0.885			0.930	
Satd. Flow (perm)	1770	3490	0	1770	3408	0	0	3104	0	0	3212	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			63			11			35	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	205	265	27	13	289	96	48	695	48	15	495	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	205	292	0	13	385	0	0	791	0	0	606	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		



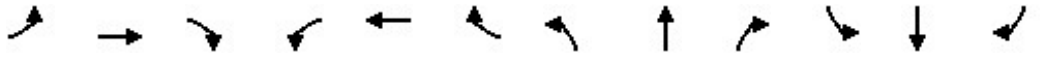
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	11.0	25.2		5.0	11.4			25.2			25.2	
Actuated g/C Ratio	0.18	0.41		0.08	0.19			0.41			0.41	
v/c Ratio	0.64	0.20		0.09	0.56			0.62			0.45	
Control Delay	34.2	11.7		29.8	22.2			17.5			14.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	34.2	11.7		29.8	22.2			17.5			14.4	
LOS	C	B		C	C			B			B	
Approach Delay		21.0			22.4			17.5			14.4	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	70	30		5	58			118			78	
Queue Length 95th (ft)	#146	67		20	95			195			135	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	363	1557		145	1053			1282			1340	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.56	0.19		0.09	0.37			0.62			0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 61.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 18.3		Intersection LOS: B	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



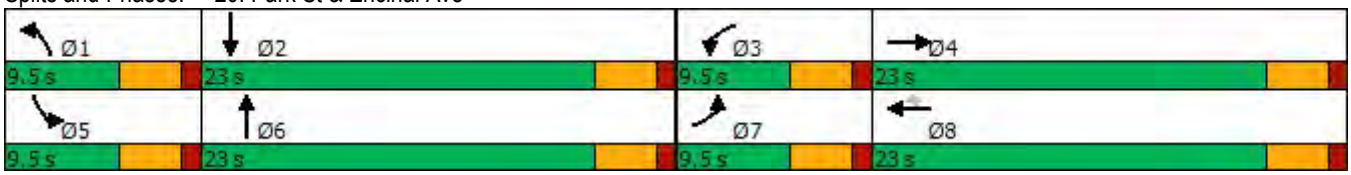
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	321	43	45	435	79	81	288	25	54	227	52
Future Volume (vph)	79	321	43	45	435	79	81	288	25	54	227	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.982				0.850		0.988			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3476	0	1770	1863	1583	1770	3497	0	1770	3440	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3476	0	1770	1863	1583	1770	3497	0	1770	3440	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				151		14			43	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	349	47	49	473	86	88	313	27	59	247	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	396	0	49	473	86	88	340	0	59	304	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



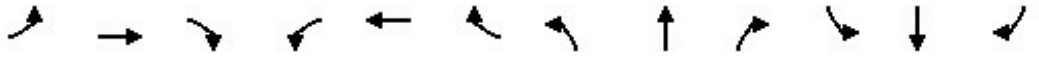
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.7	19.5		5.7	17.8	17.8	5.7	21.5		5.7	19.8	
Actuated g/C Ratio	0.10	0.33		0.10	0.30	0.30	0.10	0.36		0.10	0.33	
v/c Ratio	0.51	0.34		0.29	0.86	0.15	0.52	0.27		0.35	0.26	
Control Delay	41.5	16.8		32.9	39.2	1.4	42.3	16.3		34.4	15.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	41.5	16.8		32.9	39.2	1.4	42.3	16.3		34.4	15.5	
LOS	D	B		C	D	A	D	B		C	B	
Approach Delay		21.2			33.4			21.6			18.6	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)	34	61		19	176	0	34	52		23	41	
Queue Length 95th (ft)	#89	96		49	#333	8	#92	84		56	70	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	169	1264		169	615	623	169	1266		169	1164	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.51	0.31		0.29	0.77	0.14	0.52	0.27		0.35	0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 59.9			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 24.7		Intersection LOS: C	
Intersection Capacity Utilization 53.5%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	87	14	59	366	435	13	440	66	141	576	208
Future Volume (vph)	96	87	14	59	366	435	13	440	66	141	576	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.980			0.960	
Flt Protected		0.975			0.993		0.950			0.950		
Satd. Flow (prot)	0	1816	1583	0	1850	1583	1770	3468	0	1770	3398	0
Flt Permitted		0.975			0.993		0.950			0.950		
Satd. Flow (perm)	0	1816	1583	0	1850	1583	1770	3468	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			393		17			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	95	15	64	398	473	14	478	72	153	626	226
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	199	15	0	462	473	14	550	0	153	852	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						

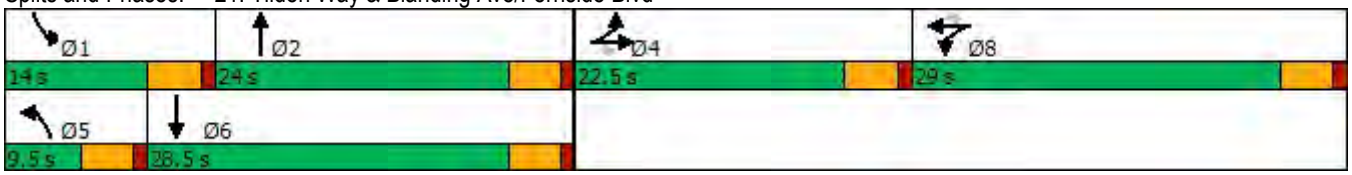


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		13.8	13.8		23.5	23.5	5.1	17.2		9.4	29.5	
Actuated g/C Ratio		0.17	0.17		0.29	0.29	0.06	0.21		0.11	0.36	
v/c Ratio		0.65	0.04		0.87	0.65	0.13	0.74		0.76	0.68	
Control Delay		43.3	0.2		48.7	10.2	42.5	36.9		62.4	25.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		43.3	0.2		48.7	10.2	42.5	36.9		62.4	25.9	
LOS		D	A		D	B	D	D		E	C	
Approach Delay		40.3			29.2			37.0			31.5	
Approach LOS		D			C			D			C	
Queue Length 50th (ft)		101	0		236	32	7	140		82	179	
Queue Length 95th (ft)		171	0		#432	134	27	205		#190	#341	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		402	450		557	751	108	845		207	1253	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.50	0.03		0.83	0.63	0.13	0.65		0.74	0.68	

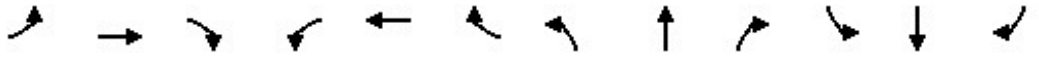
Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 82.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 32.6		Intersection LOS: C	
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



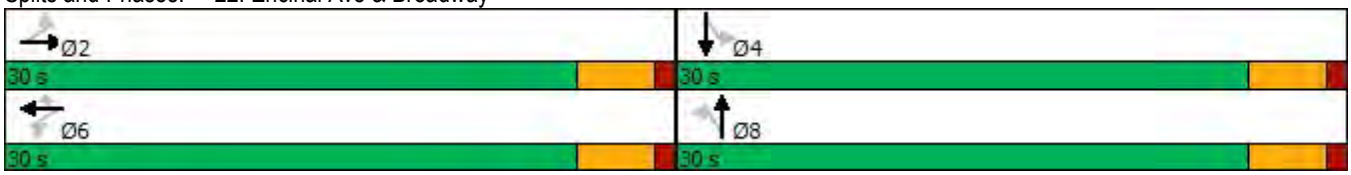
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	277	89	28	343	74	180	451	20	36	376	27
Future Volume (vph)	86	277	89	28	343	74	180	451	20	36	376	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970				0.850		0.994			0.990	
Flt Protected		0.991			0.996		0.950			0.950		
Satd. Flow (prot)	0	3402	0	0	1855	1636	1770	1852	0	1770	1844	0
Flt Permitted		0.716			0.940		0.430			0.365		
Satd. Flow (perm)	0	2458	0	0	1751	1636	801	1852	0	680	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		63				80		5			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	301	97	30	373	80	196	490	22	39	409	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	491	0	0	403	80	196	512	0	39	438	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



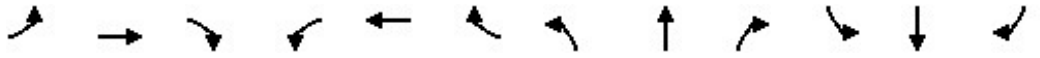
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		17.3			17.3	17.3	25.8	25.8		25.8	25.8	
Actuated g/C Ratio		0.33			0.33	0.33	0.49	0.49		0.49	0.49	
v/c Ratio		0.57			0.69	0.13	0.50	0.56		0.12	0.48	
Control Delay		14.8			21.6	3.8	16.5	13.6		10.5	12.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		14.8			21.6	3.8	16.5	13.6		10.5	12.3	
LOS		B			C	A	B	B		B	B	
Approach Delay		14.8			18.7			14.4			12.1	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		54			104	0	37	99		6	80	
Queue Length 95th (ft)		90			178	20	115	231		25	190	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1246			865	848	395	917		336	914	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.39			0.47	0.09	0.50	0.56		0.12	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.2			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 79.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	691	6	98	799	707	4	104	167	277	63	81
Future Volume (vph)	61	691	6	98	799	707	4	104	167	277	63	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.918				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3536	0	1770	1863	1583	0	1708	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.998		0.450		
Satd. Flow (perm)	1770	3536	0	1770	1863	1583	0	1707	0	838	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				625		103				143
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			2981			502			2170	
Travel Time (s)		9.3			81.3			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	751	7	107	868	768	4	113	182	301	68	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	758	0	107	868	768	0	299	0	301	68	88
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



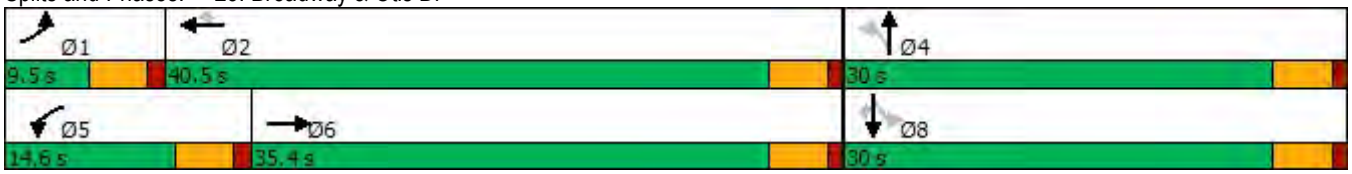
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	32.4		8.9	36.1	36.1		25.6		25.6	25.6	25.6
Actuated g/C Ratio	0.06	0.41		0.11	0.46	0.46		0.33		0.33	0.33	0.33
v/c Ratio	0.58	0.52		0.53	1.01	0.72		0.48		1.10	0.11	0.14
Control Delay	59.0	19.5		43.0	56.9	7.9		16.9		113.0	20.0	1.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	59.0	19.5		43.0	56.9	7.9		16.9		113.0	20.0	1.6
LOS	E	B		D	E	A		B		F	B	A
Approach Delay		22.7			34.5			16.9			77.7	
Approach LOS		C			C			B			E	
Queue Length 50th (ft)	33	151		51	~474	42		75		~177	24	0
Queue Length 95th (ft)	#90	206		100	#692	166		148		#327	52	10
Internal Link Dist (ft)		261			2901			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	113	1468		229	861	1068		628		274	609	614
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.58	0.52		0.47	1.01	0.72		0.48		1.10	0.11	0.14

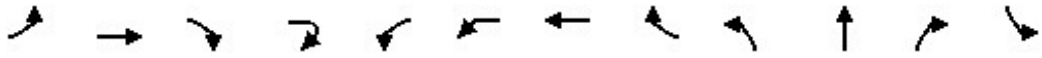
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 78.1			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 35.9		Intersection LOS: D	
Intersection Capacity Utilization 92.5%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

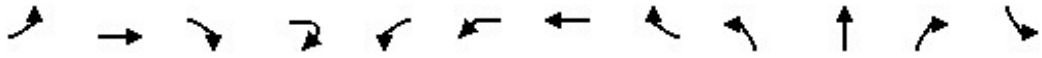
Splits and Phases: 23: Broadway & Otis Dr





Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	102	148	36	2	5	3	379	314	73	379	3	218
Future Volume (vph)	102	148	36	2	5	3	379	314	73	379	3	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.999			0.992		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1861	1583	0	1846	0	1770
Flt Permitted	0.206						0.995			0.857		0.950
Satd. Flow (perm)	384	1863	1583	0	0	0	1853	1583	0	1595	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								341				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	161	39	2	5	3	412	341	79	412	3	237
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	161	41	0	0	0	420	341	0	494	0	237
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

Lane Group	SBT	SBR	SBR2	NEL	NER	NER2
Lane Configurations						
Traffic Volume (vph)	396	85	71	121	4	4
Future Volume (vph)	396	85	71	121	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	50	
Storage Lanes		1		1	1	
Taper Length (ft)				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.996		0.850
Flt Protected				0.954		
Satd. Flow (prot)	1863	1583	0	1770	0	1583
Flt Permitted				0.954		
Satd. Flow (perm)	1863	1583	0	1770	0	1583
Right Turn on Red			No			Yes
Satd. Flow (RTOR)						88
Link Speed (mph)	25			25		
Link Distance (ft)	1133			459		
Travel Time (s)	30.9			12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	430	92	77	132	4	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	430	169	0	136	0	4
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Right	Right
Median Width(ft)	12			12		
Link Offset(ft)	0			0		
Crosswalk Width(ft)	16			16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	9	9
Number of Detectors	2	1		1		1
Detector Template	Thru	Right		Left		Right
Leading Detector (ft)	100	20		20		20
Trailing Detector (ft)	0	0		0		0
Detector 1 Position(ft)	0	0		0		0
Detector 1 Size(ft)	6	20		20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0		0.0
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA	Perm		Prot		Perm
Protected Phases	4			9		
Permitted Phases		4				9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	42.0	42.0	42.0		42.0	42.0	42.0	42.0	43.0	43.0		22.5
Total Split (%)	32.3%	32.3%	32.3%		32.3%	32.3%	32.3%	32.3%	33.1%	33.1%		17.3%
Maximum Green (s)	37.5	37.5	37.5		37.5	37.5	37.5	37.5	38.5	38.5		18.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.5	37.5	37.5				37.5	37.5		38.5		18.0
Actuated g/C Ratio	0.30	0.30	0.30				0.30	0.30		0.30		0.14
v/c Ratio	0.98	0.29	0.09				0.77	0.48		1.02		0.94
Control Delay	125.2	36.7	34.0				51.5	6.0		89.3		97.8
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	125.2	36.7	34.0				51.5	6.0		89.3		97.8
LOS	F	D	C				D	A		F		F
Approach Delay		67.7					31.1			89.3		
Approach LOS		E					C			F		
Queue Length 50th (ft)	91	102	24				315	0		~431		196
Queue Length 95th (ft)	#222	169	55				#458	72		#667		#368
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	113	552	469				549	709		485		252
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.98	0.29	0.09				0.77	0.48		1.02		0.94

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 126.5			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 53.4		Intersection LOS: D	
Intersection Capacity Utilization 98.9%		ICU Level of Service F	
Analysis Period (min) 15			

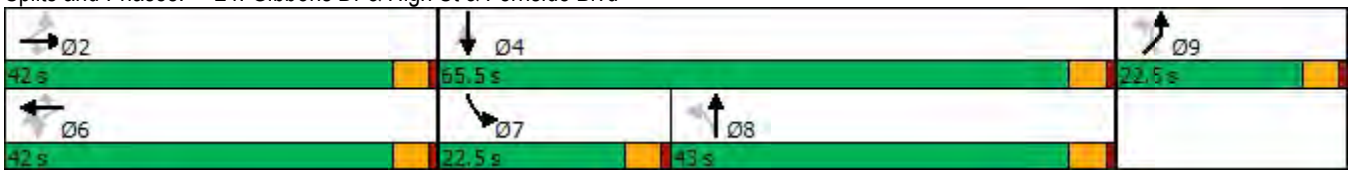
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

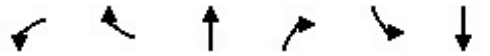
Lane Group	SBT	SBR	SBR2	NEL	NER	NER2
Detector Phase	4	4		9		9
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0		5.0
Minimum Split (s)	22.5	22.5		22.5		22.5
Total Split (s)	65.5	65.5		22.5		22.5
Total Split (%)	50.4%	50.4%		17.3%		17.3%
Maximum Green (s)	61.0	61.0		18.0		18.0
Yellow Time (s)	3.5	3.5		3.5		3.5
All-Red Time (s)	1.0	1.0		1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5		4.5		4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0		3.0
Recall Mode	None	None		None		None
Walk Time (s)	7.0	7.0		7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0		0		0
Act Effct Green (s)	61.0	61.0		14.4		14.4
Actuated g/C Ratio	0.48	0.48		0.11		0.11
v/c Ratio	0.48	0.22		0.68		0.02
Control Delay	24.7	20.5		70.6		0.0
Queue Delay	0.0	0.0		0.0		0.0
Total Delay	24.7	20.5		70.6		0.0
LOS	C	C		E		A
Approach Delay	44.6			68.6		
Approach LOS	D			E		
Queue Length 50th (ft)	233	79		109		0
Queue Length 95th (ft)	341	132		178		0
Internal Link Dist (ft)	1053			379		
Turn Bay Length (ft)						50
Base Capacity (vph)	899	763		252		300
Starvation Cap Reductn	0	0		0		0
Spillback Cap Reductn	0	0		0		0
Storage Cap Reductn	0	0		0		0
Reduced v/c Ratio	0.48	0.22		0.54		0.01

Intersection Summary

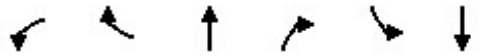
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd





Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	686	31	1678	996	67	1343
Future Volume (vph)	686	31	1678	996	67	1343
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.993			0.850		
Flt Protected	0.954				0.950	
Satd. Flow (prot)	3423	0	3539	1583	1770	3539
Flt Permitted	0.954				0.950	
Satd. Flow (perm)	3423	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	4			151		
Link Speed (mph)	25		35			35
Link Distance (ft)	479		1340			2981
Travel Time (s)	13.1		26.1			58.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	746	34	1824	1083	73	1460
Shared Lane Traffic (%)						
Lane Group Flow (vph)	780	0	1824	1083	73	1460
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		



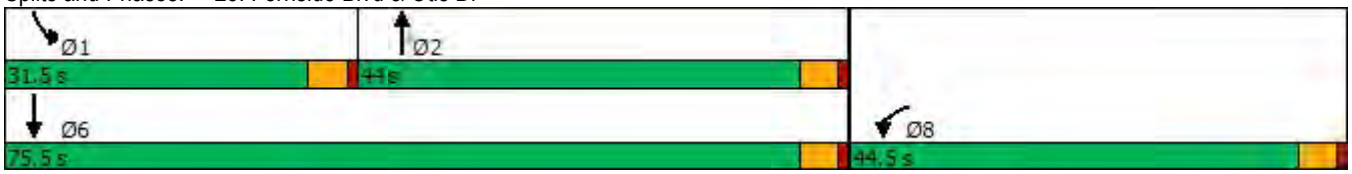
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	44.5		44.0	44.0	31.5	75.5
Total Split (%)	37.1%		36.7%	36.7%	26.3%	62.9%
Maximum Green (s)	40.0		39.5	39.5	27.0	71.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	30.3		59.0	59.0	9.9	71.2
Actuated g/C Ratio	0.27		0.53	0.53	0.09	0.64
v/c Ratio	0.83		0.97	1.18	0.46	0.64
Control Delay	45.6		41.3	117.6	57.9	14.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	45.6		41.3	117.6	57.9	14.4
LOS	D		D	F	E	B
Approach Delay	45.6		69.7			16.5
Approach LOS	D		E			B
Queue Length 50th (ft)	265		~673	~900	50	306
Queue Length 95th (ft)	336		#1022	#1309	100	464
Internal Link Dist (ft)	399		1260			2901
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	1244		1890	916	433	2279
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.63		0.97	1.18	0.17	0.64

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 110.5			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 50.5		Intersection LOS: D	
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			

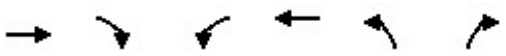
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Fernside Blvd & Otis Dr



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	979	1075	124	1079	1634	128
Future Volume (vph)	979	1075	124	1079	1634	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		250				50
Link Speed (mph)	25			25	25	
Link Distance (ft)	1340			365	455	
Travel Time (s)	36.5			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1064	1168	135	1173	1776	139
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1064	1168	135	1173	1776	139
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free



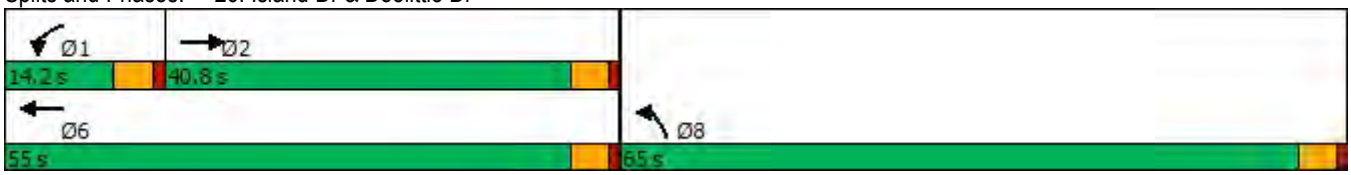
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.3	120.0	9.7	50.5	60.5	120.0
Actuated g/C Ratio	0.30	1.00	0.08	0.42	0.50	1.00
v/c Ratio	0.99	0.74	0.94	0.79	1.03	0.09
Control Delay	68.2	3.1	117.0	34.8	58.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	3.1	117.0	34.8	58.7	0.1
LOS	E	A	F	C	E	A
Approach Delay	34.1			43.3	54.4	
Approach LOS	C			D	D	
Queue Length 50th (ft)	432	0	106	407	~756	0
Queue Length 95th (ft)	#582	0	#233	497	#892	0
Internal Link Dist (ft)	1260			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1070	1583	143	1489	1730	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.74	0.94	0.79	1.03	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 43.5		Intersection LOS: D	
Intersection Capacity Utilization 91.8%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

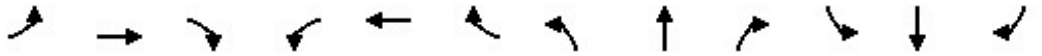
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 26: Island Dr & Doolittle Dr



2025 Proposed Action Condition

PM Peak Hour



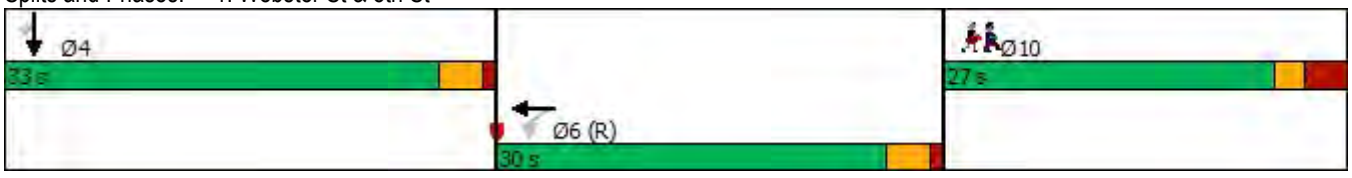
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	403	455	0	0	0	0	0	951	287
Future Volume (vph)	0	0	0	403	455	0	0	0	0	0	951	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.996	0.850
Flt Protected				0.950	0.985							
Satd. Flow (prot)	0	0	0	1332	4537	0	0	0	0	0	4633	1203
Flt Permitted				0.950	0.985							
Satd. Flow (perm)	0	0	0	1332	4537	0	0	0	0	0	4633	1203
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				229	118						5	278
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	433	489	0	0	0	0	0	1023	309
Shared Lane Traffic (%)				47%								10%
Lane Group Flow (vph)	0	0	0	229	693	0	0	0	0	0	1054	278
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	25.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				32.8	32.8						30.0	30.0
Actuated g/C Ratio				0.36	0.36						0.33	0.33
v/c Ratio				0.36	0.40						0.68	0.47
Control Delay				5.4	20.4						28.0	5.7
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				5.4	20.4						28.0	5.7
LOS				A	C						C	A
Approach Delay					16.7						23.4	
Approach LOS					B						C	
Queue Length 50th (ft)				0	103						189	0
Queue Length 95th (ft)				60	143						239	61
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				630	1727						1593	595
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.36	0.40						0.66	0.47

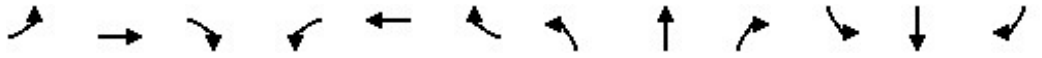
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 39.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St



Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



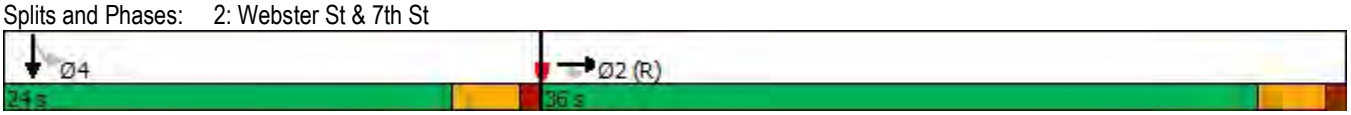
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	959	1042	0	0	0	0	0	0	249	1088	0
Future Volume (vph)	0	959	1042	0	0	0	0	0	0	249	1088	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.947	0.850									
Flt Protected											0.991	
Satd. Flow (prot)	0	4311	1375	0	0	0	0	0	0	0	4883	0
Flt Permitted											0.991	
Satd. Flow (perm)	0	4311	1375	0	0	0	0	0	0	0	4883	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		7	18								74	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			383			184			292	
Travel Time (s)		9.3			10.4			5.0			8.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	1078	1171	0	0	0	0	0	0	280	1222	0
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1664	585	0	0	0	0	0	0	0	1502	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		36.0	36.0							24.0	24.0	
Total Split (s)		36.0	36.0							24.0	24.0	
Total Split (%)		60.0%	60.0%							40.0%	40.0%	

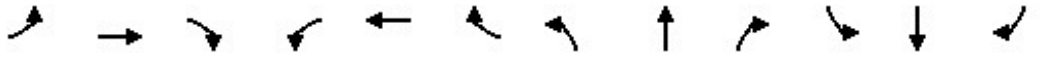
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		32.0	32.0							20.0	20.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		22.0	22.0							8.0	8.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		32.0	32.0								20.0	
Actuated g/C Ratio		0.53	0.53								0.33	
v/c Ratio		0.72	0.79								0.90	
Control Delay		12.9	21.2								27.1	
Queue Delay		0.0	0.0								4.4	
Total Delay		12.9	21.2								31.5	
LOS		B	C								C	
Approach Delay		15.0									31.5	
Approach LOS		B									C	
Queue Length 50th (ft)		159	173								176	
Queue Length 95th (ft)		208	#381								#260	
Internal Link Dist (ft)		260			303			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2302	741								1677	
Starvation Cap Reductn		0	0								125	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.72	0.79								0.97	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 9.5 (16%), Referenced to phase 2:EBT and 6:, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 21.6 Intersection LOS: C
Intersection Capacity Utilization 75.8% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

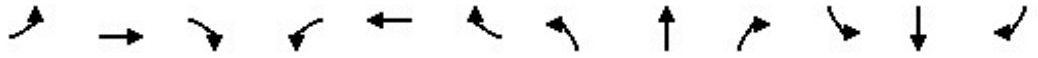
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	1094	0	0	0	0	0	739	1565	0	0	0
Future Volume (vph)	121	1094	0	0	0	0	0	739	1565	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.995										
Satd. Flow (prot)	0	4751	0	0	0	0	0	5136	2718	0	0	0
Flt Permitted		0.995										
Satd. Flow (perm)	0	4751	0	0	0	0	0	5136	2718	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47							47			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		383			364			367			319	
Travel Time (s)		10.4			9.9			10.0			8.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	3%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	133	1202	0	0	0	0	0	812	1720	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1335	0	0	0	0	0	812	1720	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								37.0				
Total Split (%)								61.7%				
Maximum Green (s)								31.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		17.4						31.4	31.4			
Actuated g/C Ratio		0.29						0.52	0.52			
v/c Ratio		0.95						0.30	1.19			
Control Delay		39.2						8.5	111.4			
Queue Delay		0.0						0.0	0.0			
Total Delay		39.2						8.5	111.4			
LOS		D						A	F			
Approach Delay		39.2						78.4				
Approach LOS		D						E				
Queue Length 50th (ft)		168						55	~455			
Queue Length 95th (ft)		m#242						76	#599			
Internal Link Dist (ft)		303			284			287			239	
Turn Bay Length (ft)												
Base Capacity (vph)		1411						2687	1444			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.95						0.30	1.19			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 22.5 (38%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.19			
Intersection Signal Delay: 64.9		Intersection LOS: E	
Intersection Capacity Utilization 87.7%		ICU Level of Service E	
Analysis Period (min) 15			

* User Entered Value

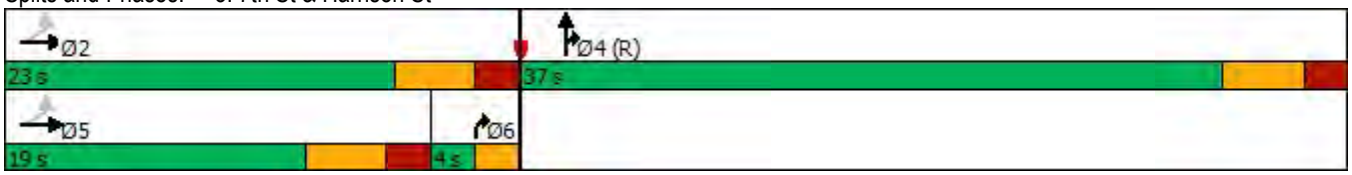
~ Volume exceeds capacity, queue is theoretically infinite.

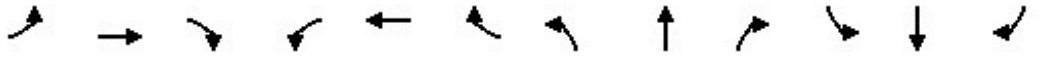
Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	3.0
Total Split (s)	23.0	19.0	4.0
Total Split (%)	38%	32%	7%
Maximum Green (s)	17.4	13.4	2.0
Yellow Time (s)	3.6	3.6	2.0
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
! Phase conflict between lane groups.

Splits and Phases: 3: 7th St & Harrison St



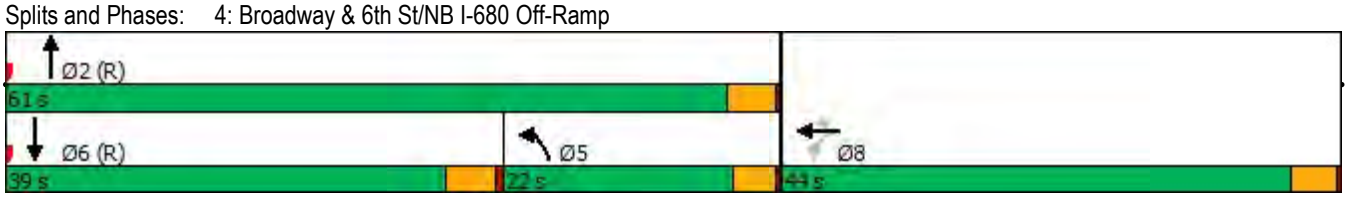


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	426	108	562	38	315	0	0	543	30
Future Volume (vph)	0	0	0	426	108	562	38	315	0	0	543	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.992	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	3610	1599	1805	3406	0	0	5003	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1805	3610	1599	1805	3406	0	0	5003	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						490					9	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			312			469	
Travel Time (s)		11.3			8.0			8.5			12.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	6%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	20
Adj. Flow (vph)	0	0	0	453	115	598	40	335	0	0	578	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	453	115	598	40	335	0	0	610	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.0	31.0	31.0	9.5	23.5			23.5	
Total Split (s)				44.0	44.0	44.0	22.0	61.0			39.0	
Total Split (%)				41.9%	41.9%	41.9%	21.0%	58.1%			37.1%	
Maximum Green (s)				40.0	40.0	40.0	18.0	56.5			34.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	C-Max			C-Max	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				33.4	33.4	33.4	12.9	63.1			49.9	
Actuated g/C Ratio				0.32	0.32	0.32	0.12	0.60			0.48	
v/c Ratio				0.79	0.10	0.71	0.18	0.16			0.26	
Control Delay				42.4	23.6	10.4	40.1	2.7			20.0	
Queue Delay				0.6	0.0	0.0	0.0	0.0			0.0	
Total Delay				43.0	23.6	10.4	40.1	2.7			20.0	
LOS				D	C	B	D	A			C	
Approach Delay					24.4			6.7			20.0	
Approach LOS					C			A			C	
Queue Length 50th (ft)				270	27	52	29	1			102	
Queue Length 95th (ft)				361	44	164	m47	m46			145	
Internal Link Dist (ft)		335			213			232			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				687	1375	912	309	2045			2380	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				53	0	0	0	0			141	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.71	0.08	0.66	0.13	0.16			0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 16 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 50.6%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp



Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	14	1017	442	96	341	282	45	398	210	369
Future Volume (vph)	14	1017	442	96	341	282	45	398	210	369
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.994	0.850	0.850	0.927					
Flt Protected		0.999						0.950	0.950	
Satd. Flow (prot)	0	3016	1441	1615	4712	0	0	1787	1787	1810
Flt Permitted		0.999						0.950	0.950	
Satd. Flow (perm)	0	3016	1441	1615	4712	0	0	1787	1787	1810
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				101	10					
Link Speed (mph)		25			25					25
Link Distance (ft)		525			667					312
Travel Time (s)		14.3			18.2					8.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	2%	0%	4%	0%	0%	1%	1%	5%
Adj. Flow (vph)	15	1071	465	101	359	297	47	419	221	388
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	1133	418	101	703	0	0	419	221	388
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	23.0			9.5	9.5	23.0
Total Split (s)	46.0	46.0	46.0	46.0	30.8			28.2	28.2	59.0
Total Split (%)	43.8%	43.8%	43.8%	43.8%	29.3%			26.9%	26.9%	56.2%
Maximum Green (s)	42.0	42.0	42.0	42.0	25.8			24.2	24.2	55.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0			3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0			1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0	5.0			4.0	4.0	4.0
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	C-Max			None	None	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0					11.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		41.9	41.9	41.9	25.8			24.3	24.3	55.1
Actuated g/C Ratio		0.40	0.40	0.40	0.25			0.23	0.23	0.52
v/c Ratio		0.94	0.73	0.14	0.60			1.02	0.54	0.41
Control Delay		46.3	35.5	4.6	37.1			91.6	46.8	16.5
Queue Delay		0.0	0.0	0.0	0.0			29.5	1.7	1.8
Total Delay		46.3	35.5	4.6	37.1			121.1	48.5	18.3
LOS		D	D	A	D			F	D	B
Approach Delay		41.0			37.1					66.7
Approach LOS		D			D					E
Queue Length 50th (ft)		449	256	0	151			~266	119	63
Queue Length 95th (ft)		#620	391	32	194			#489	197	183
Internal Link Dist (ft)		445			587					232
Turn Bay Length (ft)										
Base Capacity (vph)		1206	576	706	1165			412	412	949
Starvation Cap Reductn		0	0	0	0			60	80	395
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.94	0.73	0.14	0.60			1.19	0.67	0.70

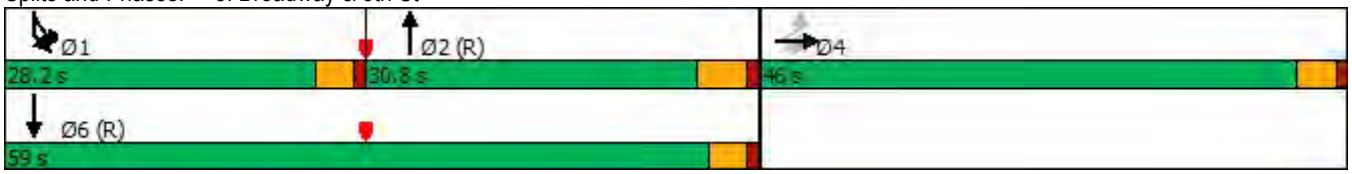
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 48.0		Intersection LOS: D	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

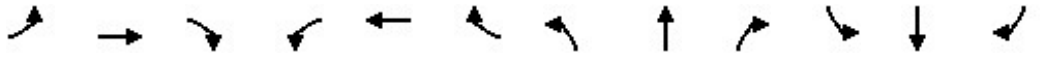
* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Broadway & 5th St



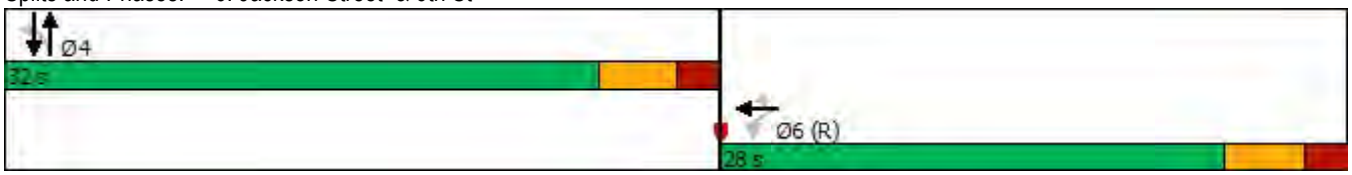


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	9	370	42	428	388	0	0	180	1283
Future Volume (vph)	0	0	0	9	370	42	428	388	0	0	180	1283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.946	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1900	1615	1805	1900	0	0	1701	1599
Flt Permitted				0.950			0.543					
Satd. Flow (perm)	0	0	0	1805	1900	1615	1032	1900	0	0	1701	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						45					61	295
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	0	0	0	9	381	43	441	400	0	0	186	1323
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	9	381	43	441	400	0	0	292	1217
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.01	0.54	0.07	0.97	0.48			0.37	0.76
Control Delay				12.0	18.1	4.7	56.2	14.2			10.4	3.5
Queue Delay				0.0	0.0	0.0	0.0	1.6			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				12.0	18.1	4.7	56.2	15.9			10.4	3.5
LOS				B	B	A	E	B			B	A
Approach Delay					16.6			37.0			4.8	
Approach LOS					B			D			A	
Queue Length 50th (ft)				2	104	0	147	97			53	0
Queue Length 95th (ft)				9	177	16	#319	164			106	0
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	712	633	455	839			785	1599
Starvation Cap Reductn				0	0	0	0	269			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.01	0.54	0.07	0.97	0.70			0.37	0.76

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 16.4		Intersection LOS: B	
Intersection Capacity Utilization 92.7%		ICU Level of Service F	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Jackson Street & 6th St

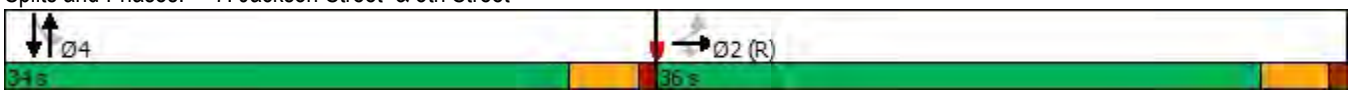


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	458	617	467	0	0	0	0	428	39	101	103	0
Future Volume (vph)	458	617	467	0	0	0	0	428	39	101	103	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.989				
Flt Protected		0.979									0.976	
Satd. Flow (prot)	0	3474	1615	0	0	0	0	1879	0	0	1623	0
Flt Permitted		0.979									0.429	
Satd. Flow (perm)	0	3474	1615	0	0	0	0	1879	0	0	713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			231					8				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	520	701	531	0	0	0	0	486	44	115	117	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1221	531	0	0	0	0	530	0	0	232	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					25.6		25.6	25.6	
Total Split (s)	36.0	36.0	36.0					34.0		34.0	34.0	
Total Split (%)	51.4%	51.4%	51.4%					48.6%		48.6%	48.6%	
Maximum Green (s)	31.4	31.4	31.4					29.4		29.4	29.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		31.4	31.4					29.4			29.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.45	0.45					0.42			0.42	
v/c Ratio		0.78	0.62					0.67			0.78	
Control Delay		20.9	11.8					21.2			38.6	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		20.9	11.8					21.2			38.6	
LOS		C	B					C			D	
Approach Delay		18.1						21.2			38.6	
Approach LOS		B						C			D	
Queue Length 50th (ft)		224	87					175			83	
Queue Length 95th (ft)		292	175					268			#196	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1558	851					793			299	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.78	0.62					0.67			0.78	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 34 (49%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 77.8%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Jackson Street & 5th Street



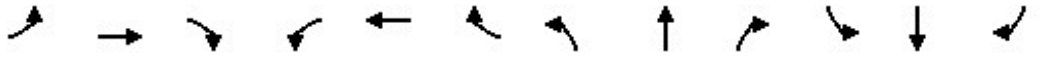
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	550	198	152	668	1115	865
Future Volume (vph)	550	198	152	668	1115	865
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3505	5136	2814
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3505	5136	2814
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	3%	1%	1%
Adj. Flow (vph)	573	206	158	696	1161	901
Shared Lane Traffic (%)						
Lane Group Flow (vph)	573	206	158	696	1161	901
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	22.5	22.5	10.8	37.5	26.7	
Total Split (%)	37.5%	37.5%	18.0%	62.5%	44.5%	
Maximum Green (s)	18.0	18.0	6.3	33.0	22.2	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	16.3	16.3	6.3	33.0	22.2	43.0
Actuated g/C Ratio	0.28	0.28	0.11	0.57	0.38	0.74
v/c Ratio	0.59	0.46	0.81	0.35	0.59	0.43
Control Delay	20.8	21.0	60.6	7.8	16.3	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	21.0	60.6	7.8	16.3	3.7
LOS	C	C	E	A	B	A
Approach Delay	20.8			17.5	10.8	
Approach LOS	C			B	B	
Queue Length 50th (ft)	88	59	57	66	121	48
Queue Length 95th (ft)	131	112	#149	97	161	72
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1082	499	195	1985	1957	2159
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.41	0.81	0.35	0.59	0.42

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.3			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 14.5		Intersection LOS: B	
Intersection Capacity Utilization 56.9%		ICU Level of Service B	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Webster Street & Willie Stargell Ave

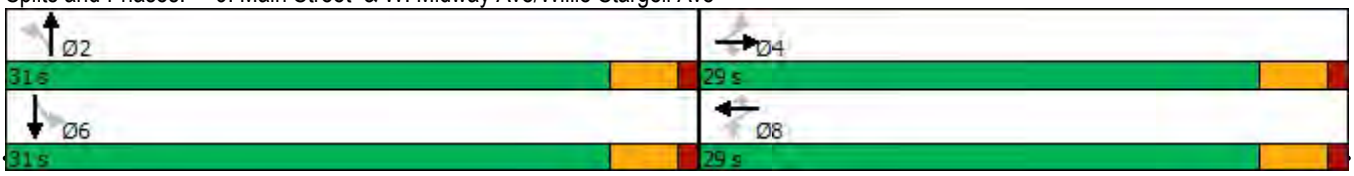


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	162	44	29	127	166	41	125	29	224	220	11
Future Volume (vph)	4	162	44	29	127	166	41	125	29	224	220	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.978			0.996	
Flt Protected		0.999			0.991			0.990			0.976	
Satd. Flow (prot)	0	1898	1615	0	1838	1615	0	3353	0	0	3509	0
Flt Permitted		0.992			0.909			0.823			0.712	
Satd. Flow (perm)	0	1885	1615	0	1686	1615	0	2788	0	0	2560	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			55			208		36			5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	11%	3%	0%	0%	0%	0%
Adj. Flow (vph)	5	203	55	36	159	208	51	156	36	280	275	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	208	55	0	195	208	0	243	0	0	569	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0		31.0	31.0	
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		10.8	10.8		10.8	10.8		27.2			27.2	
Actuated g/C Ratio		0.23	0.23		0.23	0.23		0.59			0.59	
v/c Ratio		0.47	0.13		0.49	0.39		0.15			0.38	
Control Delay		18.5	5.4		19.4	5.0		4.6			6.5	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		18.5	5.4		19.4	5.0		4.6			6.5	
LOS		B	A		B	A		A			A	
Approach Delay		15.8			12.0			4.6			6.5	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		47	0		44	0		10			32	
Queue Length 95th (ft)		79	15		77	25		25			66	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		1027	905		918	974		1660			1513	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.20	0.06		0.21	0.21		0.15			0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 46.1			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 48.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave

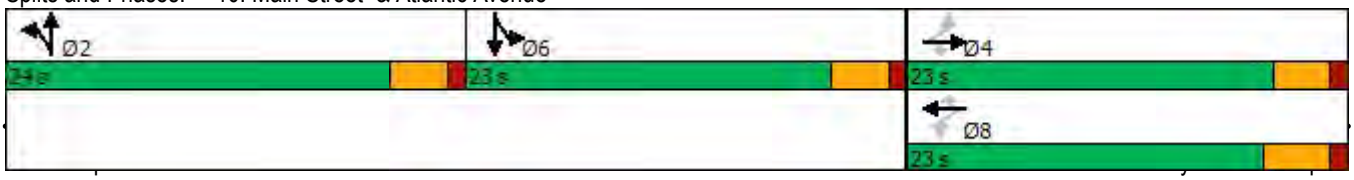


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	145	72	55	205	90	61	111	28	114	208	11
Future Volume (vph)	3	145	72	55	205	90	61	111	28	114	208	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.970			0.993	
Flt Protected		0.999			0.989		0.950			0.950	0.998	
Satd. Flow (prot)	0	3606	1615	0	3488	1538	1805	3393	0	1643	3427	0
Flt Permitted		0.947			0.842		0.950			0.950	0.998	
Satd. Flow (perm)	0	3419	1615	0	2969	1538	1805	3393	0	1643	3427	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			90			113		35			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	3%	5%	0%	4%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	4	181	90	69	256	113	76	139	35	143	260	14
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	0	185	90	0	325	113	76	174	0	129	288	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		12.4	12.4		11.9	11.9	20.3	20.3		10.5	10.5	
Actuated g/C Ratio		0.22	0.22		0.21	0.21	0.37	0.37		0.19	0.19	
v/c Ratio		0.24	0.21		0.51	0.27	0.12	0.14		0.41	0.44	
Control Delay		18.7	6.3		22.4	6.5	14.7	11.5		24.7	21.8	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		18.7	6.3		22.4	6.5	14.7	11.5		24.7	21.8	
LOS		B	A		C	A	B	B		C	C	
Approach Delay		14.7			18.3			12.5			22.7	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)		25	0		48	0	16	14		40	45	
Queue Length 95th (ft)		46	23		79	25	44	36		82	73	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		1188	620		1004	595	660	1263		570	1195	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.16	0.15		0.32	0.19	0.12	0.14		0.23	0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 55.4			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 17.9		Intersection LOS: B	
Intersection Capacity Utilization 35.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Main Street & Atlantic Avenue



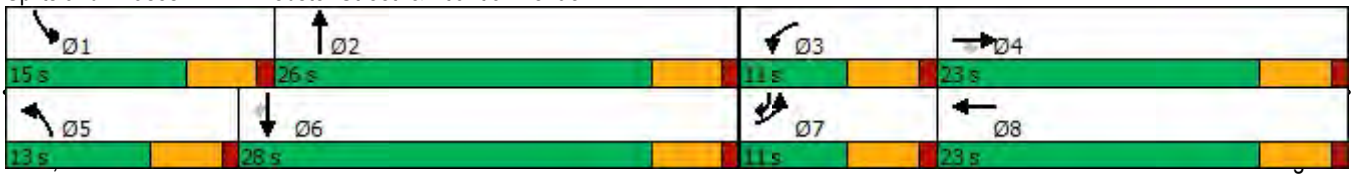
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	326	151	67	299	131	100	535	61	191	990	304
Future Volume (vph)	183	326	151	67	299	131	100	535	61	191	990	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.954			0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3539	1615	1805	3420	0	1805	3463	0	1805	3505	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3539	1615	1805	3420	0	1805	3463	0	1805	3505	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175		86			16				216
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	3%	0%	0%	3%	1%
Adj. Flow (vph)	199	354	164	73	325	142	109	582	66	208	1076	330
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	354	164	73	467	0	109	648	0	208	1076	330
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0

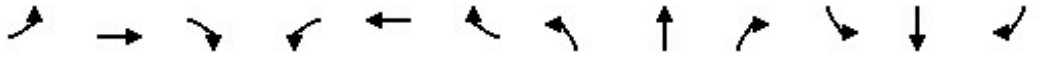
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	23.0	23.0	11.0	23.0		13.0	26.0		15.0	28.0	11.0
Total Split (%)	14.7%	30.7%	30.7%	14.7%	30.7%		17.3%	34.7%		20.0%	37.3%	14.7%
Maximum Green (s)	6.0	18.0	18.0	6.0	18.0		8.0	21.0		10.0	23.0	6.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	6.0	15.9	15.9	5.9	13.6		7.6	21.0		10.0	25.8	36.9
Actuated g/C Ratio	0.08	0.22	0.22	0.08	0.19		0.11	0.30		0.14	0.36	0.52
v/c Ratio	0.67	0.44	0.33	0.49	0.64		0.56	0.62		0.82	0.84	0.35
Control Delay	44.9	26.4	5.7	43.8	25.5		43.1	24.5		57.4	31.1	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	44.9	26.4	5.7	43.8	25.5		43.1	24.5		57.4	31.1	5.7
LOS	D	C	A	D	C		D	C		E	C	A
Approach Delay		26.8			28.0			27.2			29.3	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	44	73	0	31	80		46	124		90	239	27
Queue Length 95th (ft)	#93	111	39	#80	125		#107	191		#212	#398	80
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	297	924	551	153	936		204	1042		255	1280	936
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.67	0.38	0.30	0.48	0.50		0.53	0.62		0.82	0.84	0.35

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 70.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 28.2 Intersection LOS: C
Intersection Capacity Utilization 67.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

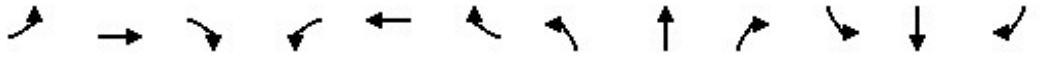
Splits and Phases: 11: Webster Street & Atlantic Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1194	312	79	1067	0	0	0	0	729	8
Future Volume (vph)	0	0	1194	312	79	1067	0	0	0	0	729	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.962							
Satd. Flow (prot)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Flt Permitted					0.962							
Satd. Flow (perm)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					66							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1298	339	86	1160	0	0	0	0	792	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	1298	0	425	1160	0	0	0	0	792	9
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			68.0		30.0	68.0					30.0	68.0
Actuated g/C Ratio			1.00		0.44	1.00					0.44	1.00
v/c Ratio			0.47		0.51	0.42					0.96	0.01
Control Delay			0.6		14.1	0.5					45.1	0.0
Queue Delay			0.0		1.5	0.0					0.0	0.0
Total Delay			0.6		15.6	0.5					45.1	0.0
LOS			A		B	A					D	A
Approach Delay		0.6			4.5						44.6	
Approach LOS		A			A						D	
Queue Length 50th (ft)			0		101	0					307	0
Queue Length 95th (ft)			0		177	0					#538	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		827	2787					821	1583
Starvation Cap Reductn			0		228	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.47		0.71	0.42					0.96	0.01

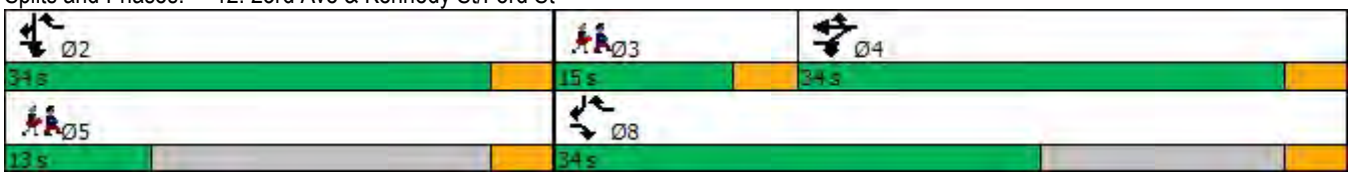
Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 68			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 11.8		Intersection LOS: B	
Intersection Capacity Utilization 111.6%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

! Phase conflict between lane groups.

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St

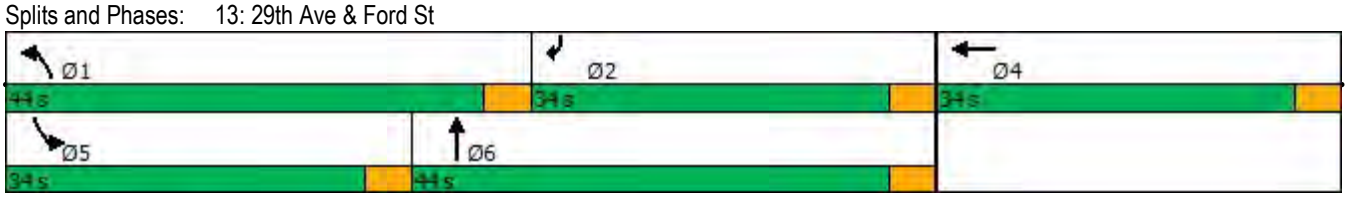


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	55	10	1076	826	24	63	0	304
Future Volume (vph)	0	0	0	0	55	10	1076	826	24	63	0	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.996				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				330
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	60	11	1170	898	26	68	0	330
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	71	0	1170	924	0	68	0	330
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

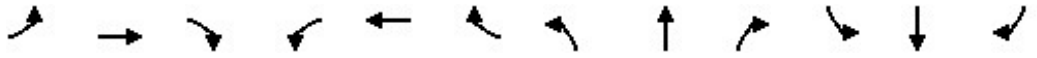
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					9.0		25.0	43.6		7.3		22.0
Actuated g/C Ratio					0.14		0.38	0.66		0.11		0.33
v/c Ratio					0.28		0.90	0.75		0.35		0.44
Control Delay					27.3		29.5	18.9		36.1		6.0
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					27.3		29.5	18.9		36.1		6.0
LOS					C		C	B		D		A
Approach Delay					27.3			24.8			11.1	
Approach LOS					C			C			B	
Queue Length 50th (ft)					24		221	250		26		0
Queue Length 95th (ft)					60		350	#794		75		74
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					876		2251	1228		846		929
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.08		0.52	0.75		0.08		0.36

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 65.9			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 22.7		Intersection LOS: C	
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	123	47	59	32	16	240	534	113	17	554	212
Future Volume (vph)	212	123	47	59	32	16	240	534	113	17	554	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.980			0.974			0.959	
Flt Protected		0.973			0.973		0.950			0.950		
Satd. Flow (prot)	0	1782	0	0	1776	0	1770	1814	0	1770	1786	0
Flt Permitted		0.767			0.715		0.080			0.362		
Satd. Flow (perm)	0	1404	0	0	1305	0	149	1814	0	674	1786	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			8			20			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	230	134	51	64	35	17	261	580	123	18	602	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	415	0	0	116	0	261	703	0	18	832	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		



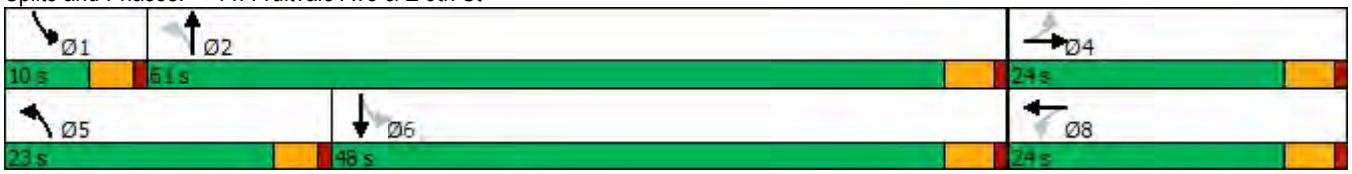
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		19.5			19.5		64.1	59.7		49.8	43.6	
Actuated g/C Ratio		0.21			0.21		0.70	0.65		0.54	0.47	
v/c Ratio		1.37			0.41		0.68	0.59		0.04	0.97	
Control Delay		217.9			35.0		28.1	12.5		5.9	49.1	
Queue Delay		0.0			0.0		5.3	52.7		0.0	0.0	
Total Delay		217.9			35.0		33.5	65.2		5.9	49.1	
LOS		F			D		C	E		A	D	
Approach Delay		217.9			35.0			56.6			48.1	
Approach LOS		F			D			E			D	
Queue Length 50th (ft)		~330			56		91	174		3	458	
Queue Length 95th (ft)		#525			111		174	371		9	#749	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		303			283		438	1183		438	859	
Starvation Cap Reductn		0			0		120	583		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		1.37			0.41		0.82	1.17		0.04	0.97	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 92.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.37			
Intersection Signal Delay: 81.0		Intersection LOS: F	
Intersection Capacity Utilization 92.1%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St



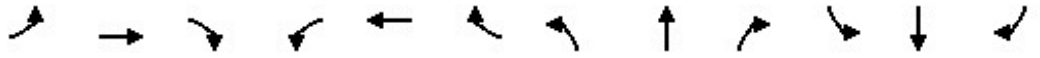
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	99	452	7	0	123	0	599	21	109	556	0
Future Volume (vph)	191	99	452	7	0	123	0	599	21	109	556	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.873			0.995				
Flt Protected		0.968			0.997					0.950		
Satd. Flow (prot)	0	1803	1583	0	1621	0	0	3522	0	1770	1863	0
Flt Permitted		0.748			0.979					0.240		
Satd. Flow (perm)	0	1393	1583	0	1592	0	0	3522	0	447	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			267		134			4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	208	108	491	8	0	134	0	651	23	118	604	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	316	491	0	142	0	0	674	0	118	604	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		22.6	22.6		21.5			20.3		30.1	29.5	
Actuated g/C Ratio		0.37	0.37		0.35			0.33		0.49	0.48	
v/c Ratio		0.61	0.65		0.22			0.58		0.29	0.67	
Control Delay		23.3	12.6		4.9			21.3		11.5	17.2	
Queue Delay		0.0	0.0		0.0			0.0		0.1	0.3	
Total Delay		23.3	12.6		4.9			21.3		11.6	17.5	
LOS		C	B		A			C		B	B	
Approach Delay		16.8			4.9			21.3			16.5	
Approach LOS		B			A			C			B	
Queue Length 50th (ft)		96	61		2			112		22	157	
Queue Length 95th (ft)		211	188		37			208		59	335	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		848	1069		1005			1920		707	1561	
Starvation Cap Reductn		0	0		0			0		110	430	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.37	0.46		0.14			0.35		0.20	0.53	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 61.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 76.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	514	395	205	418	600	74	19	569	95
Future Volume (vph)	0	0	0	514	395	205	418	600	74	19	569	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.972			0.984			0.979	
Flt Protected					0.977		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3361	0	1770	3483	0	0	3461	0
Flt Permitted					0.977		0.950				0.920	
Satd. Flow (perm)	0	0	0	0	3361	0	1770	3483	0	0	3188	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					29			25			19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	559	429	223	454	652	80	21	618	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1211	0	454	732	0	0	742	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	



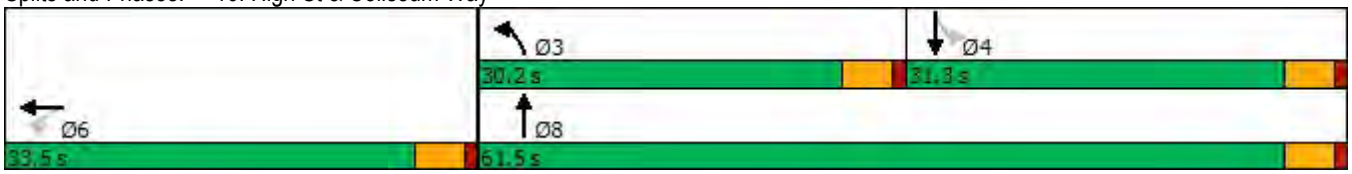
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		30.2	61.5		31.3	31.3	
Total Split (%)				35.3%	35.3%		31.8%	64.7%		32.9%	32.9%	
Maximum Green (s)				29.0	29.0		25.7	57.0		26.8	26.8	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		25.7	57.0			26.8	
Actuated g/C Ratio					0.31		0.27	0.60			0.28	
v/c Ratio					1.16		0.95	0.35			0.81	
Control Delay					113.1		66.0	9.8			39.4	
Queue Delay					0.0		45.5	2.4			0.0	
Total Delay					113.1		111.6	12.2			39.4	
LOS					F		F	B			D	
Approach Delay					113.1			50.2			39.4	
Approach LOS					F			D			D	
Queue Length 50th (ft)					~453		268	104			213	
Queue Length 95th (ft)					#586		#460	138			#287	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1046		478	2099			912	
Starvation Cap Reductn					0		153	1199			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					1.16		1.40	0.81			0.81	

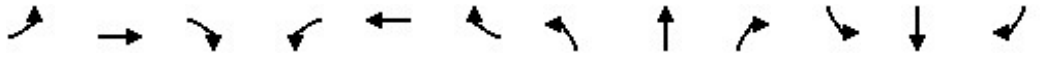
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 71.9		Intersection LOS: E	
Intersection Capacity Utilization 86.1%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

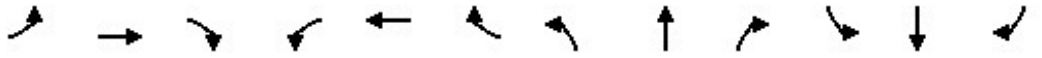
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	414	164	38	0	180	0	809	287	265	808	0
Future Volume (vph)	96	414	164	38	0	180	0	809	287	265	808	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.961				
Flt Protected		0.991		0.950						0.950		
Satd. Flow (prot)	0	3507	1583	1770	0	1583	0	3401	0	1770	3539	0
Flt Permitted		0.991		0.308						0.950		
Satd. Flow (perm)	0	3507	1583	574	0	1583	0	3401	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						196		56				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	450	178	41	0	196	0	879	312	288	878	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	554	178	41	0	196	0	1191	0	288	878	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						

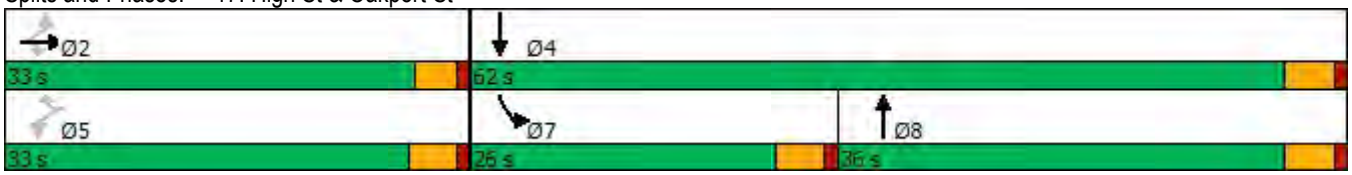


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	33.0	33.0	33.0	33.0		33.0		36.0		26.0	62.0	
Total Split (%)	34.7%	34.7%	34.7%	34.7%		34.7%		37.9%		27.4%	65.3%	
Maximum Green (s)	29.0	29.0	29.0	28.5		28.5		31.5		21.5	57.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		29.0	29.0	28.5		28.5		31.5		21.5	57.5	
Actuated g/C Ratio		0.31	0.31	0.30		0.30		0.33		0.23	0.61	
v/c Ratio		0.52	0.37	0.24		0.32		1.02		0.72	0.41	
Control Delay		29.3	28.6	29.6		5.3		63.2		45.6	10.6	
Queue Delay		0.0	0.0	0.0		0.0		0.0		24.0	4.9	
Total Delay		29.3	28.6	29.6		5.3		63.2		69.5	15.4	
LOS		C	C	C		A		E		E	B	
Approach Delay		29.1			9.5			63.2			28.8	
Approach LOS		C			A			E			C	
Queue Length 50th (ft)		144	84	19		0		~392		161	134	
Queue Length 95th (ft)		196	143	48		49		#524		#270	174	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1070	483	172		612		1165		400	2142	
Starvation Cap Reductn		0	0	0		0		0		110	1177	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.52	0.37	0.24		0.32		1.02		0.99	0.91	

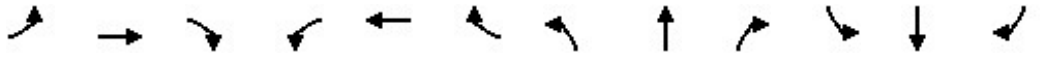
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 39.8		Intersection LOS: D	
Intersection Capacity Utilization 77.9%		ICU Level of Service D	

Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	273	80	20	24	134	212	0	1181	38	12	999	345
Future Volume (vph)	273	80	20	24	134	212	0	1181	38	12	999	345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.970				0.850		0.995			0.962	
Flt Protected	0.950				0.992							
Satd. Flow (prot)	1770	1807	0	0	1848	1583	0	3522	0	0	3405	0
Flt Permitted	0.649				0.950						0.939	
Satd. Flow (perm)	1209	1807	0	0	1770	1583	0	3522	0	0	3197	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		22						8			122	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	297	87	22	26	146	230	0	1284	41	13	1086	375
Shared Lane Traffic (%)												
Lane Group Flow (vph)	297	109	0	0	172	230	0	1325	0	0	1474	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		



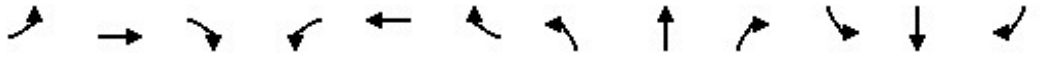
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	17.0	17.0			17.0	17.0		32.5			32.5	
Actuated g/C Ratio	0.29	0.29			0.29	0.29		0.56			0.56	
v/c Ratio	0.85	0.20			0.34	0.50		0.68			0.80	
Control Delay	44.2	13.9			18.3	21.5		11.7			14.5	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	44.2	13.9			18.3	21.5		11.7			14.5	
LOS	D	B			B	C		B			B	
Approach Delay		36.1			20.1			11.7			14.5	
Approach LOS		D			C			B			B	
Queue Length 50th (ft)	97	23			47	66		165			192	
Queue Length 95th (ft)	#217	54			91	124		232			283	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	382	587			560	501		1962			1832	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.78	0.19			0.31	0.46		0.68			0.80	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 58.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 16.5 Intersection LOS: B
Intersection Capacity Utilization 82.1% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Park St & Blanding Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	247	88	113	308	12	36	514	46	53	825	81
Future Volume (vph)	158	247	88	113	308	12	36	514	46	53	825	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.960			0.994			0.988			0.987	
Flt Protected	0.950			0.950				0.997			0.997	
Satd. Flow (prot)	1770	3398	0	1770	3518	0	0	3486	0	0	3483	0
Flt Permitted	0.950			0.950				0.815			0.882	
Satd. Flow (perm)	1770	3398	0	1770	3518	0	0	2850	0	0	3081	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			5			14			16	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	172	268	96	123	335	13	39	559	50	58	897	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	172	364	0	123	348	0	0	648	0	0	1043	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		

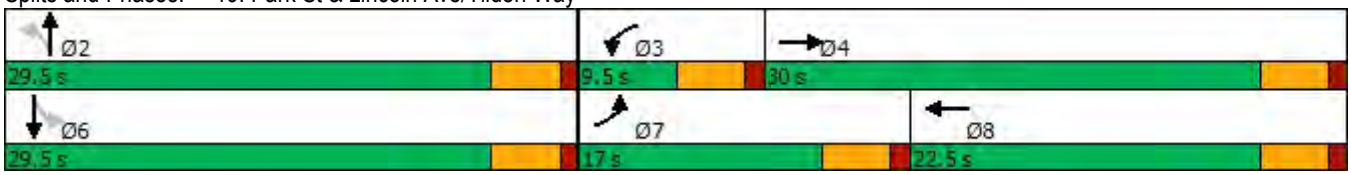


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	10.3	16.0		5.0	13.4			25.2			25.2	
Actuated g/C Ratio	0.17	0.27		0.08	0.22			0.42			0.42	
v/c Ratio	0.56	0.38		0.83	0.44			0.54			0.80	
Control Delay	31.3	15.8		73.8	23.1			15.9			22.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	31.3	15.8		73.8	23.1			15.9			22.6	
LOS	C	B		E	C			B			C	
Approach Delay		20.8			36.4			15.9			22.6	
Approach LOS		C			D			B			C	
Queue Length 50th (ft)	58	46		46	60			88			168	
Queue Length 95th (ft)	120	77		#144	98			157			#324	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	372	1489		149	1070			1208			1306	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.46	0.24		0.83	0.33			0.54			0.80	

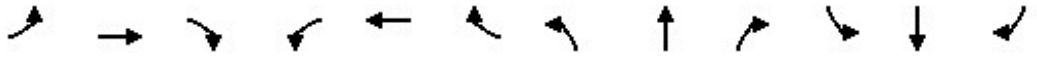
Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 59.9			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 23.0		Intersection LOS: C	
Intersection Capacity Utilization 76.3%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



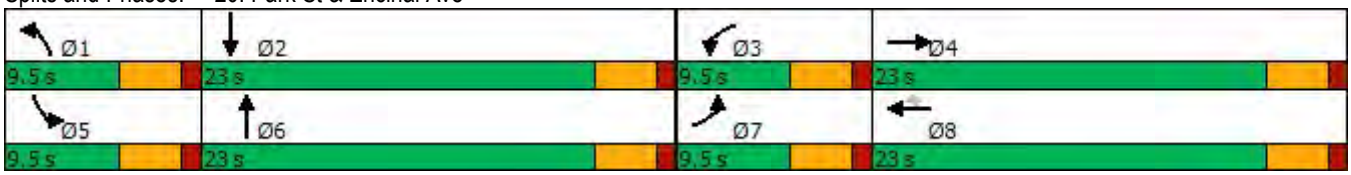
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	537	60	53	341	97	59	296	69	118	366	54
Future Volume (vph)	54	537	60	53	341	97	59	296	69	118	366	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985				0.850		0.972			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				151		44			25	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	584	65	58	371	105	64	322	75	128	398	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	649	0	58	371	105	64	397	0	128	457	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



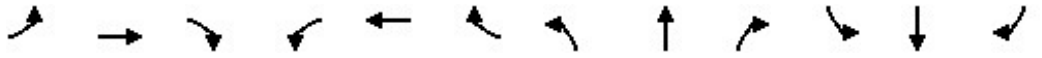
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.6	15.9		5.6	15.9	15.9	5.6	19.4		5.6	24.0	
Actuated g/C Ratio	0.10	0.27		0.10	0.27	0.27	0.10	0.33		0.10	0.41	
v/c Ratio	0.35	0.67		0.34	0.73	0.19	0.38	0.34		0.75	0.32	
Control Delay	33.7	22.6		33.5	29.4	2.5	34.5	15.6		60.1	15.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.7	22.6		33.5	29.4	2.5	34.5	15.6		60.1	15.3	
LOS	C	C		C	C	A	C	B		E	B	
Approach Delay		23.6			24.6			18.2			25.1	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	23	112		22	129	0	25	56		51	71	
Queue Length 95th (ft)	56	164		55	#216	16	59	92		#140	111	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	170	1171		170	619	627	170	1173		170	1442	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.35	0.55		0.34	0.60	0.17	0.38	0.34		0.75	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 58.3			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 23.1		Intersection LOS: C	
Intersection Capacity Utilization 52.4%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	173	19	74	190	185	33	448	116	331	724	263
Future Volume (vph)	134	173	19	74	190	185	33	448	116	331	724	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.969			0.960	
Flt Protected		0.979			0.986		0.950			0.950		
Satd. Flow (prot)	0	1824	1583	0	1837	1583	1770	3429	0	1770	3398	0
Flt Permitted		0.979			0.986		0.950			0.950		
Satd. Flow (perm)	0	1824	1583	0	1837	1583	1770	3429	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			201		33			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	188	21	80	207	201	36	487	126	360	787	286
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	334	21	0	287	201	36	613	0	360	1073	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



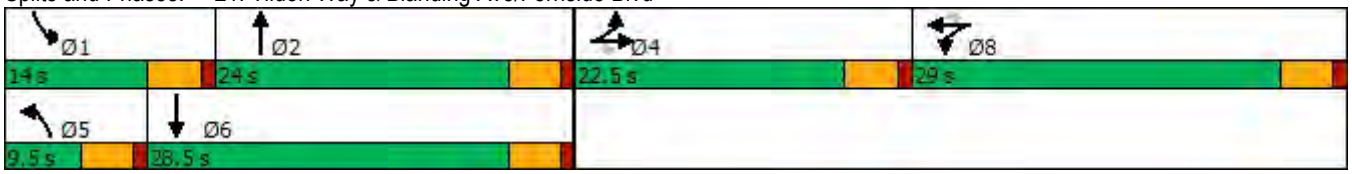
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		17.5	17.5		18.1	18.1	5.1	17.8		9.6	26.6	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.06	0.22		0.12	0.33	
v/c Ratio		0.85	0.05		0.70	0.39	0.33	0.79		1.72	0.93	
Control Delay		54.4	0.2		39.0	6.5	47.9	37.5		370.8	43.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		54.4	0.2		39.0	6.5	47.9	37.5		370.8	43.6	
LOS		D	A		D	A	D	D		F	D	
Approach Delay		51.2			25.6			38.1			125.8	
Approach LOS		D			C			D			F	
Queue Length 50th (ft)		170	0		139	0	19	150		~288	~320	
Queue Length 95th (ft)		#344	0		222	50	51	#231		#485	#490	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		409	454		560	622	110	858		209	1151	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.82	0.05		0.51	0.32	0.33	0.71		1.72	0.93	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 81.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.72			
Intersection Signal Delay: 80.6		Intersection LOS: F	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

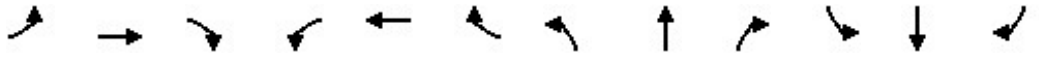
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



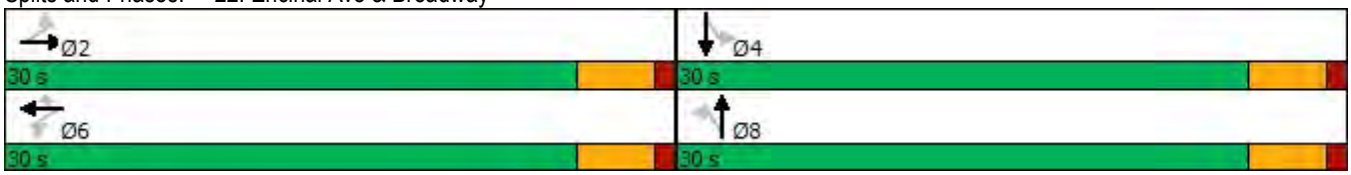
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	437	140	34	303	36	102	382	26	67	453	50
Future Volume (vph)	67	437	140	34	303	36	102	382	26	67	453	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967				0.850		0.991			0.985	
Flt Protected		0.995			0.995		0.950			0.950		
Satd. Flow (prot)	0	3405	0	0	1853	1636	1770	1846	0	1770	1835	0
Flt Permitted		0.832			0.888		0.331			0.422		
Satd. Flow (perm)	0	2847	0	0	1654	1636	617	1846	0	786	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73				39		7			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	475	152	37	329	39	111	415	28	73	492	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	700	0	0	366	39	111	443	0	73	546	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



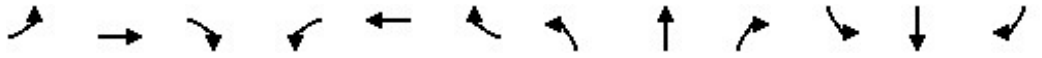
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		17.9			17.9	17.9	25.7	25.7		25.7	25.7	
Actuated g/C Ratio		0.34			0.34	0.34	0.49	0.49		0.49	0.49	
v/c Ratio		0.69			0.65	0.07	0.37	0.49		0.19	0.61	
Control Delay		16.9			20.4	4.5	15.0	12.5		11.1	14.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		16.9			20.4	4.5	15.0	12.5		11.1	14.5	
LOS		B			C	A	B	B		B	B	
Approach Delay		16.9			18.9			13.0			14.1	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		84			93	0	19	82		12	109	
Queue Length 95th (ft)		131			163	14	68	192		41	253	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1425			806	817	300	903		383	900	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.49			0.45	0.05	0.37	0.49		0.19	0.61	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.7			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 15.6		Intersection LOS: B	
Intersection Capacity Utilization 83.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	916	15	137	759	313	6	86	153	336	100	144
Future Volume (vph)	144	916	15	137	759	313	6	86	153	336	100	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.916				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3532	0	1770	1863	1583	0	1705	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.994		0.485		
Satd. Flow (perm)	1770	3532	0	1770	1863	1583	0	1696	0	903	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				340		110				157
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			1523			502			2170	
Travel Time (s)		9.3			41.5			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	157	996	16	149	825	340	7	93	166	365	109	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	1012	0	149	825	340	0	266	0	365	109	157
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



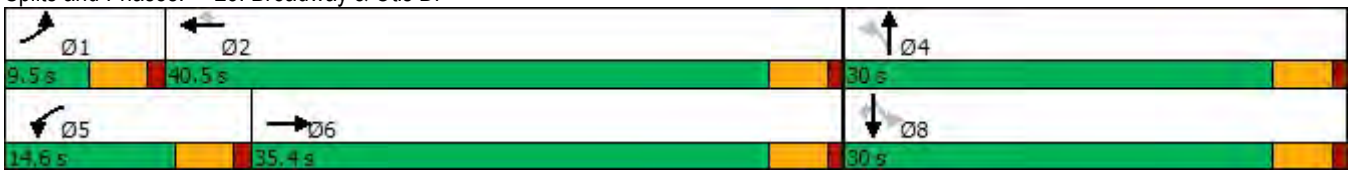
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	31.4		9.6	36.0	36.0		25.5		25.5	25.5	25.5
Actuated g/C Ratio	0.06	0.39		0.12	0.45	0.45		0.32		0.32	0.32	0.32
v/c Ratio	1.43	0.73		0.70	0.98	0.38		0.43		1.27	0.18	0.26
Control Delay	268.8	24.6		52.6	51.4	3.0		14.8		174.6	20.8	4.8
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	268.8	24.6		52.6	51.4	3.0		14.8		174.6	20.8	4.8
LOS	F	C		D	D	A		B		F	C	A
Approach Delay		57.4			39.0			14.8			105.8	
Approach LOS		E			D			B			F	
Queue Length 50th (ft)	~107	222		72	391	0		58		~234	39	0
Queue Length 95th (ft)	#223	295		#152	#643	43		123		#395	76	39
Internal Link Dist (ft)		261			1443			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	110	1386		223	838	899		615		287	593	611
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	1.43	0.73		0.67	0.98	0.38		0.43		1.27	0.18	0.26

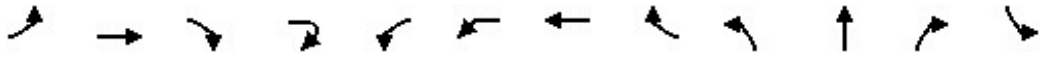
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.43			
Intersection Signal Delay: 55.9		Intersection LOS: E	
Intersection Capacity Utilization 95.8%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

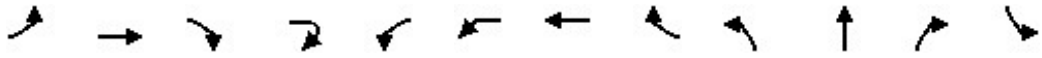
Splits and Phases: 23: Broadway & Otis Dr





Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	101	339	75	4	5	3	202	158	43	286	4	182
Future Volume (vph)	101	339	75	4	5	3	202	158	43	286	4	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.998			0.994		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1859	1583	0	1850	0	1770
Flt Permitted	0.500						0.985			0.888		0.950
Satd. Flow (perm)	931	1863	1583	0	0	0	1835	1583	0	1652	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								172				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	110	368	82	4	5	3	220	172	47	311	4	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	110	368	86	0	0	0	228	172	0	362	0	198
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

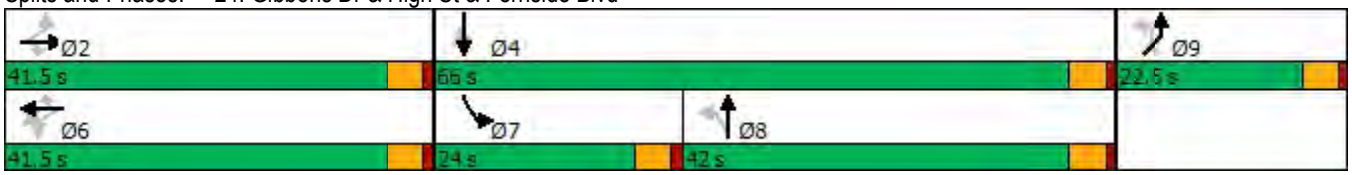
Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations							
Traffic Volume (vph)	425	83	129	2	87	7	4
Future Volume (vph)	425	83	129	2	87	7	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0			0	50	
Storage Lanes		1			1	1	
Taper Length (ft)					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.989		0.850
Flt Protected					0.956		
Satd. Flow (prot)	1863	1583	0	0	1761	0	1583
Flt Permitted					0.993		
Satd. Flow (perm)	1863	1583	0	0	1829	0	1583
Right Turn on Red			No				Yes
Satd. Flow (RTOR)							88
Link Speed (mph)	25				25		
Link Distance (ft)	1133				459		
Travel Time (s)	30.9				12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	462	90	140	2	95	8	4
Shared Lane Traffic (%)							
Lane Group Flow (vph)	462	230	0	0	105	0	4
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Right
Median Width(ft)	12				12		
Link Offset(ft)	0				0		
Crosswalk Width(ft)	16				16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	15	9	9
Number of Detectors	2	1		1	1		1
Detector Template	Thru	Right		Left	Left		Right
Leading Detector (ft)	100	20		20	20		20
Trailing Detector (ft)	0	0		0	0		0
Detector 1 Position(ft)	0	0		0	0		0
Detector 1 Size(ft)	6	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm		Perm	Prot		Perm
Protected Phases	4				9		
Permitted Phases		4		9			9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	41.5	41.5	41.5		41.5	41.5	41.5	41.5	42.0	42.0		24.0
Total Split (%)	31.9%	31.9%	31.9%		31.9%	31.9%	31.9%	31.9%	32.3%	32.3%		18.5%
Maximum Green (s)	37.0	37.0	37.0		37.0	37.0	37.0	37.0	37.5	37.5		19.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.3	37.3	37.3				37.3	37.3		29.7		19.6
Actuated g/C Ratio	0.32	0.32	0.32				0.32	0.32		0.25		0.17
v/c Ratio	0.37	0.62	0.17				0.39	0.28		0.86		0.67
Control Delay	38.2	41.2	32.8				35.5	6.2		62.5		59.6
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	38.2	41.2	32.8				35.5	6.2		62.5		59.6
LOS	D	D	C				D	A		E		E
Approach Delay		39.3					22.9			62.5		
Approach LOS		D					C			E		
Queue Length 50th (ft)	64	237	47				135	0		260		142
Queue Length 95th (ft)	135	389	99				235	54		397		#270
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	297	594	505				585	622		534		297
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.37	0.62	0.17				0.39	0.28		0.68		0.67

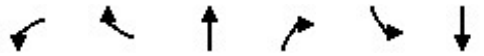
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 116.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 38.3		Intersection LOS: D	
Intersection Capacity Utilization 93.1%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd

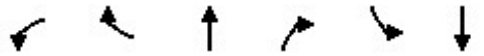


Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Detector Phase	4	4		9	9		9
Switch Phase							
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5
Total Split (s)	66.0	66.0		22.5	22.5		22.5
Total Split (%)	50.8%	50.8%		17.3%	17.3%		17.3%
Maximum Green (s)	61.5	61.5		18.0	18.0		18.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0
Total Lost Time (s)	4.5	4.5			4.5		4.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0
Act Effct Green (s)	53.9	53.9			12.1		12.1
Actuated g/C Ratio	0.46	0.46			0.10		0.10
v/c Ratio	0.54	0.32			0.56		0.02
Control Delay	25.5	21.4			62.7		0.0
Queue Delay	0.0	0.0			0.0		0.0
Total Delay	25.5	21.4			62.7		0.0
LOS	C	C			E		A
Approach Delay	32.0				60.4		
Approach LOS	C				E		
Queue Length 50th (ft)	241	106			77		0
Queue Length 95th (ft)	365	177			143		0
Internal Link Dist (ft)	1053				379		
Turn Bay Length (ft)							50
Base Capacity (vph)	987	839			284		319
Starvation Cap Reductn	0	0			0		0
Spillback Cap Reductn	0	0			0		0
Storage Cap Reductn	0	0			0		0
Reduced v/c Ratio	0.47	0.27			0.37		0.01

Intersection Summary



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	827	17	1163	828	63	1421
Future Volume (vph)	827	17	1163	828	63	1421
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.997			0.850		
Flt Protected	0.953				0.950	
Satd. Flow (prot)	3434	0	3539	1583	1770	3539
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	3434	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	2			273		
Link Speed (mph)	25		35			35
Link Distance (ft)	444		1406			1506
Travel Time (s)	12.1		27.4			29.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	899	18	1264	900	68	1545
Shared Lane Traffic (%)						
Lane Group Flow (vph)	917	0	1264	900	68	1545
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		

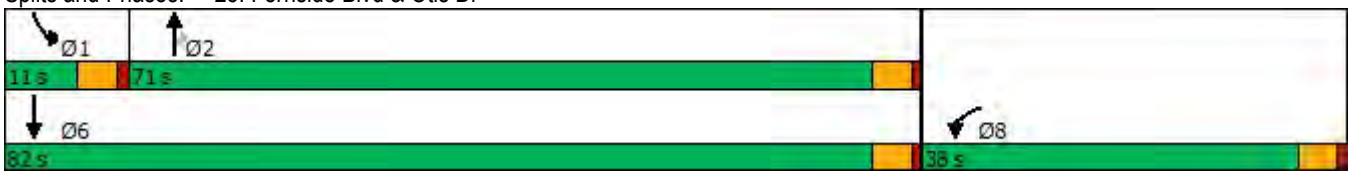


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	38.0		71.0	71.0	11.0	82.0
Total Split (%)	31.7%		59.2%	59.2%	9.2%	68.3%
Maximum Green (s)	33.5		66.5	66.5	6.5	77.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	33.2		68.7	68.7	6.5	77.5
Actuated g/C Ratio	0.28		0.57	0.57	0.05	0.65
v/c Ratio	0.96		0.62	0.88	0.72	0.67
Control Delay	64.0		19.2	27.2	93.0	15.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	64.0		19.2	27.2	93.0	15.1
LOS	E		B	C	F	B
Approach Delay	64.0		22.5			18.4
Approach LOS	E		C			B
Queue Length 50th (ft)	359		341	454	53	366
Queue Length 95th (ft)	#491		415	#792	#129	441
Internal Link Dist (ft)	364		1326			1426
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	962		2031	1024	95	2290
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.95		0.62	0.88	0.72	0.67

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 119.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Fernside Blvd & Otis Dr

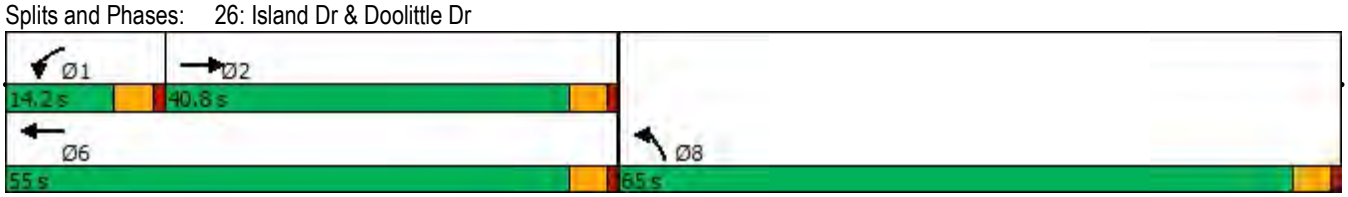


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	870	1350	139	1017	973	96
Future Volume (vph)	870	1350	139	1017	973	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		353				63
Link Speed (mph)	25			25	25	
Link Distance (ft)	1406			365	455	
Travel Time (s)	38.3			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	946	1467	151	1105	1058	104
Shared Lane Traffic (%)						
Lane Group Flow (vph)	946	1467	151	1105	1058	104
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.5	94.8	9.7	50.8	35.0	94.8
Actuated g/C Ratio	0.39	1.00	0.10	0.54	0.37	1.00
v/c Ratio	0.69	0.93	0.83	0.58	0.84	0.07
Control Delay	28.9	12.3	78.8	17.5	33.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	12.3	78.8	17.5	33.7	0.1
LOS	C	B	E	B	C	A
Approach Delay	18.8			24.9	30.7	
Approach LOS	B			C	C	
Queue Length 50th (ft)	246	0	90	224	293	0
Queue Length 95th (ft)	375	#97	#225	357	369	0
Internal Link Dist (ft)	1326			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1362	1583	182	1895	2202	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.93	0.83	0.58	0.48	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 94.8			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 23.2		Intersection LOS: C	
Intersection Capacity Utilization 70.8%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 26: Island Dr & Doolittle Dr



2025 Proposed Action Condition

Saturday Peak Hour

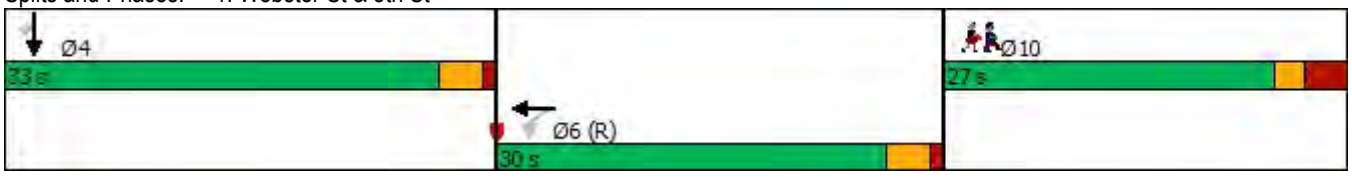
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	357	430	0	0	0	0	0	622	350
Future Volume (vph)	0	0	0	357	430	0	0	0	0	0	622	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.974	0.850
Flt Protected				0.950	0.986							
Satd. Flow (prot)	0	0	0	1358	4534	0	0	0	0	0	4278	1191
Flt Permitted				0.950	0.986							
Satd. Flow (perm)	0	0	0	1358	4534	0	0	0	0	0	4278	1191
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				203	108						47	232
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	8%	2%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	376	453	0	0	0	0	0	655	368
Shared Lane Traffic (%)				46%								37%
Lane Group Flow (vph)	0	0	0	203	626	0	0	0	0	0	791	232
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				37.3	37.3						25.5	25.5
Actuated g/C Ratio				0.41	0.41						0.28	0.28
v/c Ratio				0.30	0.32						0.64	0.46
Control Delay				5.0	17.7						28.3	6.3
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				5.0	17.7						28.3	6.3
LOS				A	B						C	A
Approach Delay					14.6						23.3	
Approach LOS					B						C	
Queue Length 50th (ft)				0	82						141	0
Queue Length 95th (ft)				58	128						167	55
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				681	1942						1439	547
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.30	0.32						0.55	0.42

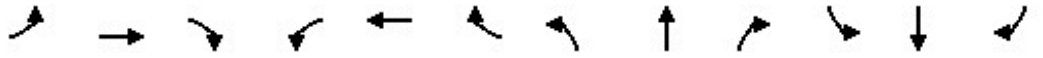
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 19.4		Intersection LOS: B	
Intersection Capacity Utilization 33.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St

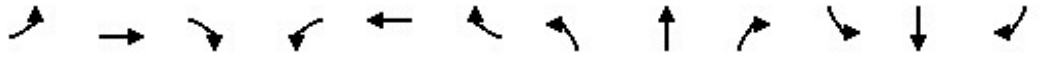


Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



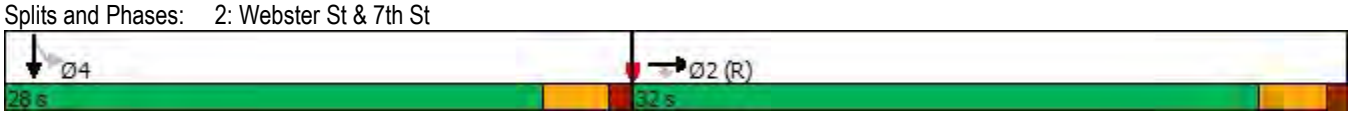
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	706	398	0	0	0	0	0	0	214	696	0
Future Volume (vph)	0	706	398	0	0	0	0	0	0	214	696	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.974	0.850									
Flt Protected											0.988	
Satd. Flow (prot)	0	4404	1348	0	0	0	0	0	0	0	4832	0
Flt Permitted											0.988	
Satd. Flow (perm)	0	4404	1348	0	0	0	0	0	0	0	4832	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		86	86								121	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			387			184			292	
Travel Time (s)		9.3			10.6			5.0			8.0	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	3%	3%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	776	437	0	0	0	0	0	0	235	765	0
Shared Lane Traffic (%)			37%									
Lane Group Flow (vph)	0	938	275	0	0	0	0	0	0	0	1000	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		32.0	32.0							28.0	28.0	
Total Split (s)		32.0	32.0							28.0	28.0	
Total Split (%)		53.3%	53.3%							46.7%	46.7%	

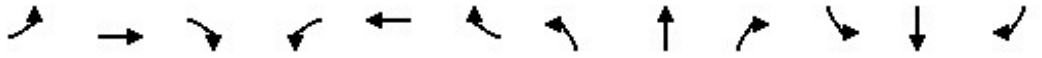


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		28.0	28.0							24.0	24.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		18.0	18.0							12.0	12.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		32.0	32.0								20.0	
Actuated g/C Ratio		0.53	0.53								0.33	
v/c Ratio		0.39	0.36								0.59	
Control Delay		8.7	8.0								15.5	
Queue Delay		0.0	0.0								0.1	
Total Delay		8.7	8.0								15.7	
LOS		A	A								B	
Approach Delay		8.5									15.7	
Approach LOS		A									B	
Queue Length 50th (ft)		63	39								92	
Queue Length 95th (ft)		104	103								115	
Internal Link Dist (ft)		260			307			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2390	759								2005	
Starvation Cap Reductn		0	0								225	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.39	0.36								0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 41.1%		ICU Level of Service A	
Analysis Period (min) 15			

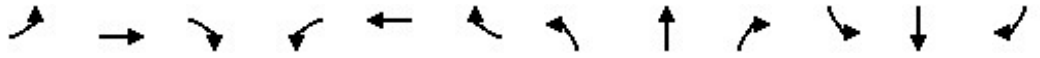
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	566	0	0	0	0	0	633	1628	0	0	0
Future Volume (vph)	318	566	0	0	0	0	0	633	1628	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.982										
Satd. Flow (prot)	0	4656	0	0	0	0	0	5136	2718	0	0	0
Flt Permitted		0.982										
Satd. Flow (perm)	0	4656	0	0	0	0	0	5136	2718	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		162							135			
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		387			379			445			307	
Travel Time (s)		10.6			10.3			10.1			7.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	5%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	357	636	0	0	0	0	0	711	1829	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	993	0	0	0	0	0	711	1829	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								35.0				
Total Split (%)								58.3%				
Maximum Green (s)								29.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		19.4						29.4	36.7			
Actuated g/C Ratio		0.32						0.49	0.61			
v/c Ratio		0.61						0.28	1.07			
Control Delay		10.9						9.4	57.6			
Queue Delay		0.0						0.0	0.0			
Total Delay		10.9						9.4	57.6			
LOS		B						A	E			
Approach Delay		10.9						44.1				
Approach LOS		B						D				
Queue Length 50th (ft)		49						51	~447			
Queue Length 95th (ft)		63						71	#581			
Internal Link Dist (ft)		307			299			365			227	
Turn Bay Length (ft)												
Base Capacity (vph)		1615						2516	1712			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.61						0.28	1.07			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 51 (85%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 34.8		Intersection LOS: C	
Intersection Capacity Utilization 83.9%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
~ Volume exceeds capacity, queue is theoretically infinite.			

Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	4.6
Total Split (s)	25.0	19.0	6.0
Total Split (%)	42%	32%	10%
Maximum Green (s)	19.4	13.4	2.4
Yellow Time (s)	3.6	3.6	3.6
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	Max
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

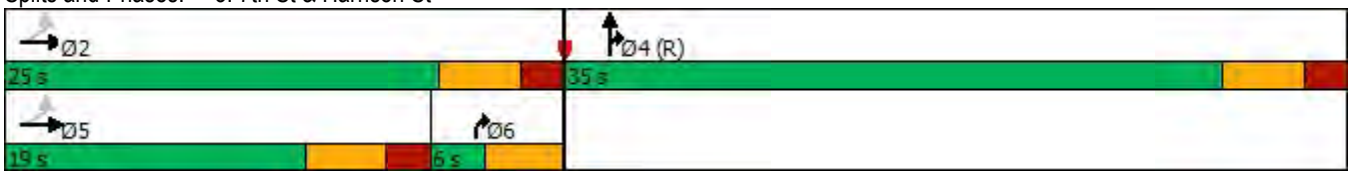
Queue shown is maximum after two cycles.

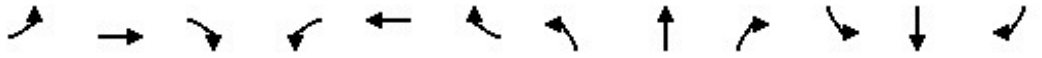
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 3: 7th St & Harrison St



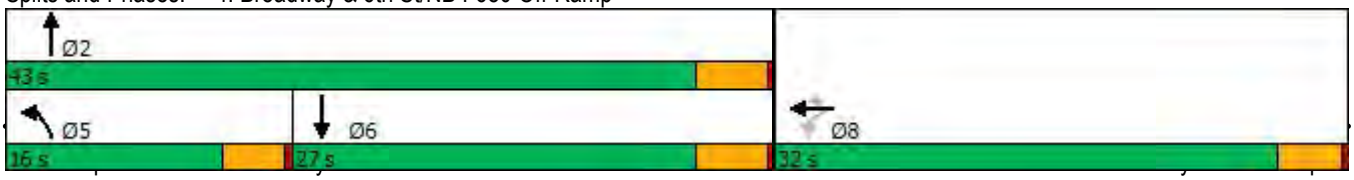


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	279	153	575	51	203	0	0	407	137
Future Volume (vph)	0	0	0	279	153	575	51	203	0	0	407	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.962	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1752	3252	1583	1687	3610	0	0	4916	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1752	3252	1583	1687	3610	0	0	4916	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						625					116	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			328			469	
Travel Time (s)		11.3			8.0			8.9			12.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	11%	2%	7%	0%	0%	0%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	14
Adj. Flow (vph)	0	0	0	303	166	625	55	221	0	0	442	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	303	166	625	55	221	0	0	591	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.0	31.0	31.0	9.5	23.5			23.5	
Total Split (s)				32.0	32.0	32.0	16.0	43.0			27.0	
Total Split (%)				42.7%	42.7%	42.7%	21.3%	57.3%			36.0%	
Maximum Green (s)				28.0	28.0	28.0	12.0	38.5			22.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	None			None	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				16.0	16.0	16.0	7.0	13.4			10.1	
Actuated g/C Ratio				0.41	0.41	0.41	0.18	0.34			0.26	
v/c Ratio				0.43	0.13	0.62	0.19	0.18			0.44	
Control Delay				11.9	9.0	4.3	21.7	9.7			12.9	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				11.9	9.0	4.3	21.7	9.7			12.9	
LOS				B	A	A	C	A			B	
Approach Delay					7.1			12.1			12.9	
Approach LOS					A			B			B	
Queue Length 50th (ft)				32	7	0	9	15			24	
Queue Length 95th (ft)				135	36	53	49	44			88	
Internal Link Dist (ft)		335			213			248			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				1334	2477	1354	607	3139			3301	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.23	0.07	0.46	0.09	0.07			0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 39.4			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 48.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp



Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	55	584	123	53	97	90	253	328	140	226
Future Volume (vph)	55	584	123	53	97	90	253	328	140	226
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.997	0.850	0.850	0.883					
Flt Protected		0.996						0.950	0.950	
Satd. Flow (prot)	0	3018	1441	1429	4560	0	0	1787	1787	1863
Flt Permitted		0.996						0.950	0.950	
Satd. Flow (perm)	0	3018	1441	1429	4560	0	0	1787	1787	1863
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				73	269					
Link Speed (mph)		25			25					25
Link Distance (ft)		582			693					328
Travel Time (s)		15.9			18.9					8.9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	2%	13%	2%	0%	0%	1%	1%	2%
Adj. Flow (vph)	59	621	131	56	103	96	269	349	149	240
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	693	118	56	468	0	0	349	149	240
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	30.5	30.5	30.5	30.5	23.5			9.5	9.5	22.5
Total Split (s)	30.5	30.5	30.5	30.5	23.5			21.0	21.0	44.5
Total Split (%)	40.7%	40.7%	40.7%	40.7%	31.3%			28.0%	28.0%	59.3%
Maximum Green (s)	27.0	27.0	27.0	27.0	19.0			17.5	17.5	41.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0			3.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		3.5	3.5	3.5	4.5			3.5	3.5	3.5
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	None			None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	12.0					12.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		19.5	19.5	19.5	8.2			15.4	15.4	28.3
Actuated g/C Ratio		0.35	0.35	0.35	0.15			0.28	0.28	0.51
v/c Ratio		0.65	0.23	0.10	0.52			0.70	0.30	0.25
Control Delay		18.6	14.7	3.3	12.3			29.2	19.9	9.3
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Delay		18.6	14.7	3.3	12.3			29.2	19.9	9.3
LOS		B	B	A	B			C	B	A
Approach Delay		17.1			12.3					20.8
Approach LOS		B			B					C
Queue Length 50th (ft)		119	29	0	22			99	37	40
Queue Length 95th (ft)		201	71	15	53			#258	98	94
Internal Link Dist (ft)		502			613					248
Turn Bay Length (ft)										
Base Capacity (vph)		1541	735	765	1810			591	591	1422
Starvation Cap Reductn		0	0	0	0			0	0	0
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.45	0.16	0.07	0.26			0.59	0.25	0.17

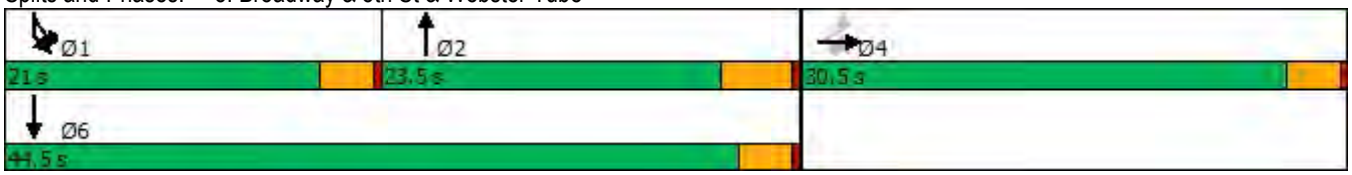
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 55.1			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 57.3%		ICU Level of Service B	
Analysis Period (min) 15			

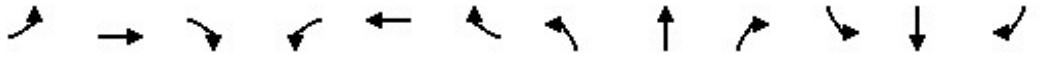
* User Entered Value

\# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Broadway & 5th St & Webster Tube



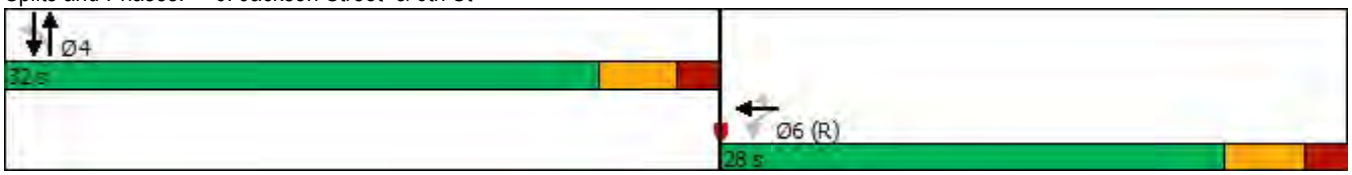


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	8	324	46	237	246	0	0	250	1387
Future Volume (vph)	0	0	0	8	324	46	237	246	0	0	250	1387
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.954	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1759	1615	1805	1900	0	0	1711	1583
Flt Permitted				0.950			0.446					
Satd. Flow (perm)	0	0	0	1805	1759	1615	847	1900	0	0	1711	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						48					48	440
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	0%	2%
Adj. Flow (vph)	0	0	0	8	341	48	249	259	0	0	263	1460
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	8	341	48	249	259	0	0	380	1343
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.01	0.52	0.08	0.67	0.31			0.49	0.85
Control Delay				11.9	18.0	4.7	22.0	10.5			12.9	7.0
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				11.9	18.0	4.7	22.0	10.5			12.9	7.0
LOS				B	B	A	C	B			B	A
Approach Delay					16.3			16.2			8.3	
Approach LOS					B			B			A	
Queue Length 50th (ft)				2	93	0	57	54			83	0
Queue Length 95th (ft)				9	161	17	#176	92			152	#36
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	659	635	374	839			782	1583
Starvation Cap Reductn				0	0	0	0	0			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.01	0.52	0.08	0.67	0.31			0.49	0.85

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 85.5%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Jackson Street & 6th St

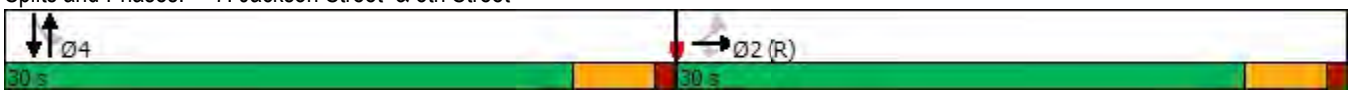


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	206	276	0	0	0	0	267	47	153	107	0
Future Volume (vph)	270	206	276	0	0	0	0	267	47	153	107	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.980				
Flt Protected		0.972									0.971	
Satd. Flow (prot)	0	3479	1615	0	0	0	0	1862	0	0	1614	0
Flt Permitted		0.972									0.570	
Satd. Flow (perm)	0	3479	1615	0	0	0	0	1862	0	0	948	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			297					18				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	290	222	297	0	0	0	0	287	51	165	115	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	512	297	0	0	0	0	338	0	0	280	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					25.6		25.6	25.6	
Total Split (s)	30.0	30.0	30.0					30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%					50.0%		50.0%	50.0%	
Maximum Green (s)	25.4	25.4	25.4					25.4		25.4	25.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		25.4	25.4					25.4			25.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.42	0.42					0.42			0.42	
v/c Ratio		0.35	0.35					0.42			0.70	
Control Delay		12.5	2.9					13.5			33.1	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		12.5	2.9					13.5			33.1	
LOS		B	A					B			C	
Approach Delay		9.0						13.5			33.1	
Approach LOS		A						B			C	
Queue Length 50th (ft)		62	0					77			112	
Queue Length 95th (ft)		95	37					136			#201	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1472	854					798			401	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.35	0.35					0.42			0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 51 (85%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 50			
Control Type: Pretimed			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Jackson Street & 5th Street



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	284	83	39	1067	868	290
Future Volume (vph)	284	83	39	1067	868	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3505	4988	2842
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3505	4988	2842
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	3%	4%	0%
Adj. Flow (vph)	299	87	41	1123	914	305
Shared Lane Traffic (%)						
Lane Group Flow (vph)	299	87	41	1123	914	305
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	23.0	23.0	11.0	37.0	26.0	
Total Split (%)	38.3%	38.3%	18.3%	61.7%	43.3%	
Maximum Green (s)	18.5	18.5	6.5	32.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	10.3	10.3	6.2	34.0	29.7	47.2
Actuated g/C Ratio	0.19	0.19	0.12	0.64	0.56	0.89
v/c Ratio	0.44	0.28	0.20	0.50	0.33	0.12
Control Delay	20.6	19.8	23.9	6.6	8.6	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	19.8	23.9	6.6	8.6	1.6
LOS	C	B	C	A	A	A
Approach Delay	20.4			7.2	6.8	
Approach LOS	C			A	A	
Queue Length 50th (ft)	41	23	11	76	35	0
Queue Length 95th (ft)	69	53	36	148	111	21
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1218	561	220	2236	2778	2635
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.16	0.19	0.50	0.33	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 53.3			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 8.9		Intersection LOS: A	
Intersection Capacity Utilization 45.1%		ICU Level of Service A	
Analysis Period (min) 15			

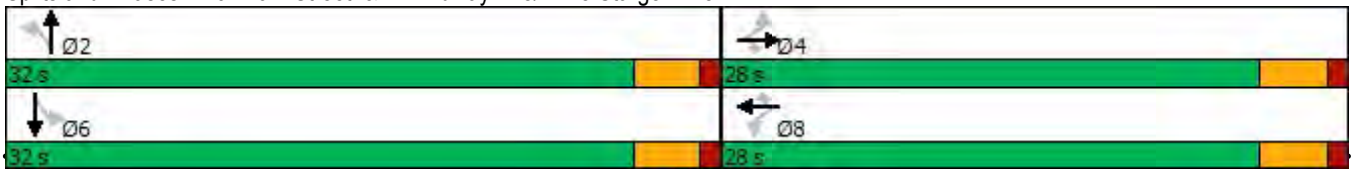
Splits and Phases: 8: Webster Street & Willie Stargell Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	66	58	11	86	104	51	198	10	147	217	4
Future Volume (vph)	6	66	58	11	86	104	51	198	10	147	217	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.994			0.998	
Flt Protected		0.996			0.994			0.990			0.980	
Satd. Flow (prot)	0	1892	1442	0	1889	1524	0	3447	0	0	3531	0
Flt Permitted		0.965			0.955			0.834			0.727	
Satd. Flow (perm)	0	1834	1442	0	1814	1524	0	2904	0	0	2619	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73			130		9			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	12%	0%	0%	6%	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	8	83	73	14	108	130	64	248	13	184	271	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	91	73	0	122	130	0	325	0	0	460	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	28.0	28.0	28.0	28.0	28.0	28.0	32.0	32.0		32.0	32.0	
Total Split (%)	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%	53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	28.0	28.0		28.0	28.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		8.4	8.4		8.4	8.4		31.7			31.7	
Actuated g/C Ratio		0.18	0.18		0.18	0.18		0.70			0.70	
v/c Ratio		0.27	0.22		0.36	0.34		0.16			0.25	
Control Delay		17.2	6.7		18.7	6.5		3.8			4.3	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		17.2	6.7		18.7	6.5		3.8			4.3	
LOS		B	A		B	A		A			A	
Approach Delay		12.5			12.4			3.8			4.3	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		20	0		27	0		13			21	
Queue Length 95th (ft)		42	18		53	23		27			40	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		968	796		958	866		2026			1825	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.09	0.09		0.13	0.15		0.16			0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 45.5			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 7.0		Intersection LOS: A	
Intersection Capacity Utilization 39.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave

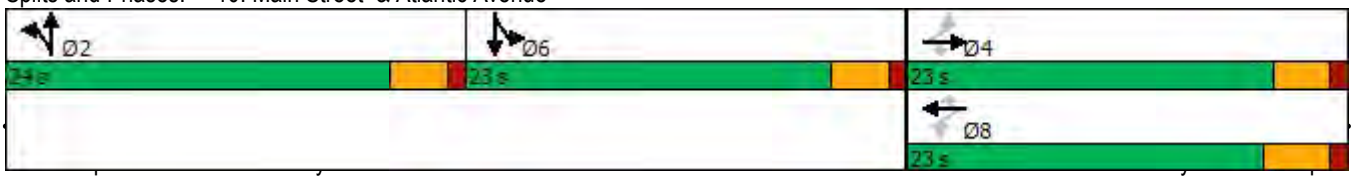


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	370	100	16	257	154	90	129	61	184	127	9
Future Volume (vph)	3	370	100	16	257	154	90	129	61	184	127	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.952			0.994	
Flt Protected					0.997		0.950			0.950	0.981	
Satd. Flow (prot)	0	3610	1553	0	3572	1568	1805	3346	0	1610	3308	0
Flt Permitted		0.952			0.911		0.950			0.950	0.981	
Satd. Flow (perm)	0	3437	1553	0	3264	1568	1805	3346	0	1610	3308	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			193		76			6	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	4%	13%	0%	3%	0%	4%	0%	2%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	4	463	125	20	321	193	113	161	76	230	159	11
Shared Lane Traffic (%)										45%		
Lane Group Flow (vph)	0	467	125	0	341	193	113	237	0	126	274	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	

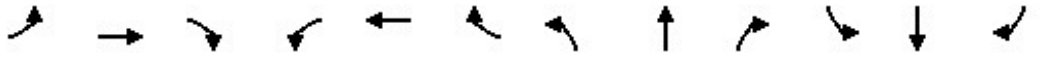
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		14.0	14.0		13.5	13.5	20.3	20.3		10.7	10.7	
Actuated g/C Ratio		0.25	0.25		0.24	0.24	0.36	0.36		0.19	0.19	
v/c Ratio		0.56	0.26		0.44	0.37	0.18	0.19		0.42	0.44	
Control Delay		21.8	5.9		20.8	5.8	16.0	10.6		25.7	22.8	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		21.8	5.9		20.8	5.8	16.0	10.6		25.7	22.8	
LOS		C	A		C	A	B	B		C	C	
Approach Delay		18.4			15.4			12.4			23.7	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)		71	0		50	0	26	18		41	45	
Queue Length 95th (ft)		108	26		81	30	62	43		82	71	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		1159	607		1072	644	641	1237		543	1120	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.40	0.21		0.32	0.30	0.18	0.19		0.23	0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 57.1			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 41.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Main Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	312	236	152	60	184	135	83	676	50	173	721	243
Future Volume (vph)	312	236	152	60	184	135	83	676	50	173	721	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.936			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3610	1568	1805	3303	0	1805	3477	0	1805	3471	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3610	1568	1805	3303	0	1805	3477	0	1805	3471	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			187		141			11				253
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	0%	3%	0%	4%	0%	0%	3%	0%	0%	4%	2%
Adj. Flow (vph)	325	246	158	63	192	141	86	704	52	180	751	253
Shared Lane Traffic (%)												
Lane Group Flow (vph)	325	246	158	63	333	0	86	756	0	180	751	253
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0



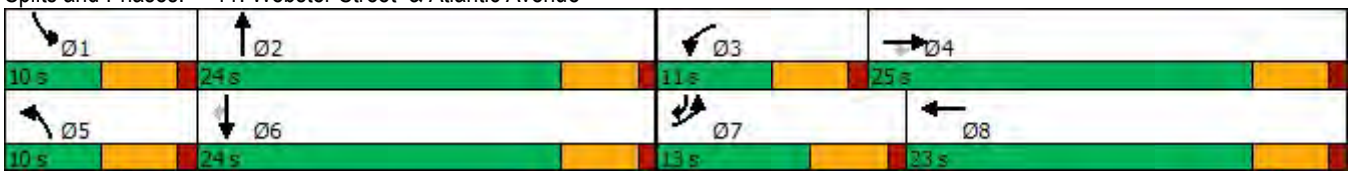
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	13.0	25.0	25.0	11.0	23.0		10.0	24.0		10.0	24.0	13.0
Total Split (%)	18.6%	35.7%	35.7%	15.7%	32.9%		14.3%	34.3%		14.3%	34.3%	18.6%
Maximum Green (s)	8.0	20.0	20.0	6.0	18.0		5.0	19.0		5.0	19.0	8.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	8.0	15.8	15.8	5.9	9.2		5.0	19.0		5.0	21.2	34.2
Actuated g/C Ratio	0.13	0.26	0.26	0.10	0.15		0.08	0.31		0.08	0.35	0.56
v/c Ratio	0.73	0.26	0.29	0.36	0.54		0.59	0.70		1.22	0.63	0.25
Control Delay	38.1	20.6	4.2	33.2	16.9		47.0	22.8		179.2	21.1	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	38.1	20.6	4.2	33.2	16.9		47.0	22.8		179.2	21.1	2.2
LOS	D	C	A	C	B		D	C		F	C	A
Approach Delay		24.9			19.5			25.3			41.1	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	60	42	0	22	34		31	125		~84	126	0
Queue Length 95th (ft)	#124	71	30	58	67		#94	200		#206	201	31
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	444	1188	641	177	1071		147	1087		147	1197	994
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.73	0.21	0.25	0.36	0.31		0.59	0.70		1.22	0.63	0.25

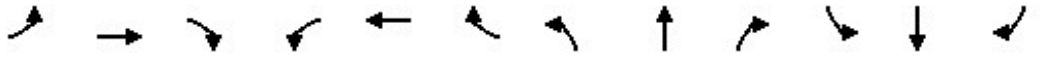
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 61.3			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.22			
Intersection Signal Delay: 30.4		Intersection LOS: C	
Intersection Capacity Utilization 64.8%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

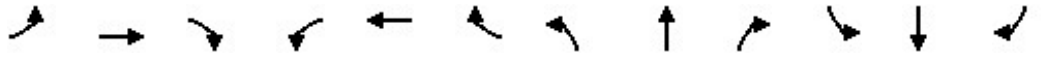
Splits and Phases: 11: Webster Street & Atlantic Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	954	248	63	852	0	0	0	0	583	6
Future Volume (vph)	0	0	954	248	63	852	0	0	0	0	583	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.962							
Satd. Flow (prot)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Flt Permitted					0.962							
Satd. Flow (perm)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					94							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1037	270	68	926	0	0	0	0	634	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	1037	0	338	926	0	0	0	0	634	7
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			65.4		26.8	65.4					30.6	65.4
Actuated g/C Ratio			1.00		0.41	1.00					0.47	1.00
v/c Ratio			0.37		0.43	0.33					0.73	0.00
Control Delay			0.4		11.2	0.3					21.7	0.0
Queue Delay			0.0		0.6	0.0					0.0	0.0
Total Delay			0.4		11.8	0.3					21.7	0.0
LOS			A		B	A					C	A
Approach Delay		0.4			3.4						21.4	
Approach LOS		A			A						C	
Queue Length 50th (ft)			0		63	0					214	0
Queue Length 95th (ft)			0		121	0					#357	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		877	2787					870	1583
Starvation Cap Reductn			0		245	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.37		0.53	0.33					0.73	0.00

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.4			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 6.3		Intersection LOS: A	
Intersection Capacity Utilization 91.1%		ICU Level of Service F	
Analysis Period (min) 15			

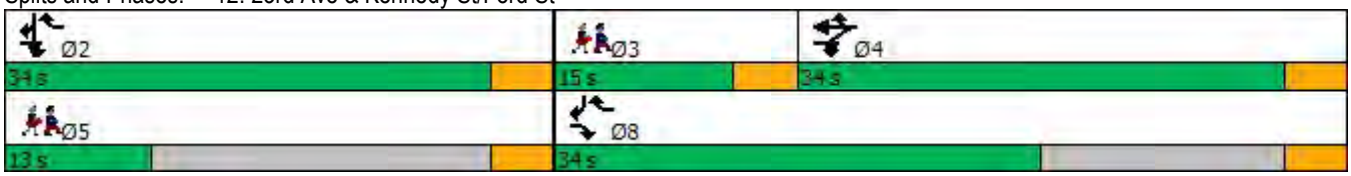
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

! Phase conflict between lane groups.

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St

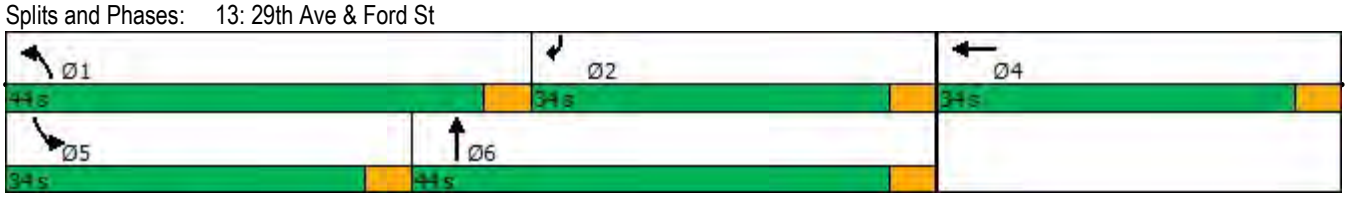


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	44	8	860	662	19	53	0	242
Future Volume (vph)	0	0	0	0	44	8	860	662	19	53	0	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.996				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				263
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	48	9	935	720	21	58	0	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	57	0	935	741	0	58	0	263
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

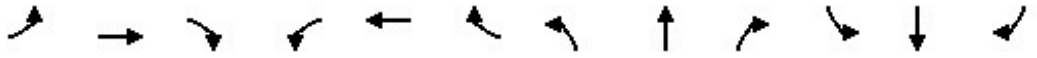
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					8.6		18.9	44.6		6.9		25.3
Actuated g/C Ratio					0.14		0.31	0.74		0.11		0.42
v/c Ratio					0.21		0.87	0.54		0.29		0.32
Control Delay					24.2		30.5	12.5		33.3		4.8
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					24.2		30.5	12.5		33.3		4.8
LOS					C		C	B		C		A
Approach Delay					24.2			22.5			9.9	
Approach LOS					C			C			A	
Queue Length 50th (ft)					18		187	161		22		0
Queue Length 95th (ft)					48		291	#555		65		59
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					968		2544	1375		935		961
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.06		0.37	0.54		0.06		0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 60.5			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 53.7%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	98	37	47	26	13	191	427	90	14	443	170
Future Volume (vph)	170	98	37	47	26	13	191	427	90	14	443	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.980			0.974			0.958	
Flt Protected		0.973			0.973		0.950			0.950		
Satd. Flow (prot)	0	1783	0	0	1776	0	1770	1814	0	1770	1785	0
Flt Permitted		0.799			0.738		0.138			0.453		
Satd. Flow (perm)	0	1465	0	0	1347	0	257	1814	0	844	1785	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			8			20			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	107	40	51	28	14	208	464	98	15	482	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	332	0	0	93	0	208	562	0	15	667	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		

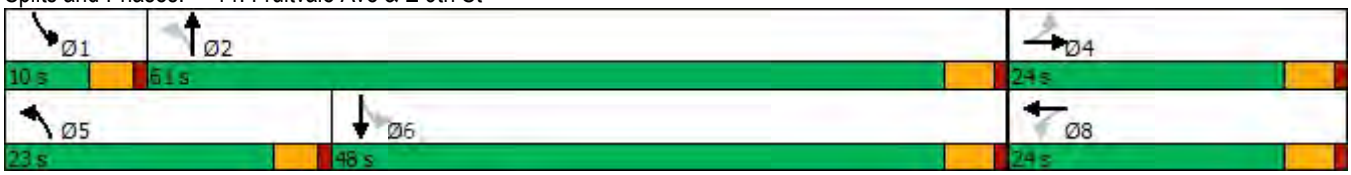


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		19.9			19.9		49.5	47.2		38.6	32.3	
Actuated g/C Ratio		0.25			0.25		0.63	0.60		0.49	0.41	
v/c Ratio		0.88			0.27		0.51	0.51		0.03	0.89	
Control Delay		56.4			28.0		12.1	10.5		5.7	35.0	
Queue Delay		0.0			0.0		0.4	1.7		0.0	0.0	
Total Delay		56.4			28.0		12.5	12.2		5.7	35.0	
LOS		E			C		B	B		A	D	
Approach Delay		56.4			28.0			12.3			34.4	
Approach LOS		E			C			B			C	
Queue Length 50th (ft)		158			34		36	122		2	282	
Queue Length 95th (ft)		#379			87		85	264		8	450	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		379			350		539	1357		493	1028	
Starvation Cap Reductn		0			0		88	599		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.88			0.27		0.46	0.74		0.03	0.65	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 78.1			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 28.9		Intersection LOS: C	
Intersection Capacity Utilization 75.9%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St



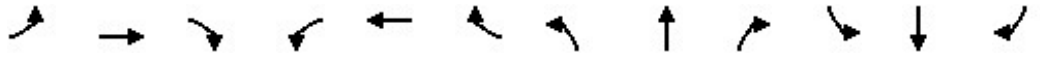
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	79	361	6	0	98	0	479	17	87	445	0
Future Volume (vph)	152	79	361	6	0	98	0	479	17	87	445	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.873			0.995				
Flt Protected		0.968			0.997					0.950		
Satd. Flow (prot)	0	1803	1583	0	1621	0	0	3522	0	1770	1863	0
Flt Permitted		0.740			0.978					0.313		
Satd. Flow (perm)	0	1378	1583	0	1590	0	0	3522	0	583	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			356		107			4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	86	392	7	0	107	0	521	18	95	484	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	251	392	0	114	0	0	539	0	95	484	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		16.5	16.5		15.3			15.2		24.3	23.8	
Actuated g/C Ratio		0.34	0.34		0.31			0.31		0.49	0.48	
v/c Ratio		0.55	0.51		0.20			0.49		0.20	0.54	
Control Delay		19.8	5.4		5.1			17.6		8.6	12.0	
Queue Delay		0.0	0.0		0.0			0.0		0.0	0.1	
Total Delay		19.8	5.4		5.1			17.6		8.7	12.2	
LOS		B	A		A			B		A	B	
Approach Delay		11.0			5.1			17.6			11.6	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		59	7		1			68		13	84	
Queue Length 95th (ft)		145	62		31			145		43	214	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		980	1228		1139			2283		854	1746	
Starvation Cap Reductn		0	0		0			0		151	433	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.26	0.32		0.10			0.24		0.14	0.37	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 49.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 63.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	410	316	164	334	480	59	15	454	76
Future Volume (vph)	0	0	0	410	316	164	334	480	59	15	454	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.972			0.984			0.979	
Flt Protected					0.977		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3361	0	1770	3483	0	0	3461	0
Flt Permitted					0.977		0.950				0.930	
Satd. Flow (perm)	0	0	0	0	3361	0	1770	3483	0	0	3222	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					38			25			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	446	343	178	363	522	64	16	493	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	967	0	363	586	0	0	592	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	

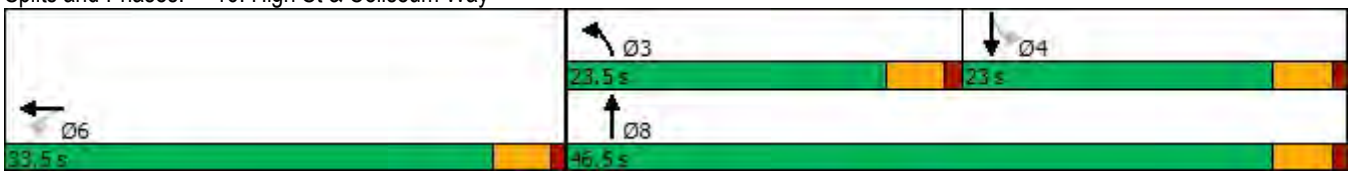


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		23.5	46.5		23.0	23.0	
Total Split (%)				41.9%	41.9%		29.4%	58.1%		28.8%	28.8%	
Maximum Green (s)				29.0	29.0		19.0	42.0		18.5	18.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		19.0	42.0			18.5	
Actuated g/C Ratio					0.36		0.24	0.52			0.23	
v/c Ratio					0.78		0.86	0.32			0.78	
Control Delay					27.0		51.7	10.9			36.1	
Queue Delay					0.0		40.6	1.1			0.0	
Total Delay					27.0		92.3	12.1			36.1	
LOS					C		F	B			D	
Approach Delay					27.0			42.7			36.1	
Approach LOS					C			D			D	
Queue Length 50th (ft)					213		175	78			141	
Queue Length 95th (ft)					287		#323	110			#205	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1242		420	1840			761	
Starvation Cap Reductn					0		81	972			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.78		1.07	0.68			0.78	

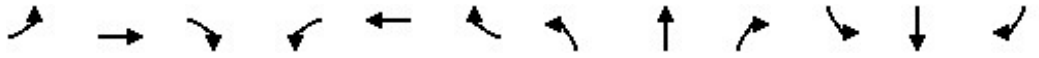
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 35.1		Intersection LOS: D	
Intersection Capacity Utilization 71.1%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	330	131	31	0	144	0	647	230	212	645	0
Future Volume (vph)	76	330	131	31	0	144	0	647	230	212	645	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.961				
Flt Protected		0.991		0.950						0.950		
Satd. Flow (prot)	0	3507	1583	1770	0	1583	0	3401	0	1770	3539	0
Flt Permitted		0.991		0.412						0.950		
Satd. Flow (perm)	0	3507	1583	767	0	1583	0	3401	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						157		66				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	359	142	34	0	157	0	703	250	230	701	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	442	142	34	0	157	0	953	0	230	701	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	29.0	29.0	29.0	29.0		29.0		30.0		21.0	51.0	
Total Split (%)	36.3%	36.3%	36.3%	36.3%		36.3%		37.5%		26.3%	63.8%	
Maximum Green (s)	25.0	25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Actuated g/C Ratio		0.31	0.31	0.31		0.31		0.32		0.21	0.58	
v/c Ratio		0.40	0.29	0.15		0.26		0.84		0.63	0.34	
Control Delay		23.0	22.8	22.2		5.1		32.1		37.7	9.3	
Queue Delay		0.0	0.0	0.0		0.0		0.0		1.5	1.5	
Total Delay		23.0	22.8	22.2		5.1		32.1		39.2	10.8	
LOS		C	C	C		A		C		D	B	
Approach Delay		22.9			8.1			32.1			17.8	
Approach LOS		C			A			C			B	
Queue Length 50th (ft)		90	53	12		0		216		106	87	
Queue Length 95th (ft)		131	99	34		40		#321		179	120	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1095	494	234		593		1129		365	2057	
Starvation Cap Reductn		0	0	0		0		0		42	1114	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.40	0.29	0.15		0.26		0.84		0.71	0.74	

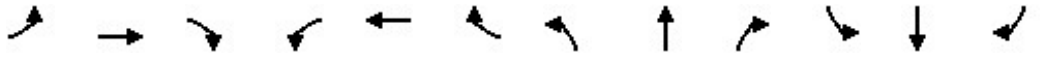
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 23.4		Intersection LOS: C	
Intersection Capacity Utilization 65.8%		ICU Level of Service C	

Analysis Period (min) 15

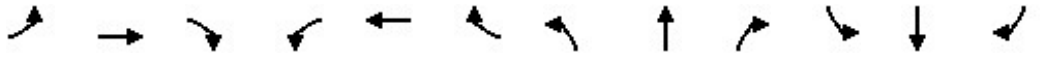
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	64	16	19	107	170	0	945	30	9	798	276
Future Volume (vph)	218	64	16	19	107	170	0	945	30	9	798	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.971				0.850		0.995			0.962	
Flt Protected	0.950				0.992							
Satd. Flow (prot)	1770	1809	0	0	1848	1583	0	3522	0	0	3405	0
Flt Permitted	0.669				0.953						0.946	
Satd. Flow (perm)	1246	1809	0	0	1775	1583	0	3522	0	0	3221	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		17						8			123	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	237	70	17	21	116	185	0	1027	33	10	867	300
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	87	0	0	137	185	0	1060	0	0	1177	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		

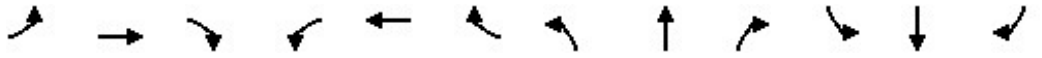


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	14.8	14.8			14.8	14.8		33.4			33.4	
Actuated g/C Ratio	0.26	0.26			0.26	0.26		0.58			0.58	
v/c Ratio	0.74	0.18			0.30	0.45		0.52			0.61	
Control Delay	33.6	14.0			18.1	21.0		8.8			9.1	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	33.6	14.0			18.1	21.0		8.8			9.1	
LOS	C	B			B	C		A			A	
Approach Delay		28.3			19.8			8.8			9.1	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)	72	18			37	52		104			110	
Queue Length 95th (ft)	#143	46			74	100		166			185	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	404	598			575	513		2058			1930	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.59	0.15			0.24	0.36		0.52			0.61	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 57.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 18: Park St & Blanding Ave

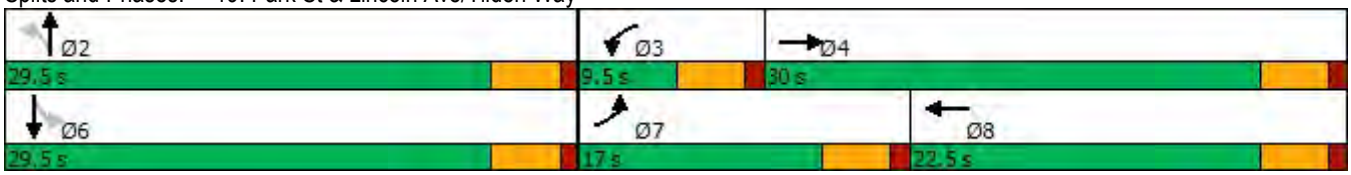
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	199	70	90	245	9	28	411	37	43	659	64
Future Volume (vph)	128	199	70	90	245	9	28	411	37	43	659	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.961			0.995			0.988			0.987	
Flt Protected	0.950			0.950				0.997			0.997	
Satd. Flow (prot)	1770	3401	0	1770	3522	0	0	3486	0	0	3483	0
Flt Permitted	0.950			0.950				0.886			0.902	
Satd. Flow (perm)	1770	3401	0	1770	3522	0	0	3098	0	0	3151	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			5			14			16	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	139	216	76	98	266	10	30	447	40	47	716	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	292	0	98	276	0	0	517	0	0	833	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		



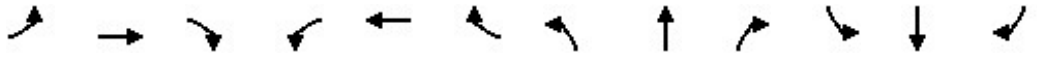
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	9.5	13.8		5.1	9.7			25.7			25.7	
Actuated g/C Ratio	0.17	0.25		0.09	0.17			0.46			0.46	
v/c Ratio	0.46	0.33		0.60	0.45			0.36			0.57	
Control Delay	27.7	13.5		46.5	23.9			12.3			14.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	27.7	13.5		46.5	23.9			12.3			14.7	
LOS	C	B		D	C			B			B	
Approach Delay		18.1			29.8			12.3			14.7	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	44	31		34	45			59			109	
Queue Length 95th (ft)	95	57		#107	80			109			191	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	406	1635		162	1169			1432			1457	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.34	0.18		0.60	0.24			0.36			0.57	

Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 55.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 64.0%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



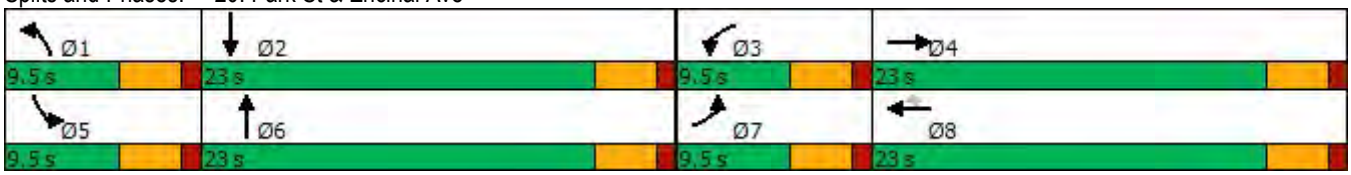
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	431	48	42	273	77	47	237	55	94	292	43
Future Volume (vph)	43	431	48	42	273	77	47	237	55	94	292	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985				0.850		0.972			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				151		44			25	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	468	52	46	297	84	51	258	60	102	317	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	520	0	46	297	84	51	318	0	102	364	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



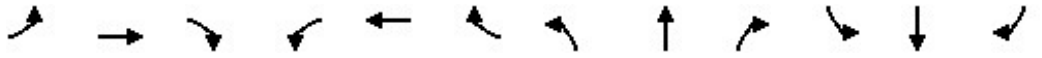
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.8	13.9		5.8	13.9	13.9	5.8	20.1		5.8	22.3	
Actuated g/C Ratio	0.11	0.26		0.11	0.26	0.26	0.11	0.37		0.11	0.41	
v/c Ratio	0.25	0.58		0.24	0.62	0.16	0.27	0.25		0.54	0.25	
Control Delay	30.6	20.7		30.5	25.7	1.5	31.0	13.9		41.4	14.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	30.6	20.7		30.5	25.7	1.5	31.0	13.9		41.4	14.2	
LOS	C	C		C	C	A	C	B		D	B	
Approach Delay		21.5			21.4			16.3			20.2	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	17	85		16	98	0	18	38		37	48	
Queue Length 95th (ft)	47	128		46	168	7	50	73		#109	87	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	188	1296		188	686	679	188	1296		188	1433	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.40		0.24	0.43	0.12	0.27	0.25		0.54	0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 54.5			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 45.5%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	138	15	58	152	148	27	358	94	264	578	210
Future Volume (vph)	107	138	15	58	152	148	27	358	94	264	578	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.969			0.960	
Flt Protected		0.979			0.986		0.950			0.950		
Satd. Flow (prot)	0	1824	1583	0	1837	1583	1770	3429	0	1770	3398	0
Flt Permitted		0.979			0.986		0.950			0.950		
Satd. Flow (perm)	0	1824	1583	0	1837	1583	1770	3429	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			161		34			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	116	150	16	63	165	161	29	389	102	287	628	228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	266	16	0	228	161	29	491	0	287	856	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



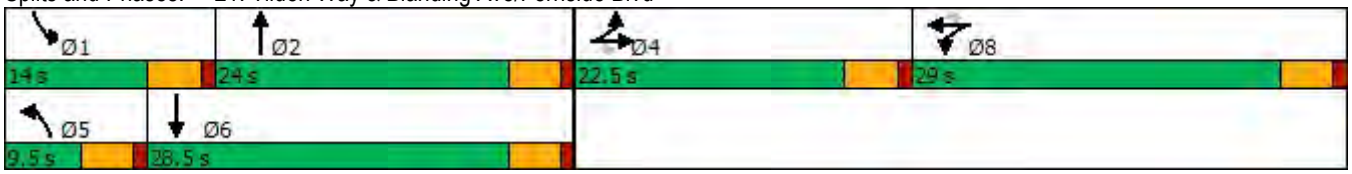
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		15.1	15.1		15.0	15.0	5.1	15.4		9.8	26.5	
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.07	0.21		0.13	0.36	
v/c Ratio		0.72	0.04		0.61	0.36	0.24	0.66		1.23	0.68	
Control Delay		41.1	0.1		35.0	7.1	42.5	30.6		168.0	25.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		41.1	0.1		35.0	7.1	42.5	30.6		168.0	25.0	
LOS		D	A		D	A	D	C		F	C	
Approach Delay		38.7			23.5			31.2			60.9	
Approach LOS		D			C			C			E	
Queue Length 50th (ft)		114	0		98	0	13	102		~173	150	
Queue Length 95th (ft)		#243	0		176	46	43	174		#380	#336	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		457	492		626	646	123	955		234	1257	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.58	0.03		0.36	0.25	0.24	0.51		1.23	0.68	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 73.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.23			
Intersection Signal Delay: 45.4		Intersection LOS: D	
Intersection Capacity Utilization 66.9%		ICU Level of Service C	
Analysis Period (min) 15			

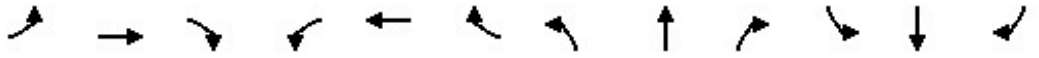
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



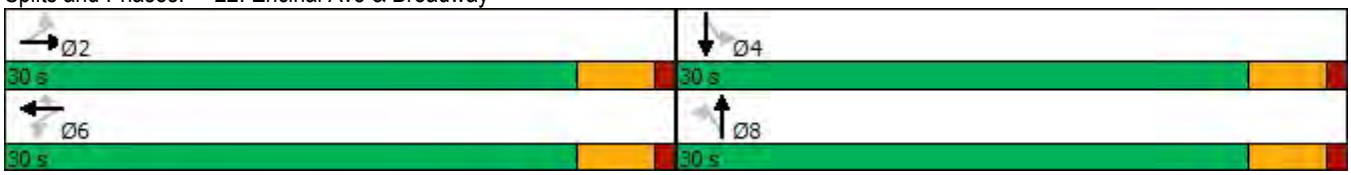
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	349	114	27	242	29	82	305	21	53	362	40
Future Volume (vph)	53	349	114	27	242	29	82	305	21	53	362	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967				0.850		0.990			0.985	
Flt Protected		0.995			0.995		0.950			0.950		
Satd. Flow (prot)	0	3405	0	0	1853	1636	1770	1844	0	1770	1835	0
Flt Permitted		0.887			0.908		0.453			0.524		
Satd. Flow (perm)	0	3036	0	0	1691	1636	844	1844	0	976	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76				32		7			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	379	124	29	263	32	89	332	23	58	393	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	561	0	0	292	32	89	355	0	58	436	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



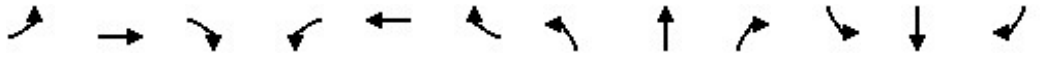
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		14.0			14.0	14.0	25.6	25.6		25.6	25.6	
Actuated g/C Ratio		0.29			0.29	0.29	0.53	0.53		0.53	0.53	
v/c Ratio		0.61			0.60	0.06	0.20	0.36		0.11	0.45	
Control Delay		15.5			20.3	5.4	9.0	9.0		8.0	9.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		15.5			20.3	5.4	9.0	9.0		8.0	9.8	
LOS		B			C	A	A	A		A	A	
Approach Delay		15.5			18.8			9.0			9.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		60			70	0	12	50		7	64	
Queue Length 95th (ft)		97			128	13	41	123		27	157	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1634			890	876	444	974		513	971	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.34			0.33	0.04	0.20	0.36		0.11	0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 48.7			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	732	12	109	607	250	5	69	122	270	80	115
Future Volume (vph)	115	732	12	109	607	250	5	69	122	270	80	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.916				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3532	0	1770	1863	1583	0	1705	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.996		0.566		
Satd. Flow (perm)	1770	3532	0	1770	1863	1583	0	1699	0	1054	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				272		110				143
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			1523			502			2170	
Travel Time (s)		9.3			41.5			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	796	13	118	660	272	5	75	133	293	87	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	809	0	118	660	272	0	213	0	293	87	125
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



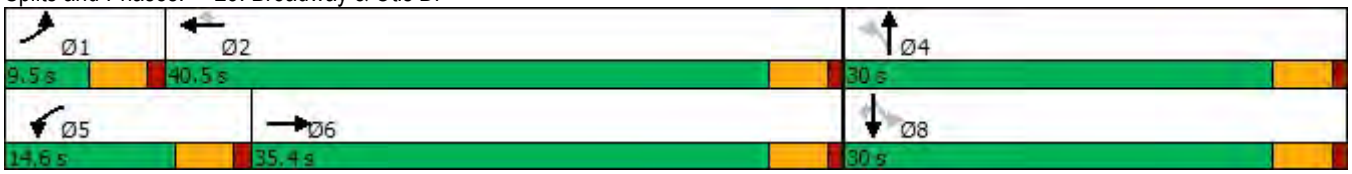
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	30.1		9.0	31.5	31.5		25.7		25.7	25.7	25.7
Actuated g/C Ratio	0.07	0.40		0.12	0.42	0.42		0.34		0.34	0.34	0.34
v/c Ratio	1.07	0.58		0.56	0.85	0.33		0.33		0.82	0.14	0.20
Control Delay	143.2	20.6		43.7	32.0	3.1		11.8		46.3	20.0	3.8
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	143.2	20.6		43.7	32.0	3.1		11.8		46.3	20.0	3.8
LOS	F	C		D	C	A		B		D	B	A
Approach Delay		37.1			25.8			11.8			31.3	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)	~74	164		56	270	0		37		137	31	0
Queue Length 95th (ft)	#177	222		108	#422	40		90		#281	64	28
Internal Link Dist (ft)		261			1443			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	117	1450		237	890	898		647		356	630	630
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	1.07	0.56		0.50	0.74	0.30		0.33		0.82	0.14	0.20

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 75.8			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 29.6		Intersection LOS: C	
Intersection Capacity Utilization 79.7%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

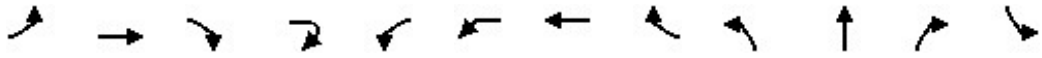
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	81	271	60	3	4	2	162	126	34	228	3	145
Future Volume (vph)	81	271	60	3	4	2	162	126	34	228	3	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.998			0.994		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1859	1583	0	1850	0	1770
Flt Permitted	0.581						0.990			0.908		0.950
Satd. Flow (perm)	1082	1863	1583	0	0	0	1844	1583	0	1690	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								137				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	295	65	3	4	2	176	137	37	248	3	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	295	68	0	0	0	182	137	0	288	0	158
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

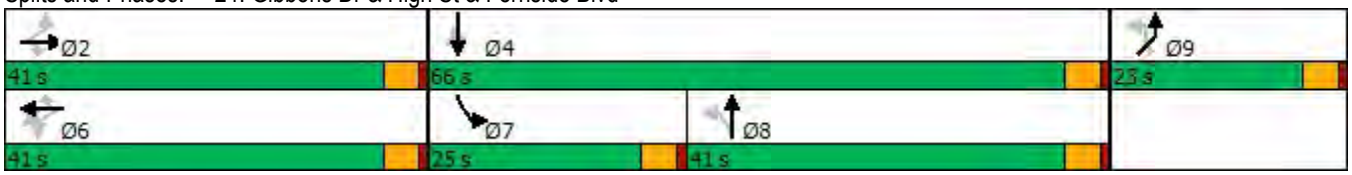
Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations							
Traffic Volume (vph)	340	66	103	2	70	6	3
Future Volume (vph)	340	66	103	2	70	6	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0			0	50	
Storage Lanes		1			1	1	
Taper Length (ft)					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.988		0.850
Flt Protected					0.956		
Satd. Flow (prot)	1863	1583	0	0	1759	0	1583
Flt Permitted					0.990		
Satd. Flow (perm)	1863	1583	0	0	1822	0	1583
Right Turn on Red			No				Yes
Satd. Flow (RTOR)							88
Link Speed (mph)	25				25		
Link Distance (ft)	1133				459		
Travel Time (s)	30.9				12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	72	112	2	76	7	3
Shared Lane Traffic (%)							
Lane Group Flow (vph)	370	184	0	0	85	0	3
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Right
Median Width(ft)	12				12		
Link Offset(ft)	0				0		
Crosswalk Width(ft)	16				16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	15	9	9
Number of Detectors	2	1		1	1		1
Detector Template	Thru	Right		Left	Left		Right
Leading Detector (ft)	100	20		20	20		20
Trailing Detector (ft)	0	0		0	0		0
Detector 1 Position(ft)	0	0		0	0		0
Detector 1 Size(ft)	6	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm		Perm	Prot		Perm
Protected Phases	4				9		
Permitted Phases		4		9			9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	41.0	41.0	41.0		41.0	41.0	41.0	41.0	41.0	41.0		25.0
Total Split (%)	31.5%	31.5%	31.5%		31.5%	31.5%	31.5%	31.5%	31.5%	31.5%		19.2%
Maximum Green (s)	36.5	36.5	36.5		36.5	36.5	36.5	36.5	36.5	36.5		20.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.1	37.1	37.1				37.1	37.1		23.7		20.8
Actuated g/C Ratio	0.34	0.34	0.34				0.34	0.34		0.22		0.19
v/c Ratio	0.24	0.46	0.12				0.29	0.22		0.78		0.46
Control Delay	31.6	33.2	29.5				30.4	6.2		54.9		46.9
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	31.6	33.2	29.5				30.4	6.2		54.9		46.9
LOS	C	C	C				C	A		D		D
Approach Delay		32.4					20.0			54.9		
Approach LOS		C					B			D		
Queue Length 50th (ft)	44	162	33				93	0		192		99
Queue Length 95th (ft)	102	292	79				181	47		301		191
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	372	642	545				635	635		582		342
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.24	0.46	0.12				0.29	0.22		0.49		0.46

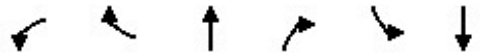
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 107.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 32.9		Intersection LOS: C	
Intersection Capacity Utilization 78.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd

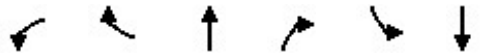


Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Detector Phase	4	4		9	9		9
Switch Phase							
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5
Total Split (s)	66.0	66.0		23.0	23.0		23.0
Total Split (%)	50.8%	50.8%		17.7%	17.7%		17.7%
Maximum Green (s)	61.5	61.5		18.5	18.5		18.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0
Total Lost Time (s)	4.5	4.5			4.5		4.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0
Act Effct Green (s)	49.1	49.1			10.5		10.5
Actuated g/C Ratio	0.46	0.46			0.10		0.10
v/c Ratio	0.44	0.25			0.48		0.01
Control Delay	22.5	19.9			57.8		0.0
Queue Delay	0.0	0.0			0.0		0.0
Total Delay	22.5	19.9			57.8		0.0
LOS	C	B			E		A
Approach Delay	27.2				55.9		
Approach LOS	C				E		
Queue Length 50th (ft)	175	79			57		0
Queue Length 95th (ft)	271	137			117		0
Internal Link Dist (ft)	1053				379		
Turn Bay Length (ft)							50
Base Capacity (vph)	1082	919			318		349
Starvation Cap Reductn	0	0			0		0
Spillback Cap Reductn	0	0			0		0
Storage Cap Reductn	0	0			0		0
Reduced v/c Ratio	0.34	0.20			0.27		0.01

Intersection Summary



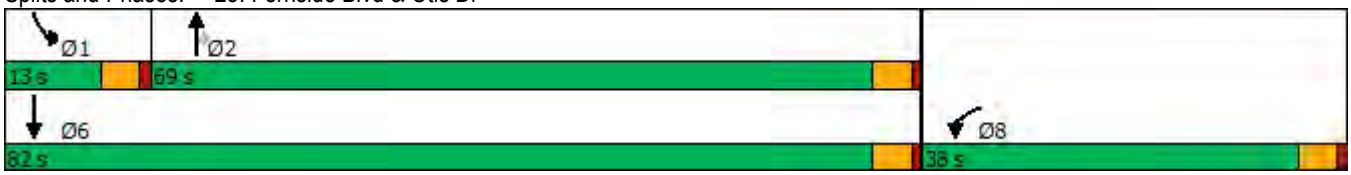
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	661	14	929	662	51	1137
Future Volume (vph)	661	14	929	662	51	1137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.997			0.850		
Flt Protected	0.953				0.950	
Satd. Flow (prot)	3434	0	3539	1583	1770	3539
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	3434	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	2			263		
Link Speed (mph)	25		35			35
Link Distance (ft)	312		1414			1511
Travel Time (s)	8.5		27.5			29.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	718	15	1010	720	55	1236
Shared Lane Traffic (%)						
Lane Group Flow (vph)	733	0	1010	720	55	1236
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	38.0		69.0	69.0	13.0	82.0
Total Split (%)	31.7%		57.5%	57.5%	10.8%	68.3%
Maximum Green (s)	33.5		64.5	64.5	8.5	77.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	29.1		67.5	67.5	7.7	77.6
Actuated g/C Ratio	0.25		0.58	0.58	0.07	0.67
v/c Ratio	0.85		0.49	0.70	0.47	0.52
Control Delay	51.3		16.4	15.8	66.3	11.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	51.3		16.4	15.8	66.3	11.1
LOS	D		B	B	E	B
Approach Delay	51.3		16.1			13.4
Approach LOS	D		B			B
Queue Length 50th (ft)	268		240	251	40	232
Queue Length 95th (ft)	339		314	434	86	308
Internal Link Dist (ft)	232		1334			1431
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	997		2066	1033	130	2374
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.74		0.49	0.70	0.42	0.52

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 115.7			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 22.1		Intersection LOS: C	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 25: Fernside Blvd & Otis Dr

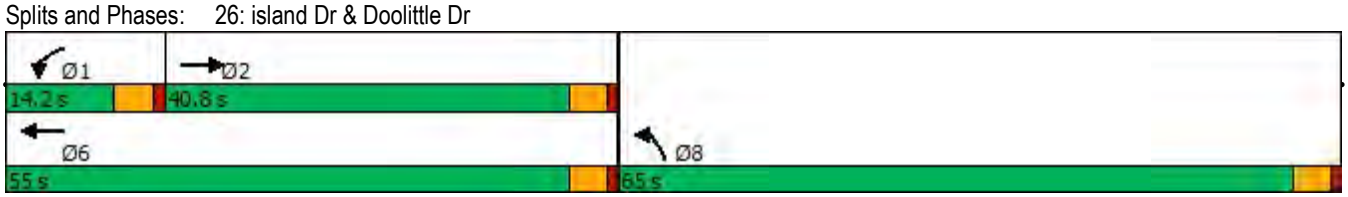


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	696	1079	111	813	777	77
Future Volume (vph)	696	1079	111	813	777	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		354				64
Link Speed (mph)	25			25	25	
Link Distance (ft)	1414			365	455	
Travel Time (s)	38.6			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	757	1173	121	884	845	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	757	1173	121	884	845	84
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.5	86.3	9.5	50.5	26.7	86.3
Actuated g/C Ratio	0.42	1.00	0.11	0.59	0.31	1.00
v/c Ratio	0.51	0.74	0.62	0.43	0.79	0.05
Control Delay	20.6	3.2	53.2	11.4	33.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	3.2	53.2	11.4	33.3	0.1
LOS	C	A	D	B	C	A
Approach Delay	10.0			16.4	30.3	
Approach LOS	B			B	C	
Queue Length 50th (ft)	154	0	64	127	214	0
Queue Length 95th (ft)	240	0	#149	210	280	0
Internal Link Dist (ft)	1334			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1494	1583	199	2079	2416	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.74	0.61	0.43	0.35	0.05

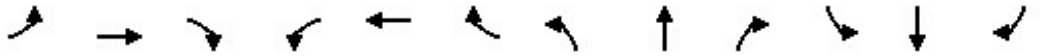
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 86.3			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 16.6		Intersection LOS: B	
Intersection Capacity Utilization 58.8%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 26: island Dr & Doolittle Dr



2040 No Action Condition

AM Peak Hour



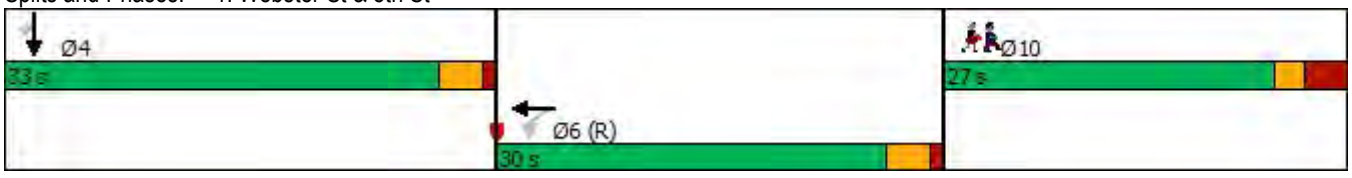
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	432	710	0	0	0	0	0	581	216
Future Volume (vph)	0	0	0	432	710	0	0	0	0	0	581	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.987	0.850
Flt Protected				0.950	0.992							
Satd. Flow (prot)	0	0	0	1345	4466	0	0	0	0	0	4579	1169
Flt Permitted				0.950	0.992							
Satd. Flow (perm)	0	0	0	1345	4466	0	0	0	0	0	4579	1169
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				316	73						17	172
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	1%	5%	0%	0%	0%	0%	0%	1%	4%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	465	763	0	0	0	0	0	625	232
Shared Lane Traffic (%)				32%								26%
Lane Group Flow (vph)	0	0	0	316	912	0	0	0	0	0	685	172
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				40.9	40.9						21.9	21.9
Actuated g/C Ratio				0.45	0.45						0.24	0.24
v/c Ratio				0.40	0.44						0.61	0.42
Control Delay				4.4	18.7						31.3	7.2
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				4.4	18.7						31.3	7.2
LOS				A	B						C	A
Approach Delay					15.0						26.5	
Approach LOS					B						C	
Queue Length 50th (ft)				0	134						131	0
Queue Length 95th (ft)				66	200						154	51
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				783	2071						1486	493
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.40	0.44						0.46	0.35

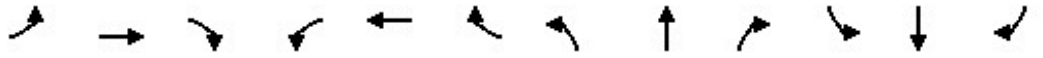
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 19.7		Intersection LOS: B	
Intersection Capacity Utilization 36.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St



Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

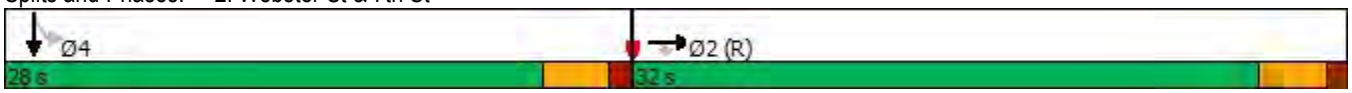


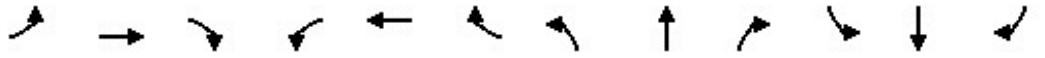
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	438	438	0	0	0	0	0	0	207	920	0
Future Volume (vph)	0	438	438	0	0	0	0	0	0	207	920	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.950	0.850									
Flt Protected											0.991	
Satd. Flow (prot)	0	4135	1298	0	0	0	0	0	0	0	4698	0
Flt Permitted											0.991	
Satd. Flow (perm)	0	4135	1298	0	0	0	0	0	0	0	4698	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		32	32								100	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			405			184			292	
Travel Time (s)		9.3			11.0			5.0			8.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	7%	7%	0%	0%	0%	0%	0%	0%	17%	1%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	498	498	0	0	0	0	0	0	235	1045	0
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	747	249	0	0	0	0	0	0	0	1280	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		32.0	32.0							28.0	28.0	
Total Split (s)		32.0	32.0							28.0	28.0	
Total Split (%)		53.3%	53.3%							46.7%	46.7%	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		28.0	28.0							24.0	24.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		18.0	18.0							12.0	12.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		28.9	28.9								23.1	
Actuated g/C Ratio		0.48	0.48								0.38	
v/c Ratio		0.37	0.39								0.68	
Control Delay		10.3	11.2								16.1	
Queue Delay		0.0	0.0								0.7	
Total Delay		10.3	11.2								16.8	
LOS		B	B								B	
Approach Delay		10.5									16.8	
Approach LOS		B									B	
Queue Length 50th (ft)		60	54								121	
Queue Length 95th (ft)		84	108								159	
Internal Link Dist (ft)		260			325			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2005	640								1939	
Starvation Cap Reductn		0	0								308	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.37	0.39								0.78	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 14.0		Intersection LOS: B	
Intersection Capacity Utilization 46.7%		ICU Level of Service A	
Analysis Period (min) 15			

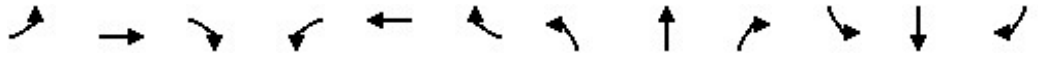
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	419	0	0	0	0	0	1005	2007	0	0	0
Future Volume (vph)	61	419	0	0	0	0	0	1005	2007	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.994										
Satd. Flow (prot)	0	4468	0	0	0	0	0	5187	2666	0	0	0
Flt Permitted		0.994										
Satd. Flow (perm)	0	4468	0	0	0	0	0	5187	2666	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47							518			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		405			362			410			260	
Travel Time (s)		11.0			9.9			11.2			7.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	14%	9%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	63	432	0	0	0	0	0	1036	2069	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	495	0	0	0	0	0	1036	2069	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								28.0				
Total Split (%)								46.7%				
Maximum Green (s)								22.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		26.4						22.4	41.0			
Actuated g/C Ratio		0.44						0.37	0.68			
v/c Ratio		0.25						0.54	1.04			
Control Delay		11.3						16.0	43.3			
Queue Delay		0.0						0.0	0.0			
Total Delay		11.3						16.0	43.3			
LOS		B						B	D			
Approach Delay		11.3						34.2				
Approach LOS		B						C				
Queue Length 50th (ft)		43						104	~453			
Queue Length 95th (ft)		68						139	#622			
Internal Link Dist (ft)		325			282			330			180	
Turn Bay Length (ft)												
Base Capacity (vph)		1992						1936	1985			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.25						0.54	1.04			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 25 (42%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 31.0		Intersection LOS: C	
Intersection Capacity Utilization 88.9%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
~ Volume exceeds capacity, queue is theoretically infinite.			

Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	3.0
Total Split (s)	32.0	19.0	13.0
Total Split (%)	53%	32%	22%
Maximum Green (s)	26.4	13.4	11.0
Yellow Time (s)	3.6	3.6	2.0
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

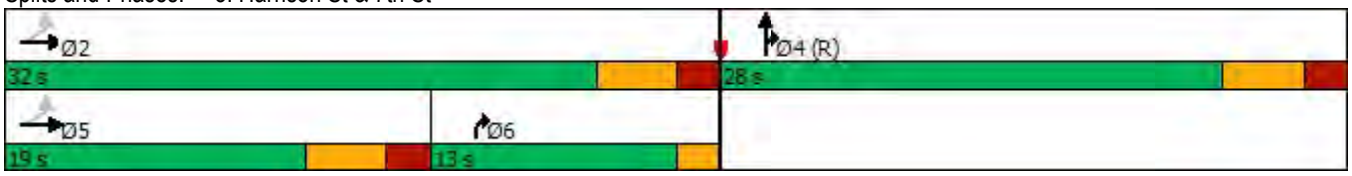
Queue shown is maximum after two cycles.

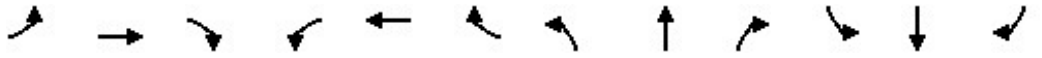
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 3: Harrison St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	395	161	614	26	173	0	0	344	42
Future Volume (vph)	0	0	0	395	161	614	26	173	0	0	344	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.984	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1687	3406	1599	1805	3059	0	0	4716	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1687	3406	1599	1805	3059	0	0	4716	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						646					29	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			342			469	
Travel Time (s)		11.3			8.0			9.3			12.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	7%	6%	1%	0%	18%	0%	0%	8%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	20
Adj. Flow (vph)	0	0	0	416	169	646	27	182	0	0	362	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	416	169	646	27	182	0	0	406	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.5	31.5	31.5	9.5	24.0			24.0	
Total Split (s)				32.0	32.0	32.0	16.0	43.0			27.0	
Total Split (%)				42.7%	42.7%	42.7%	21.3%	57.3%			36.0%	
Maximum Green (s)				28.0	28.0	28.0	12.0	38.5			22.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	C-Max			C-Max	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				24.2	24.2	24.2	7.9	42.3			35.9	
Actuated g/C Ratio				0.32	0.32	0.32	0.11	0.56			0.48	
v/c Ratio				0.76	0.15	0.68	0.14	0.11			0.18	
Control Delay				32.3	17.2	5.7	28.8	3.8			13.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				32.3	17.2	5.7	28.8	3.8			13.5	
LOS				C	B	A	C	A			B	
Approach Delay					16.3			7.0			13.5	
Approach LOS					B			A			B	
Queue Length 50th (ft)				163	27	0	13	2			30	
Queue Length 95th (ft)				254	46	64	m26	m14			72	
Internal Link Dist (ft)		335			213			262			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				629	1271	1001	288	1725			2272	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.66	0.13	0.65	0.09	0.11			0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 16 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	29	781	184	115	187	226	67	345	138	320
Future Volume (vph)	29	781	184	115	187	226	67	345	138	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.997	0.850	0.850	0.908					
Flt Protected		0.998						0.950	0.950	
Satd. Flow (prot)	0	2427	1361	1615	4235	0	0	1770	1770	1681
Flt Permitted		0.998						0.950	0.950	
Satd. Flow (perm)	0	2427	1361	1615	4235	0	0	1770	1770	1681
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				125	40					
Link Speed (mph)		25			25					25
Link Distance (ft)		558			823					342
Travel Time (s)		15.2			22.4					9.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	25%	25%	8%	0%	21%	5%	5%	2%	2%	13%
Adj. Flow (vph)	32	849	200	125	203	246	73	375	150	348
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	901	180	125	522	0	0	375	150	348
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	31.0	31.0	31.0	31.0	23.5			9.5	9.5	23.5
Total Split (s)	31.0	31.0	31.0	31.0	24.0			20.0	20.0	44.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	32.0%			26.7%	26.7%	58.7%
Maximum Green (s)	27.0	27.0	27.0	27.0	19.5			16.5	16.5	39.5
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0			3.0	3.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0	4.5			3.5	3.5	4.5
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	C-Max			None	None	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	12.0					12.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		27.0	27.0	27.0	19.5			16.5	16.5	39.5
Actuated g/C Ratio		0.36	0.36	0.36	0.26			0.22	0.22	0.53
v/c Ratio		1.03	0.37	0.19	0.46			0.96	0.39	0.39
Control Delay		65.1	20.5	4.3	23.0			76.1	37.7	12.7
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.5
Total Delay		65.1	20.5	4.3	23.0			76.1	37.7	13.2
LOS		E	C	A	C			E	D	B
Approach Delay		52.2			23.0					44.4
Approach LOS		D			C					D
Queue Length 50th (ft)		~286	67	0	68			176	65	74
Queue Length 95th (ft)		#420	123	32	99			#337	m117	125
Internal Link Dist (ft)		478			743					262
Turn Bay Length (ft)										
Base Capacity (vph)		873	489	661	1130			389	389	885
Starvation Cap Reductn		0	0	0	0			0	0	230
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		1.03	0.37	0.19	0.46			0.96	0.39	0.53

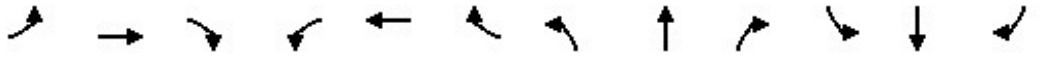
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 43.7		Intersection LOS: D	
Intersection Capacity Utilization 64.1%		ICU Level of Service C	
Analysis Period (min) 15			

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Broadway & 5th St & Webster Tube



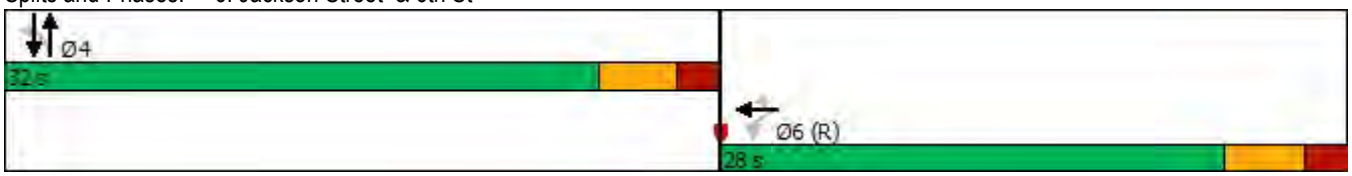
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	2	311	53	245	300	0	0	132	1660
Future Volume (vph)	0	0	0	2	311	53	245	300	0	0	132	1660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.925	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1776	1509	1752	1881	0	0	1629	1568
Flt Permitted				0.950			0.549					
Satd. Flow (perm)	0	0	0	1805	1776	1509	1013	1881	0	0	1629	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						58					108	428
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	7%	7%	3%	1%	0%	0%	2%	3%
Adj. Flow (vph)	0	0	0	2	338	58	266	326	0	0	143	1804
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	2	338	58	266	326	0	0	287	1660
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.00	0.51	0.10	0.60	0.39			0.37	1.06
Control Delay				12.0	17.8	4.6	18.0	12.9			8.4	45.8
Queue Delay				0.0	0.0	0.0	0.0	0.6			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				12.0	17.8	4.6	18.0	13.5			8.4	45.8
LOS				B	B	A	B	B			A	D
Approach Delay					15.8			15.6			40.3	
Approach LOS					B			B			D	
Queue Length 50th (ft)				1	91	0	62	72			41	~72
Queue Length 95th (ft)				4	159	19	m114	m129			89	#306
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	666	602	447	830			779	1568
Starvation Cap Reductn				0	0	0	0	229			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.00	0.51	0.10	0.60	0.54			0.37	1.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 32.0		Intersection LOS: C	
Intersection Capacity Utilization 84.7%		ICU Level of Service E	
Analysis Period (min) 15			

* User Entered Value
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Jackson Street & 6th St

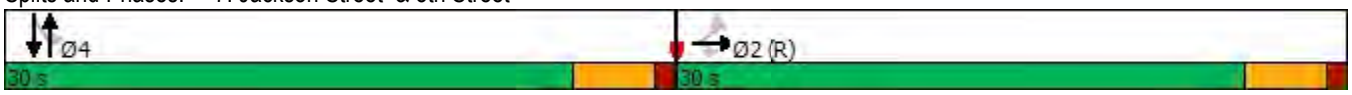


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	347	521	630	0	0	0	0	256	23	78	70	0
Future Volume (vph)	347	521	630	0	0	0	0	256	23	78	70	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.989				
Flt Protected		0.980									0.974	
Satd. Flow (prot)	0	3382	1568	0	0	0	0	1862	0	0	1578	0
Flt Permitted		0.980									0.714	
Satd. Flow (perm)	0	3382	1568	0	0	0	0	1862	0	0	1156	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			430					9				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	4%	5%	3%	0%	0%	0%	0%	0%	11%	5%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	413	620	750	0	0	0	0	305	27	93	83	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1033	750	0	0	0	0	332	0	0	176	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					26.5		26.5	26.5	
Total Split (s)	30.0	30.0	30.0					30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%					50.0%		50.0%	50.0%	
Maximum Green (s)	25.4	25.4	25.4					25.4		25.4	25.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		25.4	25.4					25.4			25.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.42	0.42					0.42			0.42	
v/c Ratio		0.72	0.82					0.42			0.36	
Control Delay		17.9	16.2					13.8			21.6	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		17.9	16.2					13.8			21.6	
LOS		B	B					B			C	
Approach Delay		17.2						13.8			21.6	
Approach LOS		B						B			C	
Queue Length 50th (ft)		155	88					78			59	
Queue Length 95th (ft)		197	#207					123			107	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1431	911					793			489	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.72	0.82					0.42			0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 55 (92%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 17.0		Intersection LOS: B	
Intersection Capacity Utilization 58.9%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Jackson Street & 5th Street



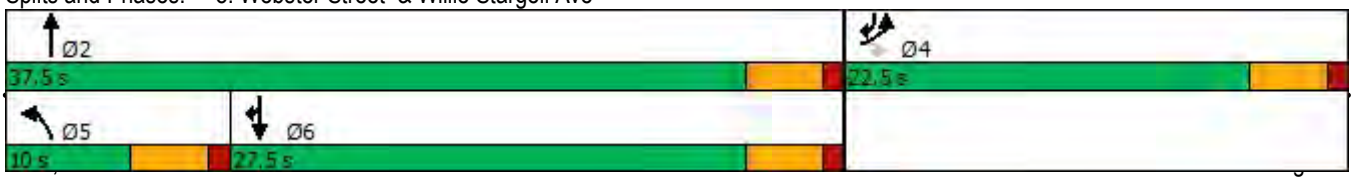
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	592	82	80	943	691	752
Future Volume (vph)	592	82	80	943	691	752
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3539	4940	2760
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3539	4940	2760
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	2%	5%	3%
Adj. Flow (vph)	722	100	98	1150	843	917
Shared Lane Traffic (%)						
Lane Group Flow (vph)	722	100	98	1150	843	917
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

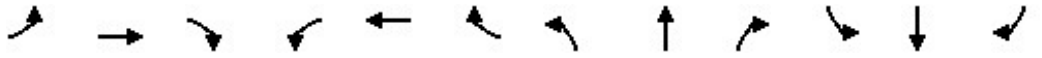
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	22.5	22.5	10.0	37.5	27.5	
Total Split (%)	37.5%	37.5%	16.7%	62.5%	45.8%	
Maximum Green (s)	18.0	18.0	5.5	33.0	23.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	17.2	17.2	5.5	33.0	25.1	47.8
Actuated g/C Ratio	0.29	0.29	0.09	0.56	0.42	0.81
v/c Ratio	0.71	0.21	0.59	0.58	0.40	0.41
Control Delay	23.3	17.2	42.9	10.3	13.5	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	17.2	42.9	10.3	13.5	3.0
LOS	C	B	D	B	B	A
Approach Delay	22.5			12.8	8.0	
Approach LOS	C			B	A	
Queue Length 50th (ft)	117	27	35	131	80	46
Queue Length 95th (ft)	149	53	#79	157	98	58
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1065	491	167	1973	2095	2220
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.20	0.59	0.58	0.40	0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 59.2			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 50.5%		ICU Level of Service A	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Webster Street & Willie Stargell Ave



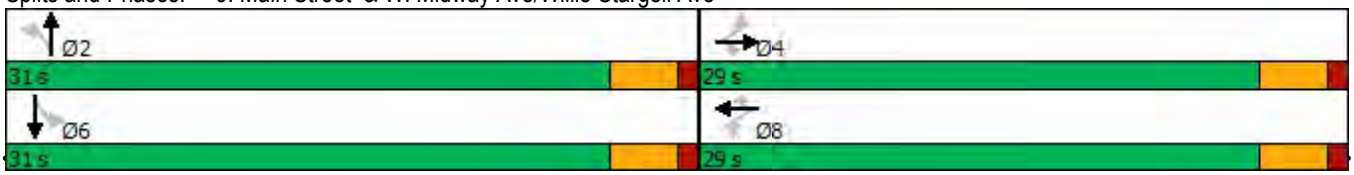


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	138	88	86	249	167	140	395	80	108	106	10
Future Volume (vph)	4	138	88	86	249	167	140	395	80	108	106	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.980			0.993	
Flt Protected		0.999			0.987			0.989			0.977	
Satd. Flow (prot)	0	1898	1292	0	1746	1615	0	3391	0	0	3406	0
Flt Permitted		0.989			0.870			0.796			0.602	
Satd. Flow (perm)	0	1879	1292	0	1539	1615	0	2729	0	0	2098	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			110			209		36			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	25%	0%	10%	0%	14%	0%	0%	0%	6%	0%
Adj. Flow (vph)	5	173	110	108	311	209	175	494	100	135	133	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	110	0	419	209	0	769	0	0	281	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

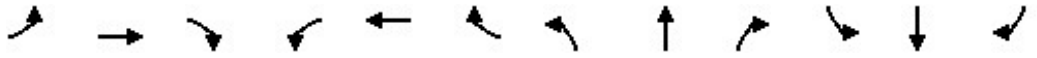
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0		31.0	31.0	
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		19.6	19.6		19.6	19.6		27.3			27.3	
Actuated g/C Ratio		0.36	0.36		0.36	0.36		0.50			0.50	
v/c Ratio		0.27	0.21		0.76	0.29		0.56			0.27	
Control Delay		13.1	3.9		25.3	3.3		12.3			9.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		13.1	3.9		25.3	3.3		12.3			9.8	
LOS		B	A		C	A		B			A	
Approach Delay		9.6			18.0			12.3			9.8	
Approach LOS		A			B			B			A	
Queue Length 50th (ft)		40	0		116	0		86			26	
Queue Length 95th (ft)		66	18		170	23		125			46	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		862	652		706	854		1371			1046	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.21	0.17		0.59	0.24		0.56			0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 55			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 62.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	169	76	303	288	280	207	611	210	96	288	38
Future Volume (vph)	6	169	76	303	288	280	207	611	210	96	288	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.962			0.983	
Flt Protected		0.998			0.975		0.950			0.950	0.998	
Satd. Flow (prot)	0	2637	1077	0	3420	1568	1656	3447	0	1273	3362	0
Flt Permitted		0.928			0.722		0.950			0.950	0.998	
Satd. Flow (perm)	0	2452	1077	0	2532	1568	1656	3447	0	1273	3362	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			95			350		68			19	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	38%	50%	0%	6%	3%	9%	1%	0%	29%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	8	211	95	379	360	350	259	764	263	120	360	48
Shared Lane Traffic (%)										11%		
Lane Group Flow (vph)	0	219	95	0	739	350	259	1027	0	107	421	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	

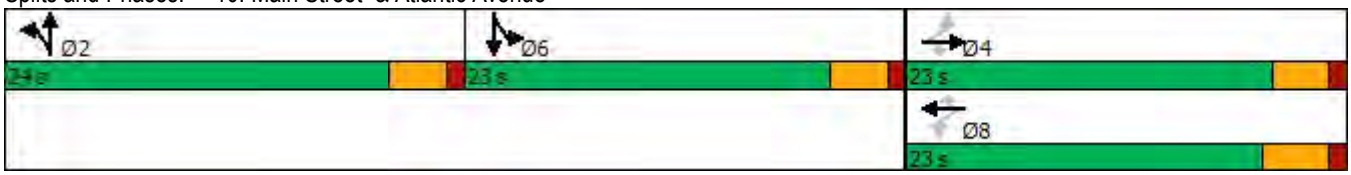


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		19.1	19.1		18.6	18.6	20.1	20.1		13.7	13.7	
Actuated g/C Ratio		0.29	0.29		0.29	0.29	0.31	0.31		0.21	0.21	
v/c Ratio		0.30	0.25		1.14dl	0.50	0.51	0.92		0.40	0.58	
Control Delay		20.1	6.9		66.0	5.5	23.5	36.9		26.3	25.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		20.1	6.9		66.0	5.5	23.5	36.9		26.3	25.0	
LOS		C	A		E	A	C	D		C	C	
Approach Delay		16.1			46.6			34.2			25.3	
Approach LOS		B			D			C			C	
Queue Length 50th (ft)		34	0		~158	0	83	191		40	78	
Queue Length 95th (ft)		59	24		#247	36	140	#282		73	103	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		720	383		723	698	512	1112		373	1000	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.30	0.25		1.02	0.50	0.51	0.92		0.29	0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 64.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 35.1		Intersection LOS: D	
Intersection Capacity Utilization 67.1%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 10: Main Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	366	164	28	483	54	151	757	75	88	443	361
Future Volume (vph)	239	366	164	28	483	54	151	757	75	88	443	361
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.985			0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1524	1444	3432	0	1736	3471	0	1805	3406	1553
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1524	1444	3432	0	1736	3471	0	1805	3406	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238		14			14				168
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	2%	2%	6%	25%	4%	0%	4%	2%	8%	0%	6%	4%
Adj. Flow (vph)	299	458	205	35	604	68	189	946	94	110	554	451
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	458	205	35	672	0	189	1040	0	110	554	451
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	14.0	26.0	26.0	11.0	23.0		16.0	31.0		10.0	25.0	14.0
Total Split (%)	17.9%	33.3%	33.3%	14.1%	29.5%		20.5%	39.7%		12.8%	32.1%	17.9%
Maximum Green (s)	9.0	21.0	21.0	6.0	18.0		11.0	26.0		5.0	20.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	9.0	25.0	25.0	5.9	17.6		10.6	26.0		5.0	20.4	34.4
Actuated g/C Ratio	0.12	0.32	0.32	0.08	0.23		0.14	0.34		0.06	0.26	0.44
v/c Ratio	0.75	0.40	0.31	0.32	0.85		0.80	0.89		0.95	0.62	0.58
Control Delay	46.9	23.0	3.6	42.3	40.3		58.1	35.3		112.8	29.0	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.9	23.0	3.6	42.3	40.3		58.1	35.3		112.8	29.0	13.4
LOS	D	C	A	D	D		E	D		F	C	B
Approach Delay		26.3			40.4			38.8			31.0	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	73	97	0	16	161		90	246		55	125	95
Queue Length 95th (ft)	100	123	20	39	192		#156	274		#128	153	146
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	398	1141	652	112	806		245	1172		116	894	781
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.75	0.40	0.31	0.31	0.83		0.77	0.89		0.95	0.62	0.58

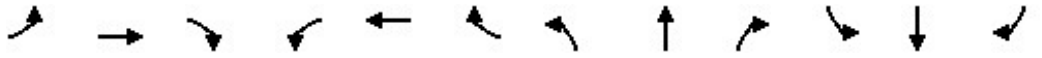
Intersection Summary

Area Type: Other
Cycle Length: 78
Actuated Cycle Length: 77.6
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 33.9 Intersection LOS: C
Intersection Capacity Utilization 66.7% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Webster Street & Atlantic Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	722	213	221	1918	0	0	0	0	442	17
Future Volume (vph)	0	0	722	213	221	1918	0	0	0	0	442	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.976							
Satd. Flow (prot)	0	0	2787	0	1818	2787	0	0	0	0	1863	1583
Flt Permitted					0.976							
Satd. Flow (perm)	0	0	2787	0	1818	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					66							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	785	232	240	2085	0	0	0	0	480	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	785	0	472	2085	0	0	0	0	480	18
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

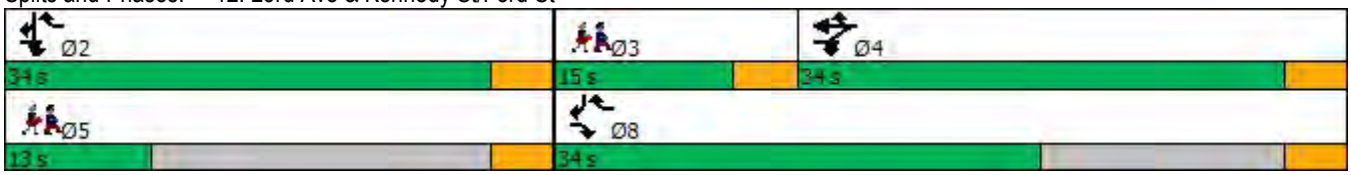
Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			68.0		30.0	68.0					30.0	68.0
Actuated g/C Ratio			1.00		0.44	1.00					0.44	1.00
v/c Ratio			0.28		0.56	0.75					0.58	0.01
Control Delay			0.3		15.2	1.9					17.9	0.0
Queue Delay			0.0		2.2	0.0					0.0	0.0
Total Delay			0.3		17.3	1.9					17.9	0.0
LOS			A		B	A					B	A
Approach Delay		0.3			4.7						17.3	
Approach LOS		A			A						B	
Queue Length 50th (ft)			0		118	0					144	0
Queue Length 95th (ft)			0		202	0					232	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		838	2787					821	1583
Starvation Cap Reductn			0		230	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.28		0.78	0.75					0.58	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 68			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 5.4		Intersection LOS: A	
Intersection Capacity Utilization 81.9%		ICU Level of Service D	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

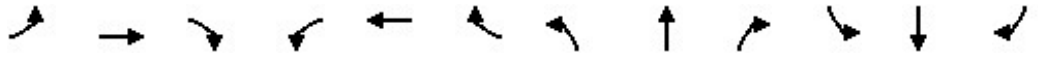
Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St



Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	86	16	1972	1087	15	61	0	296
Future Volume (vph)	0	0	0	0	86	16	1972	1087	15	61	0	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.998				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1859	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1859	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				318
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	93	17	2143	1182	16	66	0	322
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	110	0	2143	1198	0	66	0	322
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0



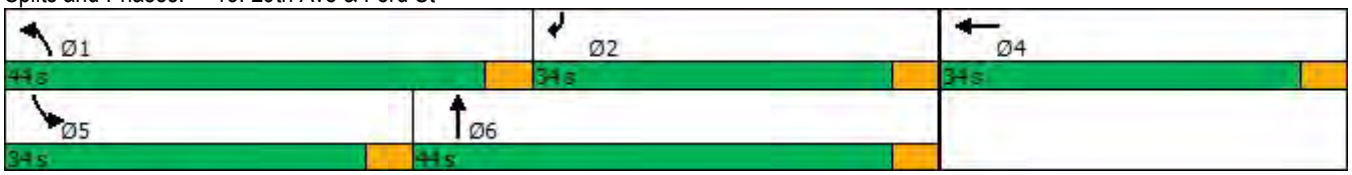
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					9.9		41.1	44.9		7.2		7.7
Actuated g/C Ratio					0.14		0.60	0.65		0.10		0.11
v/c Ratio					0.41		1.04	0.98		0.36		0.70
Control Delay					30.2		50.7	42.4		37.1		13.5
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					30.2		50.7	42.4		37.1		13.5
LOS					C		D	D		D		B
Approach Delay					30.2			47.8			17.5	
Approach LOS					C			D			B	
Queue Length 50th (ft)					40		~506	~567		26		2
Queue Length 95th (ft)					88		#963	#1135		74		77
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					823		2055	1217		795		886
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.13		1.04	0.98		0.08		0.36

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 68.6			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 44.2		Intersection LOS: D	
Intersection Capacity Utilization 90.1%		ICU Level of Service E	
Analysis Period (min) 15			

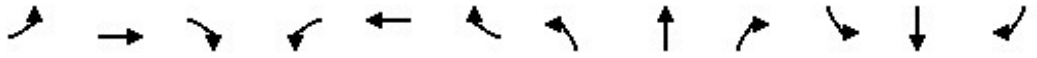
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	73	28	77	170	21	471	656	80	13	509	365
Future Volume (vph)	103	73	28	77	170	21	471	656	80	13	509	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.989			0.984			0.937	
Flt Protected		0.975			0.986		0.950			0.950		
Satd. Flow (prot)	0	1783	0	0	1816	0	1770	1833	0	1770	1745	0
Flt Permitted		0.532			0.806		0.079			0.327		
Satd. Flow (perm)	0	973	0	0	1485	0	147	1833	0	609	1745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			4			11			50	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	79	30	84	185	23	512	713	87	14	553	397
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	221	0	0	292	0	512	800	0	14	950	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		



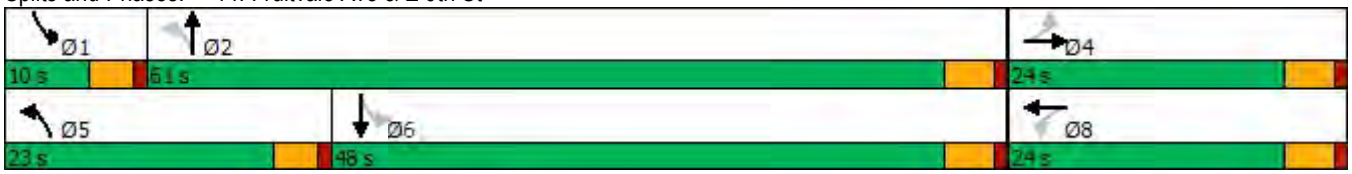
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		19.5			19.5		67.0	64.5		49.7	43.5	
Actuated g/C Ratio		0.21			0.21		0.71	0.68		0.52	0.46	
v/c Ratio		1.08			0.95		1.20	0.64		0.04	1.15	
Control Delay		122.4			79.0		136.9	12.4		6.0	106.9	
Queue Delay		0.0			0.0		3.1	51.5		0.0	0.0	
Total Delay		122.4			79.0		140.0	63.9		6.0	106.9	
LOS		F			E		F	E		A	F	
Approach Delay		122.4			79.0			93.6			105.4	
Approach LOS		F			E			F			F	
Queue Length 50th (ft)		~146			173		~330	218		2	~665	
Queue Length 95th (ft)		#294			#336		#530	466		7	#905	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		205			307		428	1248		393	826	
Starvation Cap Reductn		0			0		111	544		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		1.08			0.95		1.62	1.14		0.04	1.15	

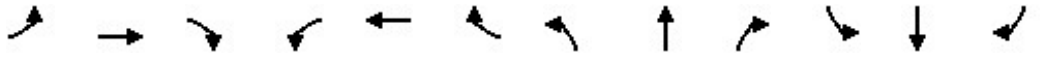
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 98.4		Intersection LOS: F	
Intersection Capacity Utilization 105.5%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St





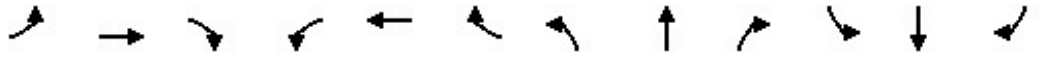
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	59	180	15	0	93	0	966	15	96	545	0
Future Volume (vph)	142	59	180	15	0	93	0	966	15	96	545	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.883			0.998				
Flt Protected		0.966			0.993					0.950		
Satd. Flow (prot)	0	1799	1583	0	1633	0	0	3532	0	1770	1863	0
Flt Permitted		0.759			0.944					0.145		
Satd. Flow (perm)	0	1414	1583	0	1553	0	0	3532	0	270	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196		101			2				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	64	196	16	0	101	0	1050	16	104	592	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	218	196	0	117	0	0	1066	0	104	592	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		15.9	15.9		14.8			27.9		36.9	36.4	
Actuated g/C Ratio		0.26	0.26		0.24			0.46		0.61	0.60	
v/c Ratio		0.59	0.35		0.26			0.66		0.30	0.53	
Control Delay		28.5	5.3		7.8			17.2		8.1	10.0	
Queue Delay		0.0	0.0		0.0			0.0		0.0	0.6	
Total Delay		28.5	5.3		7.8			17.2		8.1	10.5	
LOS		C	A		A			B		A	B	
Approach Delay		17.5			7.8			17.2			10.2	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		76	0		5			157		13	104	
Queue Length 95th (ft)		145	42		40			301		41	252	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		843	1023		942			1848		676	1566	
Starvation Cap Reductn		0	0		0			0		64	566	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.26	0.19		0.12			0.58		0.17	0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 60.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 60.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	439	332	196	430	567	103	13	682	163
Future Volume (vph)	0	0	0	439	332	196	430	567	103	13	682	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.970			0.977			0.972	
Flt Protected					0.978		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3358	0	1770	3458	0	0	3437	0
Flt Permitted					0.978		0.950				0.938	
Satd. Flow (perm)	0	0	0	0	3358	0	1770	3458	0	0	3227	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					44			39			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	477	361	213	467	616	112	14	741	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1051	0	467	728	0	0	932	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	



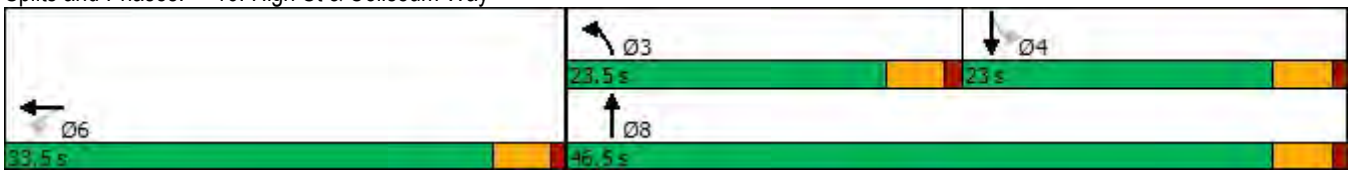
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		23.5	46.5		23.0	23.0	
Total Split (%)				41.9%	41.9%		29.4%	58.1%		28.8%	28.8%	
Maximum Green (s)				29.0	29.0		19.0	42.0		18.5	18.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		19.0	42.0			18.5	
Actuated g/C Ratio					0.36		0.24	0.52			0.23	
v/c Ratio					0.84		1.11	0.40			1.21	
Control Delay					30.3		109.5	11.5			135.0	
Queue Delay					0.0		2.0	1.9			0.0	
Total Delay					30.3		111.4	13.4			135.0	
LOS					C		F	B			F	
Approach Delay					30.3			51.7			135.0	
Approach LOS					C			D			F	
Queue Length 50th (ft)					240		~271	101			~298	
Queue Length 95th (ft)					#332		#449	140			#418	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1245		420	1833			771	
Starvation Cap Reductn					0		74	908			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.84		1.35	0.79			1.21	

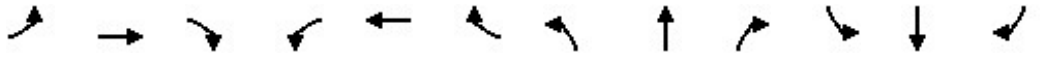
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.21			
Intersection Signal Delay: 69.1		Intersection LOS: E	
Intersection Capacity Utilization 87.7%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

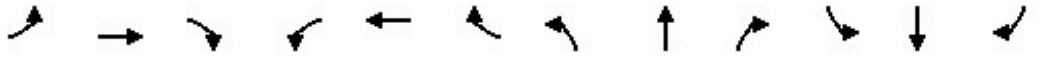
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	535	230	63	0	214	0	619	349	258	833	0
Future Volume (vph)	141	535	230	63	0	214	0	619	349	258	833	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.946				
Flt Protected		0.990		0.950						0.950		
Satd. Flow (prot)	0	3504	1583	1770	0	1583	0	3348	0	1770	3539	0
Flt Permitted		0.990		0.204						0.950		
Satd. Flow (perm)	0	3504	1583	380	0	1583	0	3348	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						233		129				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	153	582	250	68	0	233	0	673	379	280	905	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	735	250	68	0	233	0	1052	0	280	905	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	29.0	29.0	29.0	29.0		29.0		30.0		21.0	51.0	
Total Split (%)	36.3%	36.3%	36.3%	36.3%		36.3%		37.5%		26.3%	63.8%	
Maximum Green (s)	25.0	25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Actuated g/C Ratio		0.31	0.31	0.31		0.31		0.32		0.21	0.58	
v/c Ratio		0.67	0.51	0.59		0.36		0.91		0.77	0.44	
Control Delay		27.6	26.8	47.6		4.9		36.2		45.8	10.3	
Queue Delay		0.0	0.0	0.0		0.0		0.0		4.4	3.4	
Total Delay		27.6	26.8	47.6		4.9		36.2		50.2	13.7	
LOS		C	C	D		A		D		D	B	
Approach Delay		27.4			14.5			36.2			22.3	
Approach LOS		C			B			D			C	
Queue Length 50th (ft)		166	101	28		0		234		133	122	
Queue Length 95th (ft)		227	171	#90		48		#360		#250	163	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1095	494	116		646		1155		365	2057	
Starvation Cap Reductn		0	0	0		0		0		40	1028	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.67	0.51	0.59		0.36		0.91		0.86	0.88	

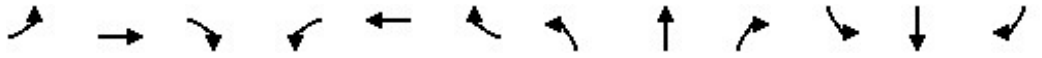
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 27.2		Intersection LOS: C	
Intersection Capacity Utilization 79.1%		ICU Level of Service D	

Analysis Period (min) 15

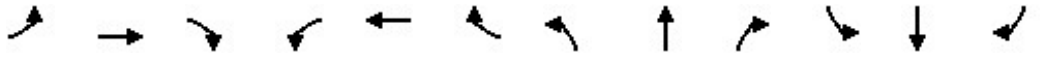
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	345	21	10	15	108	382	0	1618	10	6	795	235
Future Volume (vph)	345	21	10	15	108	382	0	1618	10	6	795	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.951				0.850		0.999			0.966	
Flt Protected	0.950				0.994							
Satd. Flow (prot)	1770	1771	0	0	1852	1583	0	3536	0	0	3419	0
Flt Permitted	0.672				0.973						0.904	
Satd. Flow (perm)	1252	1771	0	0	1812	1583	0	3536	0	0	3091	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		11						2			99	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	23	11	16	117	415	0	1759	11	7	864	255
Shared Lane Traffic (%)												
Lane Group Flow (vph)	375	34	0	0	133	415	0	1770	0	0	1126	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		

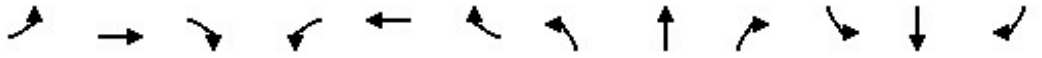


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	18.5	18.5			18.5	18.5		32.5			32.5	
Actuated g/C Ratio	0.31	0.31			0.31	0.31		0.54			0.54	
v/c Ratio	0.97	0.06			0.24	0.85		0.92			0.66	
Control Delay	64.4	11.8			16.9	39.0		23.1			11.1	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	64.4	11.8			16.9	39.0		23.1			11.1	
LOS	E	B			B	D		C			B	
Approach Delay		60.0			33.7			23.1			11.1	
Approach LOS		E			C			C			B	
Queue Length 50th (ft)	132	6			35	139		278			123	
Queue Length 95th (ft)	#286	22			72	#283		#459			183	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	386	553			558	488		1916			1719	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.97	0.06			0.24	0.85		0.92			0.66	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 25.0		Intersection LOS: C	
Intersection Capacity Utilization 99.1%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 18: Park St & Blanding Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	254	26	13	274	92	45	665	45	15	473	89
Future Volume (vph)	197	254	26	13	274	92	45	665	45	15	473	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.986			0.962			0.991			0.977	
Flt Protected	0.950			0.950				0.997			0.999	
Satd. Flow (prot)	1770	3490	0	1770	3405	0	0	3497	0	0	3454	0
Flt Permitted	0.950			0.950				0.883			0.928	
Satd. Flow (perm)	1770	3490	0	1770	3405	0	0	3097	0	0	3209	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			65			10			34	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	214	276	28	14	298	100	49	723	49	16	514	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	304	0	14	398	0	0	821	0	0	627	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		

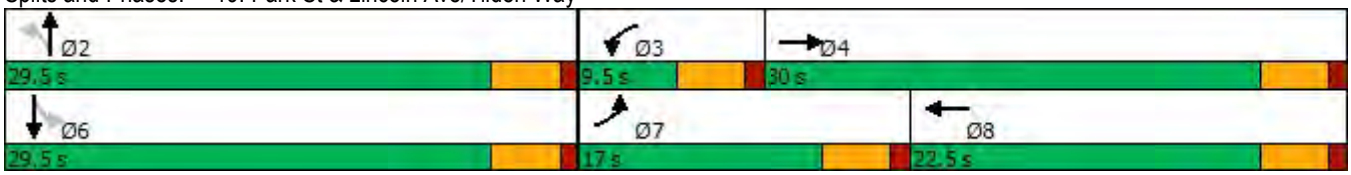


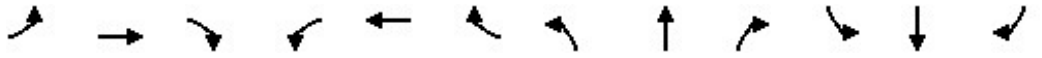
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	11.2	25.7		5.0	11.7			25.2			25.2	
Actuated g/C Ratio	0.18	0.42		0.08	0.19			0.41			0.41	
v/c Ratio	0.67	0.21		0.10	0.57			0.65			0.47	
Control Delay	35.7	11.7		30.0	22.3			18.3			14.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	35.7	11.7		30.0	22.3			18.3			14.9	
LOS	D	B		C	C			B			B	
Approach Delay		21.6			22.5			18.3			14.9	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	74	32		5	60			126			83	
Queue Length 95th (ft)	#164	70		21	98			208			142	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	361	1554		144	1047			1270			1330	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.59	0.20		0.10	0.38			0.65			0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 61.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 18.9		Intersection LOS: B	
Intersection Capacity Utilization 73.9%		ICU Level of Service D	
Analysis Period (min) 15			

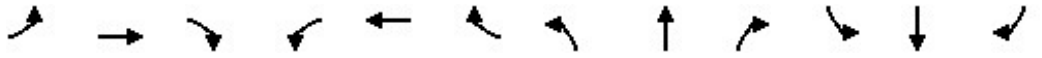
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way





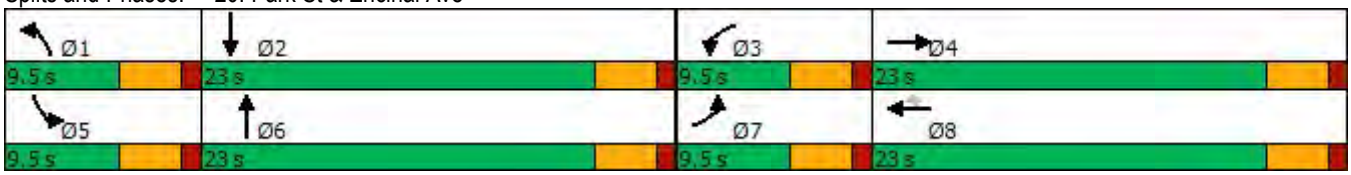
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	327	44	46	438	81	82	293	26	55	232	53
Future Volume (vph)	81	327	44	46	438	81	82	293	26	55	232	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.982				0.850		0.988			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3476	0	1770	1863	1583	1770	3497	0	1770	3440	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3476	0	1770	1863	1583	1770	3497	0	1770	3440	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				151		14			43	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	355	48	50	476	88	89	318	28	60	252	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	403	0	50	476	88	89	346	0	60	310	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



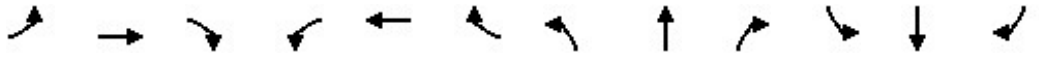
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.7	19.5		5.7	17.8	17.8	5.7	21.5		5.7	19.8	
Actuated g/C Ratio	0.10	0.33		0.10	0.30	0.30	0.10	0.36		0.10	0.33	
v/c Ratio	0.52	0.35		0.30	0.86	0.15	0.53	0.27		0.36	0.27	
Control Delay	42.3	16.8		33.1	39.7	1.6	42.6	16.3		34.6	15.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	42.3	16.8		33.1	39.7	1.6	42.6	16.3		34.6	15.6	
LOS	D	B		C	D	A	D	B		C	B	
Approach Delay		21.4			33.7			21.7			18.7	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)	34	62		19	178	0	35	53		23	42	
Queue Length 95th (ft)	#92	97		49	#336	9	#93	85		57	72	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	168	1263		168	614	623	168	1265		168	1163	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.52	0.32		0.30	0.78	0.14	0.53	0.27		0.36	0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 59.9			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 24.9		Intersection LOS: C	
Intersection Capacity Utilization 54.0%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	105	17	68	440	523	15	529	79	170	693	251
Future Volume (vph)	115	105	17	68	440	523	15	529	79	170	693	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.980			0.960	
Flt Protected		0.975			0.993		0.950			0.950		
Satd. Flow (prot)	0	1816	1583	0	1850	1583	1770	3468	0	1770	3398	0
Flt Permitted		0.975			0.993		0.950			0.950		
Satd. Flow (perm)	0	1816	1583	0	1850	1583	1770	3468	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			350		17			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	114	18	74	478	568	16	575	86	185	753	273
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	239	18	0	552	568	16	661	0	185	1026	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



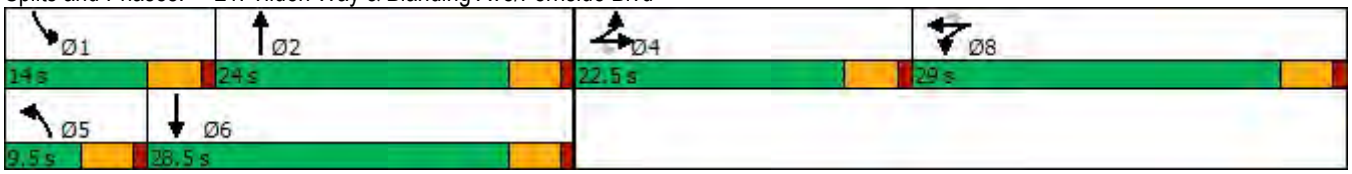
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		15.3	15.3		24.6	24.6	5.0	18.9		9.5	31.1	
Actuated g/C Ratio		0.18	0.18		0.29	0.29	0.06	0.22		0.11	0.36	
v/c Ratio		0.74	0.05		1.05	0.81	0.16	0.86		0.95	0.81	
Control Delay		48.6	0.2		85.8	22.0	43.8	44.4		94.8	31.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		48.6	0.2		85.8	22.0	43.8	44.4		94.8	31.6	
LOS		D	A		F	C	D	D		F	C	
Approach Delay		45.2			53.5			44.4			41.2	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)		125	0		~345	114	9	182		104	245	
Queue Length 95th (ft)		204	0		#551	#308	29	#278		#238	#458	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		379	432		526	700	102	798		195	1260	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.63	0.04		1.05	0.81	0.16	0.83		0.95	0.81	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 86.3			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 46.4		Intersection LOS: D	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	
Analysis Period (min) 15			

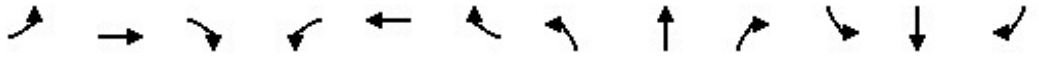
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



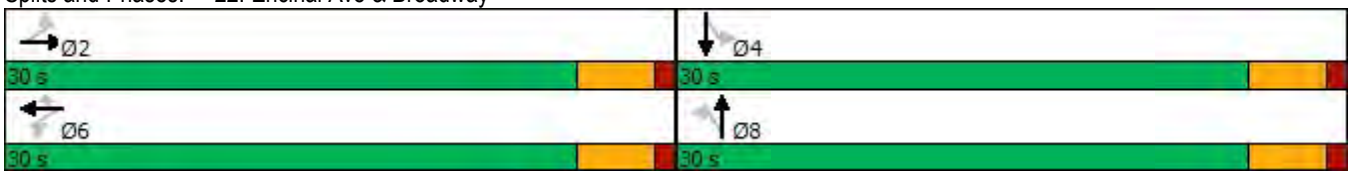
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	281	91	29	347	75	177	457	20	37	381	28
Future Volume (vph)	88	281	91	29	347	75	177	457	20	37	381	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970				0.850		0.994			0.990	
Flt Protected		0.990			0.996		0.950			0.950		
Satd. Flow (prot)	0	3399	0	0	1855	1636	1770	1852	0	1770	1844	0
Flt Permitted		0.707			0.936		0.424			0.358		
Satd. Flow (perm)	0	2427	0	0	1744	1636	790	1852	0	667	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		63				82		5			8	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	305	99	32	377	82	192	497	22	40	414	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	500	0	0	409	82	192	519	0	40	444	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



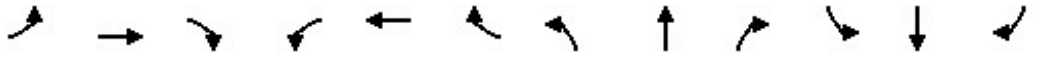
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		17.5			17.5	17.5	25.8	25.8		25.8	25.8	
Actuated g/C Ratio		0.33			0.33	0.33	0.49	0.49		0.49	0.49	
v/c Ratio		0.59			0.70	0.14	0.49	0.57		0.12	0.49	
Control Delay		15.1			21.9	3.7	16.7	13.9		10.6	12.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		15.1			21.9	3.7	16.7	13.9		10.6	12.5	
LOS		B			C	A	B	B		B	B	
Approach Delay		15.1			18.9			14.6			12.3	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		55			106	0	37	102		6	82	
Queue Length 95th (ft)		93			181	20	114	236		26	192	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1226			858	846	388	914		328	911	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.41			0.48	0.10	0.49	0.57		0.12	0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.4			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 15.2		Intersection LOS: B	
Intersection Capacity Utilization 79.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	768	7	109	888	781	5	115	185	308	70	90
Future Volume (vph)	68	768	7	109	888	781	5	115	185	308	70	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.918				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3536	0	1770	1863	1583	0	1708	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.997		0.416		
Satd. Flow (perm)	1770	3536	0	1770	1863	1583	0	1705	0	775	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				591		102				143
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			2981			502			2170	
Travel Time (s)		9.3			81.3			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	835	8	118	965	849	5	125	201	335	76	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	843	0	118	965	849	0	331	0	335	76	98
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



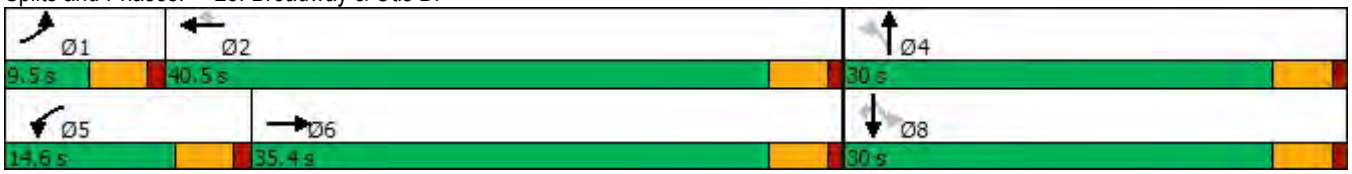
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	32.3		9.1	36.1	36.1		25.6		25.6	25.6	25.6
Actuated g/C Ratio	0.06	0.41		0.12	0.46	0.46		0.33		0.33	0.33	0.33
v/c Ratio	0.65	0.58		0.58	1.12	0.81		0.53		1.32	0.12	0.16
Control Delay	65.3	20.5		44.8	93.7	13.1		18.6		196.9	20.2	2.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	65.3	20.5		44.8	93.7	13.1		18.6		196.9	20.2	2.1
LOS	E	C		D	F	B		B		F	C	A
Approach Delay		24.1			55.3			18.6			133.0	
Approach LOS		C			E			B			F	
Queue Length 50th (ft)	37	174		56	~577	94		90		~223	27	0
Queue Length 95th (ft)	#102	234		108	#800	#321		171		#380	57	15
Internal Link Dist (ft)		261			2901			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	113	1465		229	861	1049		626		254	609	614
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.65	0.58		0.52	1.12	0.81		0.53		1.32	0.12	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 78.1			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.32			
Intersection Signal Delay: 55.0		Intersection LOS: D	
Intersection Capacity Utilization 100.6%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

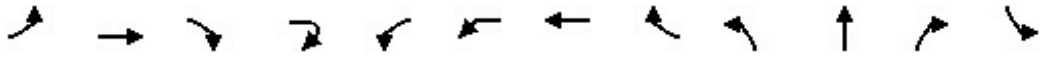
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	116	168	41	2	6	4	430	355	83	430	4	247
Future Volume (vph)	116	168	41	2	6	4	430	355	83	430	4	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.999			0.992		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1861	1583	0	1846	0	1770
Flt Permitted	0.125						0.992			0.839		0.950
Satd. Flow (perm)	233	1863	1583	0	0	0	1848	1583	0	1561	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								386				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	126	183	45	2	7	4	467	386	90	467	4	268
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	183	47	0	0	0	478	386	0	561	0	268
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

Lane Group	SBT	SBR	SBR2	NEL	NER	NER2
Lane Configurations						
Traffic Volume (vph)	448	97	77	137	5	5
Future Volume (vph)	448	97	77	137	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	50	
Storage Lanes		1		1	1	
Taper Length (ft)				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.995		0.850
Flt Protected				0.954		
Satd. Flow (prot)	1863	1583	0	1768	0	1583
Flt Permitted				0.954		
Satd. Flow (perm)	1863	1583	0	1768	0	1583
Right Turn on Red			No			Yes
Satd. Flow (RTOR)						88
Link Speed (mph)	25			25		
Link Distance (ft)	1133			459		
Travel Time (s)	30.9			12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	487	105	84	149	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	487	189	0	154	0	5
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Right	Right
Median Width(ft)	12			12		
Link Offset(ft)	0			0		
Crosswalk Width(ft)	16			16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	9	9
Number of Detectors	2	1		1		1
Detector Template	Thru	Right		Left		Right
Leading Detector (ft)	100	20		20		20
Trailing Detector (ft)	0	0		0		0
Detector 1 Position(ft)	0	0		0		0
Detector 1 Size(ft)	6	20		20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0		0.0
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA	Perm		Prot		Perm
Protected Phases	4			9		
Permitted Phases		4				9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	42.0	42.0	42.0		42.0	42.0	42.0	42.0	43.0	43.0		22.5
Total Split (%)	32.3%	32.3%	32.3%		32.3%	32.3%	32.3%	32.3%	33.1%	33.1%		17.3%
Maximum Green (s)	37.5	37.5	37.5		37.5	37.5	37.5	37.5	38.5	38.5		18.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.5	37.5	37.5				37.5	37.5		38.5		18.0
Actuated g/C Ratio	0.29	0.29	0.29				0.29	0.29		0.30		0.14
v/c Ratio	1.85	0.33	0.10				0.88	0.52		1.19		1.07
Control Delay	457.9	37.8	34.4				61.6	6.2		143.9		128.5
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	457.9	37.8	34.4				61.6	6.2		143.9		128.5
LOS	F	D	C				E	A		F		F
Approach Delay		186.0					36.8			143.9		
Approach LOS		F					D			F		
Queue Length 50th (ft)	~159	120	29				380	0		~565		~249
Queue Length 95th (ft)	#293	190	61				#584	77		#802		#432
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	68	549	466				544	738		472		250
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	1.85	0.33	0.10				0.88	0.52		1.19		1.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 127.3			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.85			
Intersection Signal Delay: 83.8		Intersection LOS: F	
Intersection Capacity Utilization 109.7%		ICU Level of Service H	
Analysis Period (min) 15			

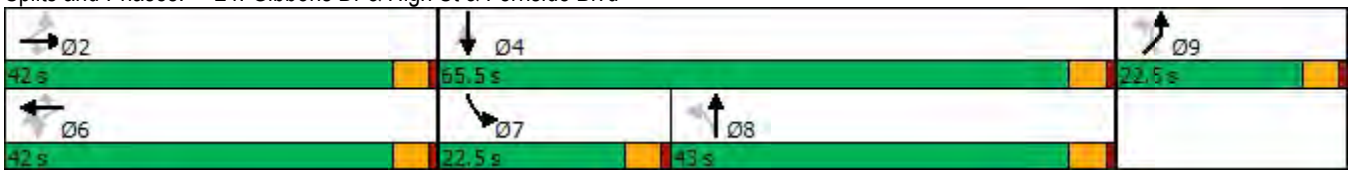
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

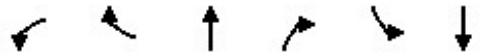
Lane Group	SBT	SBR	SBR2	NEL	NER	NER2
Detector Phase	4	4		9		9
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0		5.0
Minimum Split (s)	22.5	22.5		22.5		22.5
Total Split (s)	65.5	65.5		22.5		22.5
Total Split (%)	50.4%	50.4%		17.3%		17.3%
Maximum Green (s)	61.0	61.0		18.0		18.0
Yellow Time (s)	3.5	3.5		3.5		3.5
All-Red Time (s)	1.0	1.0		1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5		4.5		4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0		3.0
Recall Mode	None	None		None		None
Walk Time (s)	7.0	7.0		7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0		0		0
Act Effct Green (s)	61.0	61.0		15.2		15.2
Actuated g/C Ratio	0.48	0.48		0.12		0.12
v/c Ratio	0.55	0.25		0.73		0.02
Control Delay	26.7	21.2		74.2		0.2
Queue Delay	0.0	0.0		0.0		0.0
Total Delay	26.7	21.2		74.2		0.2
LOS	C	C		E		A
Approach Delay	54.5			71.9		
Approach LOS	D			E		
Queue Length 50th (ft)	281	92		124		0
Queue Length 95th (ft)	397	147		200		0
Internal Link Dist (ft)	1053			379		
Turn Bay Length (ft)						50
Base Capacity (vph)	893	759		249		299
Starvation Cap Reductn	0	0		0		0
Spillback Cap Reductn	0	0		0		0
Storage Cap Reductn	0	0		0		0
Reduced v/c Ratio	0.55	0.25		0.62		0.02

Intersection Summary

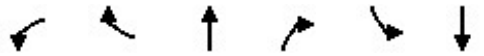
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd





Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	781	36	1905	1134	76	1529
Future Volume (vph)	781	36	1905	1134	76	1529
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.993			0.850		
Flt Protected	0.954				0.950	
Satd. Flow (prot)	3423	0	3539	1583	1770	3539
Flt Permitted	0.954				0.950	
Satd. Flow (perm)	3423	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	4			152		
Link Speed (mph)	25		35			35
Link Distance (ft)	479		1340			2981
Travel Time (s)	13.1		26.1			58.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	849	39	2071	1233	83	1662
Shared Lane Traffic (%)						
Lane Group Flow (vph)	888	0	2071	1233	83	1662
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		



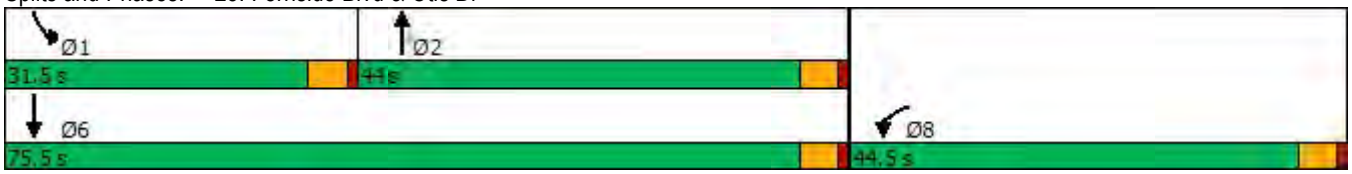
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	44.5		44.0	44.0	31.5	75.5
Total Split (%)	37.1%		36.7%	36.7%	26.3%	62.9%
Maximum Green (s)	40.0		39.5	39.5	27.0	71.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	34.1		58.3	58.3	10.7	71.1
Actuated g/C Ratio	0.30		0.51	0.51	0.09	0.62
v/c Ratio	0.87		1.15	1.40	0.50	0.75
Control Delay	47.5		102.3	210.4	60.1	19.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	47.5		102.3	210.4	60.1	19.0
LOS	D		F	F	E	B
Approach Delay	47.5		142.6			21.0
Approach LOS	D		F			C
Queue Length 50th (ft)	315		~987	~1200	60	437
Queue Length 95th (ft)	393		#1253	#1577	112	593
Internal Link Dist (ft)	399		1260			2901
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	1202		1804	881	419	2202
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.74		1.15	1.40	0.20	0.75

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 114.3			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.40			
Intersection Signal Delay: 92.6		Intersection LOS: F	
Intersection Capacity Utilization 91.5%		ICU Level of Service F	
Analysis Period (min) 15			

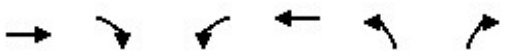
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Fernside Blvd & Otis Dr



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1148	1260	146	1259	1916	150
Future Volume (vph)	1148	1260	146	1259	1916	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		250				50
Link Speed (mph)	25			25	25	
Link Distance (ft)	1340			365	455	
Travel Time (s)	36.5			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1248	1370	159	1368	2083	163
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1248	1370	159	1368	2083	163
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free



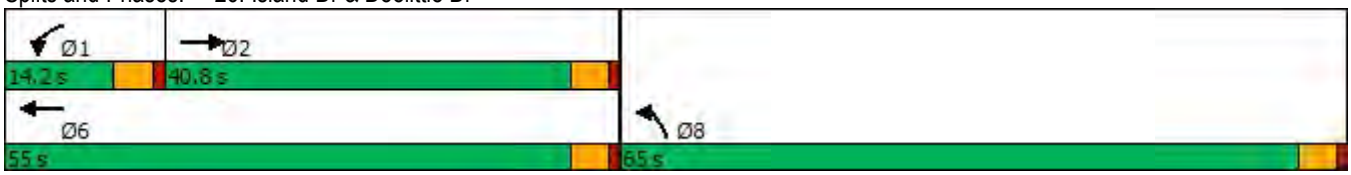
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.3	120.0	9.7	50.5	60.5	120.0
Actuated g/C Ratio	0.30	1.00	0.08	0.42	0.50	1.00
v/c Ratio	1.17	0.87	1.11	0.92	1.20	0.10
Control Delay	123.3	7.0	158.7	43.9	126.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	123.3	7.0	158.7	43.9	126.5	0.1
LOS	F	A	F	D	F	A
Approach Delay	62.4			55.8	117.4	
Approach LOS	E			E	F	
Queue Length 50th (ft)	~604	0	~141	517	~1011	0
Queue Length 95th (ft)	#741	0	#281	#666	#1146	0
Internal Link Dist (ft)	1260			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1070	1583	143	1489	1730	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.17	0.87	1.11	0.92	1.20	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 80.2		Intersection LOS: F	
Intersection Capacity Utilization 105.7%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

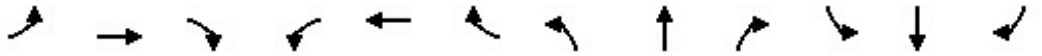
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 26: Island Dr & Doolittle Dr



2040 No Action Condition

PM Peak Hour



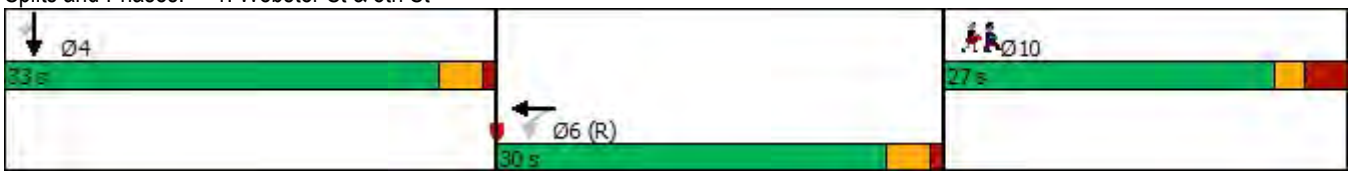
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	452	512	0	0	0	0	0	1069	324
Future Volume (vph)	0	0	0	452	512	0	0	0	0	0	1069	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.996	0.850
Flt Protected				0.950	0.986							
Satd. Flow (prot)	0	0	0	1332	4541	0	0	0	0	0	4633	1203
Flt Permitted				0.950	0.986							
Satd. Flow (perm)	0	0	0	1332	4541	0	0	0	0	0	4633	1203
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				258	117						5	313
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	486	551	0	0	0	0	0	1149	348
Shared Lane Traffic (%)				47%								10%
Lane Group Flow (vph)	0	0	0	258	779	0	0	0	0	0	1184	313
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	25.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				31.7	31.7						31.1	31.1
Actuated g/C Ratio				0.35	0.35						0.35	0.35
v/c Ratio				0.41	0.46						0.74	0.50
Control Delay				5.5	21.9						29.0	5.7
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				5.5	21.9						29.0	5.7
LOS				A	C						C	A
Approach Delay					17.9						24.1	
Approach LOS					B						C	
Queue Length 50th (ft)				0	122						221	0
Queue Length 95th (ft)				65	165						276	65
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				636	1677						1619	623
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.41	0.46						0.73	0.50

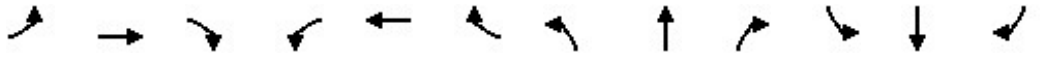
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 21.5		Intersection LOS: C	
Intersection Capacity Utilization 44.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St

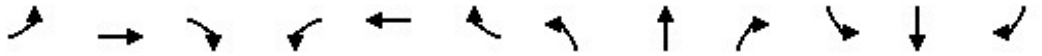


Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1040	1129	0	0	0	0	0	0	270	1175	0
Future Volume (vph)	0	1040	1129	0	0	0	0	0	0	270	1175	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.947	0.850									
Flt Protected											0.991	
Satd. Flow (prot)	0	4311	1375	0	0	0	0	0	0	0	4883	0
Flt Permitted											0.991	
Satd. Flow (perm)	0	4311	1375	0	0	0	0	0	0	0	4883	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		4	18								58	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			383			184			292	
Travel Time (s)		9.3			10.4			5.0			8.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	1169	1269	0	0	0	0	0	0	303	1320	0
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1804	634	0	0	0	0	0	0	0	1623	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		36.0	36.0							24.0	24.0	
Total Split (s)		36.0	36.0							24.0	24.0	
Total Split (%)		60.0%	60.0%							40.0%	40.0%	

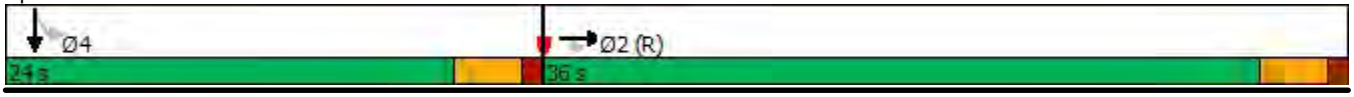


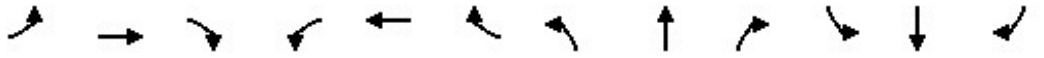
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		32.0	32.0							20.0	20.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		22.0	22.0							8.0	8.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		32.0	32.0								20.0	
Actuated g/C Ratio		0.53	0.53								0.33	
v/c Ratio		0.92dr	0.86								0.97	
Control Delay		14.3	26.2								37.7	
Queue Delay		0.0	0.0								20.5	
Total Delay		14.3	26.2								58.3	
LOS		B	C								E	
Approach Delay		17.4									58.3	
Approach LOS		B									E	
Queue Length 50th (ft)		183	201								201	
Queue Length 95th (ft)		239	#433								#301	
Internal Link Dist (ft)		260			303			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2301	741								1666	
Starvation Cap Reductn		0	0								119	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.78	0.86								1.05	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 9.5 (16%), Referenced to phase 2:EBT and 6:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 33.7 Intersection LOS: C
Intersection Capacity Utilization 81.5% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

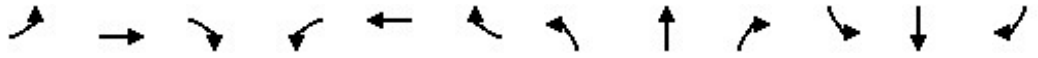
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	1215	0	0	0	0	0	813	1638	0	0	0
Future Volume (vph)	135	1215	0	0	0	0	0	813	1638	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.995										
Satd. Flow (prot)	0	4751	0	0	0	0	0	5136	2718	0	0	0
Flt Permitted		0.995										
Satd. Flow (perm)	0	4751	0	0	0	0	0	5136	2718	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47							47			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		383			364			367			319	
Travel Time (s)		10.4			9.9			10.0			8.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	3%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	148	1335	0	0	0	0	0	893	1800	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1483	0	0	0	0	0	893	1800	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								37.0				
Total Split (%)								61.7%				
Maximum Green (s)								31.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		17.4						31.4	31.4			
Actuated g/C Ratio		0.29						0.52	0.52			
v/c Ratio		1.05						0.33	1.25			
Control Delay		62.1						8.7	135.5			
Queue Delay		0.0						0.0	0.0			
Total Delay		62.1						8.7	135.5			
LOS		E						A	F			
Approach Delay		62.1						93.5				
Approach LOS		E						F				
Queue Length 50th (ft)		~204						62	~493			
Queue Length 95th (ft)		m#291						84	#639			
Internal Link Dist (ft)		303			284			287			239	
Turn Bay Length (ft)												
Base Capacity (vph)		1411						2687	1444			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		1.05						0.33	1.25			

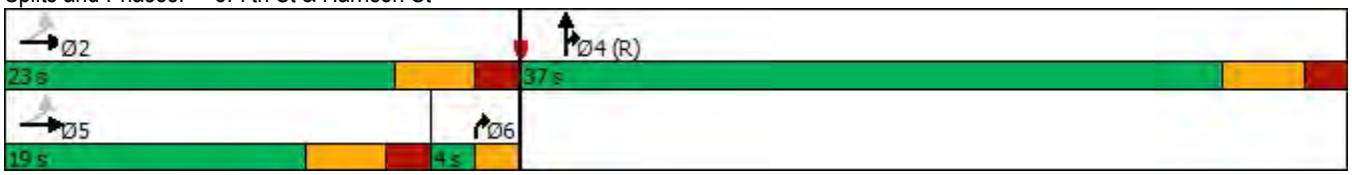
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 22.5 (38%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.25			
Intersection Signal Delay: 82.3		Intersection LOS: F	
Intersection Capacity Utilization 92.9%		ICU Level of Service F	
Analysis Period (min) 15			
* User Entered Value			
~ Volume exceeds capacity, queue is theoretically infinite.			

Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	3.0
Total Split (s)	23.0	19.0	4.0
Total Split (%)	38%	32%	7%
Maximum Green (s)	17.4	13.4	2.0
Yellow Time (s)	3.6	3.6	2.0
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
! Phase conflict between lane groups.

Splits and Phases: 3: 7th St & Harrison St

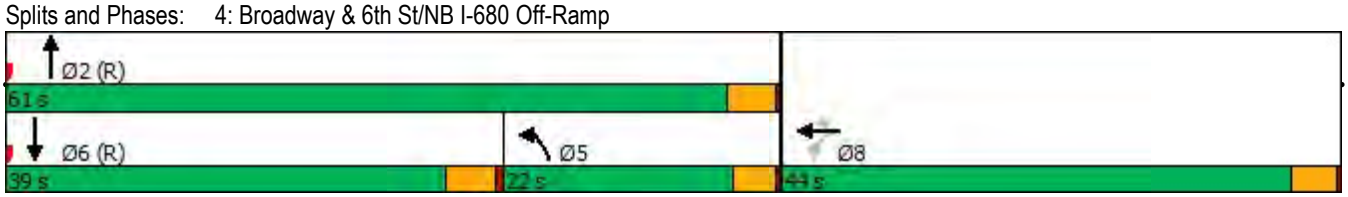


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	407	105	546	37	306	0	0	528	29
Future Volume (vph)	0	0	0	407	105	546	37	306	0	0	528	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.992	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	3610	1599	1805	3406	0	0	5003	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1805	3610	1599	1805	3406	0	0	5003	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						501					9	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			312			469	
Travel Time (s)		11.3			8.0			8.5			12.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	6%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	20
Adj. Flow (vph)	0	0	0	433	112	581	39	326	0	0	562	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	433	112	581	39	326	0	0	593	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.0	31.0	31.0	9.5	23.5			23.5	
Total Split (s)				44.0	44.0	44.0	22.0	61.0			39.0	
Total Split (%)				41.9%	41.9%	41.9%	21.0%	58.1%			37.1%	
Maximum Green (s)				40.0	40.0	40.0	18.0	56.5			34.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	C-Max			C-Max	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				32.2	32.2	32.2	12.9	64.3			51.1	
Actuated g/C Ratio				0.31	0.31	0.31	0.12	0.61			0.49	
v/c Ratio				0.78	0.10	0.69	0.18	0.16			0.24	
Control Delay				43.0	24.3	9.2	40.0	2.2			19.3	
Queue Delay				0.4	0.0	0.0	0.0	0.0			0.0	
Total Delay				43.4	24.3	9.2	40.0	2.2			19.3	
LOS				D	C	A	D	A			B	
Approach Delay					23.9			6.3			19.3	
Approach LOS					C			A			B	
Queue Length 50th (ft)				261	27	39	28	1			96	
Queue Length 95th (ft)				342	44	137	m46	m43			141	
Internal Link Dist (ft)		335			213			232			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				687	1375	919	309	2085			2439	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				48	0	0	0	0			135	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.68	0.08	0.63	0.13	0.16			0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 16 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp



Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	14	997	441	95	339	280	45	389	209	368
Future Volume (vph)	14	997	441	95	339	280	45	389	209	368
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.994	0.850	0.850	0.927					
Flt Protected		0.999						0.950	0.950	
Satd. Flow (prot)	0	3016	1441	1615	4712	0	0	1787	1787	1810
Flt Permitted		0.999						0.950	0.950	
Satd. Flow (perm)	0	3016	1441	1615	4712	0	0	1787	1787	1810
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				100	10					
Link Speed (mph)		25			25					25
Link Distance (ft)		525			667					312
Travel Time (s)		14.3			18.2					8.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	2%	0%	4%	0%	0%	1%	1%	5%
Adj. Flow (vph)	15	1049	464	100	357	295	47	409	220	387
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	1110	418	100	699	0	0	409	220	387
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

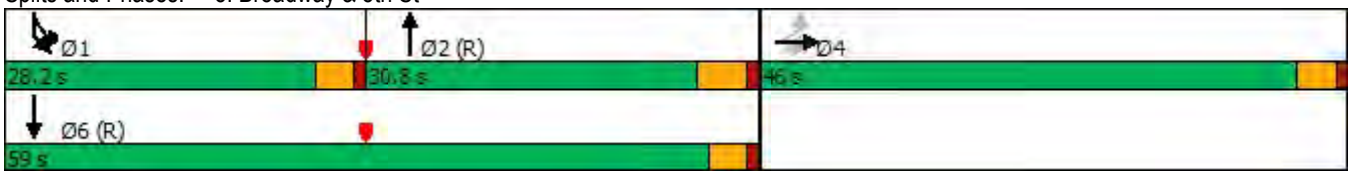
Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	23.0			9.5	9.5	23.0
Total Split (s)	46.0	46.0	46.0	46.0	30.8			28.2	28.2	59.0
Total Split (%)	43.8%	43.8%	43.8%	43.8%	29.3%			26.9%	26.9%	56.2%
Maximum Green (s)	42.0	42.0	42.0	42.0	25.8			24.2	24.2	55.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0			3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0			1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0	5.0			4.0	4.0	4.0
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	C-Max			None	None	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0					11.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		41.7	41.7	41.7	25.8			24.5	24.5	55.3
Actuated g/C Ratio		0.40	0.40	0.40	0.25			0.23	0.23	0.53
v/c Ratio		0.93	0.73	0.14	0.60			0.98	0.53	0.41
Control Delay		44.3	35.7	4.6	37.0			83.9	46.2	15.2
Queue Delay		0.0	0.0	0.0	0.0			37.5	1.5	1.7
Total Delay		44.3	35.7	4.6	37.0			121.4	47.7	16.9
LOS		D	D	A	D			F	D	B
Approach Delay		39.6			37.0					65.6
Approach LOS		D			D					E
Queue Length 50th (ft)		435	256	0	150			244	118	51
Queue Length 95th (ft)		#600	391	32	193			#473	195	184
Internal Link Dist (ft)		445			587					232
Turn Bay Length (ft)										
Base Capacity (vph)		1206	576	706	1165			416	416	953
Starvation Cap Reductn		0	0	0	0			60	79	389
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.92	0.73	0.14	0.60			1.15	0.65	0.69

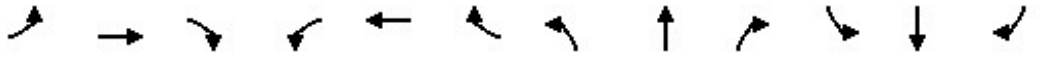
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 47.0		Intersection LOS: D	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			

* User Entered Value

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Broadway & 5th St



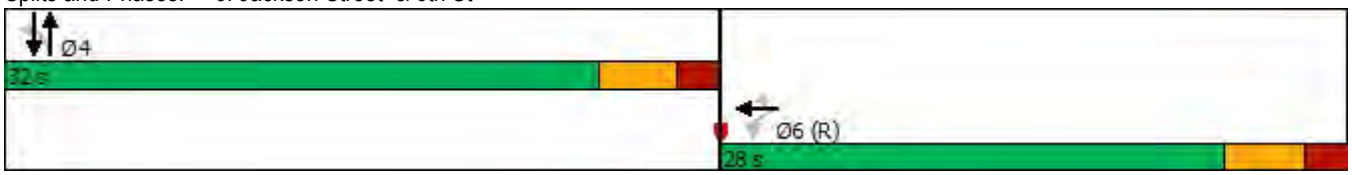


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	9	375	43	432	393	0	0	178	1230
Future Volume (vph)	0	0	0	9	375	43	432	393	0	0	178	1230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.947	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1900	1615	1805	1900	0	0	1703	1599
Flt Permitted				0.950			0.551					
Satd. Flow (perm)	0	0	0	1805	1900	1615	1047	1900	0	0	1703	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						45					59	290
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	0	0	0	9	387	44	445	405	0	0	184	1268
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	9	387	44	445	405	0	0	285	1167
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.01	0.54	0.07	0.96	0.48			0.36	0.73
Control Delay				12.0	18.2	4.8	54.4	14.3			10.3	3.0
Queue Delay				0.0	0.0	0.0	0.0	1.7			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				12.0	18.2	4.8	54.4	16.0			10.3	3.0
LOS				B	B	A	D	B			B	A
Approach Delay					16.8			36.1			4.4	
Approach LOS					B			D			A	
Queue Length 50th (ft)				2	106	0	148	98			52	0
Queue Length 95th (ft)				9	180	16	#321	166			103	0
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	712	633	462	839			785	1599
Starvation Cap Reductn				0	0	0	0	268			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.01	0.54	0.07	0.96	0.71			0.36	0.73

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 92.0%		ICU Level of Service F	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Jackson Street & 6th St

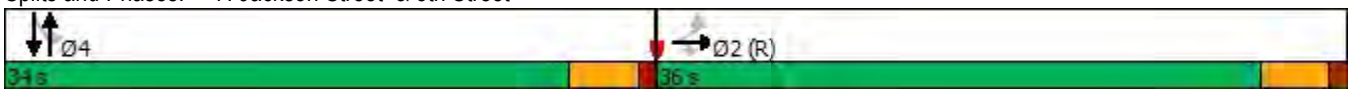


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	594	803	608	0	0	0	0	557	51	128	134	0
Future Volume (vph)	594	803	608	0	0	0	0	557	51	128	134	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.989				
Flt Protected		0.979									0.976	
Satd. Flow (prot)	0	3474	1615	0	0	0	0	1879	0	0	1623	0
Flt Permitted		0.979									0.194	
Satd. Flow (perm)	0	3474	1615	0	0	0	0	1879	0	0	323	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			231					8				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	675	913	691	0	0	0	0	633	58	145	152	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1588	691	0	0	0	0	691	0	0	297	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					25.6		25.6	25.6	
Total Split (s)	36.0	36.0	36.0					34.0		34.0	34.0	
Total Split (%)	51.4%	51.4%	51.4%					48.6%		48.6%	48.6%	
Maximum Green (s)	31.4	31.4	31.4					29.4		29.4	29.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		31.4	31.4					29.4			29.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.45	0.45					0.42			0.42	
v/c Ratio		1.02	0.81					0.87			2.20	
Control Delay		49.1	20.5					32.8			582.5	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		49.1	20.5					32.8			582.5	
LOS		D	C					C			F	
Approach Delay		40.4						32.8			582.5	
Approach LOS		D						C			F	
Queue Length 50th (ft)		~361	165					259			~210	
Queue Length 95th (ft)		#498	#356					#444			#293	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1558	851					793			135	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		1.02	0.81					0.87			2.20	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 34 (49%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 2.20			
Intersection Signal Delay: 88.1		Intersection LOS: F	
Intersection Capacity Utilization 97.5%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Jackson Street & 5th Street



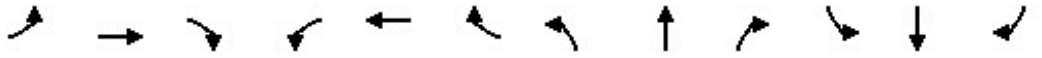
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	494	215	166	727	1214	912
Future Volume (vph)	494	215	166	727	1214	912
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3505	5136	2814
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3505	5136	2814
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	3%	1%	1%
Adj. Flow (vph)	515	224	173	757	1265	950
Shared Lane Traffic (%)						
Lane Group Flow (vph)	515	224	173	757	1265	950
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	22.5	22.5	10.8	37.5	26.7	
Total Split (%)	37.5%	37.5%	18.0%	62.5%	44.5%	
Maximum Green (s)	18.0	18.0	6.3	33.0	22.2	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	16.1	16.1	6.3	33.1	22.2	42.9
Actuated g/C Ratio	0.28	0.28	0.11	0.57	0.38	0.74
v/c Ratio	0.53	0.50	0.89	0.38	0.64	0.46
Control Delay	19.9	21.9	72.3	8.0	17.0	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	21.9	72.3	8.0	17.0	3.8
LOS	B	C	E	A	B	A
Approach Delay	20.5			20.0	11.3	
Approach LOS	C			B	B	
Queue Length 50th (ft)	77	65	63	74	135	52
Queue Length 95th (ft)	118	122	#165	107	178	77
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1084	500	195	1990	1962	2164
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.45	0.89	0.38	0.64	0.44

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 15.2		Intersection LOS: B	
Intersection Capacity Utilization 58.0%		ICU Level of Service B	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Webster Street & Willie Stargell Ave

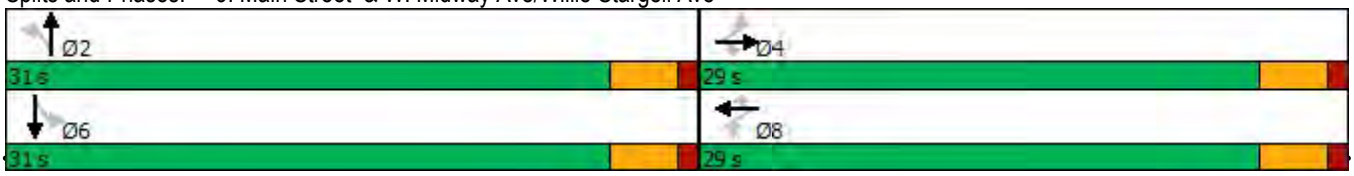


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	286	77	51	224	244	73	209	51	226	365	19
Future Volume (vph)	6	286	77	51	224	244	73	209	51	226	365	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.977			0.995	
Flt Protected		0.999			0.991			0.989			0.982	
Satd. Flow (prot)	0	1898	1615	0	1838	1615	0	3345	0	0	3527	0
Flt Permitted		0.991			0.800			0.734			0.690	
Satd. Flow (perm)	0	1883	1615	0	1484	1615	0	2482	0	0	2478	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			81			305		45			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	11%	3%	0%	0%	0%	0%
Adj. Flow (vph)	8	358	96	64	280	305	91	261	64	283	456	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	366	96	0	344	305	0	416	0	0	763	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

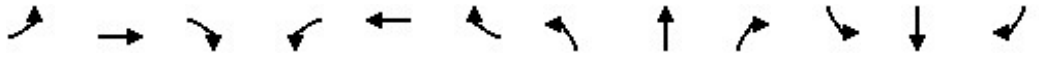
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0		31.0	31.0	
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		17.0	17.0		17.0	17.0		27.3			27.3	
Actuated g/C Ratio		0.32	0.32		0.32	0.32		0.52			0.52	
v/c Ratio		0.60	0.17		0.71	0.42		0.32			0.59	
Control Delay		18.8	4.9		24.1	3.7		8.4			12.4	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		18.8	4.9		24.1	3.7		8.4			12.4	
LOS		B	A		C	A		A			B	
Approach Delay		15.9			14.5			8.4			12.4	
Approach LOS		B			B			A			B	
Queue Length 50th (ft)		92	3		90	0		31			77	
Queue Length 95th (ft)		133	21		136	25		61			136	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		907	820		715	936		1313			1293	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.40	0.12		0.48	0.33		0.32			0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.4			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 13.0		Intersection LOS: B	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	341	169	128	482	210	144	247	66	266	460	25
Future Volume (vph)	6	341	169	128	482	210	144	247	66	266	460	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.968			0.993	
Flt Protected		0.999			0.990		0.950			0.950	0.997	
Satd. Flow (prot)	0	3606	1615	0	3491	1538	1805	3388	0	1643	3423	0
Flt Permitted		0.940			0.702		0.950			0.950	0.997	
Satd. Flow (perm)	0	3393	1615	0	2476	1538	1805	3388	0	1643	3423	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			211			263		49			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	3%	5%	0%	4%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	8	426	211	160	603	263	180	309	83	333	575	31
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	0	434	211	0	763	263	180	392	0	300	639	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	



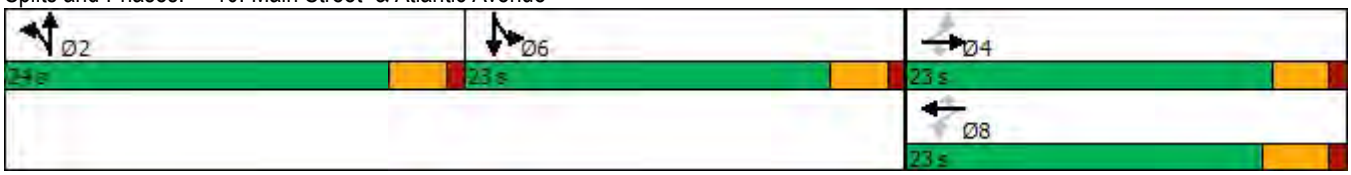
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		19.0	19.0		18.5	18.5	20.0	20.0		17.7	17.7	
Actuated g/C Ratio		0.28	0.28		0.27	0.27	0.29	0.29		0.26	0.26	
v/c Ratio		0.46	0.35		1.15	0.43	0.34	0.38		0.71	0.72	
Control Delay		22.9	5.3		109.4	5.6	22.0	18.5		33.7	28.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		22.9	5.3		109.4	5.6	22.0	18.5		33.7	28.2	
LOS		C	A		F	A	C	B		C	C	
Approach Delay		17.1			82.8			19.6			29.9	
Approach LOS		B			F			B			C	
Queue Length 50th (ft)		81	0		~210	0	61	61		126	132	
Queue Length 95th (ft)		106	32		#262	34	97	84		183	163	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		937	599		666	605	525	1021		453	951	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.46	0.35		1.15	0.43	0.34	0.38		0.66	0.67	

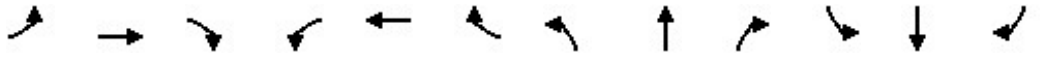
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 68.8			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 42.5		Intersection LOS: D	
Intersection Capacity Utilization 63.5%		ICU Level of Service B	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

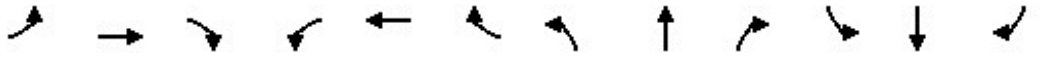
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Main Street & Atlantic Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	391	182	81	359	158	121	645	73	230	1193	367
Future Volume (vph)	221	391	182	81	359	158	121	645	73	230	1193	367
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.954			0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3539	1615	1805	3420	0	1805	3462	0	1805	3505	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3539	1615	1805	3420	0	1805	3462	0	1805	3505	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			198		88			16				155
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	3%	0%	0%	3%	1%
Adj. Flow (vph)	240	425	198	88	390	172	132	701	79	250	1297	399
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	425	198	88	562	0	132	780	0	250	1297	399
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	23.0	23.0	11.0	23.0		13.0	26.0		15.0	28.0	11.0
Total Split (%)	14.7%	30.7%	30.7%	14.7%	30.7%		17.3%	34.7%		20.0%	37.3%	14.7%
Maximum Green (s)	6.0	18.0	18.0	6.0	18.0		8.0	21.0		10.0	23.0	6.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	6.0	17.7	17.7	6.0	15.3		7.8	21.0		10.0	23.2	34.3
Actuated g/C Ratio	0.08	0.24	0.24	0.08	0.21		0.11	0.29		0.14	0.32	0.47
v/c Ratio	0.83	0.49	0.36	0.59	0.71		0.68	0.77		1.00	1.15	0.48
Control Delay	58.6	26.5	6.1	51.2	27.5		51.5	29.6		93.9	105.8	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	58.6	26.5	6.1	51.2	27.5		51.5	29.6		93.9	105.8	10.3
LOS	E	C	A	D	C		D	C		F	F	B
Approach Delay		30.8			30.7			32.8			84.7	
Approach LOS		C			C			C			F	
Queue Length 50th (ft)	56	90	0	39	103		59	166		~118	~378	67
Queue Length 95th (ft)	#119	133	48	#102	155		#139	#241		#263	#518	144
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	290	917	565	149	917		199	1016		249	1125	838
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.83	0.46	0.35	0.59	0.61		0.66	0.77		1.00	1.15	0.48

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 72.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 55.2		Intersection LOS: E	
Intersection Capacity Utilization 77.6%		ICU Level of Service D	
Analysis Period (min) 15			

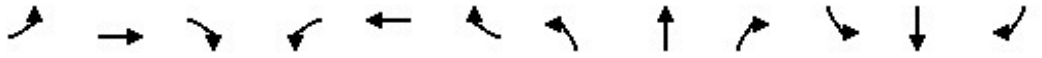
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Webster Street & Atlantic Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1472	383	98	1315	0	0	0	0	899	9
Future Volume (vph)	0	0	1472	383	98	1315	0	0	0	0	899	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.962							
Satd. Flow (prot)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Flt Permitted					0.962							
Satd. Flow (perm)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					66							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1600	416	107	1429	0	0	0	0	977	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	1600	0	523	1429	0	0	0	0	977	10
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			68.0		30.0	68.0					30.0	68.0
Actuated g/C Ratio			1.00		0.44	1.00					0.44	1.00
v/c Ratio			0.57		0.63	0.51					1.19	0.01
Control Delay			0.9		16.9	0.7					119.7	0.0
Queue Delay			0.0		3.4	0.0					0.0	0.0
Total Delay			0.9		20.3	0.7					119.7	0.0
LOS			A		C	A					F	A
Approach Delay		0.9			5.9						118.5	
Approach LOS		A			A						F	
Queue Length 50th (ft)			0		140	0					~504	0
Queue Length 95th (ft)			0		237	0					#716	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		827	2787					821	1583
Starvation Cap Reductn			0		209	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.57		0.85	0.51					1.19	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 68			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.19			
Intersection Signal Delay: 28.6		Intersection LOS: C	
Intersection Capacity Utilization 135.2%		ICU Level of Service H	
Analysis Period (min) 15			

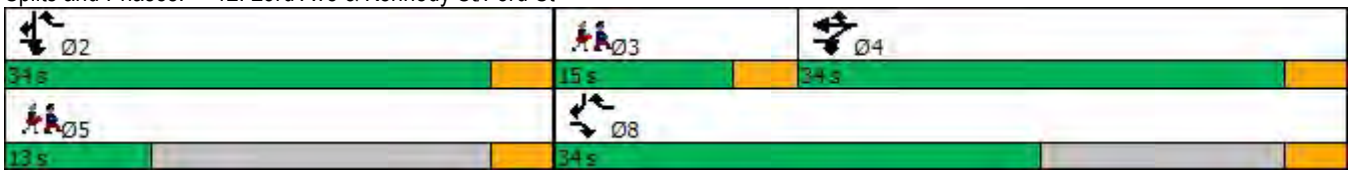
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

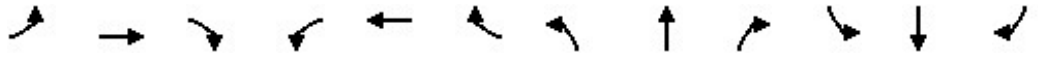
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
! Phase conflict between lane groups.

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	67	12	1327	1016	29	78	0	374
Future Volume (vph)	0	0	0	0	67	12	1327	1016	29	78	0	374
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.980			0.996				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1825	0	3433	1855	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1825	0	3433	1855	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				352
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	73	13	1442	1104	32	85	0	407
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	86	0	1442	1136	0	85	0	407
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

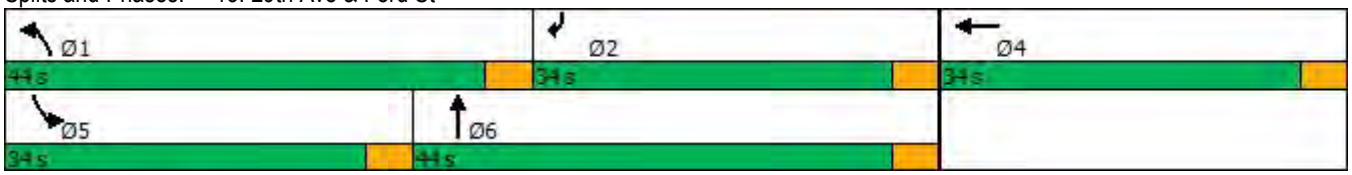


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					9.3		41.4	46.4		7.9		9.4
Actuated g/C Ratio					0.13		0.59	0.66		0.11		0.13
v/c Ratio					0.35		0.71	0.93		0.42		0.79
Control Delay					30.5		16.7	31.9		39.0		18.1
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					30.5		16.7	31.9		39.0		18.1
LOS					C		B	C		D		B
Approach Delay					30.5			23.4			21.7	
Approach LOS					C			C			C	
Queue Length 50th (ft)					30		186	~457		33		21
Queue Length 95th (ft)					77		#596	#1104		94		124
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					812		2026	1225		783		896
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.11		0.71	0.93		0.11		0.45

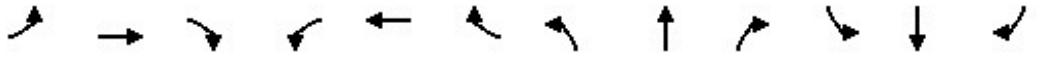
Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 70.2			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 23.3		Intersection LOS: C	
Intersection Capacity Utilization 75.3%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	129	49	62	34	17	251	559	118	18	580	222
Future Volume (vph)	222	129	49	62	34	17	251	559	118	18	580	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.980			0.974			0.958	
Flt Protected		0.973			0.973		0.950			0.950		
Satd. Flow (prot)	0	1783	0	0	1776	0	1770	1814	0	1770	1785	0
Flt Permitted		0.761			0.714		0.080			0.340		
Satd. Flow (perm)	0	1395	0	0	1303	0	149	1814	0	633	1785	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			8			20			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	241	140	53	67	37	18	273	608	128	20	630	241
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	434	0	0	122	0	273	736	0	20	871	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		



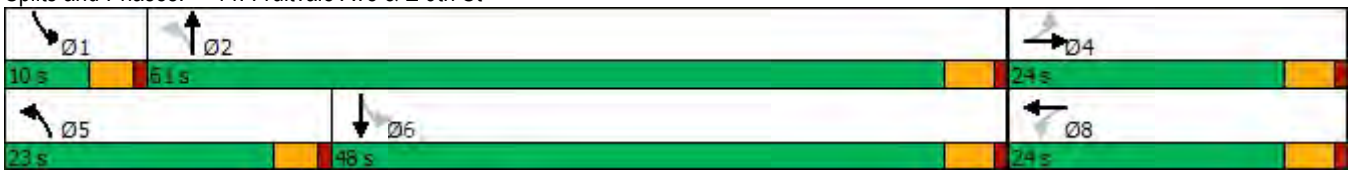
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		19.5			19.5		64.4	60.0		49.8	43.5	
Actuated g/C Ratio		0.21			0.21		0.70	0.65		0.54	0.47	
v/c Ratio		1.45			0.43		0.70	0.62		0.05	1.02	
Control Delay		250.1			35.9		29.5	13.1		6.1	61.6	
Queue Delay		0.0			0.0		8.2	52.4		0.0	0.0	
Total Delay		250.1			35.9		37.7	65.5		6.1	61.6	
LOS		F			D		D	E		A	E	
Approach Delay		250.1			35.9			58.0			60.3	
Approach LOS		F			D			E			E	
Queue Length 50th (ft)		~359			60		98	187		3	~555	
Queue Length 95th (ft)		#554			117		184	402		9	#802	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		299			281		437	1184		416	854	
Starvation Cap Reductn		0			0		125	566		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		1.45			0.43		0.88	1.19		0.05	1.02	

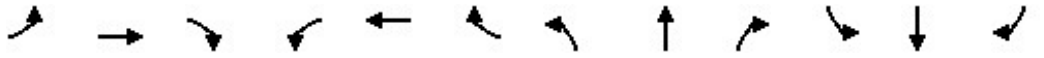
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 92.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.45			
Intersection Signal Delay: 91.7		Intersection LOS: F	
Intersection Capacity Utilization 96.0%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St





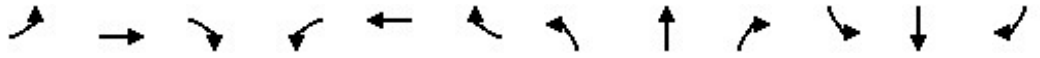
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	103	471	7	0	128	0	624	22	114	579	0
Future Volume (vph)	198	103	471	7	0	128	0	624	22	114	579	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.872			0.995				
Flt Protected		0.968			0.997					0.950		
Satd. Flow (prot)	0	1803	1583	0	1619	0	0	3522	0	1770	1863	0
Flt Permitted		0.740			0.980					0.226		
Satd. Flow (perm)	0	1378	1583	0	1592	0	0	3522	0	421	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			252		139			4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	215	112	512	8	0	139	0	678	24	124	629	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	327	512	0	147	0	0	702	0	124	629	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		24.1	24.1		23.0			21.4		31.4	30.9	
Actuated g/C Ratio		0.38	0.38		0.36			0.33		0.49	0.48	
v/c Ratio		0.63	0.68		0.22			0.59		0.32	0.70	
Control Delay		24.4	14.4		4.9			22.0		12.0	18.4	
Queue Delay		0.0	0.0		0.0			0.0		0.1	0.4	
Total Delay		24.4	14.4		4.9			22.0		12.1	18.8	
LOS		C	B		A			C		B	B	
Approach Delay		18.3			4.9			22.0			17.7	
Approach LOS		B			A			C			B	
Queue Length 50th (ft)		104	78		2			124		24	176	
Queue Length 95th (ft)		230	223		39			219		61	355	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		811	1036		969			1819		674	1521	
Starvation Cap Reductn		0	0		0			0		103	430	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.40	0.49		0.15			0.39		0.22	0.58	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 63.9			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 18.4		Intersection LOS: B	
Intersection Capacity Utilization 78.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	587	452	234	478	686	85	22	650	109
Future Volume (vph)	0	0	0	587	452	234	478	686	85	22	650	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.972			0.984			0.979	
Flt Protected					0.977		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3361	0	1770	3483	0	0	3461	0
Flt Permitted					0.977		0.950				0.911	
Satd. Flow (perm)	0	0	0	0	3361	0	1770	3483	0	0	3157	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					29			25			19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	638	491	254	520	746	92	24	707	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1383	0	520	838	0	0	849	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	



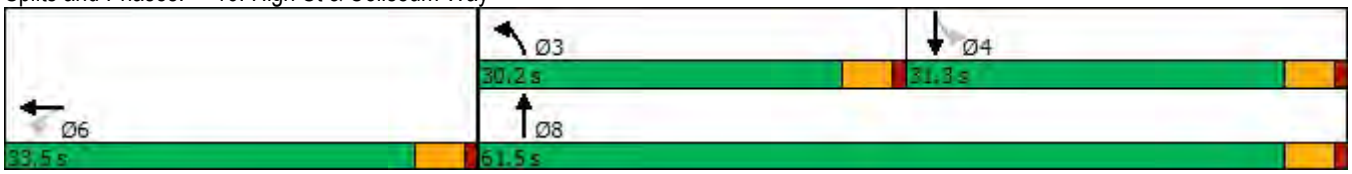
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		30.2	61.5		31.3	31.3	
Total Split (%)				35.3%	35.3%		31.8%	64.7%		32.9%	32.9%	
Maximum Green (s)				29.0	29.0		25.7	57.0		26.8	26.8	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		25.7	57.0			26.8	
Actuated g/C Ratio					0.31		0.27	0.60			0.28	
v/c Ratio					1.32		1.09	0.40			0.94	
Control Delay					181.1		101.7	10.3			51.9	
Queue Delay					0.0		8.2	3.8			0.0	
Total Delay					181.1		109.9	14.2			51.9	
LOS					F		F	B			D	
Approach Delay					181.1			50.8			51.9	
Approach LOS					F			D			D	
Queue Length 50th (ft)					~570		~355	124			257	
Queue Length 95th (ft)					#706		#552	163			#381	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1046		478	2099			904	
Starvation Cap Reductn					0		144	1150			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					1.32		1.56	0.88			0.94	

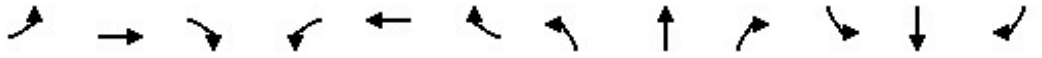
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.32			
Intersection Signal Delay: 101.3		Intersection LOS: F	
Intersection Capacity Utilization 96.9%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

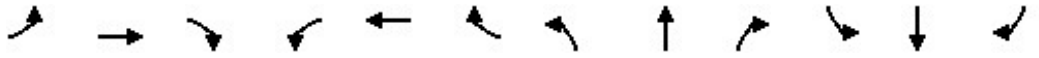
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	464	184	43	0	202	0	908	319	297	906	0
Future Volume (vph)	107	464	184	43	0	202	0	908	319	297	906	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.961				
Flt Protected		0.991		0.950						0.950		
Satd. Flow (prot)	0	3507	1583	1770	0	1583	0	3401	0	1770	3539	0
Flt Permitted		0.991		0.262						0.950		
Satd. Flow (perm)	0	3507	1583	488	0	1583	0	3401	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						220		55				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	116	504	200	47	0	220	0	987	347	323	985	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	620	200	47	0	220	0	1334	0	323	985	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						

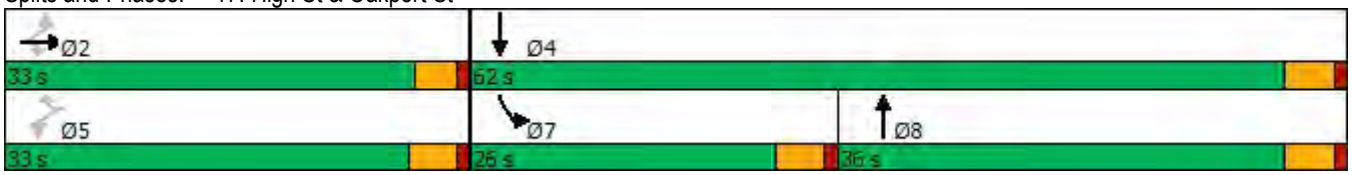


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	33.0	33.0	33.0	33.0		33.0		36.0		26.0	62.0	
Total Split (%)	34.7%	34.7%	34.7%	34.7%		34.7%		37.9%		27.4%	65.3%	
Maximum Green (s)	29.0	29.0	29.0	28.5		28.5		31.5		21.5	57.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		29.0	29.0	28.5		28.5		31.5		21.5	57.5	
Actuated g/C Ratio		0.31	0.31	0.30		0.30		0.33		0.23	0.61	
v/c Ratio		0.58	0.41	0.32		0.35		1.15		0.81	0.46	
Control Delay		30.5	29.5	33.2		5.3		106.1		52.0	11.1	
Queue Delay		0.0	0.0	0.0		0.0		0.0		54.9	9.8	
Total Delay		30.5	29.5	33.2		5.3		106.1		106.9	20.9	
LOS		C	C	C		A		F		F	C	
Approach Delay		30.2			10.2			106.1			42.1	
Approach LOS		C			B			F			D	
Queue Length 50th (ft)		165	95	22		0		~490		185	157	
Queue Length 95th (ft)		222	160	56		51		#626		#322	202	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1070	483	146		628		1164		400	2142	
Starvation Cap Reductn		0	0	0		0		0		108	1127	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.58	0.41	0.32		0.35		1.15		1.11	0.97	

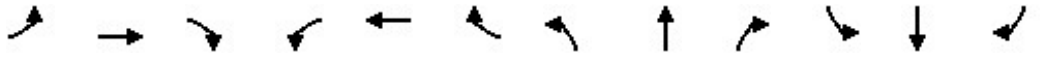
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 60.1		Intersection LOS: E	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	

Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	337	99	25	29	165	262	0	1453	46	15	1230	425
Future Volume (vph)	337	99	25	29	165	262	0	1453	46	15	1230	425
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.970				0.850		0.995			0.962	
Flt Protected	0.950				0.992							
Satd. Flow (prot)	1770	1807	0	0	1848	1583	0	3522	0	0	3405	0
Flt Permitted	0.592				0.944						0.904	
Satd. Flow (perm)	1103	1807	0	0	1758	1583	0	3522	0	0	3078	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		22						8			123	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	366	108	27	32	179	285	0	1579	50	16	1337	462
Shared Lane Traffic (%)												
Lane Group Flow (vph)	366	135	0	0	211	285	0	1629	0	0	1815	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		



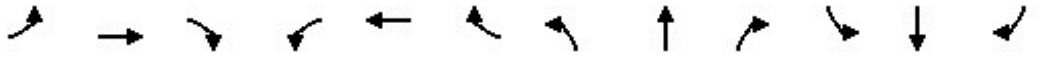
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	18.5	18.5			18.5	18.5		32.5			32.5	
Actuated g/C Ratio	0.31	0.31			0.31	0.31		0.54			0.54	
v/c Ratio	1.08	0.24			0.39	0.58		0.85			1.05	
Control Delay	96.3	14.3			19.0	23.3		17.6			53.2	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	96.3	14.3			19.0	23.3		17.6			53.2	
LOS	F	B			B	C		B			D	
Approach Delay		74.2			21.5			17.6			53.2	
Approach LOS		E			C			B			D	
Queue Length 50th (ft)	~153	30			59	86		236			~379	
Queue Length 95th (ft)	#295	66			110	155		#342			#509	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	340	572			542	488		1911			1723	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	1.08	0.24			0.39	0.58		0.85			1.05	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 39.0		Intersection LOS: D	
Intersection Capacity Utilization 98.7%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Park St & Blanding Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	281	101	130	352	13	41	590	53	61	946	91
Future Volume (vph)	179	281	101	130	352	13	41	590	53	61	946	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.960			0.995			0.988			0.988	
Flt Protected	0.950			0.950				0.997			0.997	
Satd. Flow (prot)	1770	3398	0	1770	3522	0	0	3486	0	0	3486	0
Flt Permitted	0.950			0.950				0.727			0.855	
Satd. Flow (perm)	1770	3398	0	1770	3522	0	0	2542	0	0	2990	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			5			14			15	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	195	305	110	141	383	14	45	641	58	66	1028	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	415	0	141	397	0	0	744	0	0	1193	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		

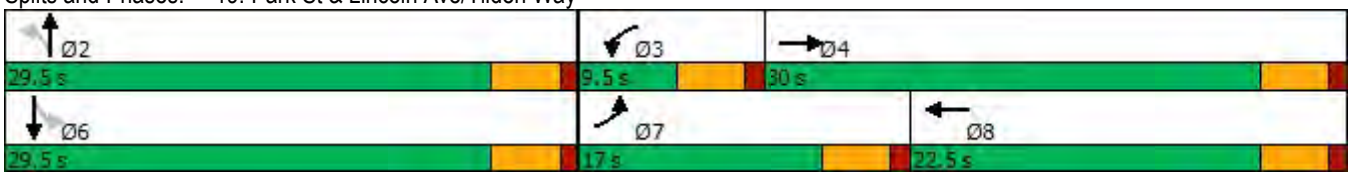


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	10.8	18.2		5.0	12.4			25.2			25.2	
Actuated g/C Ratio	0.17	0.29		0.08	0.20			0.41			0.41	
v/c Ratio	0.63	0.41		0.99	0.56			0.72			0.98	
Control Delay	34.4	16.9		108.3	25.4			21.3			42.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	34.4	16.9		108.3	25.4			21.3			42.2	
LOS	C	B		F	C			C			D	
Approach Delay		22.5			47.1			21.3			42.2	
Approach LOS		C			D			C			D	
Queue Length 50th (ft)	68	58		~55	72			119			227	
Queue Length 95th (ft)	#137	92		#169	111			#213			#418	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	359	1426		143	1033			1040			1223	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.54	0.29		0.99	0.38			0.72			0.98	

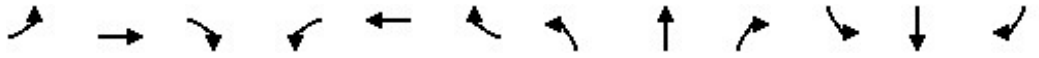
Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 62			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 34.1		Intersection LOS: C	
Intersection Capacity Utilization 85.1%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



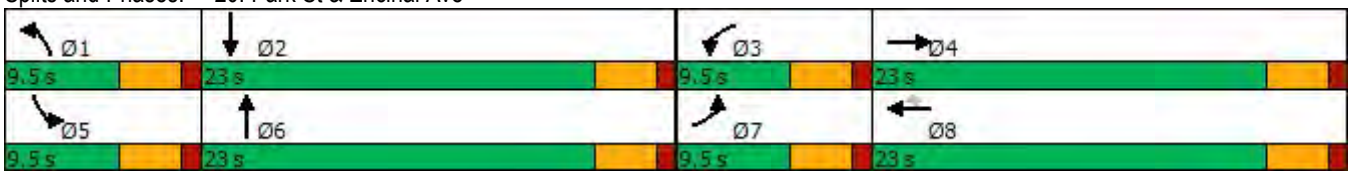
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	606	69	60	386	110	67	336	78	134	415	62
Future Volume (vph)	62	606	69	60	386	110	67	336	78	134	415	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985				0.850		0.972			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				151		44			25	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	67	659	75	65	420	120	73	365	85	146	451	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	734	0	65	420	120	73	450	0	146	518	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



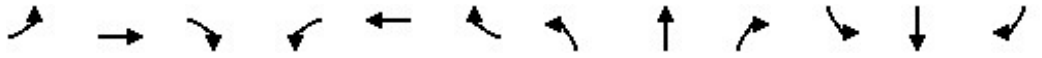
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.6	17.0		5.6	17.0	17.0	5.6	19.3		5.6	23.7	
Actuated g/C Ratio	0.09	0.29		0.09	0.29	0.29	0.09	0.33		0.09	0.40	
v/c Ratio	0.40	0.73		0.39	0.79	0.21	0.44	0.39		0.88	0.37	
Control Delay	35.5	23.8		35.1	32.9	3.4	37.1	16.5		78.5	16.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	35.5	23.8		35.1	32.9	3.4	37.1	16.5		78.5	16.0	
LOS	D	C		D	C	A	D	B		E	B	
Approach Delay		24.8			27.3			19.3			29.7	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	26	132		25	151	0	28	67		59	84	
Queue Length 95th (ft)	#61	188		60	#281	23	#72	105		#161	126	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	166	1148		166	606	617	166	1150		166	1406	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.40	0.64		0.39	0.69	0.19	0.44	0.39		0.88	0.37	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 59.2			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 25.5		Intersection LOS: C	
Intersection Capacity Utilization 57.0%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	214	24	90	235	229	41	555	141	410	897	326
Future Volume (vph)	166	214	24	90	235	229	41	555	141	410	897	326
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.970			0.960	
Flt Protected		0.979			0.986		0.950			0.950		
Satd. Flow (prot)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Flt Permitted		0.979			0.986		0.950			0.950		
Satd. Flow (perm)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			249		32			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	180	233	26	98	255	249	45	603	153	446	975	354
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	413	26	0	353	249	45	756	0	446	1329	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



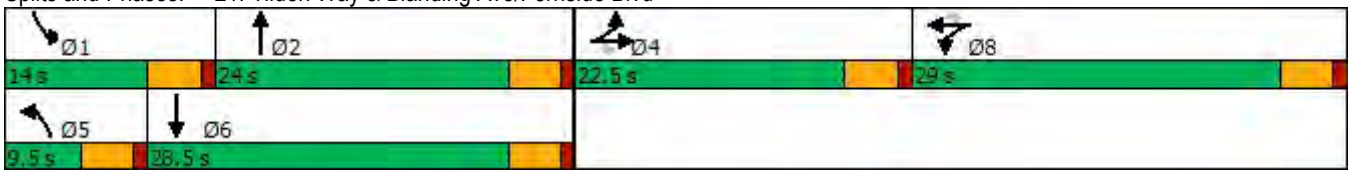
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		18.0	18.0		21.0	21.0	5.0	19.5		9.5	28.1	
Actuated g/C Ratio		0.21	0.21		0.24	0.24	0.06	0.23		0.11	0.33	
v/c Ratio		1.08	0.06		0.79	0.43	0.44	0.94		2.29	1.16	
Control Delay		105.5	0.2		44.1	6.1	54.5	53.5		617.2	111.4	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		105.5	0.2		44.1	6.1	54.5	53.5		617.2	111.4	
LOS		F	A		D	A	D	D		F	F	
Approach Delay		99.3			28.4			53.6			238.5	
Approach LOS		F			C			D			F	
Queue Length 50th (ft)		~268	0		179	0	25	213		~413	~516	
Queue Length 95th (ft)		#451	0		277	55	#65	#340		#600	#658	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		381	432		523	629	102	804		195	1145	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		1.08	0.06		0.67	0.40	0.44	0.94		2.29	1.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 86.1			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 2.29			
Intersection Signal Delay: 145.7		Intersection LOS: F	
Intersection Capacity Utilization 95.3%		ICU Level of Service F	
Analysis Period (min) 15			

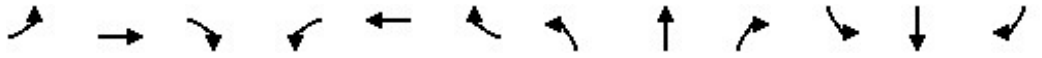
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



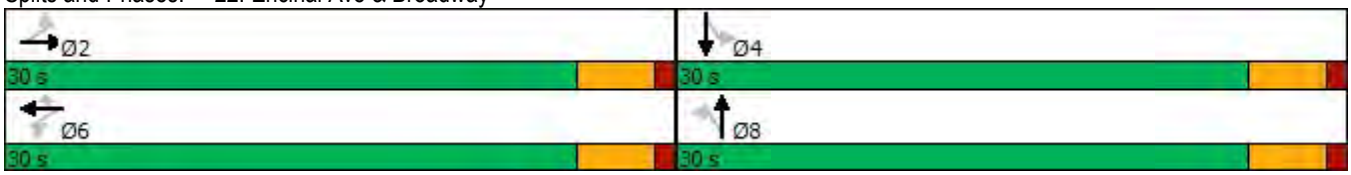
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	450	141	35	312	37	104	393	27	69	467	52
Future Volume (vph)	69	450	141	35	312	37	104	393	27	69	467	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968				0.850		0.990			0.985	
Flt Protected		0.995			0.995		0.950			0.950		
Satd. Flow (prot)	0	3409	0	0	1853	1636	1770	1844	0	1770	1835	0
Flt Permitted		0.824			0.886		0.310			0.406		
Satd. Flow (perm)	0	2823	0	0	1650	1636	577	1844	0	756	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71				40		7			12	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	489	153	38	339	40	113	427	29	75	508	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	717	0	0	377	40	113	456	0	75	565	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



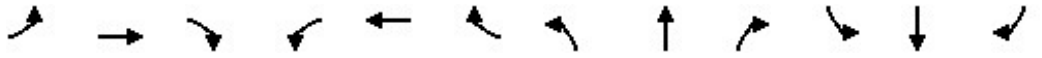
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		18.5			18.5	18.5	25.7	25.7		25.7	25.7	
Actuated g/C Ratio		0.35			0.35	0.35	0.48	0.48		0.48	0.48	
v/c Ratio		0.70			0.66	0.07	0.41	0.51		0.21	0.63	
Control Delay		17.2			20.5	4.5	16.5	13.1		11.6	15.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		17.2			20.5	4.5	16.5	13.1		11.6	15.5	
LOS		B			C	A	B	B		B	B	
Approach Delay		17.2			19.0			13.8			15.0	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		88			97	0	21	91		13	121	
Queue Length 95th (ft)		136			169	14	72	199		42	264	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1399			796	810	278	893		364	891	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.51			0.47	0.05	0.41	0.51		0.21	0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 53.2			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	1049	17	157	869	357	7	98	175	381	115	165
Future Volume (vph)	165	1049	17	157	869	357	7	98	175	381	115	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.916				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3532	0	1770	1863	1583	0	1705	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.994		0.440		
Satd. Flow (perm)	1770	3532	0	1770	1863	1583	0	1696	0	820	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				370		109				179
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			1523			502			2170	
Travel Time (s)		9.3			41.5			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	1140	18	171	945	388	8	107	190	414	125	179
Shared Lane Traffic (%)												
Lane Group Flow (vph)	179	1158	0	171	945	388	0	305	0	414	125	179
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



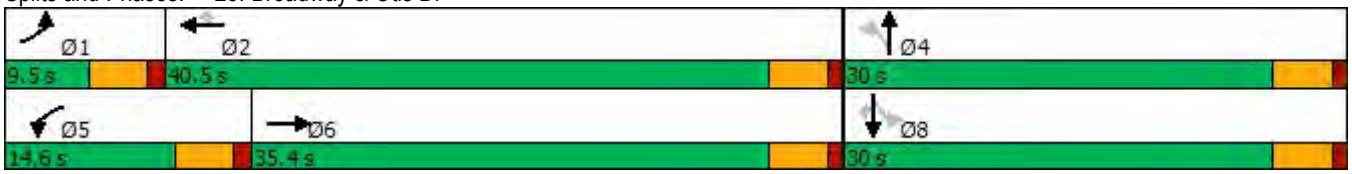
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	31.2		9.8	36.0	36.0		25.5		25.5	25.5	25.5
Actuated g/C Ratio	0.06	0.39		0.12	0.45	0.45		0.32		0.32	0.32	0.32
v/c Ratio	1.63	0.84		0.79	1.13	0.42		0.50		1.59	0.21	0.29
Control Delay	348.8	29.3		60.4	96.5	3.5		17.1		306.2	21.1	4.8
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	348.8	29.3		60.4	96.5	3.5		17.1		306.2	21.1	4.8
LOS	F	C		E	F	A		B		F	C	A
Approach Delay		72.1			68.4			17.1			181.4	
Approach LOS		E			E			B			F	
Queue Length 50th (ft)	~131	271		84	~555	5		75		~299	45	0
Queue Length 95th (ft)	#252	#364		#182	#778	52		149		#469	85	42
Internal Link Dist (ft)		261			1443			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	110	1376		223	838	915		614		261	593	626
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	1.63	0.84		0.77	1.13	0.42		0.50		1.59	0.21	0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.63			
Intersection Signal Delay: 86.6		Intersection LOS: F	
Intersection Capacity Utilization 107.3%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

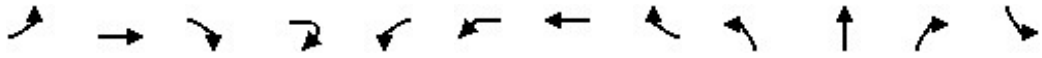
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	107	368	81	4	6	3	219	172	47	310	4	197
Future Volume (vph)	107	368	81	4	6	3	219	172	47	310	4	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.998			0.994		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1859	1583	0	1850	0	1770
Flt Permitted	0.464						0.980			0.879		0.950
Satd. Flow (perm)	864	1863	1583	0	0	0	1825	1583	0	1636	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								187				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	116	400	88	4	7	3	238	187	51	337	4	214
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	400	92	0	0	0	248	187	0	392	0	214
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

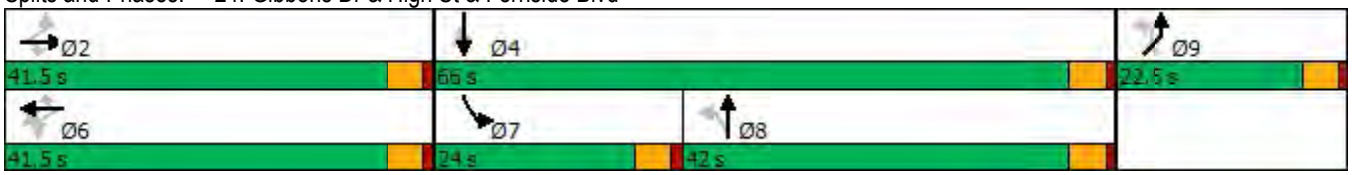
Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations							
Traffic Volume (vph)	461	90	139	2	95	8	4
Future Volume (vph)	461	90	139	2	95	8	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0			0	50	
Storage Lanes		1			1	1	
Taper Length (ft)					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.988		0.850
Flt Protected					0.956		
Satd. Flow (prot)	1863	1583	0	0	1759	0	1583
Flt Permitted					0.993		
Satd. Flow (perm)	1863	1583	0	0	1828	0	1583
Right Turn on Red			No				Yes
Satd. Flow (RTOR)							88
Link Speed (mph)	25				25		
Link Distance (ft)	1133				459		
Travel Time (s)	30.9				12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	501	98	151	2	103	9	4
Shared Lane Traffic (%)							
Lane Group Flow (vph)	501	249	0	0	114	0	4
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Right
Median Width(ft)	12				12		
Link Offset(ft)	0				0		
Crosswalk Width(ft)	16				16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	15	9	9
Number of Detectors	2	1		1	1		1
Detector Template	Thru	Right		Left	Left		Right
Leading Detector (ft)	100	20		20	20		20
Trailing Detector (ft)	0	0		0	0		0
Detector 1 Position(ft)	0	0		0	0		0
Detector 1 Size(ft)	6	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm		Perm	Prot		Perm
Protected Phases	4				9		
Permitted Phases		4		9			9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	41.5	41.5	41.5		41.5	41.5	41.5	41.5	42.0	42.0		24.0
Total Split (%)	31.9%	31.9%	31.9%		31.9%	31.9%	31.9%	31.9%	32.3%	32.3%		18.5%
Maximum Green (s)	37.0	37.0	37.0		37.0	37.0	37.0	37.0	37.5	37.5		19.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.2	37.2	37.2				37.2	37.2		32.3		19.6
Actuated g/C Ratio	0.31	0.31	0.31				0.31	0.31		0.27		0.16
v/c Ratio	0.43	0.69	0.19				0.44	0.30		0.89		0.74
Control Delay	41.8	45.5	34.1				37.8	6.2		65.7		65.8
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	41.8	45.5	34.1				37.8	6.2		65.7		65.8
LOS	D	D	C				D	A		E		E
Approach Delay		43.0					24.2			65.7		
Approach LOS		D					C			E		
Queue Length 50th (ft)	74	282	54				159	0		292		165
Queue Length 95th (ft)	145	431	106				258	56		#475		#305
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	268	578	490				566	620		514		289
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.43	0.69	0.19				0.44	0.30		0.76		0.74

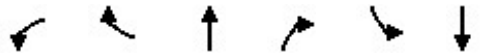
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 120			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 40.7		Intersection LOS: D	
Intersection Capacity Utilization 99.4%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd

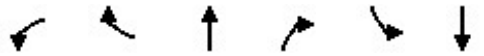


Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Detector Phase	4	4		9	9		9
Switch Phase							
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5
Total Split (s)	66.0	66.0		22.5	22.5		22.5
Total Split (%)	50.8%	50.8%		17.3%	17.3%		17.3%
Maximum Green (s)	61.5	61.5		18.0	18.0		18.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0
Total Lost Time (s)	4.5	4.5			4.5		4.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0
Act Effct Green (s)	56.4	56.4			12.7		12.7
Actuated g/C Ratio	0.47	0.47			0.11		0.11
v/c Ratio	0.57	0.33			0.59		0.02
Control Delay	26.4	21.8			64.7		0.0
Queue Delay	0.0	0.0			0.0		0.0
Total Delay	26.4	21.8			64.7		0.0
LOS	C	C			E		A
Approach Delay	33.9				62.5		
Approach LOS	C				E		
Queue Length 50th (ft)	274	118			88		0
Queue Length 95th (ft)	409	193			152		0
Internal Link Dist (ft)	1053				379		
Turn Bay Length (ft)							50
Base Capacity (vph)	961	816			275		313
Starvation Cap Reductn	0	0			0		0
Spillback Cap Reductn	0	0			0		0
Storage Cap Reductn	0	0			0		0
Reduced v/c Ratio	0.52	0.31			0.41		0.01

Intersection Summary



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	842	17	1183	843	65	1444
Future Volume (vph)	842	17	1183	843	65	1444
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.997			0.850		
Flt Protected	0.953				0.950	
Satd. Flow (prot)	3434	0	3539	1583	1770	3539
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	3434	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	2			273		
Link Speed (mph)	25		35			35
Link Distance (ft)	444		1406			1506
Travel Time (s)	12.1		27.4			29.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	915	18	1286	916	71	1570
Shared Lane Traffic (%)						
Lane Group Flow (vph)	933	0	1286	916	71	1570
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		

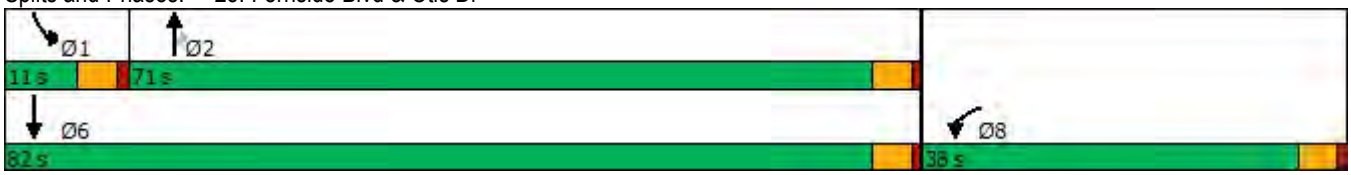


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	38.0		71.0	71.0	11.0	82.0
Total Split (%)	31.7%		59.2%	59.2%	9.2%	68.3%
Maximum Green (s)	33.5		66.5	66.5	6.5	77.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	33.5		66.5	66.5	6.5	77.5
Actuated g/C Ratio	0.28		0.55	0.55	0.05	0.65
v/c Ratio	0.97		0.66	0.92	0.75	0.69
Control Delay	66.0		20.8	32.2	97.7	15.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	66.0		20.8	32.2	97.7	15.5
LOS	E		C	C	F	B
Approach Delay	66.0		25.5			19.1
Approach LOS	E		C			B
Queue Length 50th (ft)	368		351	477	55	376
Queue Length 95th (ft)	#505		425	#820	#136	454
Internal Link Dist (ft)	364		1326			1426
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	960		1961	998	95	2285
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.97		0.66	0.92	0.75	0.69

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 31.2		Intersection LOS: C	
Intersection Capacity Utilization 72.7%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Fernside Blvd & Otis Dr

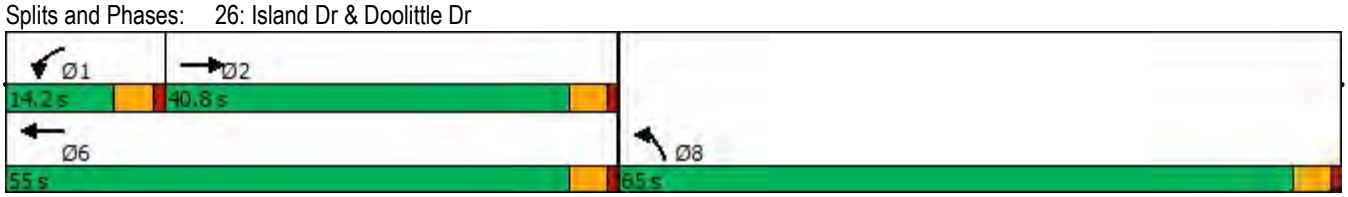


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	875	1363	141	1026	982	97
Future Volume (vph)	875	1363	141	1026	982	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		355				63
Link Speed (mph)	25			25	25	
Link Distance (ft)	1406			365	455	
Travel Time (s)	38.3			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	951	1482	153	1115	1067	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	951	1482	153	1115	1067	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.5	95.1	9.7	50.7	35.3	95.1
Actuated g/C Ratio	0.38	1.00	0.10	0.53	0.37	1.00
v/c Ratio	0.70	0.94	0.85	0.59	0.84	0.07
Control Delay	29.2	13.5	81.3	17.8	33.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	13.5	81.3	17.8	33.8	0.1
LOS	C	B	F	B	C	A
Approach Delay	19.7			25.5	30.7	
Approach LOS	B			C	C	
Queue Length 50th (ft)	250	0	92	228	296	0
Queue Length 95th (ft)	380	#119	#231	365	373	0
Internal Link Dist (ft)	1326			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1357	1583	181	1888	2194	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.94	0.85	0.59	0.49	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 95.1			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 23.8		Intersection LOS: C	
Intersection Capacity Utilization 71.3%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 26: Island Dr & Doolittle Dr



2040 No Action Condition

Saturday Peak Hour

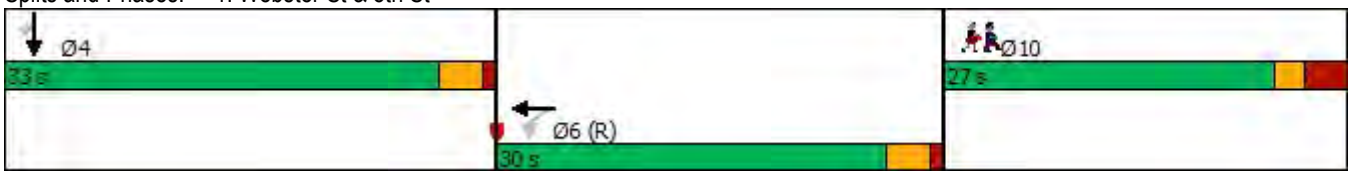
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	401	483	0	0	0	0	0	699	394
Future Volume (vph)	0	0	0	401	483	0	0	0	0	0	699	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.974	0.850
Flt Protected				0.950	0.986							
Satd. Flow (prot)	0	0	0	1358	4534	0	0	0	0	0	4278	1191
Flt Permitted				0.950	0.986							
Satd. Flow (perm)	0	0	0	1358	4534	0	0	0	0	0	4278	1191
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				228	108						48	261
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	8%	2%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	422	508	0	0	0	0	0	736	415
Shared Lane Traffic (%)				46%								37%
Lane Group Flow (vph)	0	0	0	228	702	0	0	0	0	0	890	261
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				35.0	35.0						27.8	27.8
Actuated g/C Ratio				0.39	0.39						0.31	0.31
v/c Ratio				0.34	0.38						0.66	0.48
Control Delay				5.2	19.8						27.5	6.0
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				5.2	19.8						27.5	6.0
LOS				A	B						C	A
Approach Delay					16.2						22.6	
Approach LOS					B						C	
Queue Length 50th (ft)				0	102						155	0
Queue Length 95th (ft)				61	147						192	59
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				667	1831						1469	573
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.34	0.38						0.61	0.46

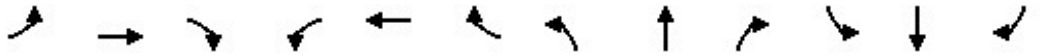
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 19.8		Intersection LOS: B	
Intersection Capacity Utilization 36.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St

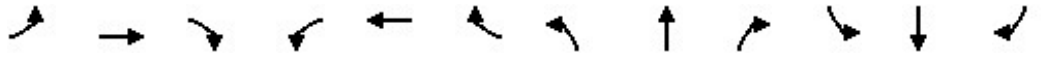


Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



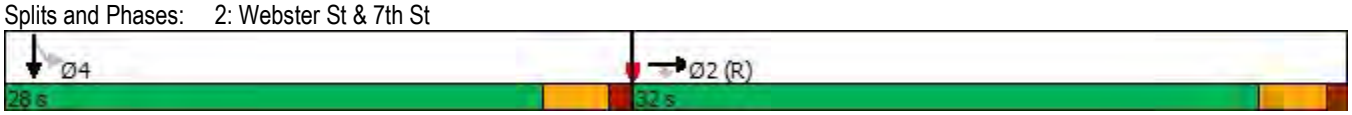
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	766	431	0	0	0	0	0	0	232	753	0
Future Volume (vph)	0	766	431	0	0	0	0	0	0	232	753	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.974	0.850									
Flt Protected											0.988	
Satd. Flow (prot)	0	4404	1348	0	0	0	0	0	0	0	4832	0
Flt Permitted											0.988	
Satd. Flow (perm)	0	4404	1348	0	0	0	0	0	0	0	4832	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		69	69								100	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			387			184			292	
Travel Time (s)		9.3			10.6			5.0			8.0	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	3%	3%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	842	474	0	0	0	0	0	0	255	827	0
Shared Lane Traffic (%)			37%									
Lane Group Flow (vph)	0	1017	299	0	0	0	0	0	0	0	1082	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		32.0	32.0							28.0	28.0	
Total Split (s)		32.0	32.0							28.0	28.0	
Total Split (%)		53.3%	53.3%							46.7%	46.7%	

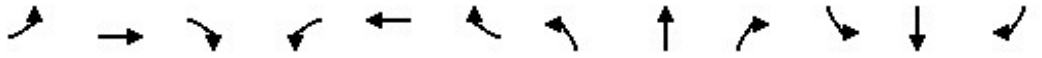


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		28.0	28.0							24.0	24.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		18.0	18.0							12.0	12.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		30.6	30.6								21.4	
Actuated g/C Ratio		0.51	0.51								0.36	
v/c Ratio		0.45	0.41								0.61	
Control Delay		9.9	9.8								15.5	
Queue Delay		0.0	0.0								0.3	
Total Delay		9.9	9.8								15.8	
LOS		A	A								B	
Approach Delay		9.9									15.8	
Approach LOS		A									B	
Queue Length 50th (ft)		81	55								98	
Queue Length 95th (ft)		118	123								130	
Internal Link Dist (ft)		260			307			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2280	721								1992	
Starvation Cap Reductn		0	0								324	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.45	0.41								0.65	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 43.9%		ICU Level of Service A	
Analysis Period (min) 15			

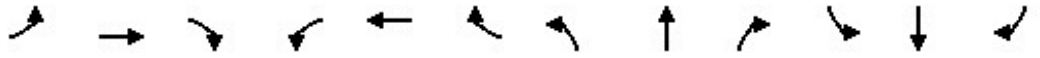
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	353	629	0	0	0	0	0	693	1729	0	0	0
Future Volume (vph)	353	629	0	0	0	0	0	693	1729	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.982										
Satd. Flow (prot)	0	4656	0	0	0	0	0	5136	2718	0	0	0
Flt Permitted		0.982										
Satd. Flow (perm)	0	4656	0	0	0	0	0	5136	2718	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		134							99			
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		387			379			445			307	
Travel Time (s)		10.6			10.3			10.1			7.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	5%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	397	707	0	0	0	0	0	779	1943	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1104	0	0	0	0	0	779	1943	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								35.0				
Total Split (%)								58.3%				
Maximum Green (s)								29.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		19.4						29.4	36.1			
Actuated g/C Ratio		0.32						0.49	0.60			
v/c Ratio		0.69						0.31	1.16			
Control Delay		11.9						9.6	96.2			
Queue Delay		0.0						0.0	0.0			
Total Delay		11.9						9.6	96.2			
LOS		B						A	F			
Approach Delay		11.9						71.4				
Approach LOS		B						E				
Queue Length 50th (ft)		58						57	~508			
Queue Length 95th (ft)		74						78	#643			
Internal Link Dist (ft)		307			299			365			227	
Turn Bay Length (ft)												
Base Capacity (vph)		1596						2516	1673			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.69						0.31	1.16			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 51 (85%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 54.2		Intersection LOS: D	
Intersection Capacity Utilization 89.4%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
~ Volume exceeds capacity, queue is theoretically infinite.			

Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	4.6
Total Split (s)	25.0	19.0	6.0
Total Split (%)	42%	32%	10%
Maximum Green (s)	19.4	13.4	2.4
Yellow Time (s)	3.6	3.6	3.6
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	Max
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

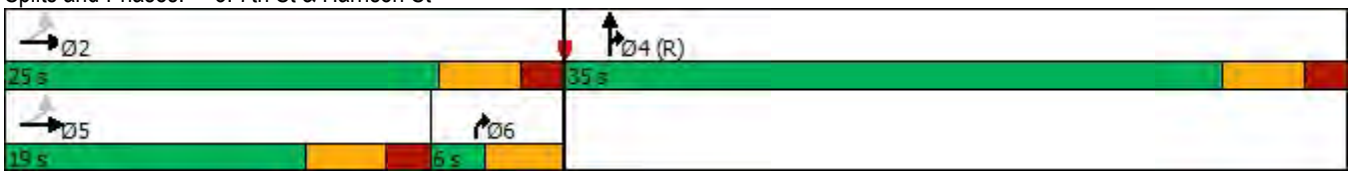
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 3: 7th St & Harrison St

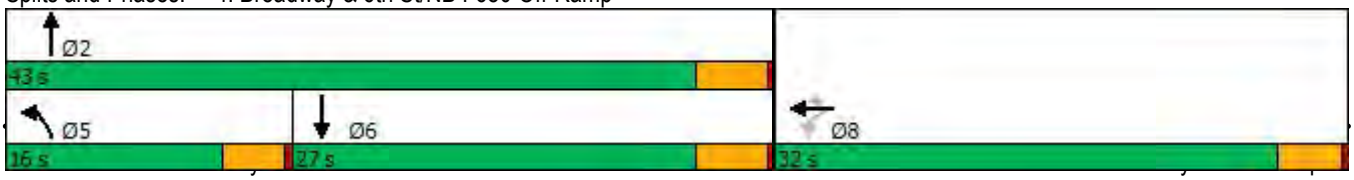


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	267	148	558	49	197	0	0	396	133
Future Volume (vph)	0	0	0	267	148	558	49	197	0	0	396	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.962	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1752	3252	1583	1687	3610	0	0	4916	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1752	3252	1583	1687	3610	0	0	4916	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						607					116	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			328			469	
Travel Time (s)		11.3			8.0			8.9			12.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	11%	2%	7%	0%	0%	0%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	14
Adj. Flow (vph)	0	0	0	290	161	607	53	214	0	0	430	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	290	161	607	53	214	0	0	575	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.0	31.0	31.0	9.5	23.5			23.5	
Total Split (s)				32.0	32.0	32.0	16.0	43.0			27.0	
Total Split (%)				42.7%	42.7%	42.7%	21.3%	57.3%			36.0%	
Maximum Green (s)				28.0	28.0	28.0	12.0	38.5			22.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	None			None	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				15.2	15.2	15.2	6.9	13.1			9.9	
Actuated g/C Ratio				0.40	0.40	0.40	0.18	0.34			0.26	
v/c Ratio				0.42	0.12	0.61	0.18	0.17			0.43	
Control Delay				11.8	9.0	4.3	21.1	9.4			12.4	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				11.8	9.0	4.3	21.1	9.4			12.4	
LOS				B	A	A	C	A			B	
Approach Delay					7.1			11.7			12.4	
Approach LOS					A			B			B	
Queue Length 50th (ft)				30	7	0	8	14			22	
Queue Length 95th (ft)				128	34	52	47	42			83	
Internal Link Dist (ft)		335			213			248			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				1348	2502	1358	624	3162			3382	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.22	0.06	0.45	0.08	0.07			0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 38.4			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 47.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp



Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	55	573	123	53	97	89	252	323	139	224
Future Volume (vph)	55	573	123	53	97	89	252	323	139	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.997	0.850	0.850	0.883					
Flt Protected		0.996						0.950	0.950	
Satd. Flow (prot)	0	3018	1441	1429	4560	0	0	1787	1787	1863
Flt Permitted		0.996						0.950	0.950	
Satd. Flow (perm)	0	3018	1441	1429	4560	0	0	1787	1787	1863
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				73	268					
Link Speed (mph)		25			25					25
Link Distance (ft)		582			693					328
Travel Time (s)		15.9			18.9					8.9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	2%	13%	2%	0%	0%	1%	1%	2%
Adj. Flow (vph)	59	610	131	56	103	95	268	344	148	238
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	682	118	56	466	0	0	344	148	238
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	30.5	30.5	30.5	30.5	23.5			9.5	9.5	22.5
Total Split (s)	30.5	30.5	30.5	30.5	23.5			21.0	21.0	44.5
Total Split (%)	40.7%	40.7%	40.7%	40.7%	31.3%			28.0%	28.0%	59.3%
Maximum Green (s)	27.0	27.0	27.0	27.0	19.0			17.5	17.5	41.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0			3.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		3.5	3.5	3.5	4.5			3.5	3.5	3.5
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	None			None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	12.0					12.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		18.9	18.9	18.9	8.2			15.2	15.2	28.1
Actuated g/C Ratio		0.35	0.35	0.35	0.15			0.28	0.28	0.52
v/c Ratio		0.65	0.24	0.10	0.51			0.69	0.30	0.25
Control Delay		18.6	14.8	3.3	12.1			28.5	19.7	9.1
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Delay		18.6	14.8	3.3	12.1			28.5	19.7	9.1
LOS		B	B	A	B			C	B	A
Approach Delay		17.1			12.1					20.4
Approach LOS		B			B					C
Queue Length 50th (ft)		115	29	0	21			96	36	39
Queue Length 95th (ft)		197	71	15	53			#254	97	93
Internal Link Dist (ft)		502			613					248
Turn Bay Length (ft)										
Base Capacity (vph)		1572	750	779	1841			603	603	1435
Starvation Cap Reductn		0	0	0	0			0	0	0
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.43	0.16	0.07	0.25			0.57	0.25	0.17

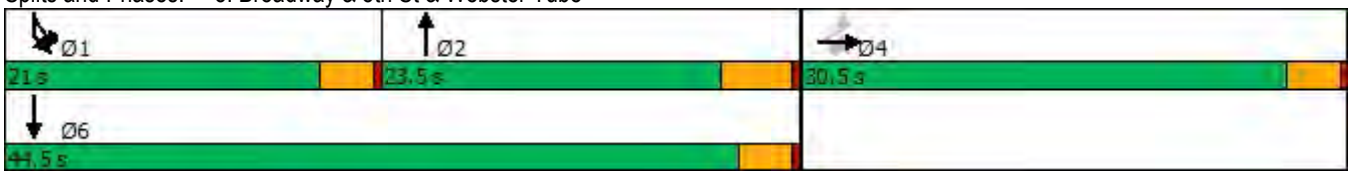
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 54.3			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 56.6%		ICU Level of Service B	
Analysis Period (min) 15			

* User Entered Value

\# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Broadway & 5th St & Webster Tube

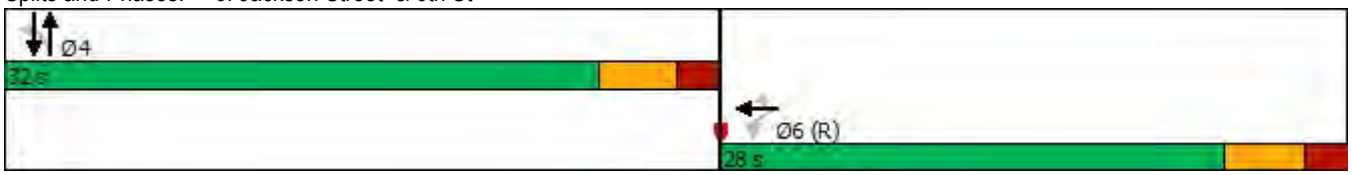


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	8	328	47	240	250	0	0	251	1353
Future Volume (vph)	0	0	0	8	328	47	240	250	0	0	251	1353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.955	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1759	1615	1805	1900	0	0	1713	1583
Flt Permitted				0.950			0.448					
Satd. Flow (perm)	0	0	0	1805	1759	1615	851	1900	0	0	1713	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						49					46	434
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	0%	2%
Adj. Flow (vph)	0	0	0	8	345	49	253	263	0	0	264	1424
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	8	345	49	253	263	0	0	378	1310
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.01	0.52	0.08	0.67	0.31			0.48	0.83
Control Delay				11.9	18.1	4.7	21.3	10.1			12.9	5.9
Queue Delay				0.0	0.0	0.0	0.0	0.4			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				11.9	18.1	4.7	21.3	10.5			12.9	5.9
LOS				B	B	A	C	B			B	A
Approach Delay					16.4			15.8			7.5	
Approach LOS					B			B			A	
Queue Length 50th (ft)				2	94	0	59	56			83	0
Queue Length 95th (ft)				9	164	17	#180	94			151	#9
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	659	636	375	839			782	1583
Starvation Cap Reductn				0	0	0	0	232			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.01	0.52	0.08	0.67	0.43			0.48	0.83

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Jackson Street & 6th St

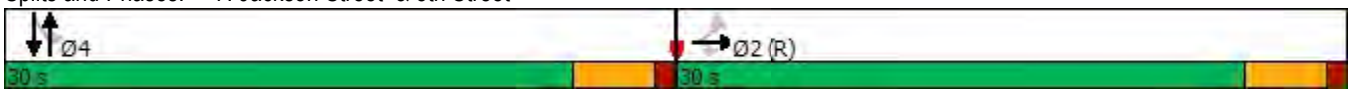


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	349	269	359	0	0	0	0	348	61	196	138	0
Future Volume (vph)	349	269	359	0	0	0	0	348	61	196	138	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.980				
Flt Protected		0.973									0.971	
Satd. Flow (prot)	0	3482	1615	0	0	0	0	1862	0	0	1614	0
Flt Permitted		0.973									0.439	
Satd. Flow (perm)	0	3482	1615	0	0	0	0	1862	0	0	730	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			345					18				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	375	289	386	0	0	0	0	374	66	211	148	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	664	386	0	0	0	0	440	0	0	359	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					25.6		25.6	25.6	
Total Split (s)	30.0	30.0	30.0					30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%					50.0%		50.0%	50.0%	
Maximum Green (s)	25.4	25.4	25.4					25.4		25.4	25.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		25.4	25.4					25.4			25.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.42	0.42					0.42			0.42	
v/c Ratio		0.45	0.44					0.55			1.16	
Control Delay		13.6	4.0					15.7			128.8	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		13.6	4.0					15.7			128.8	
LOS		B	A					B			F	
Approach Delay		10.0						15.7			128.8	
Approach LOS		B						B			F	
Queue Length 50th (ft)		85	8					109			~168	
Queue Length 95th (ft)		125	53					185			#317	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1474	882					798			309	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.45	0.44					0.55			1.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 51 (85%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 34.4		Intersection LOS: C	
Intersection Capacity Utilization 71.0%		ICU Level of Service C	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Jackson Street & 5th Street

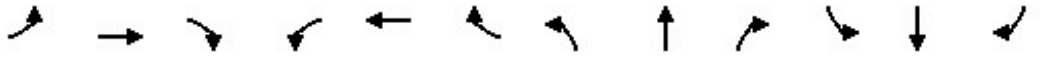


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	222	91	43	1161	945	298
Future Volume (vph)	222	91	43	1161	945	298
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3505	4988	2842
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3505	4988	2842
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	3%	4%	0%
Adj. Flow (vph)	234	96	45	1222	995	314
Shared Lane Traffic (%)						
Lane Group Flow (vph)	234	96	45	1222	995	314
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	23.0	23.0	11.0	37.0	26.0	
Total Split (%)	38.3%	38.3%	18.3%	61.7%	43.3%	
Maximum Green (s)	18.5	18.5	6.5	32.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	9.5	9.5	6.3	35.3	30.9	47.6
Actuated g/C Ratio	0.18	0.18	0.12	0.65	0.57	0.88
v/c Ratio	0.38	0.34	0.22	0.53	0.35	0.12
Control Delay	20.4	21.2	23.7	6.4	8.3	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.4	21.2	23.7	6.4	8.3	1.6
LOS	C	C	C	A	A	A
Approach Delay	20.6			7.0	6.7	
Approach LOS	C			A	A	
Queue Length 50th (ft)	31	25	12	79	36	0
Queue Length 95th (ft)	56	58	38	160	119	22
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1211	558	219	2295	2856	2652
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.17	0.21	0.53	0.35	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 53.9			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 8.4		Intersection LOS: A	
Intersection Capacity Utilization 45.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Webster Street & Willie Stargell Ave



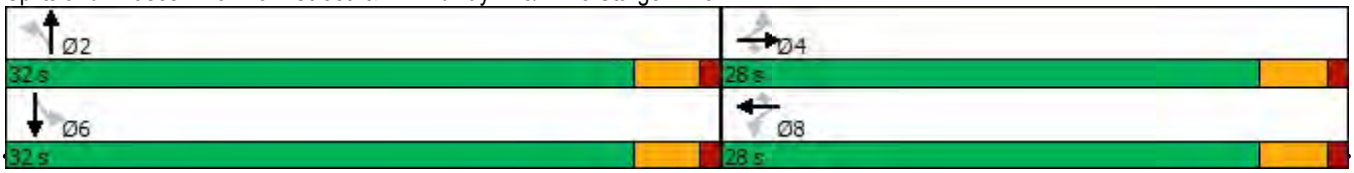
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	118	103	19	152	156	90	344	17	118	355	6
Future Volume (vph)	11	118	103	19	152	156	90	344	17	118	355	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.994			0.998	
Flt Protected		0.996			0.994			0.990			0.988	
Satd. Flow (prot)	0	1892	1442	0	1889	1524	0	3447	0	0	3560	0
Flt Permitted		0.964			0.954			0.766			0.731	
Satd. Flow (perm)	0	1832	1442	0	1813	1524	0	2667	0	0	2634	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129			195		9			3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	12%	0%	0%	6%	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	14	148	129	24	190	195	113	430	21	148	444	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	162	129	0	214	195	0	564	0	0	600	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	28.0	28.0	28.0	28.0	28.0	28.0	32.0	32.0		32.0	32.0	
Total Split (%)	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%	53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	28.0	28.0		28.0	28.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		11.1	11.1		11.1	11.1		28.4			28.4	
Actuated g/C Ratio		0.23	0.23		0.23	0.23		0.60			0.60	
v/c Ratio		0.38	0.30		0.50	0.39		0.35			0.38	
Control Delay		17.5	5.4		19.8	5.3		6.3			6.6	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		17.5	5.4		19.8	5.3		6.3			6.6	
LOS		B	A		B	A		A			A	
Approach Delay		12.1			12.9			6.3			6.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		37	0		51	0		32			35	
Queue Length 95th (ft)		65	22		84	26		65			71	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		928	794		919	868		1595			1573	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.17	0.16		0.23	0.22		0.35			0.38	

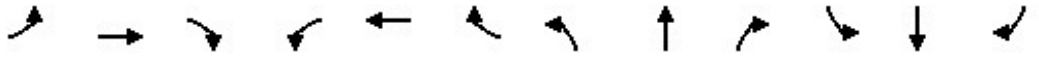
Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 47.5
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 8.7 Intersection LOS: A
Intersection Capacity Utilization 51.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	871	235	38	604	363	213	298	144	429	266	22
Future Volume (vph)	6	871	235	38	604	363	213	298	144	429	266	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.951			0.993	
Flt Protected					0.997		0.950			0.950	0.980	
Satd. Flow (prot)	0	3610	1553	0	3571	1568	1805	3343	0	1610	3302	0
Flt Permitted		0.948			0.552		0.950			0.950	0.980	
Satd. Flow (perm)	0	3422	1553	0	1977	1568	1805	3343	0	1610	3302	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			294			454		42			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	4%	13%	0%	3%	0%	4%	0%	2%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	8	1089	294	48	755	454	266	373	180	536	333	28
Shared Lane Traffic (%)										45%		
Lane Group Flow (vph)	0	1097	294	0	803	454	266	553	0	295	602	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	



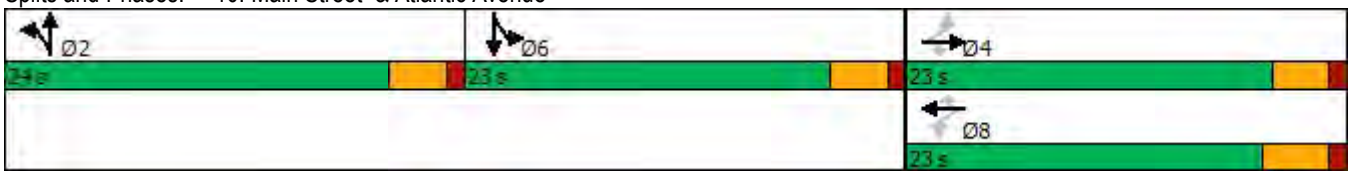
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		19.0	19.0		18.5	18.5	20.0	20.0		17.6	17.6	
Actuated g/C Ratio		0.28	0.28		0.27	0.27	0.29	0.29		0.26	0.26	
v/c Ratio		1.16	0.46		1.51	0.60	0.51	0.55		0.71	0.71	
Control Delay		109.7	5.5		262.4	6.3	24.7	21.7		34.2	28.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		109.7	5.5		262.4	6.3	24.7	21.7		34.2	28.0	
LOS		F	A		F	A	C	C		C	C	
Approach Delay		87.7			169.9			22.6			30.0	
Approach LOS		F			F			C			C	
Queue Length 50th (ft)		~305	0		~261	0	95	97		124	124	
Queue Length 95th (ft)		#350	35		#313	37	140	123		181	154	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		947	642		533	754	526	1004		446	920	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		1.16	0.46		1.51	0.60	0.51	0.55		0.66	0.65	

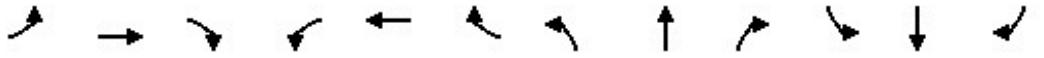
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 68.7			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.51			
Intersection Signal Delay: 87.3		Intersection LOS: F	
Intersection Capacity Utilization 82.2%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

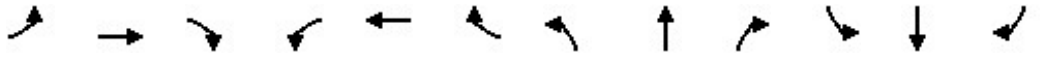
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Main Street & Atlantic Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	284	182	72	222	163	100	815	60	209	869	292
Future Volume (vph)	376	284	182	72	222	163	100	815	60	209	869	292
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.936			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3610	1568	1805	3303	0	1805	3477	0	1805	3471	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3610	1568	1805	3303	0	1805	3477	0	1805	3471	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			190		170			11				301
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	0%	3%	0%	4%	0%	0%	3%	0%	0%	4%	2%
Adj. Flow (vph)	392	296	190	75	231	170	104	849	63	218	905	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	392	296	190	75	401	0	104	912	0	218	905	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0

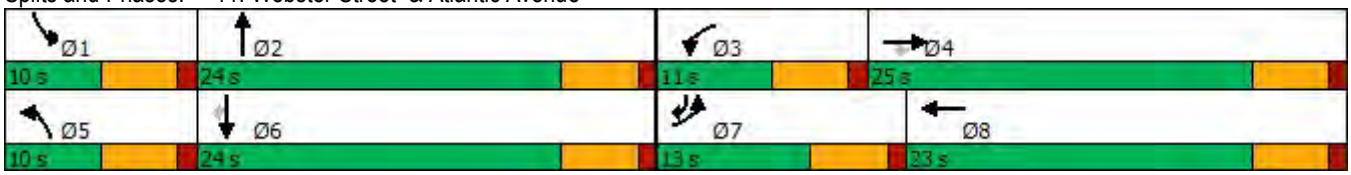


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	13.0	25.0	25.0	11.0	23.0		10.0	24.0		10.0	24.0	13.0
Total Split (%)	18.6%	35.7%	35.7%	15.7%	32.9%		14.3%	34.3%		14.3%	34.3%	18.6%
Maximum Green (s)	8.0	20.0	20.0	6.0	18.0		5.0	19.0		5.0	19.0	8.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	8.0	16.8	16.8	5.9	10.2		5.0	19.0		5.0	19.0	32.1
Actuated g/C Ratio	0.13	0.27	0.27	0.09	0.16		0.08	0.30		0.08	0.30	0.52
v/c Ratio	0.90	0.30	0.34	0.44	0.59		0.72	0.85		1.50	0.85	0.32
Control Delay	54.2	20.5	5.7	36.3	17.1		59.5	30.7		287.4	31.1	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	54.2	20.5	5.7	36.3	17.1		59.5	30.7		287.4	31.1	2.4
LOS	D	C	A	D	B		E	C		F	C	A
Approach Delay		32.3			20.1			33.6			64.2	
Approach LOS		C			C			C			E	
Queue Length 50th (ft)	75	52	0	27	41		39	164		~117	164	1
Queue Length 95th (ft)	#163	83	43	68	78		#119	#298		#252	#297	36
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	437	1177	639	174	1077		145	1070		145	1061	961
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.90	0.25	0.30	0.43	0.37		0.72	0.85		1.50	0.85	0.32

Intersection Summary

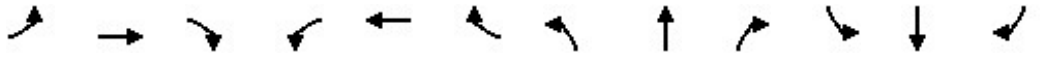
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 62.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.50
Intersection Signal Delay: 43.1 Intersection LOS: D
Intersection Capacity Utilization 74.8% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Webster Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1176	306	78	1050	0	0	0	0	718	7
Future Volume (vph)	0	0	1176	306	78	1050	0	0	0	0	718	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.962							
Satd. Flow (prot)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Flt Permitted					0.962							
Satd. Flow (perm)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					66							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1278	333	85	1141	0	0	0	0	780	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	1278	0	418	1141	0	0	0	0	780	8
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			68.0		30.0	68.0					30.0	68.0
Actuated g/C Ratio			1.00		0.44	1.00					0.44	1.00
v/c Ratio			0.46		0.51	0.41					0.95	0.01
Control Delay			0.5		13.9	0.4					42.2	0.0
Queue Delay			0.0		1.4	0.0					0.0	0.0
Total Delay			0.5		15.3	0.4					42.2	0.0
LOS			A		B	A					D	A
Approach Delay		0.5			4.4						41.8	
Approach LOS		A			A						D	
Queue Length 50th (ft)			0		99	0					298	0
Queue Length 95th (ft)			0		173	0					#527	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		827	2787					821	1583
Starvation Cap Reductn			0		229	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.46		0.70	0.41					0.95	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 68			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 110.0%		ICU Level of Service H	
Analysis Period (min) 15			

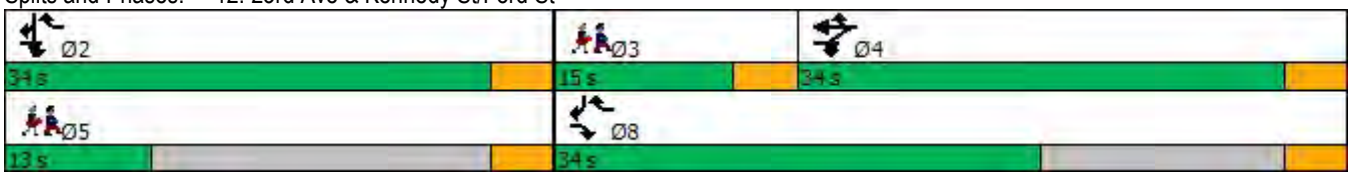
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

! Phase conflict between lane groups.

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St

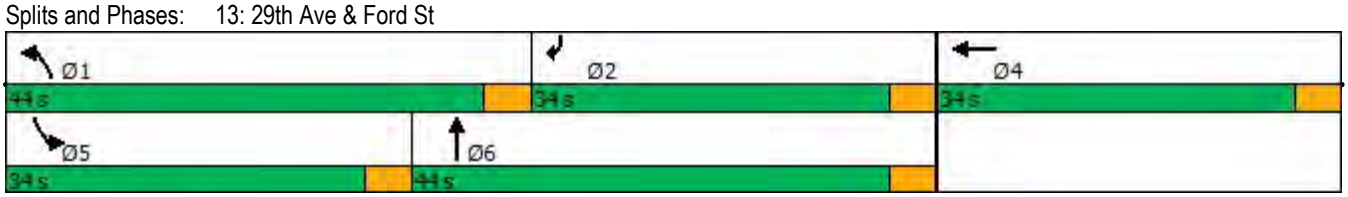


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	54	10	1060	812	23	65	0	299
Future Volume (vph)	0	0	0	0	54	10	1060	812	23	65	0	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.996				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				325
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	59	11	1152	883	25	71	0	325
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	70	0	1152	908	0	71	0	325
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

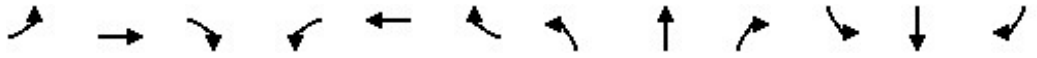
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					9.0		24.1	43.7		7.4		23.1
Actuated g/C Ratio					0.14		0.37	0.66		0.11		0.35
v/c Ratio					0.28		0.92	0.74		0.36		0.43
Control Delay					27.2		32.4	18.5		36.2		5.9
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					27.2		32.4	18.5		36.2		5.9
LOS					C		C	B		D		A
Approach Delay					27.2			26.3			11.3	
Approach LOS					C			C			B	
Queue Length 50th (ft)					24		222	244		27		0
Queue Length 95th (ft)					60		341	#775		77		74
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					876		2250	1227		846		926
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.08		0.51	0.74		0.08		0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 66			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 24.0		Intersection LOS: C	
Intersection Capacity Utilization 62.9%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	103	39	49	27	14	200	447	94	14	464	177
Future Volume (vph)	177	103	39	49	27	14	200	447	94	14	464	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.979			0.974			0.959	
Flt Protected		0.973			0.973		0.950			0.950		
Satd. Flow (prot)	0	1783	0	0	1774	0	1770	1814	0	1770	1786	0
Flt Permitted		0.794			0.731		0.128			0.443		
Satd. Flow (perm)	0	1455	0	0	1333	0	238	1814	0	825	1786	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			9			20			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	192	112	42	53	29	15	217	486	102	15	504	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	346	0	0	97	0	217	588	0	15	696	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		

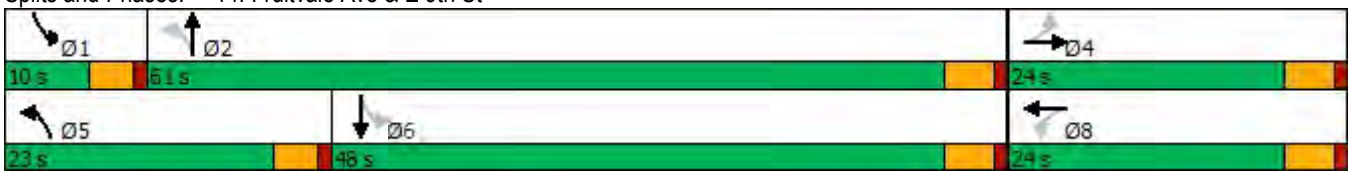


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		19.9			19.9		52.5	50.3		40.9	34.6	
Actuated g/C Ratio		0.25			0.25		0.65	0.62		0.50	0.43	
v/c Ratio		0.96			0.29		0.54	0.52		0.03	0.90	
Control Delay		72.2			29.5		14.0	10.4		5.7	36.4	
Queue Delay		0.0			0.0		0.6	3.0		0.0	0.0	
Total Delay		72.2			29.5		14.5	13.4		5.7	36.4	
LOS		E			C		B	B		A	D	
Approach Delay		72.2			29.5			13.7			35.8	
Approach LOS		E			C			B			D	
Queue Length 50th (ft)		177			38		38	130		2	308	
Queue Length 95th (ft)		#409			92		100	281		8	#546	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		362			334		520	1321		491	990	
Starvation Cap Reductn		0			0		94	605		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.96			0.29		0.51	0.82		0.03	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 81.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 32.8		Intersection LOS: C	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St



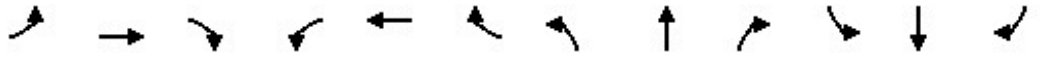
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	159	83	376	6	0	102	0	498	18	91	463	0
Future Volume (vph)	159	83	376	6	0	102	0	498	18	91	463	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.873			0.995				
Flt Protected		0.968			0.997					0.950		
Satd. Flow (prot)	0	1803	1583	0	1621	0	0	3522	0	1770	1863	0
Flt Permitted		0.742			0.979					0.302		
Satd. Flow (perm)	0	1382	1583	0	1592	0	0	3522	0	563	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			340		111			4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	173	90	409	7	0	111	0	541	20	99	503	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	263	409	0	118	0	0	561	0	99	503	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		17.6	17.6		16.5			16.3		25.5	25.0	
Actuated g/C Ratio		0.34	0.34		0.32			0.32		0.49	0.48	
v/c Ratio		0.56	0.54		0.20			0.50		0.21	0.56	
Control Delay		20.4	6.4		5.0			18.2		9.2	12.9	
Queue Delay		0.0	0.0		0.0			0.0		0.0	0.1	
Total Delay		20.4	6.4		5.0			18.2		9.2	13.0	
LOS		C	A		A			B		A	B	
Approach Delay		11.9			5.0			18.2			12.4	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		63	14		1			73		14	92	
Queue Length 95th (ft)		155	79		32			157		46	236	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		948	1192		1105			2204		827	1708	
Starvation Cap Reductn		0	0		0			0		144	431	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.28	0.34		0.11			0.25		0.14	0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 51.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	469	361	187	382	548	68	17	519	87
Future Volume (vph)	0	0	0	469	361	187	382	548	68	17	519	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.972			0.983			0.979	
Flt Protected					0.977		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3361	0	1770	3479	0	0	3461	0
Flt Permitted					0.977		0.950				0.926	
Satd. Flow (perm)	0	0	0	0	3361	0	1770	3479	0	0	3208	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					38			25			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	510	392	203	415	596	74	18	564	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1105	0	415	670	0	0	677	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	

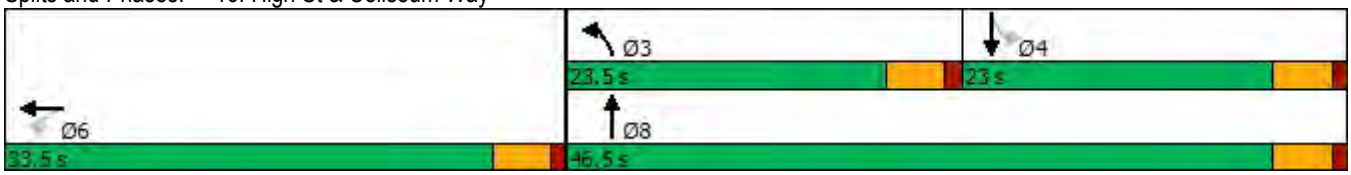


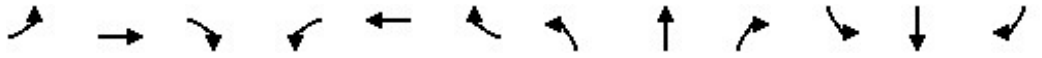
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		23.5	46.5		23.0	23.0	
Total Split (%)				41.9%	41.9%		29.4%	58.1%		28.8%	28.8%	
Maximum Green (s)				29.0	29.0		19.0	42.0		18.5	18.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		19.0	42.0			18.5	
Actuated g/C Ratio					0.36		0.24	0.52			0.23	
v/c Ratio					0.89		0.99	0.36			0.89	
Control Delay					33.9		74.2	11.4			45.4	
Queue Delay					0.0		37.0	1.6			0.0	
Total Delay					33.9		111.2	13.0			45.4	
LOS					C		F	B			D	
Approach Delay					33.9			50.5			45.4	
Approach LOS					C			D			D	
Queue Length 50th (ft)					260		207	93			167	
Queue Length 95th (ft)					#385		#386	128			#268	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1242		420	1838			757	
Starvation Cap Reductn					0		78	939			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.89		1.21	0.75			0.89	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 42.9		Intersection LOS: D	
Intersection Capacity Utilization 79.6%		ICU Level of Service D	
Analysis Period (min) 15			

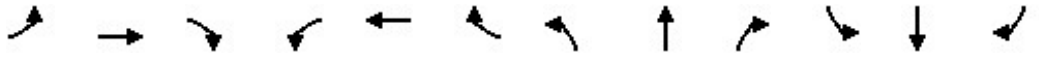
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	371	147	34	0	161	0	725	255	237	724	0
Future Volume (vph)	86	371	147	34	0	161	0	725	255	237	724	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.961				
Flt Protected		0.991		0.950						0.950		
Satd. Flow (prot)	0	3507	1583	1770	0	1583	0	3401	0	1770	3539	0
Flt Permitted		0.991		0.368						0.950		
Satd. Flow (perm)	0	3507	1583	685	0	1583	0	3401	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						175		64				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	403	160	37	0	175	0	788	277	258	787	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	496	160	37	0	175	0	1065	0	258	787	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						



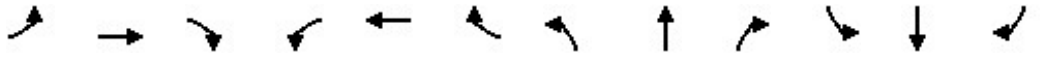
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	29.0	29.0	29.0	29.0		29.0		30.0		21.0	51.0	
Total Split (%)	36.3%	36.3%	36.3%	36.3%		36.3%		37.5%		26.3%	63.8%	
Maximum Green (s)	25.0	25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Actuated g/C Ratio		0.31	0.31	0.31		0.31		0.32		0.21	0.58	
v/c Ratio		0.45	0.32	0.18		0.29		0.94		0.71	0.38	
Control Delay		23.7	23.3	23.1		5.0		42.8		41.7	9.7	
Queue Delay		0.0	0.0	0.0		0.0		0.0		2.6	2.0	
Total Delay		23.7	23.3	23.1		5.0		42.8		44.3	11.7	
LOS		C	C	C		A		D		D	B	
Approach Delay		23.6			8.2			42.8			19.8	
Approach LOS		C			A			D			B	
Queue Length 50th (ft)		103	61	13		0		256		121	101	
Queue Length 95th (ft)		147	111	38		42		#389		#221	137	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1095	494	209		606		1127		365	2057	
Starvation Cap Reductn		0	0	0		0		0		41	1078	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.45	0.32	0.18		0.29		0.94		0.80	0.80	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 28.0		Intersection LOS: C	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	

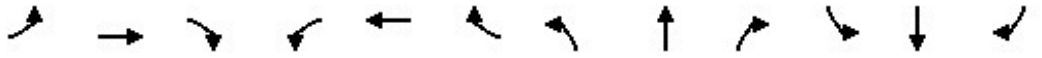
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	269	79	20	23	132	209	0	1161	37	12	983	340
Future Volume (vph)	269	79	20	23	132	209	0	1161	37	12	983	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.969				0.850		0.995			0.962	
Flt Protected	0.950				0.993							
Satd. Flow (prot)	1770	1805	0	0	1850	1583	0	3522	0	0	3405	0
Flt Permitted	0.651				0.951						0.940	
Satd. Flow (perm)	1213	1805	0	0	1771	1583	0	3522	0	0	3200	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		22						8			123	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	292	86	22	25	143	227	0	1262	40	13	1068	370
Shared Lane Traffic (%)												
Lane Group Flow (vph)	292	108	0	0	168	227	0	1302	0	0	1451	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		

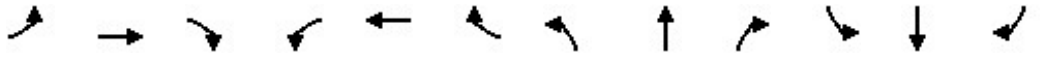


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	16.7	16.7			16.7	16.7		32.6			32.6	
Actuated g/C Ratio	0.29	0.29			0.29	0.29		0.56			0.56	
v/c Ratio	0.84	0.20			0.33	0.50		0.66			0.79	
Control Delay	43.0	13.9			18.2	21.5		11.4			13.8	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	43.0	13.9			18.2	21.5		11.4			13.8	
LOS	D	B			B	C		B			B	
Approach Delay		35.1			20.1			11.4			13.8	
Approach LOS		D			C			B			B	
Queue Length 50th (ft)	95	22			46	65		161			186	
Queue Length 95th (ft)	#212	54			89	122		225			273	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	385	588			563	503		1970			1841	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.76	0.18			0.30	0.45		0.66			0.79	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 81.2%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 18: Park St & Blanding Ave

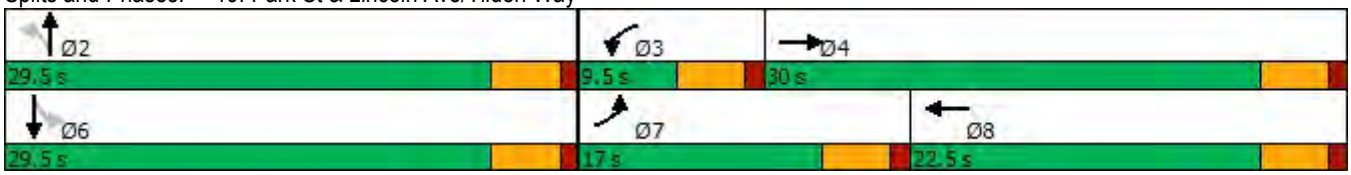
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	225	81	104	281	11	33	471	42	49	756	73
Future Volume (vph)	143	225	81	104	281	11	33	471	42	49	756	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.960			0.994			0.988			0.988	
Flt Protected	0.950			0.950				0.997			0.997	
Satd. Flow (prot)	1770	3398	0	1770	3518	0	0	3486	0	0	3486	0
Flt Permitted	0.950			0.950				0.864			0.891	
Satd. Flow (perm)	1770	3398	0	1770	3518	0	0	3021	0	0	3116	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			5			14			15	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	155	245	88	113	305	12	36	512	46	53	822	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	333	0	113	317	0	0	594	0	0	954	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		



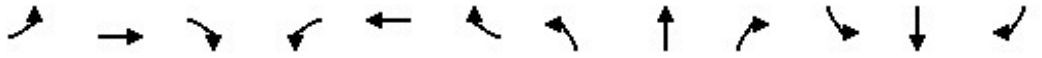
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	9.9	15.1		5.0	12.7			25.2			25.2	
Actuated g/C Ratio	0.17	0.26		0.08	0.22			0.43			0.43	
v/c Ratio	0.52	0.36		0.75	0.42			0.46			0.71	
Control Delay	29.7	14.7		62.0	22.9			14.2			18.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	29.7	14.7		62.0	22.9			14.2			18.8	
LOS	C	B		E	C			B			B	
Approach Delay		19.5			33.2			14.2			18.8	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	51	39		41	53			74			140	
Queue Length 95th (ft)	107	68		#130	90			136			#246	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	378	1520		151	1087			1300			1341	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.41	0.22		0.75	0.29			0.46			0.71	

Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 58.9			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 71.0%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



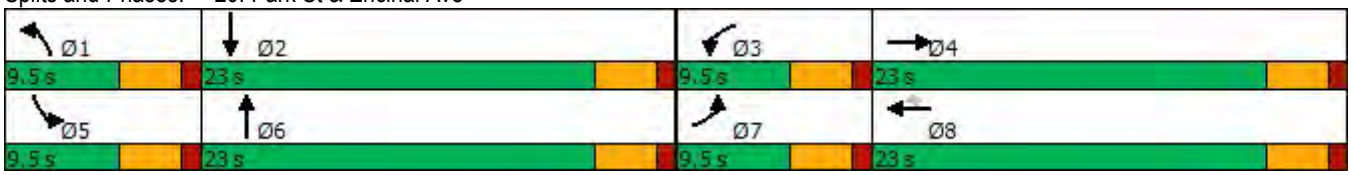
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	484	55	48	308	88	54	268	62	107	332	49
Future Volume (vph)	49	484	55	48	308	88	54	268	62	107	332	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985				0.850		0.972			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				151		43			25	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	526	60	52	335	96	59	291	67	116	361	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	586	0	52	335	96	59	358	0	116	414	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



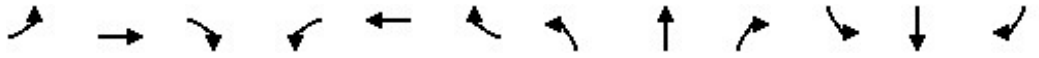
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.8	15.2		5.8	15.2	15.2	5.8	20.0		5.8	22.1	
Actuated g/C Ratio	0.10	0.27		0.10	0.27	0.27	0.10	0.36		0.10	0.40	
v/c Ratio	0.29	0.61		0.28	0.66	0.18	0.32	0.28		0.63	0.30	
Control Delay	31.8	21.0		31.6	26.4	2.1	32.5	14.7		47.8	14.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	31.8	21.0		31.6	26.4	2.1	32.5	14.7		47.8	14.9	
LOS	C	C		C	C	A	C	B		D	B	
Approach Delay		21.9			22.1			17.2			22.1	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	19	98		19	113	0	21	46		44	59	
Queue Length 95th (ft)	51	146		50	192	12	56	83		#126	100	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	183	1264		183	669	665	183	1263		183	1396	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.29	0.46		0.28	0.50	0.14	0.32	0.28		0.63	0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 55.6			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 21.1		Intersection LOS: C	
Intersection Capacity Utilization 49.0%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	171	19	72	188	183	33	443	113	327	716	260
Future Volume (vph)	133	171	19	72	188	183	33	443	113	327	716	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.970			0.960	
Flt Protected		0.979			0.986		0.950			0.950		
Satd. Flow (prot)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Flt Permitted		0.979			0.986		0.950			0.950		
Satd. Flow (perm)	0	1824	1583	0	1837	1583	1770	3433	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			199		32			57	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	145	186	21	78	204	199	36	482	123	355	778	283
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	331	21	0	282	199	36	605	0	355	1061	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



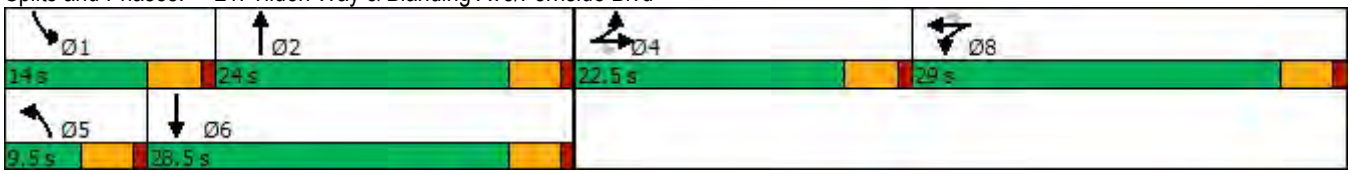
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		17.4	17.4		17.8	17.8	5.1	17.6		9.6	26.5	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.06	0.22		0.12	0.33	
v/c Ratio		0.84	0.05		0.70	0.40	0.32	0.78		1.69	0.92	
Control Delay		53.0	0.2		39.0	6.6	47.5	36.8		356.4	41.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		53.0	0.2		39.0	6.6	47.5	36.8		356.4	41.6	
LOS		D	A		D	A	D	D		F	D	
Approach Delay		49.9			25.6			37.4			120.5	
Approach LOS		D			C			D			F	
Queue Length 50th (ft)		168	0		136	0	19	147		~282	~311	
Queue Length 95th (ft)		#339	0		217	49	51	#225		#479	#481	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		412	456		565	624	111	865		210	1155	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.80	0.05		0.50	0.32	0.32	0.70		1.69	0.92	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 80.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.69			
Intersection Signal Delay: 77.7		Intersection LOS: E	
Intersection Capacity Utilization 79.2%		ICU Level of Service D	
Analysis Period (min) 15			

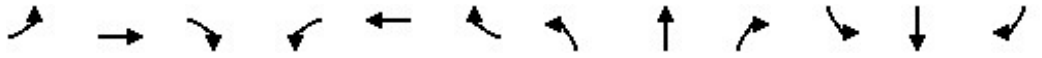
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



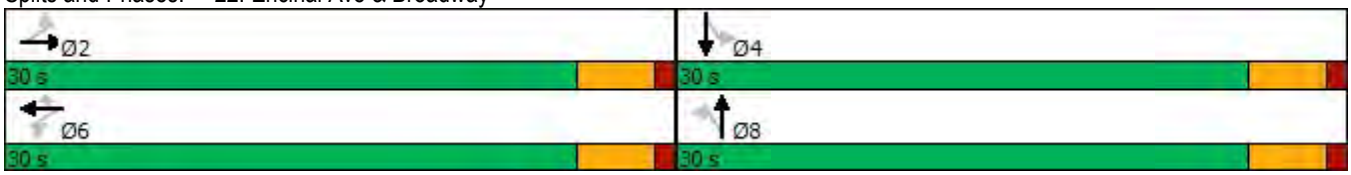
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	360	113	28	249	30	83	314	22	55	373	42
Future Volume (vph)	55	360	113	28	249	30	83	314	22	55	373	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968				0.850		0.990			0.985	
Flt Protected		0.995			0.995		0.950			0.950		
Satd. Flow (prot)	0	3409	0	0	1853	1636	1770	1844	0	1770	1835	0
Flt Permitted		0.878			0.906		0.437			0.513		
Satd. Flow (perm)	0	3008	0	0	1688	1636	814	1844	0	956	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72				33		7			12	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	391	123	30	271	33	90	341	24	60	405	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	574	0	0	301	33	90	365	0	60	451	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



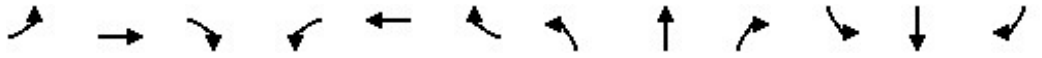
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		14.4			14.4	14.4	25.7	25.7		25.7	25.7	
Actuated g/C Ratio		0.29			0.29	0.29	0.52	0.52		0.52	0.52	
v/c Ratio		0.62			0.61	0.07	0.21	0.38		0.12	0.47	
Control Delay		15.8			20.4	5.3	9.4	9.3		8.2	10.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		15.8			20.4	5.3	9.4	9.3		8.2	10.2	
LOS		B			C	A	A	A		A	B	
Approach Delay		15.8			18.9			9.3			10.0	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		62			72	0	12	52		8	68	
Queue Length 95th (ft)		101			132	13	42	129		29	166	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1607			882	871	425	967		499	965	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.36			0.34	0.04	0.21	0.38		0.12	0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 49.1			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	838	13	125	695	285	6	78	140	304	92	132
Future Volume (vph)	132	838	13	125	695	285	6	78	140	304	92	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.916				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3532	0	1770	1863	1583	0	1705	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.994		0.519		
Satd. Flow (perm)	1770	3532	0	1770	1863	1583	0	1696	0	967	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				310		109				143
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			1523			502			2170	
Travel Time (s)		9.3			41.5			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	143	911	14	136	755	310	7	85	152	330	100	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	925	0	136	755	310	0	244	0	330	100	143
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



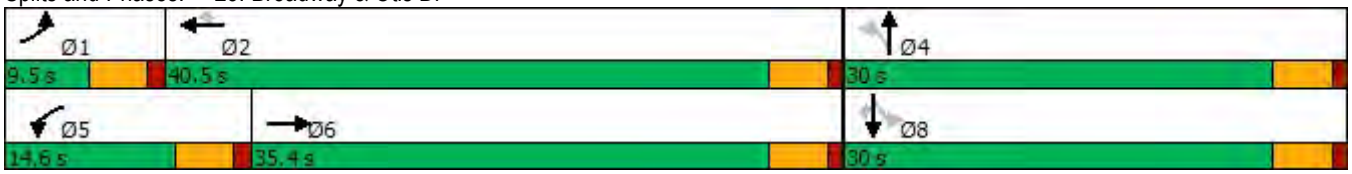
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	30.1		9.4	34.5	34.5		25.5		25.5	25.5	25.5
Actuated g/C Ratio	0.06	0.38		0.12	0.44	0.44		0.32		0.32	0.32	0.32
v/c Ratio	1.28	0.68		0.64	0.92	0.36		0.39		1.05	0.17	0.23
Control Delay	211.1	23.4		48.5	39.9	3.0		13.6		94.8	20.5	4.9
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	211.1	23.4		48.5	39.9	3.0		13.6		94.8	20.5	4.9
LOS	F	C		D	D	A		B		F	C	A
Approach Delay		48.5			31.3			13.6			59.4	
Approach LOS		D			C			B			E	
Queue Length 50th (ft)	~93	196		65	335	0		49		~186	36	0
Queue Length 95th (ft)	#204	263		#134	#563	42		109		#341	71	38
Internal Link Dist (ft)		261			1443			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	112	1396		227	855	894		624		314	605	611
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	1.28	0.66		0.60	0.88	0.35		0.39		1.05	0.17	0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 78.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.28			
Intersection Signal Delay: 41.1		Intersection LOS: D	
Intersection Capacity Utilization 88.8%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

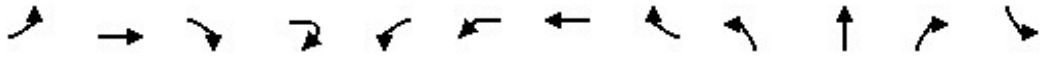
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	85	294	65	4	4	3	175	137	37	247	4	158
Future Volume (vph)	85	294	65	4	4	3	175	137	37	247	4	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.998		
Flt Protected	0.950						0.998			0.994		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1859	1583	0	1848	0	1770
Flt Permitted	0.552						0.987			0.902		0.950
Satd. Flow (perm)	1028	1863	1583	0	0	0	1839	1583	0	1677	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								149		1		
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	320	71	4	4	3	190	149	40	268	4	172
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	320	75	0	0	0	197	149	0	312	0	172
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

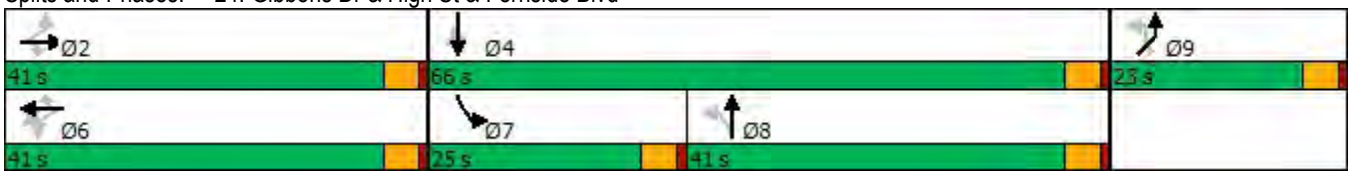
Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations							
Traffic Volume (vph)	368	72	111	2	76	6	4
Future Volume (vph)	368	72	111	2	76	6	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0			0	50	
Storage Lanes		1			1	1	
Taper Length (ft)					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.989		0.850
Flt Protected					0.956		
Satd. Flow (prot)	1863	1583	0	0	1761	0	1583
Flt Permitted					0.992		
Satd. Flow (perm)	1863	1583	0	0	1828	0	1583
Right Turn on Red			No				Yes
Satd. Flow (RTOR)							88
Link Speed (mph)	25				25		
Link Distance (ft)	1133				459		
Travel Time (s)	30.9				12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	400	78	121	2	83	7	4
Shared Lane Traffic (%)							
Lane Group Flow (vph)	400	199	0	0	92	0	4
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Right
Median Width(ft)	12				12		
Link Offset(ft)	0				0		
Crosswalk Width(ft)	16				16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	15	9	9
Number of Detectors	2	1		1	1		1
Detector Template	Thru	Right		Left	Left		Right
Leading Detector (ft)	100	20		20	20		20
Trailing Detector (ft)	0	0		0	0		0
Detector 1 Position(ft)	0	0		0	0		0
Detector 1 Size(ft)	6	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm		Perm	Prot		Perm
Protected Phases	4				9		
Permitted Phases		4		9			9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	41.0	41.0	41.0		41.0	41.0	41.0	41.0	41.0	41.0		25.0
Total Split (%)	31.5%	31.5%	31.5%		31.5%	31.5%	31.5%	31.5%	31.5%	31.5%		19.2%
Maximum Green (s)	36.5	36.5	36.5		36.5	36.5	36.5	36.5	36.5	36.5		20.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	36.8	36.8	36.8				36.8	36.8		25.7		20.7
Actuated g/C Ratio	0.33	0.33	0.33				0.33	0.33		0.23		0.18
v/c Ratio	0.27	0.52	0.14				0.33	0.24		0.81		0.53
Control Delay	33.8	36.5	30.8				32.6	6.2		58.2		50.6
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	33.8	36.5	30.8				32.6	6.2		58.2		50.6
LOS	C	D	C				C	A		E		D
Approach Delay		35.1					21.3			58.2		
Approach LOS		D					C			E		
Queue Length 50th (ft)	49	186	38				106	0		212		113
Queue Length 95th (ft)	110	328	88				202	50		329		212
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	336	610	518				602	618		550		325
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.27	0.52	0.14				0.33	0.24		0.57		0.53

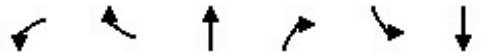
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 112.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 35.0		Intersection LOS: C	
Intersection Capacity Utilization 83.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd

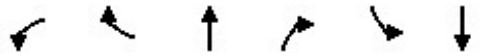


Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Detector Phase	4	4		9	9		9
Switch Phase							
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5
Total Split (s)	66.0	66.0		23.0	23.0		23.0
Total Split (%)	50.8%	50.8%		17.7%	17.7%		17.7%
Maximum Green (s)	61.5	61.5		18.5	18.5		18.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0
Total Lost Time (s)	4.5	4.5			4.5		4.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0
Act Effct Green (s)	50.9	50.9			11.0		11.0
Actuated g/C Ratio	0.45	0.45			0.10		0.10
v/c Ratio	0.47	0.28			0.51		0.02
Control Delay	23.7	20.5			59.9		0.2
Queue Delay	0.0	0.0			0.0		0.0
Total Delay	23.7	20.5			59.9		0.2
LOS	C	C			E		A
Approach Delay	28.9				57.4		
Approach LOS	C				E		
Queue Length 50th (ft)	195	87			64		0
Queue Length 95th (ft)	299	148			127		0
Internal Link Dist (ft)	1053				379		
Turn Bay Length (ft)							50
Base Capacity (vph)	1028	873			303		336
Starvation Cap Reductn	0	0			0		0
Spillback Cap Reductn	0	0			0		0
Storage Cap Reductn	0	0			0		0
Reduced v/c Ratio	0.39	0.23			0.30		0.01

Intersection Summary



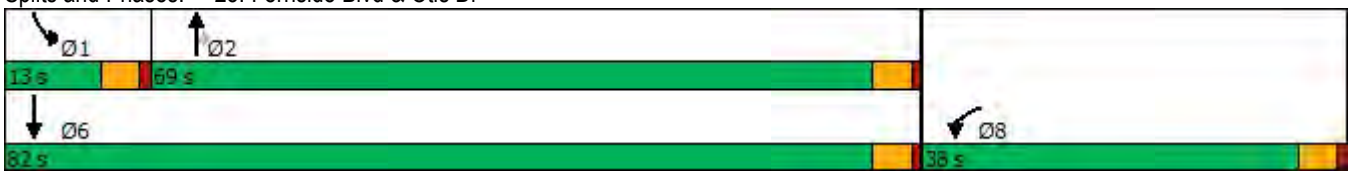
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	673	14	946	674	52	1153
Future Volume (vph)	673	14	946	674	52	1153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.997			0.850		
Flt Protected	0.953				0.950	
Satd. Flow (prot)	3434	0	3539	1583	1770	3539
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	3434	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	2			264		
Link Speed (mph)	25		35			35
Link Distance (ft)	312		1414			1511
Travel Time (s)	8.5		27.5			29.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	732	15	1028	733	57	1253
Shared Lane Traffic (%)						
Lane Group Flow (vph)	747	0	1028	733	57	1253
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		

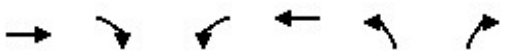


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	38.0		69.0	69.0	13.0	82.0
Total Split (%)	31.7%		57.5%	57.5%	10.8%	68.3%
Maximum Green (s)	33.5		64.5	64.5	8.5	77.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	29.4		67.5	67.5	7.7	77.6
Actuated g/C Ratio	0.25		0.58	0.58	0.07	0.67
v/c Ratio	0.86		0.50	0.71	0.49	0.53
Control Delay	51.9		16.6	16.4	67.4	11.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	51.9		16.6	16.4	67.4	11.3
LOS	D		B	B	E	B
Approach Delay	51.9		16.5			13.7
Approach LOS	D		B			B
Queue Length 50th (ft)	274		249	265	42	242
Queue Length 95th (ft)	347		322	451	89	314
Internal Link Dist (ft)	232		1334			1431
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	994		2060	1031	129	2367
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.75		0.50	0.71	0.44	0.53

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 116			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 22.5		Intersection LOS: C	
Intersection Capacity Utilization 61.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 25: Fernside Blvd & Otis Dr



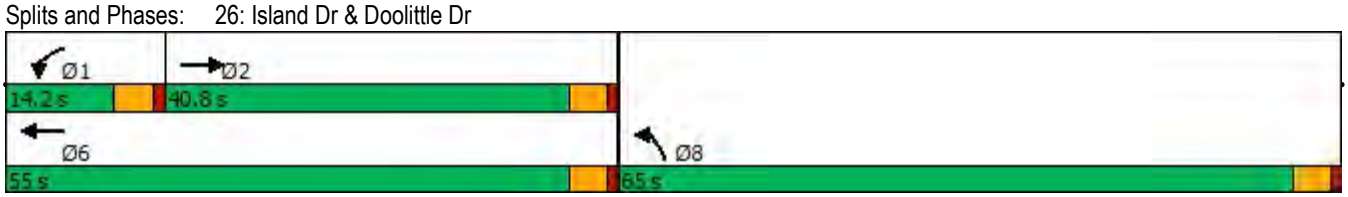


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	699	1089	112	819	785	78
Future Volume (vph)	699	1089	112	819	785	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		355				64
Link Speed (mph)	25			25	25	
Link Distance (ft)	1414			365	455	
Travel Time (s)	38.6			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	760	1184	122	890	853	85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	760	1184	122	890	853	85
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.4	86.5	9.6	50.5	27.0	86.5
Actuated g/C Ratio	0.42	1.00	0.11	0.58	0.31	1.00
v/c Ratio	0.51	0.75	0.63	0.43	0.80	0.05
Control Delay	20.8	3.3	53.7	11.5	33.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	3.3	53.7	11.5	33.4	0.1
LOS	C	A	D	B	C	A
Approach Delay	10.1			16.6	30.4	
Approach LOS	B			B	C	
Queue Length 50th (ft)	156	0	64	130	217	0
Queue Length 95th (ft)	243	0	#151	214	283	0
Internal Link Dist (ft)	1334			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1490	1583	199	2073	2409	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.75	0.61	0.43	0.35	0.05

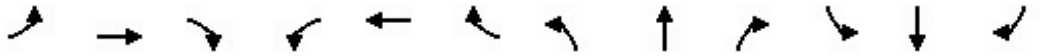
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 86.5			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 59.2%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 26: Island Dr & Doolittle Dr



2040 Proposed Action Condition

AM Peak Hour



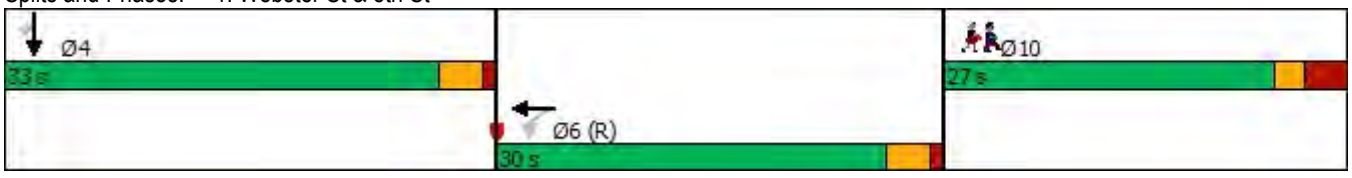
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	436	710	0	0	0	0	0	590	216
Future Volume (vph)	0	0	0	436	710	0	0	0	0	0	590	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.987	0.850
Flt Protected				0.950	0.992							
Satd. Flow (prot)	0	0	0	1345	4466	0	0	0	0	0	4579	1169
Flt Permitted				0.950	0.992							
Satd. Flow (perm)	0	0	0	1345	4466	0	0	0	0	0	4579	1169
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				319	73						17	172
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	1%	5%	0%	0%	0%	0%	0%	1%	4%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	469	763	0	0	0	0	0	634	232
Shared Lane Traffic (%)				32%								26%
Lane Group Flow (vph)	0	0	0	319	913	0	0	0	0	0	694	172
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				40.8	40.8						22.0	22.0
Actuated g/C Ratio				0.45	0.45						0.24	0.24
v/c Ratio				0.41	0.44						0.61	0.41
Control Delay				4.4	18.8						31.3	7.2
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				4.4	18.8						31.3	7.2
LOS				A	B						C	A
Approach Delay					15.1						26.5	
Approach LOS					B						C	
Queue Length 50th (ft)				0	134						132	0
Queue Length 95th (ft)				68	200						156	51
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				783	2062						1486	493
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.41	0.44						0.47	0.35

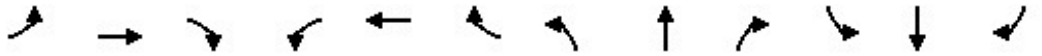
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 19.8		Intersection LOS: B	
Intersection Capacity Utilization 36.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St

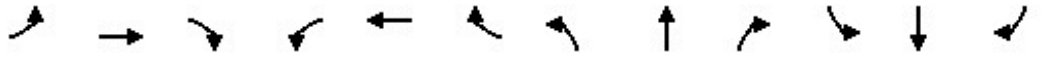


Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



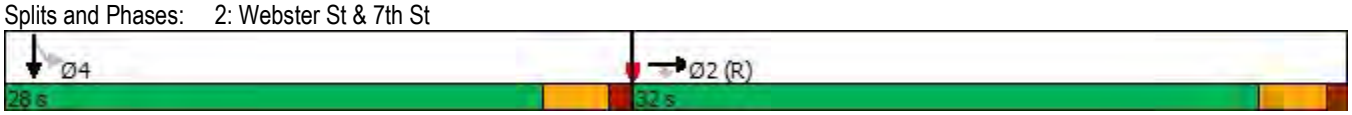
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	438	441	0	0	0	0	0	0	207	934	0
Future Volume (vph)	0	438	441	0	0	0	0	0	0	207	934	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.950	0.850									
Flt Protected											0.991	
Satd. Flow (prot)	0	4135	1298	0	0	0	0	0	0	0	4700	0
Flt Permitted											0.991	
Satd. Flow (perm)	0	4135	1298	0	0	0	0	0	0	0	4700	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		30	30								98	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			405			184			292	
Travel Time (s)		9.3			11.0			5.0			8.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	7%	7%	0%	0%	0%	0%	0%	0%	17%	1%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	498	501	0	0	0	0	0	0	235	1061	0
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	749	250	0	0	0	0	0	0	0	1296	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		32.0	32.0							28.0	28.0	
Total Split (s)		32.0	32.0							28.0	28.0	
Total Split (%)		53.3%	53.3%							46.7%	46.7%	

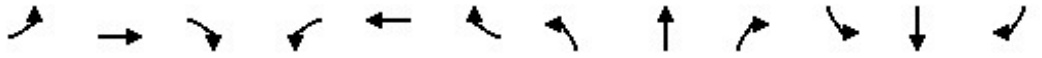


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		28.0	28.0							24.0	24.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		18.0	18.0							12.0	12.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		28.8	28.8								23.2	
Actuated g/C Ratio		0.48	0.48								0.39	
v/c Ratio		0.38	0.39								0.69	
Control Delay		10.4	11.3								16.2	
Queue Delay		0.0	0.0								0.7	
Total Delay		10.4	11.3								16.9	
LOS		B	B								B	
Approach Delay		10.6									16.9	
Approach LOS		B									B	
Queue Length 50th (ft)		60	55								124	
Queue Length 95th (ft)		84	109								161	
Internal Link Dist (ft)		260			325			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		1997	637								1938	
Starvation Cap Reductn		0	0								306	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.38	0.39								0.79	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 47.1%		ICU Level of Service A	
Analysis Period (min) 15			

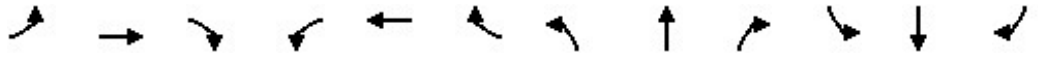
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	419	0	0	0	0	0	1005	2010	0	0	0
Future Volume (vph)	61	419	0	0	0	0	0	1005	2010	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.994										
Satd. Flow (prot)	0	4468	0	0	0	0	0	5187	2666	0	0	0
Flt Permitted		0.994										
Satd. Flow (perm)	0	4468	0	0	0	0	0	5187	2666	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47							518			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		405			362			410			260	
Travel Time (s)		11.0			9.9			11.2			7.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	14%	9%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	63	432	0	0	0	0	0	1036	2072	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	495	0	0	0	0	0	1036	2072	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								28.0				
Total Split (%)								46.7%				
Maximum Green (s)								22.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		26.4						22.4	41.0			
Actuated g/C Ratio		0.44						0.37	0.68			
v/c Ratio		0.25						0.54	1.04			
Control Delay		11.3						16.0	43.8			
Queue Delay		0.0						0.0	0.0			
Total Delay		11.3						16.0	43.8			
LOS		B						B	D			
Approach Delay		11.3						34.5				
Approach LOS		B						C				
Queue Length 50th (ft)		43						104	~454			
Queue Length 95th (ft)		68						139	#624			
Internal Link Dist (ft)		325			282			330			180	
Turn Bay Length (ft)												
Base Capacity (vph)		1992						1936	1985			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.25						0.54	1.04			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 25 (42%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 31.4		Intersection LOS: C	
Intersection Capacity Utilization 89.0%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
~ Volume exceeds capacity, queue is theoretically infinite.			

Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	3.0
Total Split (s)	32.0	19.0	13.0
Total Split (%)	53%	32%	22%
Maximum Green (s)	26.4	13.4	11.0
Yellow Time (s)	3.6	3.6	2.0
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

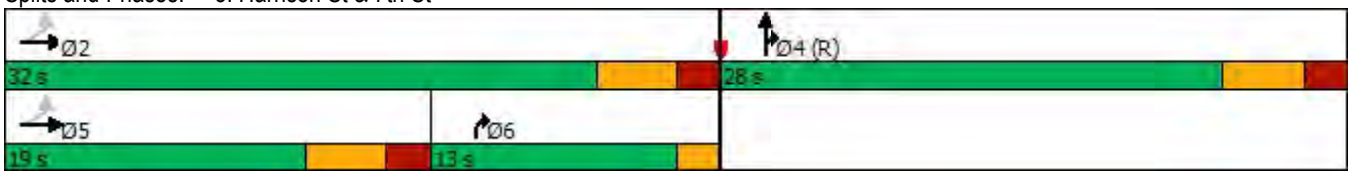
Queue shown is maximum after two cycles.

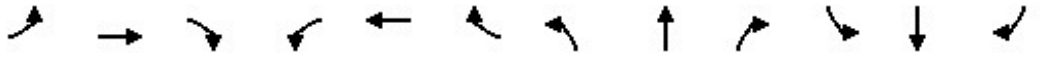
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 3: Harrison St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	425	161	614	26	173	0	0	344	42
Future Volume (vph)	0	0	0	425	161	614	26	173	0	0	344	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.984	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1687	3406	1599	1805	3059	0	0	4716	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1687	3406	1599	1805	3059	0	0	4716	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						646					29	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			342			469	
Travel Time (s)		11.3			8.0			9.3			12.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	7%	6%	1%	0%	18%	0%	0%	8%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	20
Adj. Flow (vph)	0	0	0	447	169	646	27	182	0	0	362	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	447	169	646	27	182	0	0	406	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.5	31.5	31.5	9.5	24.0			24.0	
Total Split (s)				32.0	32.0	32.0	16.0	43.0			27.0	
Total Split (%)				42.7%	42.7%	42.7%	21.3%	57.3%			36.0%	
Maximum Green (s)				28.0	28.0	28.0	12.0	38.5			22.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	C-Max			C-Max	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				25.2	25.2	25.2	7.9	41.3			34.9	
Actuated g/C Ratio				0.34	0.34	0.34	0.11	0.55			0.47	
v/c Ratio				0.79	0.15	0.67	0.14	0.11			0.18	
Control Delay				33.2	16.8	5.5	28.8	4.2			13.8	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				33.2	16.8	5.5	28.8	4.2			13.8	
LOS				C	B	A	C	A			B	
Approach Delay					16.8			7.4			13.8	
Approach LOS					B			A			B	
Queue Length 50th (ft)				173	26	0	13	11			31	
Queue Length 95th (ft)				279	46	64	m25	m14			72	
Internal Link Dist (ft)		335			213			262			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				629	1271	1001	288	1686			2212	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.71	0.13	0.65	0.09	0.11			0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 16 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	29	855	184	115	187	227	67	375	138	320
Future Volume (vph)	29	855	184	115	187	227	67	375	138	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.997	0.850	0.850	0.908					
Flt Protected		0.998						0.950	0.950	
Satd. Flow (prot)	0	2427	1361	1615	4235	0	0	1770	1770	1681
Flt Permitted		0.998						0.950	0.950	
Satd. Flow (perm)	0	2427	1361	1615	4235	0	0	1770	1770	1681
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				125	40					
Link Speed (mph)		25			25					25
Link Distance (ft)		558			823					342
Travel Time (s)		15.2			22.4					9.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	25%	25%	8%	0%	21%	5%	5%	2%	2%	13%
Adj. Flow (vph)	32	929	200	125	203	247	73	408	150	348
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	981	180	125	523	0	0	408	150	348
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	31.0	31.0	31.0	31.0	23.5			9.5	9.5	23.5
Total Split (s)	31.0	31.0	31.0	31.0	24.0			20.0	20.0	44.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	32.0%			26.7%	26.7%	58.7%
Maximum Green (s)	27.0	27.0	27.0	27.0	19.5			16.5	16.5	39.5
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0			3.0	3.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0	4.5			3.5	3.5	4.5
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	C-Max			None	None	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	12.0					12.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		27.0	27.0	27.0	19.5			16.5	16.5	39.5
Actuated g/C Ratio		0.36	0.36	0.36	0.26			0.22	0.22	0.53
v/c Ratio		1.12	0.37	0.19	0.46			1.05	0.39	0.39
Control Delay		96.2	20.5	4.3	23.0			96.5	37.8	12.5
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.6
Total Delay		96.2	20.5	4.3	23.0			96.5	37.8	13.0
LOS		F	C	A	C			F	D	B
Approach Delay		76.6			23.0					54.7
Approach LOS		E			C					D
Queue Length 50th (ft)		~335	67	0	68			~204	66	73
Queue Length 95th (ft)		#473	123	32	100			#375	m113	m124
Internal Link Dist (ft)		478			743					262
Turn Bay Length (ft)										
Base Capacity (vph)		873	489	661	1130			389	389	885
Starvation Cap Reductn		0	0	0	0			0	0	235
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		1.12	0.37	0.19	0.46			1.05	0.39	0.54

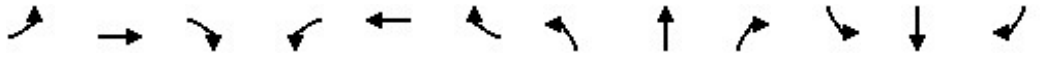
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.12			
Intersection Signal Delay: 59.0		Intersection LOS: E	
Intersection Capacity Utilization 67.9%		ICU Level of Service C	
Analysis Period (min) 15			

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Broadway & 5th St & Webster Tube



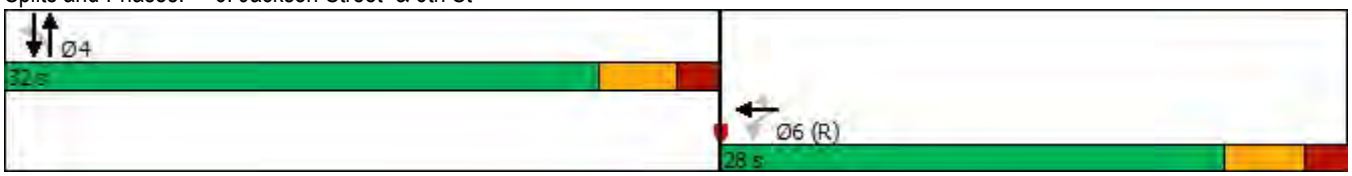
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	2	311	53	255	300	0	0	132	1662
Future Volume (vph)	0	0	0	2	311	53	255	300	0	0	132	1662
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.924	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1776	1509	1752	1881	0	0	1627	1568
Flt Permitted				0.950			0.547					
Satd. Flow (perm)	0	0	0	1805	1776	1509	1009	1881	0	0	1627	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						58					109	419
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	7%	7%	3%	1%	0%	0%	2%	3%
Adj. Flow (vph)	0	0	0	2	338	58	277	326	0	0	143	1807
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	2	338	58	277	326	0	0	288	1662
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.00	0.51	0.10	0.62	0.39			0.37	1.06
Control Delay				12.0	17.8	4.6	18.8	13.0			8.4	46.3
Queue Delay				0.0	0.0	0.0	0.0	0.6			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				12.0	17.8	4.6	18.8	13.6			8.4	46.3
LOS				B	B	A	B	B			A	D
Approach Delay					15.8			16.0			40.7	
Approach LOS					B			B			D	
Queue Length 50th (ft)				1	91	0	64	72			40	~73
Queue Length 95th (ft)				4	159	19	m117	m128			89	#308
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	666	602	445	830			779	1568
Starvation Cap Reductn				0	0	0	0	229			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.00	0.51	0.10	0.62	0.54			0.37	1.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 32.3		Intersection LOS: C	
Intersection Capacity Utilization 85.3%		ICU Level of Service E	
Analysis Period (min) 15			

* User Entered Value
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Jackson Street & 6th St

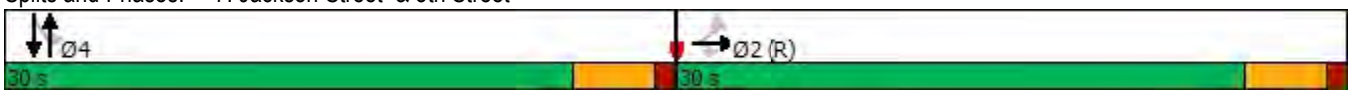


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	357	521	630	0	0	0	0	256	23	78	70	0
Future Volume (vph)	357	521	630	0	0	0	0	256	23	78	70	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.989				
Flt Protected		0.980									0.974	
Satd. Flow (prot)	0	3382	1568	0	0	0	0	1862	0	0	1578	0
Flt Permitted		0.980									0.714	
Satd. Flow (perm)	0	3382	1568	0	0	0	0	1862	0	0	1156	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			426					9				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	4%	5%	3%	0%	0%	0%	0%	0%	11%	5%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	425	620	750	0	0	0	0	305	27	93	83	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1045	750	0	0	0	0	332	0	0	176	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					26.5		26.5	26.5	
Total Split (s)	30.0	30.0	30.0					30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%					50.0%		50.0%	50.0%	
Maximum Green (s)	25.4	25.4	25.4					25.4		25.4	25.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		25.4	25.4					25.4			25.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.42	0.42					0.42			0.42	
v/c Ratio		0.73	0.83					0.42			0.36	
Control Delay		18.2	16.4					13.8			21.5	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		18.2	16.4					13.8			21.5	
LOS		B	B					B			C	
Approach Delay		17.4						13.8			21.5	
Approach LOS		B						B			C	
Queue Length 50th (ft)		157	90					78			59	
Queue Length 95th (ft)		200	#211					123			107	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1431	909					793			489	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.73	0.83					0.42			0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 55 (92%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 17.2		Intersection LOS: B	
Intersection Capacity Utilization 59.1%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Jackson Street & 5th Street



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	595	82	80	943	691	873
Future Volume (vph)	595	82	80	943	691	873
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3539	4940	2760
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3539	4940	2760
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	2%	5%	3%
Adj. Flow (vph)	726	100	98	1150	843	1065
Shared Lane Traffic (%)						
Lane Group Flow (vph)	726	100	98	1150	843	1065
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	22.5	22.5	10.0	37.5	27.5	
Total Split (%)	37.5%	37.5%	16.7%	62.5%	45.8%	
Maximum Green (s)	18.0	18.0	5.5	33.0	23.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	17.2	17.2	5.5	33.0	25.1	47.8
Actuated g/C Ratio	0.29	0.29	0.09	0.56	0.42	0.81
v/c Ratio	0.71	0.21	0.59	0.58	0.40	0.48
Control Delay	23.3	17.2	42.9	10.3	13.5	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	17.2	42.9	10.3	13.5	3.4
LOS	C	B	D	B	B	A
Approach Delay	22.6			12.8	7.9	
Approach LOS	C			B	A	
Queue Length 50th (ft)	118	27	35	131	80	58
Queue Length 95th (ft)	151	53	#79	157	98	73
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1065	491	167	1973	2095	2220
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.20	0.59	0.58	0.40	0.48

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 59.2			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 50.5%		ICU Level of Service A	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

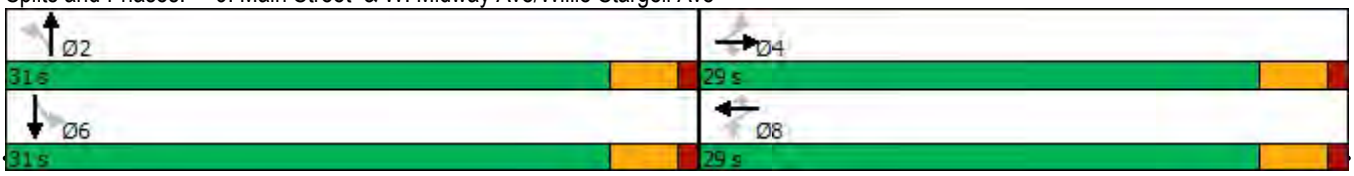
Splits and Phases: 8: Webster Street & Willie Stargell Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	138	88	86	249	289	140	414	80	111	106	10
Future Volume (vph)	4	138	88	86	249	289	140	414	80	111	106	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.981			0.993	
Flt Protected		0.999			0.987			0.989			0.976	
Satd. Flow (prot)	0	1898	1292	0	1746	1615	0	3397	0	0	3403	0
Flt Permitted		0.989			0.870			0.797			0.590	
Satd. Flow (perm)	0	1879	1292	0	1539	1615	0	2738	0	0	2057	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			110			243		34			10	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	25%	0%	10%	0%	14%	0%	0%	0%	6%	0%
Adj. Flow (vph)	5	173	110	108	311	361	175	518	100	139	133	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	110	0	419	361	0	793	0	0	285	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

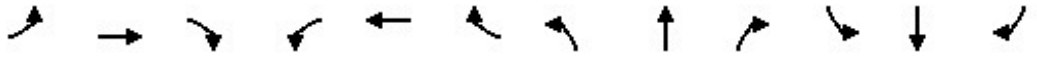
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0		31.0	31.0	
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		20.0	20.0		20.0	20.0		27.3			27.3	
Actuated g/C Ratio		0.36	0.36		0.36	0.36		0.49			0.49	
v/c Ratio		0.26	0.20		0.75	0.49		0.58			0.28	
Control Delay		13.0	3.8		24.7	6.9		12.8			10.1	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		13.0	3.8		24.7	6.9		12.8			10.1	
LOS		B	A		C	A		B			B	
Approach Delay		9.5			16.4			12.8			10.1	
Approach LOS		A			B			B			B	
Queue Length 50th (ft)		40	0		116	26		94			28	
Queue Length 95th (ft)		66	18		170	57		131			47	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		856	648		701	868		1365			1017	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.21	0.17		0.60	0.42		0.58			0.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 55.4			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	169	76	303	288	282	207	629	210	96	288	38
Future Volume (vph)	6	169	76	303	288	282	207	629	210	96	288	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.962			0.983	
Flt Protected		0.998			0.975		0.950			0.950	0.998	
Satd. Flow (prot)	0	2637	1077	0	3420	1568	1656	3447	0	1273	3362	0
Flt Permitted		0.928			0.722		0.950			0.950	0.998	
Satd. Flow (perm)	0	2452	1077	0	2532	1568	1656	3447	0	1273	3362	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			95			353		66			19	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	38%	50%	0%	6%	3%	9%	1%	0%	29%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	8	211	95	379	360	353	259	786	263	120	360	48
Shared Lane Traffic (%)										11%		
Lane Group Flow (vph)	0	219	95	0	739	353	259	1049	0	107	421	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		19.1	19.1		18.6	18.6	20.1	20.1		13.7	13.7	
Actuated g/C Ratio		0.29	0.29		0.29	0.29	0.31	0.31		0.21	0.21	
v/c Ratio		0.30	0.25		1.14dl	0.50	0.51	0.94		0.40	0.58	
Control Delay		20.1	6.9		66.0	5.5	23.5	39.9		26.3	25.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		20.1	6.9		66.0	5.5	23.5	39.9		26.3	25.0	
LOS		C	A		E	A	C	D		C	C	
Approach Delay		16.1			46.5			36.7			25.3	
Approach LOS		B			D			D			C	
Queue Length 50th (ft)		34	0		~158	0	83	198		40	78	
Queue Length 95th (ft)		59	24		#247	36	140	#293		73	103	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		720	383		723	700	512	1111		373	1000	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.30	0.25		1.02	0.50	0.51	0.94		0.29	0.42	

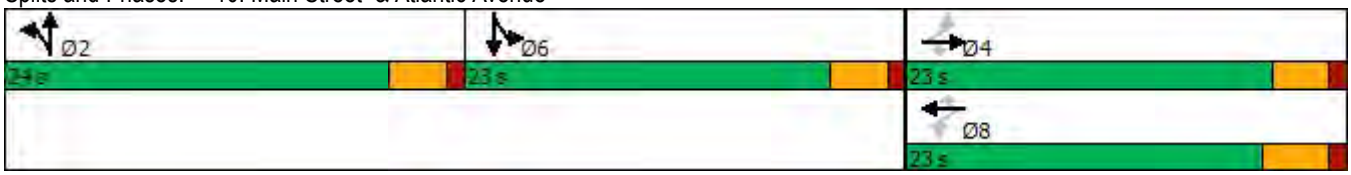
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 64.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 36.1		Intersection LOS: D	
Intersection Capacity Utilization 67.6%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 10: Main Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	366	164	28	484	54	152	757	75	88	443	361
Future Volume (vph)	239	366	164	28	484	54	152	757	75	88	443	361
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.985			0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1524	1444	3432	0	1736	3471	0	1805	3406	1553
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1524	1444	3432	0	1736	3471	0	1805	3406	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238		14			14				168
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	2%	2%	6%	25%	4%	0%	4%	2%	8%	0%	6%	4%
Adj. Flow (vph)	299	458	205	35	605	68	190	946	94	110	554	451
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	458	205	35	673	0	190	1040	0	110	554	451
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	14.0	26.0	26.0	11.0	23.0		16.0	31.0		10.0	25.0	14.0
Total Split (%)	17.9%	33.3%	33.3%	14.1%	29.5%		20.5%	39.7%		12.8%	32.1%	17.9%
Maximum Green (s)	9.0	21.0	21.0	6.0	18.0		11.0	26.0		5.0	20.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	9.0	25.0	25.0	5.9	17.6		10.7	26.0		5.0	20.3	34.3
Actuated g/C Ratio	0.12	0.32	0.32	0.08	0.23		0.14	0.34		0.06	0.26	0.44
v/c Ratio	0.75	0.40	0.31	0.32	0.85		0.80	0.89		0.95	0.62	0.58
Control Delay	46.9	23.0	3.6	42.3	40.4		58.4	35.3		112.8	29.0	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.9	23.0	3.6	42.3	40.4		58.4	35.3		112.8	29.0	13.5
LOS	D	C	A	D	D		E	D		F	C	B
Approach Delay		26.3			40.5			38.9			31.0	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	73	97	0	16	161		90	246		55	125	95
Queue Length 95th (ft)	100	123	20	39	192		#157	274		#128	153	146
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	398	1141	652	112	806		245	1172		116	893	780
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.75	0.40	0.31	0.31	0.83		0.78	0.89		0.95	0.62	0.58

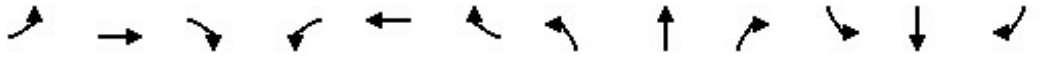
Intersection Summary

Area Type: Other
Cycle Length: 78
Actuated Cycle Length: 77.6
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 34.0 Intersection LOS: C
Intersection Capacity Utilization 66.8% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Webster Street & Atlantic Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	722	216	221	1918	0	0	0	0	442	17
Future Volume (vph)	0	0	722	216	221	1918	0	0	0	0	442	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.976							
Satd. Flow (prot)	0	0	2787	0	1818	2787	0	0	0	0	1863	1583
Flt Permitted					0.976							
Satd. Flow (perm)	0	0	2787	0	1818	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					67							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	785	235	240	2085	0	0	0	0	480	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	785	0	475	2085	0	0	0	0	480	18
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

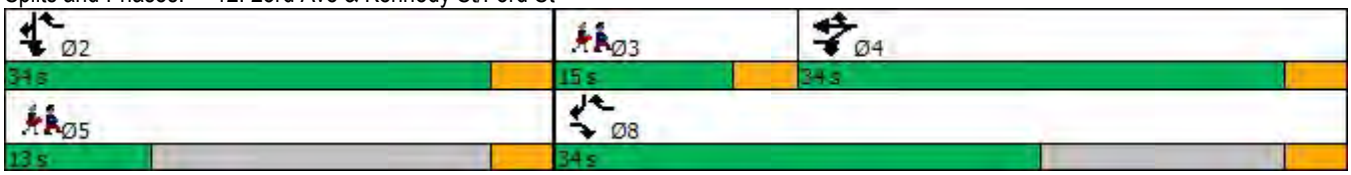
Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			68.0		30.0	68.0					30.0	68.0
Actuated g/C Ratio			1.00		0.44	1.00					0.44	1.00
v/c Ratio			0.28		0.57	0.75					0.58	0.01
Control Delay			0.3		15.2	1.9					17.9	0.0
Queue Delay			0.0		2.2	0.0					0.0	0.0
Total Delay			0.3		17.4	1.9					17.9	0.0
LOS			A		B	A					B	A
Approach Delay		0.3			4.8						17.3	
Approach LOS		A			A						B	
Queue Length 50th (ft)			0		119	0					144	0
Queue Length 95th (ft)			0		204	0					232	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		839	2787					821	1583
Starvation Cap Reductn			0		228	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.28		0.78	0.75					0.58	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 68			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 5.5		Intersection LOS: A	
Intersection Capacity Utilization 82.1%		ICU Level of Service E	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

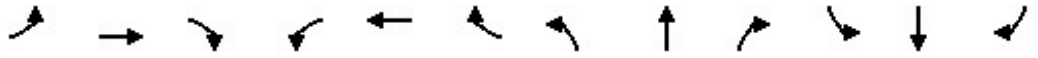
Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St



Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	86	16	1972	1087	15	61	0	299
Future Volume (vph)	0	0	0	0	86	16	1972	1087	15	61	0	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.998				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1859	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1859	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				318
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	93	17	2143	1182	16	66	0	325
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	110	0	2143	1198	0	66	0	325
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

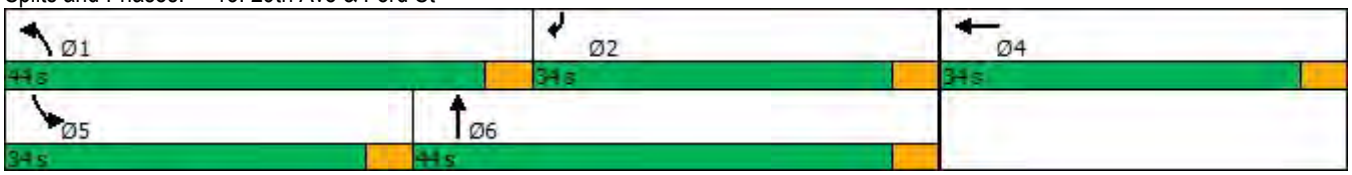


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					9.9		41.1	45.0		7.2		7.7
Actuated g/C Ratio					0.14		0.60	0.66		0.10		0.11
v/c Ratio					0.41		1.04	0.98		0.36		0.71
Control Delay					30.3		50.9	42.3		37.2		13.9
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					30.3		50.9	42.3		37.2		13.9
LOS					C		D	D		D		B
Approach Delay					30.3			47.8			17.8	
Approach LOS					C			D			B	
Queue Length 50th (ft)					40		~506	~567		26		3
Queue Length 95th (ft)					88		#968	#1135		74		80
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					822		2054	1218		794		885
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.13		1.04	0.98		0.08		0.37

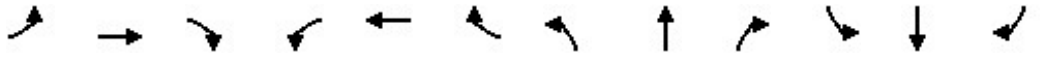
Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 68.7			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 44.3		Intersection LOS: D	
Intersection Capacity Utilization 90.3%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	73	28	77	170	21	471	656	80	13	509	365
Future Volume (vph)	103	73	28	77	170	21	471	656	80	13	509	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.989			0.984			0.937	
Flt Protected		0.975			0.986		0.950			0.950		
Satd. Flow (prot)	0	1783	0	0	1816	0	1770	1833	0	1770	1745	0
Flt Permitted		0.532			0.806		0.079			0.327		
Satd. Flow (perm)	0	973	0	0	1485	0	147	1833	0	609	1745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			4			11			50	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	79	30	84	185	23	512	713	87	14	553	397
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	221	0	0	292	0	512	800	0	14	950	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		



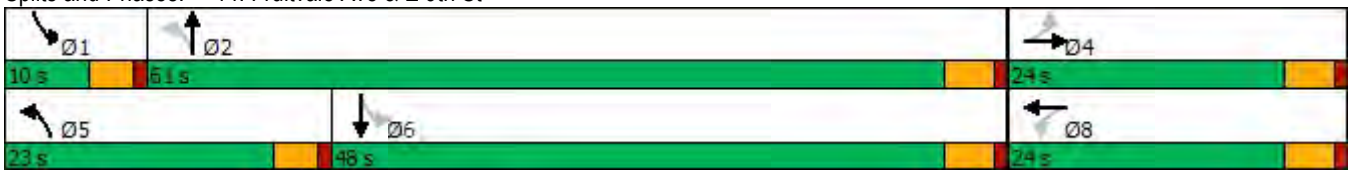
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		19.5			19.5		67.0	64.5		49.7	43.5	
Actuated g/C Ratio		0.21			0.21		0.71	0.68		0.52	0.46	
v/c Ratio		1.08			0.95		1.20	0.64		0.04	1.15	
Control Delay		122.4			79.0		136.9	12.4		6.0	106.9	
Queue Delay		0.0			0.0		3.1	51.5		0.0	0.0	
Total Delay		122.4			79.0		140.0	63.9		6.0	106.9	
LOS		F			E		F	E		A	F	
Approach Delay		122.4			79.0			93.6			105.4	
Approach LOS		F			E			F			F	
Queue Length 50th (ft)		~146			173		~330	218		2	~665	
Queue Length 95th (ft)		#294			#336		#530	466		7	#905	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		205			307		428	1248		393	826	
Starvation Cap Reductn		0			0		111	544		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		1.08			0.95		1.62	1.14		0.04	1.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 98.4		Intersection LOS: F	
Intersection Capacity Utilization 105.5%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St



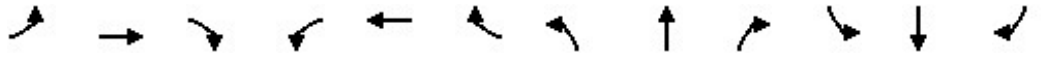
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	59	180	15	0	93	0	966	15	96	545	0
Future Volume (vph)	142	59	180	15	0	93	0	966	15	96	545	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.883			0.998				
Flt Protected		0.966			0.993					0.950		
Satd. Flow (prot)	0	1799	1583	0	1633	0	0	3532	0	1770	1863	0
Flt Permitted		0.759			0.944					0.145		
Satd. Flow (perm)	0	1414	1583	0	1553	0	0	3532	0	270	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196		101			2				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	64	196	16	0	101	0	1050	16	104	592	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	218	196	0	117	0	0	1066	0	104	592	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		15.9	15.9		14.8			27.9		36.9	36.4	
Actuated g/C Ratio		0.26	0.26		0.24			0.46		0.61	0.60	
v/c Ratio		0.59	0.35		0.26			0.66		0.30	0.53	
Control Delay		28.5	5.3		7.8			17.2		8.1	10.0	
Queue Delay		0.0	0.0		0.0			0.0		0.0	0.6	
Total Delay		28.5	5.3		7.8			17.2		8.1	10.5	
LOS		C	A		A			B		A	B	
Approach Delay		17.5			7.8			17.2			10.2	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		76	0		5			157		13	104	
Queue Length 95th (ft)		145	42		40			301		41	252	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		843	1023		942			1848		676	1566	
Starvation Cap Reductn		0	0		0			0		64	566	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.26	0.19		0.12			0.58		0.17	0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 60.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 60.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	442	332	196	430	567	103	13	682	163
Future Volume (vph)	0	0	0	442	332	196	430	567	103	13	682	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.970			0.977			0.972	
Flt Protected					0.978		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3358	0	1770	3458	0	0	3437	0
Flt Permitted					0.978		0.950				0.938	
Satd. Flow (perm)	0	0	0	0	3358	0	1770	3458	0	0	3227	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					44			39			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	480	361	213	467	616	112	14	741	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1054	0	467	728	0	0	932	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	



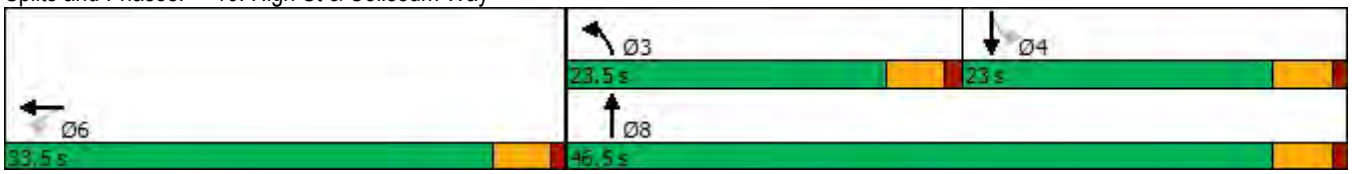
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		23.5	46.5		23.0	23.0	
Total Split (%)				41.9%	41.9%		29.4%	58.1%		28.8%	28.8%	
Maximum Green (s)				29.0	29.0		19.0	42.0		18.5	18.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		19.0	42.0			18.5	
Actuated g/C Ratio					0.36		0.24	0.52			0.23	
v/c Ratio					0.85		1.11	0.40			1.21	
Control Delay					30.4		109.5	11.5			135.0	
Queue Delay					0.0		2.0	1.9			0.0	
Total Delay					30.4		111.4	13.4			135.0	
LOS					C		F	B			F	
Approach Delay					30.4			51.7			135.0	
Approach LOS					C			D			F	
Queue Length 50th (ft)					241		~271	101			~298	
Queue Length 95th (ft)					#335		#449	140			#418	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1245		420	1833			771	
Starvation Cap Reductn					0		74	908			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.85		1.35	0.79			1.21	

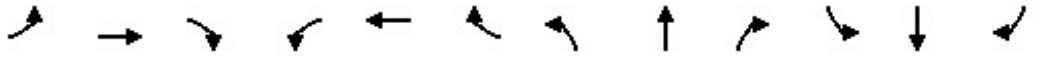
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.21			
Intersection Signal Delay: 69.1		Intersection LOS: E	
Intersection Capacity Utilization 87.8%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

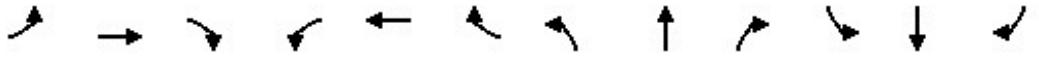
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	535	230	63	0	214	0	619	349	258	836	0
Future Volume (vph)	141	535	230	63	0	214	0	619	349	258	836	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.946				
Flt Protected		0.990		0.950						0.950		
Satd. Flow (prot)	0	3504	1583	1770	0	1583	0	3348	0	1770	3539	0
Flt Permitted		0.990		0.204						0.950		
Satd. Flow (perm)	0	3504	1583	380	0	1583	0	3348	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						233		129				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	153	582	250	68	0	233	0	673	379	280	909	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	735	250	68	0	233	0	1052	0	280	909	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	29.0	29.0	29.0	29.0		29.0		30.0		21.0	51.0	
Total Split (%)	36.3%	36.3%	36.3%	36.3%		36.3%		37.5%		26.3%	63.8%	
Maximum Green (s)	25.0	25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Actuated g/C Ratio		0.31	0.31	0.31		0.31		0.32		0.21	0.58	
v/c Ratio		0.67	0.51	0.59		0.36		0.91		0.77	0.44	
Control Delay		27.6	26.8	47.6		4.9		36.2		45.8	10.3	
Queue Delay		0.0	0.0	0.0		0.0		0.0		4.4	3.4	
Total Delay		27.6	26.8	47.6		4.9		36.2		50.2	13.7	
LOS		C	C	D		A		D		D	B	
Approach Delay		27.4			14.5			36.2			22.3	
Approach LOS		C			B			D			C	
Queue Length 50th (ft)		166	101	28		0		234		133	123	
Queue Length 95th (ft)		227	171	#90		48		#360		#250	164	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1095	494	116		646		1155		365	2057	
Starvation Cap Reductn		0	0	0		0		0		40	1026	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.67	0.51	0.59		0.36		0.91		0.86	0.88	

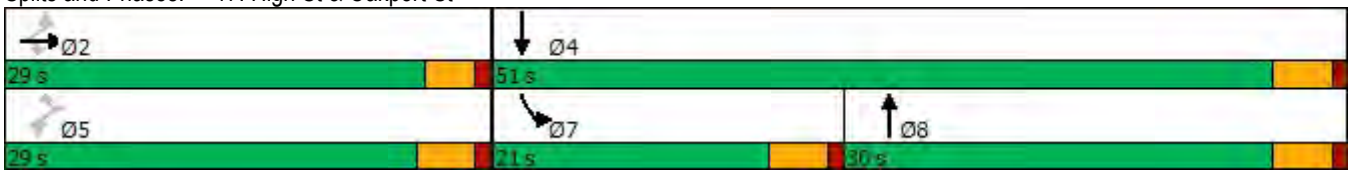
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 27.2		Intersection LOS: C	
Intersection Capacity Utilization 79.1%		ICU Level of Service D	

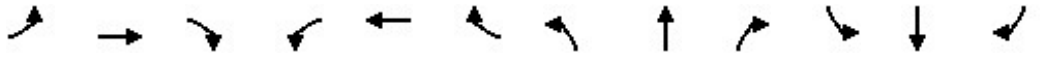
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

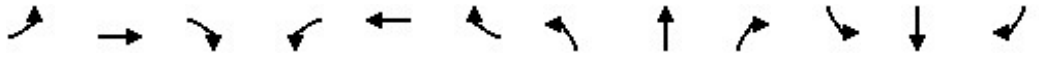
Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	345	21	10	15	108	382	0	1618	10	6	798	235
Future Volume (vph)	345	21	10	15	108	382	0	1618	10	6	798	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.951				0.850		0.999			0.966	
Flt Protected	0.950				0.994							
Satd. Flow (prot)	1770	1771	0	0	1852	1583	0	3536	0	0	3419	0
Flt Permitted	0.672				0.973						0.904	
Satd. Flow (perm)	1252	1771	0	0	1812	1583	0	3536	0	0	3091	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		11						2			98	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	23	11	16	117	415	0	1759	11	7	867	255
Shared Lane Traffic (%)												
Lane Group Flow (vph)	375	34	0	0	133	415	0	1770	0	0	1129	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		

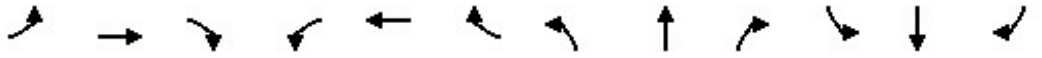


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	18.5	18.5			18.5	18.5		32.5			32.5	
Actuated g/C Ratio	0.31	0.31			0.31	0.31		0.54			0.54	
v/c Ratio	0.97	0.06			0.24	0.85		0.92			0.66	
Control Delay	64.4	11.8			16.9	39.0		23.1			11.1	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	64.4	11.8			16.9	39.0		23.1			11.1	
LOS	E	B			B	D		C			B	
Approach Delay		60.0			33.7			23.1			11.1	
Approach LOS		E			C			C			B	
Queue Length 50th (ft)	132	6			35	139		278			124	
Queue Length 95th (ft)	#286	22			72	#283		#459			184	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	386	553			558	488		1916			1719	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.97	0.06			0.24	0.85		0.92			0.66	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 25.0		Intersection LOS: C	
Intersection Capacity Utilization 99.1%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 18: Park St & Blanding Ave

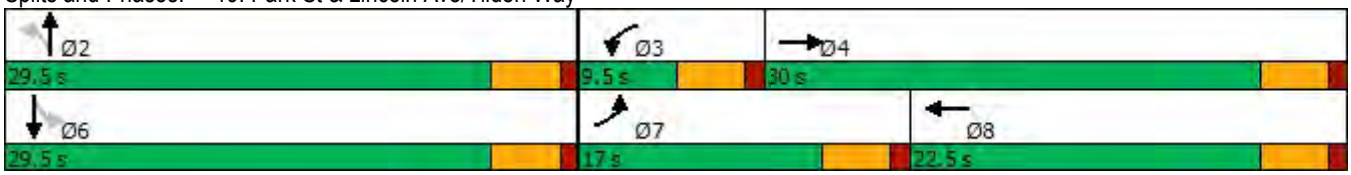
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	254	26	13	277	92	45	665	45	15	473	92
Future Volume (vph)	197	254	26	13	277	92	45	665	45	15	473	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.986			0.963			0.991			0.976	
Flt Protected	0.950			0.950				0.997			0.999	
Satd. Flow (prot)	1770	3490	0	1770	3408	0	0	3497	0	0	3451	0
Flt Permitted	0.950			0.950				0.883			0.928	
Satd. Flow (perm)	1770	3490	0	1770	3408	0	0	3097	0	0	3206	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			64			10			35	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	214	276	28	14	301	100	49	723	49	16	514	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	304	0	14	401	0	0	821	0	0	630	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		



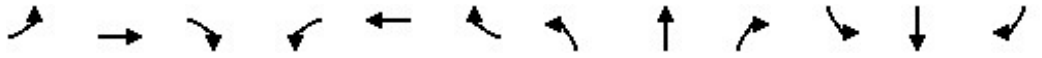
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	11.2	25.7		5.0	11.7			25.1			25.1	
Actuated g/C Ratio	0.18	0.42		0.08	0.19			0.41			0.41	
v/c Ratio	0.67	0.21		0.10	0.57			0.65			0.47	
Control Delay	35.8	11.7		30.0	22.4			18.3			14.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	35.8	11.7		30.0	22.4			18.3			14.9	
LOS	D	B		C	C			B			B	
Approach Delay		21.6			22.6			18.3			14.9	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	74	32		5	61			126			84	
Queue Length 95th (ft)	#164	70		21	100			208			143	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	360	1553		144	1046			1269			1328	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.59	0.20		0.10	0.38			0.65			0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 61.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 18.9		Intersection LOS: B	
Intersection Capacity Utilization 74.1%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



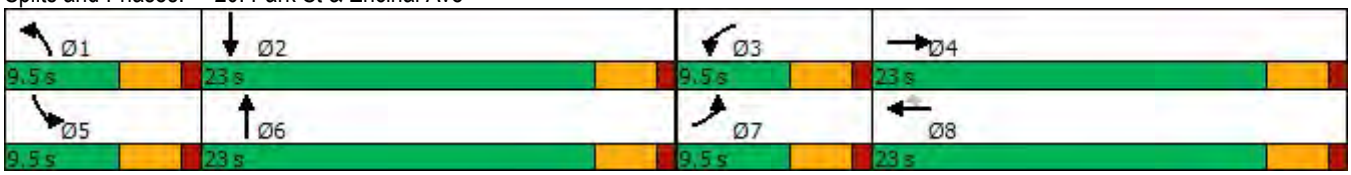
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	327	44	46	443	81	82	293	26	55	232	53
Future Volume (vph)	81	327	44	46	443	81	82	293	26	55	232	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.982				0.850		0.988			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3476	0	1770	1863	1583	1770	3497	0	1770	3440	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3476	0	1770	1863	1583	1770	3497	0	1770	3440	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				151		14			43	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	355	48	50	482	88	89	318	28	60	252	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	403	0	50	482	88	89	346	0	60	310	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



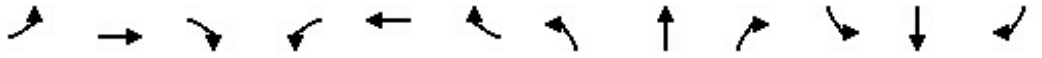
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.7	19.6		5.7	17.9	17.9	5.7	21.5		5.7	19.8	
Actuated g/C Ratio	0.10	0.33		0.10	0.30	0.30	0.10	0.36		0.10	0.33	
v/c Ratio	0.52	0.35		0.30	0.87	0.15	0.53	0.27		0.36	0.27	
Control Delay	42.4	16.8		33.1	40.6	1.6	42.7	16.3		34.6	15.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	42.4	16.8		33.1	40.6	1.6	42.7	16.3		34.6	15.6	
LOS	D	B		C	D	A	D	B		C	B	
Approach Delay		21.4			34.5			21.7			18.7	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)	34	62		19	181	0	35	53		23	42	
Queue Length 95th (ft)	#92	97		49	#342	9	#93	85		57	72	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	168	1261		168	613	622	168	1263		168	1161	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.52	0.32		0.30	0.79	0.14	0.53	0.27		0.36	0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 60			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 25.2		Intersection LOS: C	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	105	17	71	440	523	15	529	79	170	693	251
Future Volume (vph)	115	105	17	71	440	523	15	529	79	170	693	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.980			0.960	
Flt Protected		0.975			0.993		0.950			0.950		
Satd. Flow (prot)	0	1816	1583	0	1850	1583	1770	3468	0	1770	3398	0
Flt Permitted		0.975			0.993		0.950			0.950		
Satd. Flow (perm)	0	1816	1583	0	1850	1583	1770	3468	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			350		17			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	114	18	77	478	568	16	575	86	185	753	273
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	239	18	0	555	568	16	661	0	185	1026	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



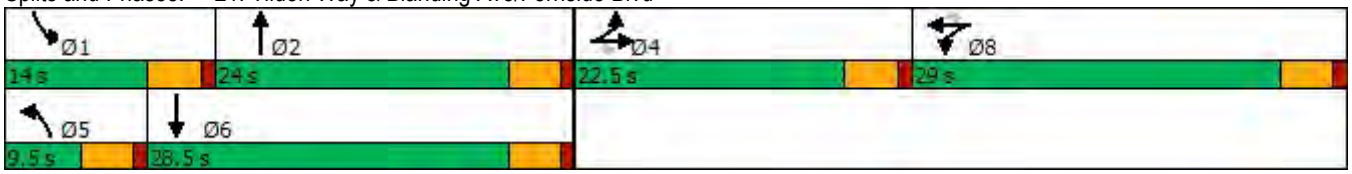
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		15.3	15.3		24.6	24.6	5.0	18.9		9.5	31.1	
Actuated g/C Ratio		0.18	0.18		0.29	0.29	0.06	0.22		0.11	0.36	
v/c Ratio		0.74	0.05		1.06	0.81	0.16	0.86		0.95	0.81	
Control Delay		48.6	0.2		87.5	22.0	43.8	44.4		94.8	31.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		48.6	0.2		87.5	22.0	43.8	44.4		94.8	31.6	
LOS		D	A		F	C	D	D		F	C	
Approach Delay		45.2			54.4			44.4			41.2	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)		125	0		~349	114	9	182		104	245	
Queue Length 95th (ft)		204	0		#556	#308	29	#278		#238	#458	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		379	432		526	700	102	798		195	1260	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.63	0.04		1.06	0.81	0.16	0.83		0.95	0.81	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 86.3			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 46.7		Intersection LOS: D	
Intersection Capacity Utilization 85.3%		ICU Level of Service E	
Analysis Period (min) 15			

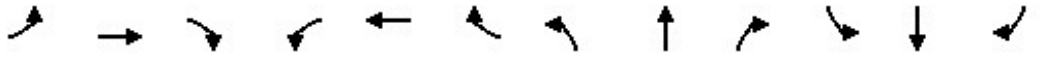
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	281	91	29	347	75	182	457	20	37	381	28
Future Volume (vph)	88	281	91	29	347	75	182	457	20	37	381	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970				0.850		0.994			0.990	
Flt Protected		0.990			0.996		0.950			0.950		
Satd. Flow (prot)	0	3399	0	0	1855	1636	1770	1852	0	1770	1844	0
Flt Permitted		0.707			0.936		0.424			0.358		
Satd. Flow (perm)	0	2427	0	0	1744	1636	790	1852	0	667	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		63				82		5			8	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	305	99	32	377	82	198	497	22	40	414	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	500	0	0	409	82	198	519	0	40	444	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



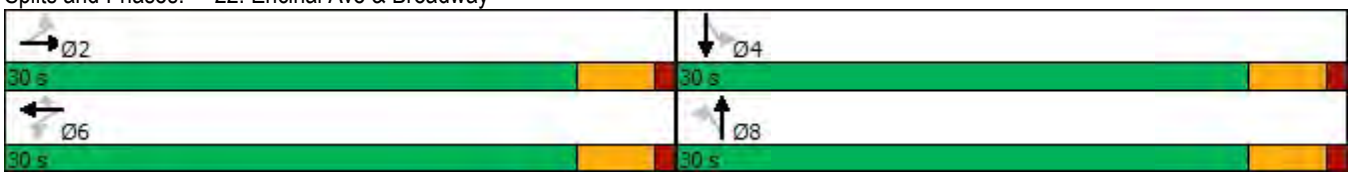
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		17.5			17.5	17.5	25.8	25.8		25.8	25.8	
Actuated g/C Ratio		0.33			0.33	0.33	0.49	0.49		0.49	0.49	
v/c Ratio		0.59			0.70	0.14	0.51	0.57		0.12	0.49	
Control Delay		15.1			21.9	3.7	17.2	13.9		10.6	12.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		15.1			21.9	3.7	17.2	13.9		10.6	12.5	
LOS		B			C	A	B	B		B	B	
Approach Delay		15.1			18.9			14.8			12.3	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		55			106	0	38	102		6	82	
Queue Length 95th (ft)		93			181	20	#120	236		26	192	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1226			858	846	388	914		328	911	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.41			0.48	0.10	0.51	0.57		0.12	0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.4			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 15.2		Intersection LOS: B	
Intersection Capacity Utilization 79.9%		ICU Level of Service D	
Analysis Period (min) 15			

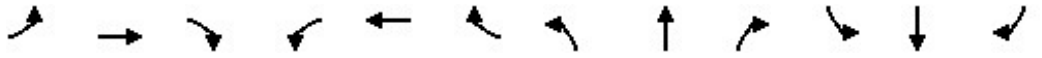
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	768	7	109	888	786	5	115	185	308	70	90
Future Volume (vph)	68	768	7	109	888	786	5	115	185	308	70	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.918				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3536	0	1770	1863	1583	0	1708	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.997		0.416		
Satd. Flow (perm)	1770	3536	0	1770	1863	1583	0	1705	0	775	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				591		102				143
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			2981			502			2170	
Travel Time (s)		9.3			81.3			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	835	8	118	965	854	5	125	201	335	76	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	843	0	118	965	854	0	331	0	335	76	98
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



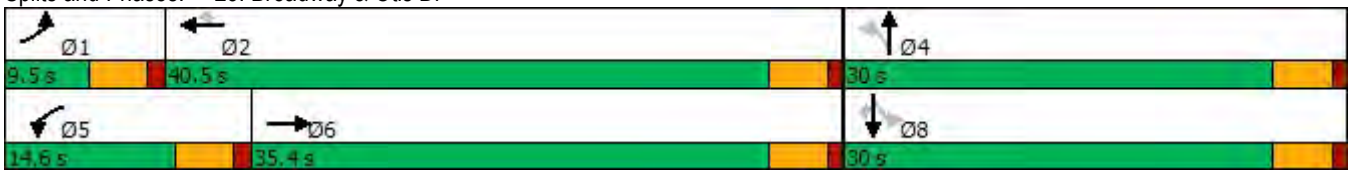
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	32.3		9.1	36.1	36.1		25.6		25.6	25.6	25.6
Actuated g/C Ratio	0.06	0.41		0.12	0.46	0.46		0.33		0.33	0.33	0.33
v/c Ratio	0.65	0.58		0.58	1.12	0.81		0.53		1.32	0.12	0.16
Control Delay	65.3	20.5		44.8	93.7	13.4		18.6		196.9	20.2	2.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	65.3	20.5		44.8	93.7	13.4		18.6		196.9	20.2	2.1
LOS	E	C		D	F	B		B		F	C	A
Approach Delay		24.1			55.3			18.6			133.0	
Approach LOS		C			E			B			F	
Queue Length 50th (ft)	37	174		56	~577	98		90		~223	27	0
Queue Length 95th (ft)	#102	234		108	#800	#332		171		#380	57	15
Internal Link Dist (ft)		261			2901			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	113	1465		229	861	1049		626		254	609	614
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.65	0.58		0.52	1.12	0.81		0.53		1.32	0.12	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 78.1			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.32			
Intersection Signal Delay: 55.0		Intersection LOS: D	
Intersection Capacity Utilization 100.6%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

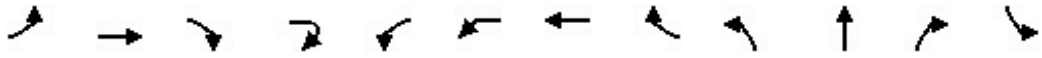
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	116	168	41	2	6	4	430	355	83	430	4	247
Future Volume (vph)	116	168	41	2	6	4	430	355	83	430	4	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.999			0.992		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1861	1583	0	1846	0	1770
Flt Permitted	0.125						0.992			0.839		0.950
Satd. Flow (perm)	233	1863	1583	0	0	0	1848	1583	0	1561	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								386				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	126	183	45	2	7	4	467	386	90	467	4	268
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	183	47	0	0	0	478	386	0	561	0	268
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

Lane Group	SBT	SBR	SBR2	NEL	NER	NER2
Lane Configurations						
Traffic Volume (vph)	448	97	80	137	5	5
Future Volume (vph)	448	97	80	137	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	50	
Storage Lanes		1		1	1	
Taper Length (ft)				25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.995		0.850
Flt Protected				0.954		
Satd. Flow (prot)	1863	1583	0	1768	0	1583
Flt Permitted				0.954		
Satd. Flow (perm)	1863	1583	0	1768	0	1583
Right Turn on Red			No			Yes
Satd. Flow (RTOR)						88
Link Speed (mph)	25			25		
Link Distance (ft)	1133			459		
Travel Time (s)	30.9			12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	487	105	87	149	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	487	192	0	154	0	5
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Right	Right
Median Width(ft)	12			12		
Link Offset(ft)	0			0		
Crosswalk Width(ft)	16			16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	9	9
Number of Detectors	2	1		1		1
Detector Template	Thru	Right		Left		Right
Leading Detector (ft)	100	20		20		20
Trailing Detector (ft)	0	0		0		0
Detector 1 Position(ft)	0	0		0		0
Detector 1 Size(ft)	6	20		20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0		0.0
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA	Perm		Prot		Perm
Protected Phases	4			9		
Permitted Phases		4				9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	42.0	42.0	42.0		42.0	42.0	42.0	42.0	43.0	43.0		22.5
Total Split (%)	32.3%	32.3%	32.3%		32.3%	32.3%	32.3%	32.3%	33.1%	33.1%		17.3%
Maximum Green (s)	37.5	37.5	37.5		37.5	37.5	37.5	37.5	38.5	38.5		18.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.5	37.5	37.5				37.5	37.5		38.5		18.0
Actuated g/C Ratio	0.29	0.29	0.29				0.29	0.29		0.30		0.14
v/c Ratio	1.85	0.33	0.10				0.88	0.52		1.19		1.07
Control Delay	457.9	37.8	34.4				61.6	6.2		143.9		128.5
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	457.9	37.8	34.4				61.6	6.2		143.9		128.5
LOS	F	D	C				E	A		F		F
Approach Delay		186.0					36.8			143.9		
Approach LOS		F					D			F		
Queue Length 50th (ft)	~159	120	29				380	0		~565		~249
Queue Length 95th (ft)	#293	190	61				#584	77		#802		#432
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	68	549	466				544	738		472		250
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	1.85	0.33	0.10				0.88	0.52		1.19		1.07

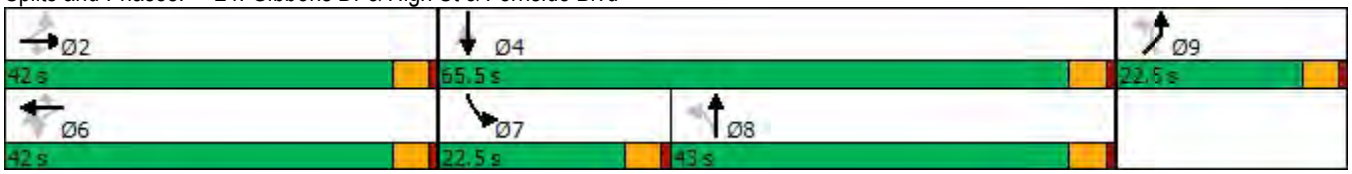
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 127.3			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.85			
Intersection Signal Delay: 83.7		Intersection LOS: F	
Intersection Capacity Utilization 109.7%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

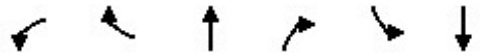
Lane Group	SBT	SBR	SBR2	NEL	NER	NER2
Detector Phase	4	4		9		9
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0		5.0
Minimum Split (s)	22.5	22.5		22.5		22.5
Total Split (s)	65.5	65.5		22.5		22.5
Total Split (%)	50.4%	50.4%		17.3%		17.3%
Maximum Green (s)	61.0	61.0		18.0		18.0
Yellow Time (s)	3.5	3.5		3.5		3.5
All-Red Time (s)	1.0	1.0		1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5		4.5		4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0		3.0
Recall Mode	None	None		None		None
Walk Time (s)	7.0	7.0		7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0		0		0
Act Effct Green (s)	61.0	61.0		15.2		15.2
Actuated g/C Ratio	0.48	0.48		0.12		0.12
v/c Ratio	0.55	0.25		0.73		0.02
Control Delay	26.7	21.2		74.2		0.2
Queue Delay	0.0	0.0		0.0		0.0
Total Delay	26.7	21.2		74.2		0.2
LOS	C	C		E		A
Approach Delay	54.4			71.9		
Approach LOS	D			E		
Queue Length 50th (ft)	281	93		124		0
Queue Length 95th (ft)	397	149		200		0
Internal Link Dist (ft)	1053			379		
Turn Bay Length (ft)						50
Base Capacity (vph)	893	759		249		299
Starvation Cap Reductn	0	0		0		0
Spillback Cap Reductn	0	0		0		0
Storage Cap Reductn	0	0		0		0
Reduced v/c Ratio	0.55	0.25		0.62		0.02

Intersection Summary

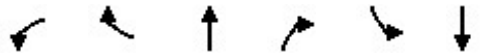
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd





Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	781	36	1910	1134	76	1529
Future Volume (vph)	781	36	1910	1134	76	1529
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.993			0.850		
Flt Protected	0.954				0.950	
Satd. Flow (prot)	3423	0	3539	1583	1770	3539
Flt Permitted	0.954				0.950	
Satd. Flow (perm)	3423	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	4			151		
Link Speed (mph)	25		35			35
Link Distance (ft)	479		1340			2981
Travel Time (s)	13.1		26.1			58.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	849	39	2076	1233	83	1662
Shared Lane Traffic (%)						
Lane Group Flow (vph)	888	0	2076	1233	83	1662
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		



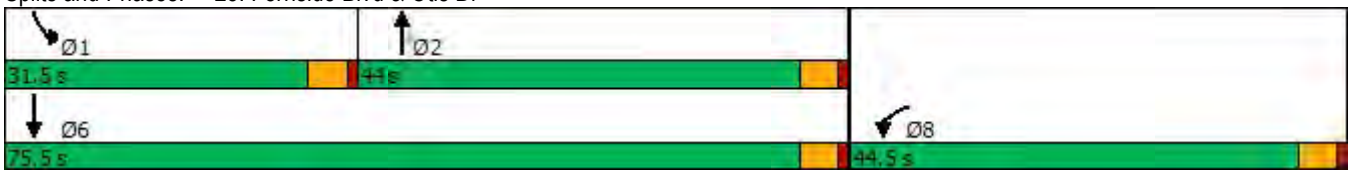
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	44.5		44.0	44.0	31.5	75.5
Total Split (%)	37.1%		36.7%	36.7%	26.3%	62.9%
Maximum Green (s)	40.0		39.5	39.5	27.0	71.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	34.1		58.3	58.3	10.7	71.1
Actuated g/C Ratio	0.30		0.51	0.51	0.09	0.62
v/c Ratio	0.87		1.15	1.40	0.50	0.75
Control Delay	47.5		103.4	211.1	60.1	19.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	47.5		103.4	211.1	60.1	19.0
LOS	D		F	F	E	B
Approach Delay	47.5		143.5			21.0
Approach LOS	D		F			C
Queue Length 50th (ft)	315		~991	~1201	60	437
Queue Length 95th (ft)	393		#1257	#1578	112	593
Internal Link Dist (ft)	399		1260			2901
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	1202		1804	880	419	2202
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.74		1.15	1.40	0.20	0.75

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 114.3			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.40			
Intersection Signal Delay: 93.2		Intersection LOS: F	
Intersection Capacity Utilization 91.7%		ICU Level of Service F	
Analysis Period (min) 15			

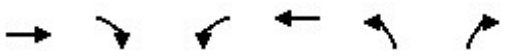
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Fernside Blvd & Otis Dr



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1148	1260	146	1264	1916	150
Future Volume (vph)	1148	1260	146	1264	1916	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		250				50
Link Speed (mph)	25			25	25	
Link Distance (ft)	1340			365	455	
Travel Time (s)	36.5			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1248	1370	159	1374	2083	163
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1248	1370	159	1374	2083	163
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free



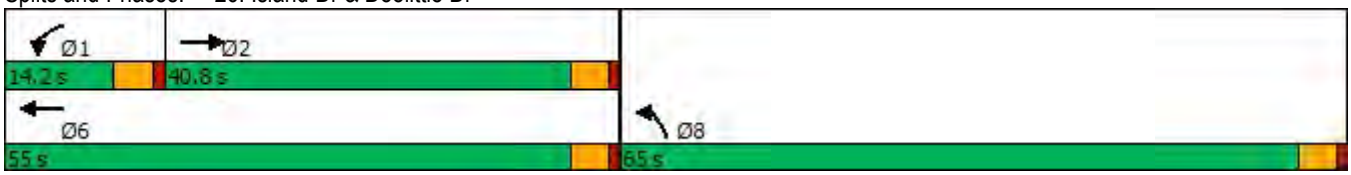
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.3	120.0	9.7	50.5	60.5	120.0
Actuated g/C Ratio	0.30	1.00	0.08	0.42	0.50	1.00
v/c Ratio	1.17	0.87	1.11	0.92	1.20	0.10
Control Delay	123.3	7.0	158.7	44.3	126.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	123.3	7.0	158.7	44.3	126.5	0.1
LOS	F	A	F	D	F	A
Approach Delay	62.4			56.2	117.4	
Approach LOS	E			E	F	
Queue Length 50th (ft)	~604	0	~141	521	~1011	0
Queue Length 95th (ft)	#741	0	#281	#672	#1146	0
Internal Link Dist (ft)	1260			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1070	1583	143	1489	1730	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.17	0.87	1.11	0.92	1.20	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 80.2		Intersection LOS: F	
Intersection Capacity Utilization 105.7%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

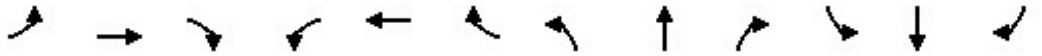
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 26: Island Dr & Doolittle Dr



2040 Proposed Action Condition

PM Peak Hour



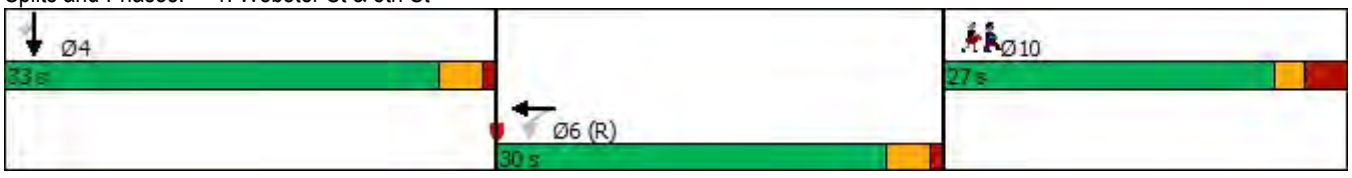
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	454	513	0	0	0	0	0	1072	324
Future Volume (vph)	0	0	0	454	513	0	0	0	0	0	1072	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.996	0.850
Flt Protected				0.950	0.986							
Satd. Flow (prot)	0	0	0	1332	4541	0	0	0	0	0	4633	1203
Flt Permitted				0.950	0.986							
Satd. Flow (perm)	0	0	0	1332	4541	0	0	0	0	0	4633	1203
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				259	117						5	313
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	488	552	0	0	0	0	0	1153	348
Shared Lane Traffic (%)				47%								10%
Lane Group Flow (vph)	0	0	0	259	781	0	0	0	0	0	1188	313
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	25.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				31.7	31.7						31.1	31.1
Actuated g/C Ratio				0.35	0.35						0.35	0.35
v/c Ratio				0.41	0.47						0.74	0.50
Control Delay				5.5	22.0						29.0	5.7
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				5.5	22.0						29.0	5.7
LOS				A	C						C	A
Approach Delay					17.9						24.1	
Approach LOS					B						C	
Queue Length 50th (ft)				0	123						222	0
Queue Length 95th (ft)				63	165						277	65
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				636	1676						1619	623
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.41	0.47						0.73	0.50

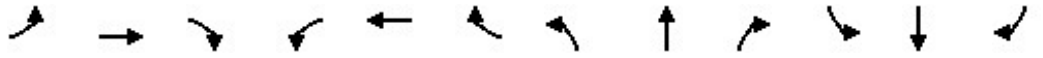
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 21.6		Intersection LOS: C	
Intersection Capacity Utilization 44.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St

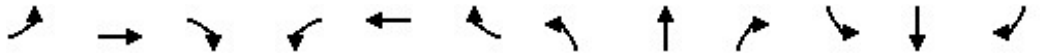


Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1040	1130	0	0	0	0	0	0	270	1180	0
Future Volume (vph)	0	1040	1130	0	0	0	0	0	0	270	1180	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.947	0.850									
Flt Protected											0.991	
Satd. Flow (prot)	0	4311	1375	0	0	0	0	0	0	0	4883	0
Flt Permitted											0.991	
Satd. Flow (perm)	0	4311	1375	0	0	0	0	0	0	0	4883	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		4	18								58	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			383			184			292	
Travel Time (s)		9.3			10.4			5.0			8.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	1169	1270	0	0	0	0	0	0	303	1326	0
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	0	1804	635	0	0	0	0	0	0	0	1629	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		36.0	36.0							24.0	24.0	
Total Split (s)		36.0	36.0							24.0	24.0	
Total Split (%)		60.0%	60.0%							40.0%	40.0%	

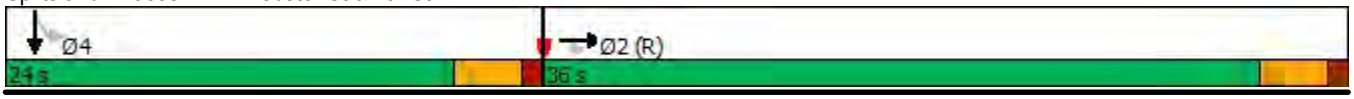


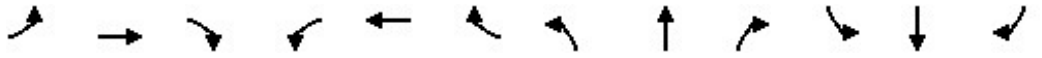
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		32.0	32.0							20.0	20.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		22.0	22.0							8.0	8.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		32.0	32.0								20.0	
Actuated g/C Ratio		0.53	0.53								0.33	
v/c Ratio		0.92dr	0.86								0.98	
Control Delay		14.3	26.3								38.5	
Queue Delay		0.0	0.0								21.5	
Total Delay		14.3	26.3								60.0	
LOS		B	C								E	
Approach Delay		17.4									60.0	
Approach LOS		B									E	
Queue Length 50th (ft)		183	202								202	
Queue Length 95th (ft)		239	#433								#302	
Internal Link Dist (ft)		260			303			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2301	741								1666	
Starvation Cap Reductn		0	0								119	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.78	0.86								1.05	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 9.5 (16%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 34.5		Intersection LOS: C	
Intersection Capacity Utilization 81.6%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

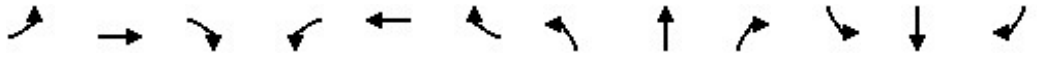
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	1215	0	0	0	0	0	820	1727	0	0	0
Future Volume (vph)	135	1215	0	0	0	0	0	820	1727	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.995										
Satd. Flow (prot)	0	4751	0	0	0	0	0	5136	2718	0	0	0
Flt Permitted		0.995										
Satd. Flow (perm)	0	4751	0	0	0	0	0	5136	2718	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47							47			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		383			364			367			319	
Travel Time (s)		10.4			9.9			10.0			8.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	3%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	148	1335	0	0	0	0	0	901	1898	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1483	0	0	0	0	0	901	1898	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								37.0				
Total Split (%)								61.7%				
Maximum Green (s)								31.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		17.4						31.4	31.4			
Actuated g/C Ratio		0.29						0.52	0.52			
v/c Ratio		1.05						0.34	1.31			
Control Delay		62.1						8.7	165.4			
Queue Delay		0.0						0.0	0.0			
Total Delay		62.1						8.7	165.4			
LOS		E						A	F			
Approach Delay		62.1						115.0				
Approach LOS		E						F				
Queue Length 50th (ft)		~203						63	~540			
Queue Length 95th (ft)		m#291						85	#687			
Internal Link Dist (ft)		303			284			287			239	
Turn Bay Length (ft)												
Base Capacity (vph)		1411						2687	1444			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		1.05						0.34	1.31			

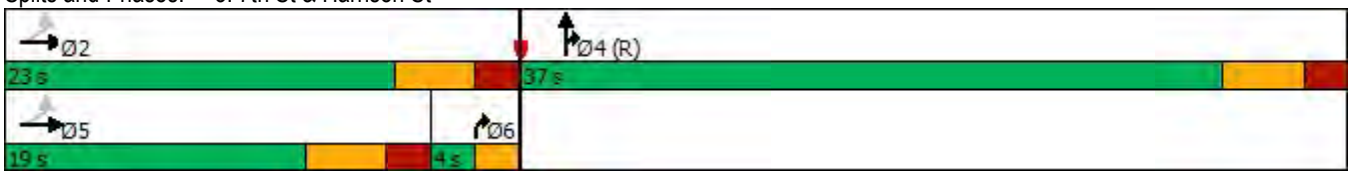
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 22.5 (38%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.31			
Intersection Signal Delay: 96.7		Intersection LOS: F	
Intersection Capacity Utilization 96.0%		ICU Level of Service F	
Analysis Period (min) 15			
* User Entered Value			
~ Volume exceeds capacity, queue is theoretically infinite.			

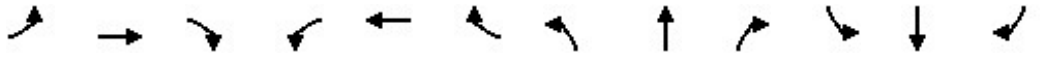
Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	3.0
Total Split (s)	23.0	19.0	4.0
Total Split (%)	38%	32%	7%
Maximum Green (s)	17.4	13.4	2.0
Yellow Time (s)	3.6	3.6	2.0
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
! Phase conflict between lane groups.

Splits and Phases: 3: 7th St & Harrison St



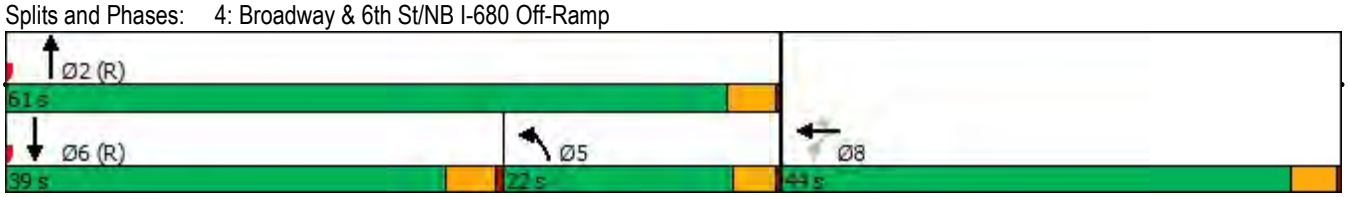


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	414	105	546	37	306	0	0	528	29
Future Volume (vph)	0	0	0	414	105	546	37	306	0	0	528	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.992	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	3610	1599	1805	3406	0	0	5003	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1805	3610	1599	1805	3406	0	0	5003	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						501					9	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			312			469	
Travel Time (s)		11.3			8.0			8.5			12.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	6%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	20
Adj. Flow (vph)	0	0	0	440	112	581	39	326	0	0	562	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	440	112	581	39	326	0	0	593	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.0	31.0	31.0	9.5	23.5			23.5	
Total Split (s)				44.0	44.0	44.0	22.0	61.0			39.0	
Total Split (%)				41.9%	41.9%	41.9%	21.0%	58.1%			37.1%	
Maximum Green (s)				40.0	40.0	40.0	18.0	56.5			34.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	C-Max			C-Max	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				32.5	32.5	32.5	12.9	64.0			50.8	
Actuated g/C Ratio				0.31	0.31	0.31	0.12	0.61			0.48	
v/c Ratio				0.79	0.10	0.69	0.18	0.16			0.24	
Control Delay				43.1	24.1	9.1	40.0	2.3			19.4	
Queue Delay				0.5	0.0	0.0	0.0	0.0			0.0	
Total Delay				43.6	24.1	9.1	40.0	2.3			19.4	
LOS				D	C	A	D	A			B	
Approach Delay					24.0			6.3			19.4	
Approach LOS					C			A			B	
Queue Length 50th (ft)				265	27	38	28	1			97	
Queue Length 95th (ft)				349	44	137	m46	m43			141	
Internal Link Dist (ft)		335			213			232			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				687	1375	919	309	2075			2424	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				52	0	0	0	0			136	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.69	0.08	0.63	0.13	0.16			0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 16 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 19.6		Intersection LOS: B	
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp



Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	14	1012	441	95	339	281	45	396	209	368
Future Volume (vph)	14	1012	441	95	339	281	45	396	209	368
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.994	0.850	0.850	0.926					
Flt Protected		0.999						0.950	0.950	
Satd. Flow (prot)	0	3016	1441	1615	4707	0	0	1787	1787	1810
Flt Permitted		0.999						0.950	0.950	
Satd. Flow (perm)	0	3016	1441	1615	4707	0	0	1787	1787	1810
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				100	10					
Link Speed (mph)		25			25					25
Link Distance (ft)		525			667					312
Travel Time (s)		14.3			18.2					8.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	2%	0%	4%	0%	0%	1%	1%	5%
Adj. Flow (vph)	15	1065	464	100	357	296	47	417	220	387
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	1126	418	100	700	0	0	417	220	387
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	23.0			9.5	9.5	23.0
Total Split (s)	46.0	46.0	46.0	46.0	30.8			28.2	28.2	59.0
Total Split (%)	43.8%	43.8%	43.8%	43.8%	29.3%			26.9%	26.9%	56.2%
Maximum Green (s)	42.0	42.0	42.0	42.0	25.8			24.2	24.2	55.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0			3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0			1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0	5.0			4.0	4.0	4.0
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	C-Max			None	None	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0					11.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		41.9	41.9	41.9	25.8			24.3	24.3	55.1
Actuated g/C Ratio		0.40	0.40	0.40	0.25			0.23	0.23	0.52
v/c Ratio		0.94	0.73	0.14	0.60			1.01	0.53	0.41
Control Delay		45.7	35.5	4.6	37.1			89.9	46.4	15.3
Queue Delay		0.0	0.0	0.0	0.0			31.4	1.6	1.8
Total Delay		45.7	35.5	4.6	37.1			121.3	48.0	17.0
LOS		D	D	A	D			F	D	B
Approach Delay		40.6			37.1					66.1
Approach LOS		D			D					E
Queue Length 50th (ft)		445	256	0	150			~260	118	51
Queue Length 95th (ft)		#615	391	32	193			#487	195	182
Internal Link Dist (ft)		445			587					232
Turn Bay Length (ft)										
Base Capacity (vph)		1206	576	706	1164			413	413	950
Starvation Cap Reductn		0	0	0	0			60	80	391
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.93	0.73	0.14	0.60			1.18	0.66	0.69

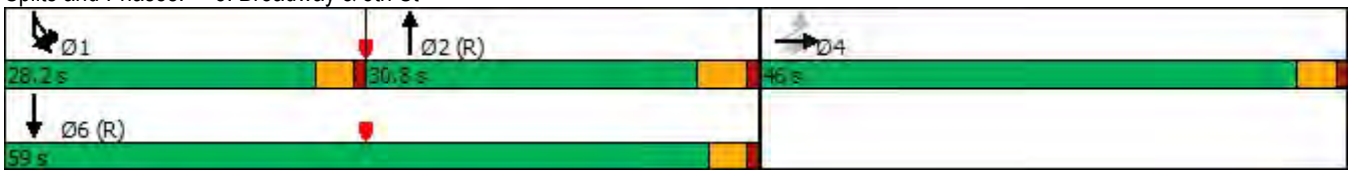
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 47.6		Intersection LOS: D	
Intersection Capacity Utilization 79.7%		ICU Level of Service D	
Analysis Period (min) 15			

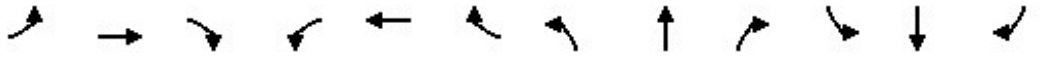
* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Broadway & 5th St



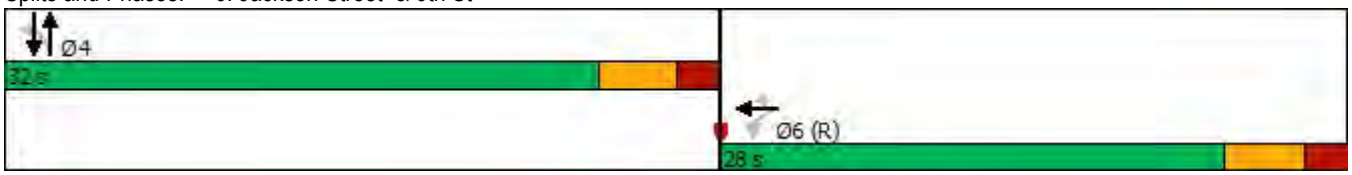


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	9	375	43	434	393	0	0	182	1300
Future Volume (vph)	0	0	0	9	375	43	434	393	0	0	182	1300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.946	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1900	1615	1805	1900	0	0	1701	1599
Flt Permitted				0.950			0.539					
Satd. Flow (perm)	0	0	0	1805	1900	1615	1024	1900	0	0	1701	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						45					61	289
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	0	0	0	9	387	44	447	405	0	0	188	1340
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	9	387	44	447	405	0	0	295	1233
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.01	0.54	0.07	0.99	0.48			0.38	0.77
Control Delay				12.0	18.2	4.8	61.1	14.3			10.4	3.7
Queue Delay				0.0	0.0	0.0	0.0	1.7			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				12.0	18.2	4.8	61.1	16.0			10.4	3.7
LOS				B	B	A	E	B			B	A
Approach Delay					16.8			39.6			5.0	
Approach LOS					B			D			A	
Queue Length 50th (ft)				2	106	0	152	98			54	0
Queue Length 95th (ft)				9	180	16	#325	166			107	0
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	712	633	452	839			785	1599
Starvation Cap Reductn				0	0	0	0	268			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.01	0.54	0.07	0.99	0.71			0.38	0.77

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 93.7%		ICU Level of Service F	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Jackson Street & 6th St

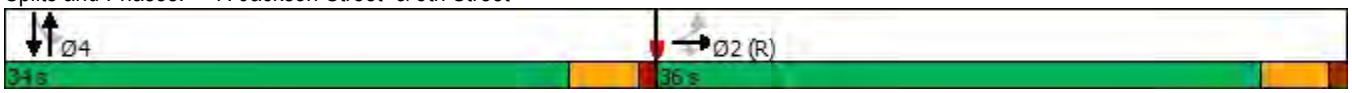


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	596	803	608	0	0	0	0	557	51	131	134	0
Future Volume (vph)	596	803	608	0	0	0	0	557	51	131	134	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.989				
Flt Protected		0.979									0.976	
Satd. Flow (prot)	0	3474	1615	0	0	0	0	1879	0	0	1623	0
Flt Permitted		0.979									0.188	
Satd. Flow (perm)	0	3474	1615	0	0	0	0	1879	0	0	313	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			231					8				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	677	913	691	0	0	0	0	633	58	149	152	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1590	691	0	0	0	0	691	0	0	301	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					25.6		25.6	25.6	
Total Split (s)	36.0	36.0	36.0					34.0		34.0	34.0	
Total Split (%)	51.4%	51.4%	51.4%					48.6%		48.6%	48.6%	
Maximum Green (s)	31.4	31.4	31.4					29.4		29.4	29.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		31.4	31.4					29.4			29.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.45	0.45					0.42			0.42	
v/c Ratio		1.02	0.81					0.87			2.30	
Control Delay		49.4	20.5					32.8			625.9	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		49.4	20.5					32.8			625.9	
LOS		D	C					C			F	
Approach Delay		40.7						32.8			625.9	
Approach LOS		D						C			F	
Queue Length 50th (ft)		~363	165					259			~216	
Queue Length 95th (ft)		#498	#356					#444			#301	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1558	851					793			131	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		1.02	0.81					0.87			2.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 34 (49%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 2.30			
Intersection Signal Delay: 92.8		Intersection LOS: F	
Intersection Capacity Utilization 97.7%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Jackson Street & 5th Street



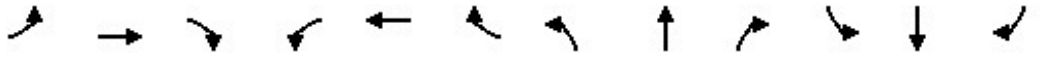
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	590	215	166	727	1214	940
Future Volume (vph)	590	215	166	727	1214	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3505	5136	2814
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3505	5136	2814
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	3%	1%	1%
Adj. Flow (vph)	615	224	173	757	1265	979
Shared Lane Traffic (%)						
Lane Group Flow (vph)	615	224	173	757	1265	979
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	22.5	22.5	10.8	37.5	26.7	
Total Split (%)	37.5%	37.5%	18.0%	62.5%	44.5%	
Maximum Green (s)	18.0	18.0	6.3	33.0	22.2	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	16.7	16.7	6.3	33.1	22.2	43.5
Actuated g/C Ratio	0.28	0.28	0.11	0.56	0.38	0.74
v/c Ratio	0.62	0.49	0.90	0.38	0.65	0.47
Control Delay	21.3	21.5	74.3	8.2	17.3	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	21.5	74.3	8.2	17.3	3.9
LOS	C	C	E	A	B	A
Approach Delay	21.3			20.5	11.4	
Approach LOS	C			C	B	
Queue Length 50th (ft)	95	65	63	74	135	55
Queue Length 95th (ft)	142	122	#165	107	178	81
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1074	495	193	1970	1943	2143
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.45	0.90	0.38	0.65	0.46

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 15.6		Intersection LOS: B	
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Webster Street & Willie Stargell Ave

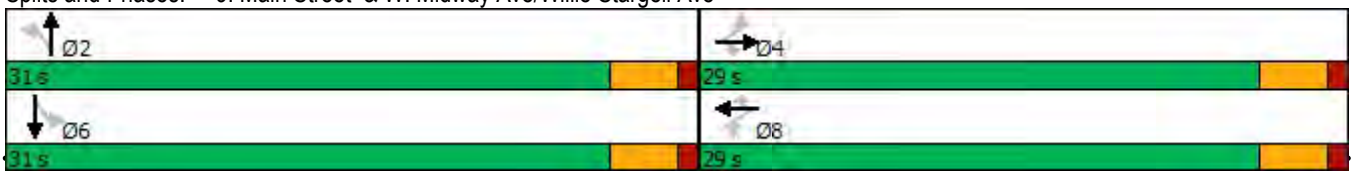


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	286	77	51	224	272	73	216	51	322	378	19
Future Volume (vph)	6	286	77	51	224	272	73	216	51	322	378	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.977			0.996	
Flt Protected		0.999			0.991			0.989			0.978	
Satd. Flow (prot)	0	1898	1615	0	1838	1615	0	3346	0	0	3516	0
Flt Permitted		0.991			0.803			0.713			0.664	
Satd. Flow (perm)	0	1883	1615	0	1489	1615	0	2412	0	0	2387	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			81			340		44			6	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	11%	3%	0%	0%	0%	0%
Adj. Flow (vph)	8	358	96	64	280	340	91	270	64	403	473	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	366	96	0	344	340	0	425	0	0	900	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

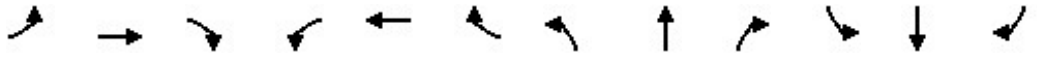
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0		31.0	31.0	
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		17.2	17.2		17.2	17.2		27.3			27.3	
Actuated g/C Ratio		0.33	0.33		0.33	0.33		0.52			0.52	
v/c Ratio		0.59	0.16		0.71	0.45		0.33			0.73	
Control Delay		18.6	4.9		23.6	3.8		8.7			16.3	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		18.6	4.9		23.6	3.8		8.7			16.3	
LOS		B	A		C	A		A			B	
Approach Delay		15.8			13.8			8.7			16.3	
Approach LOS		B			B			A			B	
Queue Length 50th (ft)		92	3		90	0		32			102	
Queue Length 95th (ft)		133	21		136	26		63			176	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		904	818		715	952		1272			1241	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.40	0.12		0.48	0.36		0.33			0.73	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.6			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 73.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	341	169	128	482	211	144	253	66	267	472	25
Future Volume (vph)	6	341	169	128	482	211	144	253	66	267	472	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.969			0.993	
Flt Protected		0.999			0.990		0.950			0.950	0.997	
Satd. Flow (prot)	0	3606	1615	0	3491	1538	1805	3391	0	1643	3423	0
Flt Permitted		0.940			0.702		0.950			0.950	0.997	
Satd. Flow (perm)	0	3393	1615	0	2476	1538	1805	3391	0	1643	3423	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			211			264		47			7	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	3%	5%	0%	4%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	8	426	211	160	603	264	180	316	83	334	590	31
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	0	434	211	0	763	264	180	399	0	301	654	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	



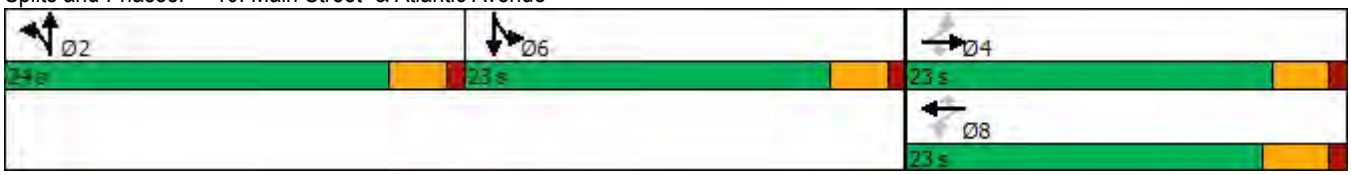
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		19.0	19.0		18.5	18.5	20.0	20.0		17.9	17.9	
Actuated g/C Ratio		0.28	0.28		0.27	0.27	0.29	0.29		0.26	0.26	
v/c Ratio		0.46	0.35		1.15	0.44	0.34	0.39		0.71	0.73	
Control Delay		23.0	5.3		110.3	5.6	22.0	18.8		33.6	28.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		23.0	5.3		110.3	5.6	22.0	18.8		33.6	28.6	
LOS		C	A		F	A	C	B		C	C	
Approach Delay		17.2			83.4			19.8			30.2	
Approach LOS		B			F			B			C	
Queue Length 50th (ft)		81	0		~210	0	61	63		126	137	
Queue Length 95th (ft)		106	32		#262	34	97	85		184	167	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		936	598		665	606	524	1018		453	950	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.46	0.35		1.15	0.44	0.34	0.39		0.66	0.69	

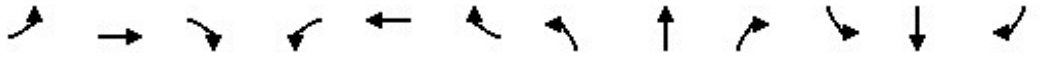
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 68.9			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 42.7		Intersection LOS: D	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

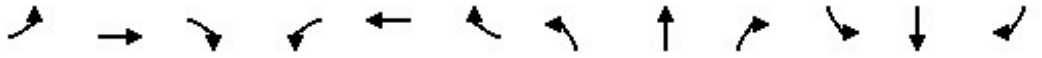
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Main Street & Atlantic Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	392	182	81	360	158	121	645	73	230	1193	367
Future Volume (vph)	221	392	182	81	360	158	121	645	73	230	1193	367
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.954			0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3539	1615	1805	3420	0	1805	3462	0	1805	3505	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3539	1615	1805	3420	0	1805	3462	0	1805	3505	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			198		88			16				154
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	3%	0%	0%	3%	1%
Adj. Flow (vph)	240	426	198	88	391	172	132	701	79	250	1297	399
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	426	198	88	563	0	132	780	0	250	1297	399
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0



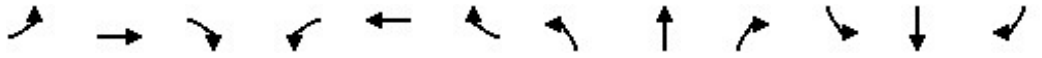
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	23.0	23.0	11.0	23.0		13.0	26.0		15.0	28.0	11.0
Total Split (%)	14.7%	30.7%	30.7%	14.7%	30.7%		17.3%	34.7%		20.0%	37.3%	14.7%
Maximum Green (s)	6.0	18.0	18.0	6.0	18.0		8.0	21.0		10.0	23.0	6.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	6.0	17.7	17.7	6.0	15.3		7.8	21.0		10.0	23.2	34.2
Actuated g/C Ratio	0.08	0.24	0.24	0.08	0.21		0.11	0.29		0.14	0.32	0.47
v/c Ratio	0.83	0.49	0.36	0.59	0.71		0.68	0.77		1.00	1.15	0.48
Control Delay	58.7	26.6	6.1	51.2	27.5		51.6	29.7		93.9	106.0	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	58.7	26.6	6.1	51.2	27.5		51.6	29.7		93.9	106.0	10.4
LOS	E	C	A	D	C		D	C		F	F	B
Approach Delay		30.8			30.7			32.8			84.8	
Approach LOS		C			C			C			F	
Queue Length 50th (ft)	56	90	0	39	103		59	166		~118	~378	67
Queue Length 95th (ft)	#119	133	48	#102	155		#139	#241		#263	#518	144
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	290	918	565	149	917		199	1016		249	1124	837
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.83	0.46	0.35	0.59	0.61		0.66	0.77		1.00	1.15	0.48

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 72.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 55.3		Intersection LOS: E	
Intersection Capacity Utilization 77.7%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

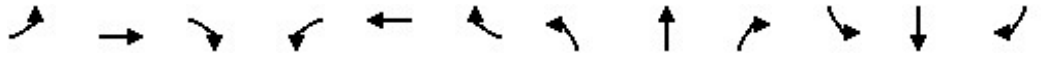
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Webster Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1472	384	98	1315	0	0	0	0	899	9
Future Volume (vph)	0	0	1472	384	98	1315	0	0	0	0	899	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.962							
Satd. Flow (prot)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Flt Permitted					0.962							
Satd. Flow (perm)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					66							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1600	417	107	1429	0	0	0	0	977	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	1600	0	524	1429	0	0	0	0	977	10
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			68.0		30.0	68.0					30.0	68.0
Actuated g/C Ratio			1.00		0.44	1.00					0.44	1.00
v/c Ratio			0.57		0.63	0.51					1.19	0.01
Control Delay			0.9		17.0	0.7					119.7	0.0
Queue Delay			0.0		3.4	0.0					0.0	0.0
Total Delay			0.9		20.4	0.7					119.7	0.0
LOS			A		C	A					F	A
Approach Delay		0.9			6.0						118.5	
Approach LOS		A			A						F	
Queue Length 50th (ft)			0		140	0					~504	0
Queue Length 95th (ft)			0		237	0					#716	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		827	2787					821	1583
Starvation Cap Reductn			0		209	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.57		0.85	0.51					1.19	0.01

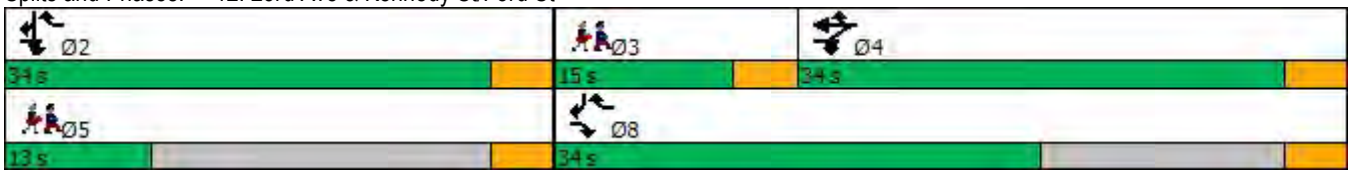
Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 68			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.19			
Intersection Signal Delay: 28.6		Intersection LOS: C	
Intersection Capacity Utilization 135.2%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

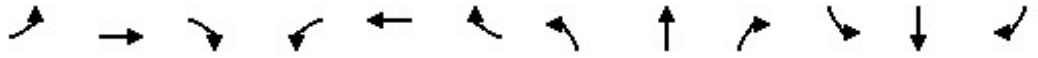
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
! Phase conflict between lane groups.

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	67	12	1327	1018	29	78	0	375
Future Volume (vph)	0	0	0	0	67	12	1327	1018	29	78	0	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.980			0.996				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1825	0	3433	1855	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1825	0	3433	1855	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				352
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	73	13	1442	1107	32	85	0	408
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	86	0	1442	1139	0	85	0	408
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

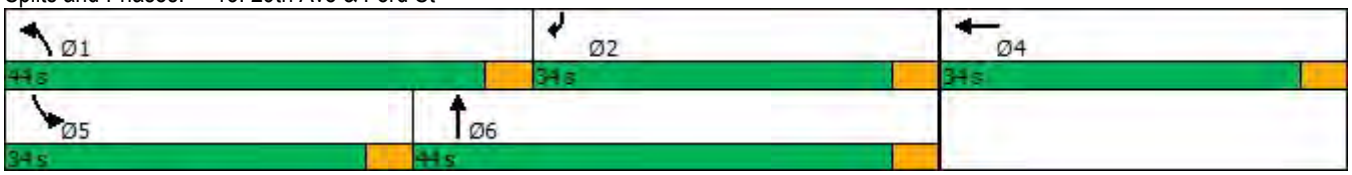


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					9.3		41.4	46.4		7.9		9.4
Actuated g/C Ratio					0.13		0.59	0.66		0.11		0.13
v/c Ratio					0.35		0.71	0.93		0.42		0.79
Control Delay					30.5		16.7	32.2		39.0		18.2
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					30.5		16.7	32.2		39.0		18.2
LOS					C		B	C		D		B
Approach Delay					30.5			23.6			21.8	
Approach LOS					C			C			C	
Queue Length 50th (ft)					30		186	~465		33		22
Queue Length 95th (ft)					77		#598	#1109		93		125
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					812		2025	1225		783		896
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.11		0.71	0.93		0.11		0.46

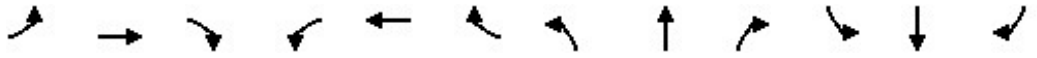
Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 70.2			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 23.5		Intersection LOS: C	
Intersection Capacity Utilization 75.3%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	129	49	62	34	17	251	559	118	18	580	222
Future Volume (vph)	222	129	49	62	34	17	251	559	118	18	580	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.980			0.974			0.958	
Flt Protected		0.973			0.973		0.950			0.950		
Satd. Flow (prot)	0	1783	0	0	1776	0	1770	1814	0	1770	1785	0
Flt Permitted		0.761			0.714		0.080			0.340		
Satd. Flow (perm)	0	1395	0	0	1303	0	149	1814	0	633	1785	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			8			20			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	241	140	53	67	37	18	273	608	128	20	630	241
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	434	0	0	122	0	273	736	0	20	871	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		



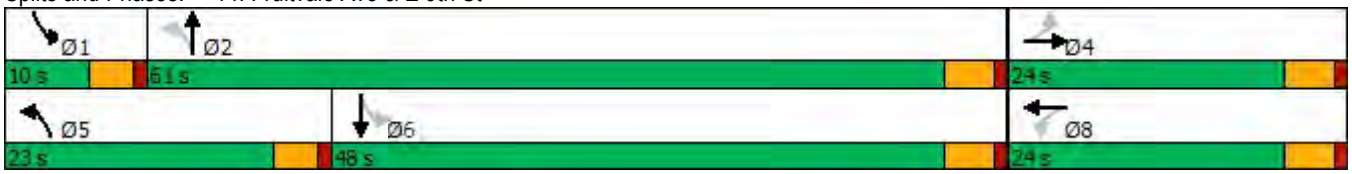
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		19.5			19.5		64.4	60.0		49.8	43.5	
Actuated g/C Ratio		0.21			0.21		0.70	0.65		0.54	0.47	
v/c Ratio		1.45			0.43		0.70	0.62		0.05	1.02	
Control Delay		250.1			35.9		29.5	13.1		6.1	61.6	
Queue Delay		0.0			0.0		8.2	52.4		0.0	0.0	
Total Delay		250.1			35.9		37.7	65.5		6.1	61.6	
LOS		F			D		D	E		A	E	
Approach Delay		250.1			35.9			58.0			60.3	
Approach LOS		F			D			E			E	
Queue Length 50th (ft)		~359			60		98	187		3	~555	
Queue Length 95th (ft)		#554			117		184	402		9	#802	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		299			281		437	1184		416	854	
Starvation Cap Reductn		0			0		125	566		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		1.45			0.43		0.88	1.19		0.05	1.02	

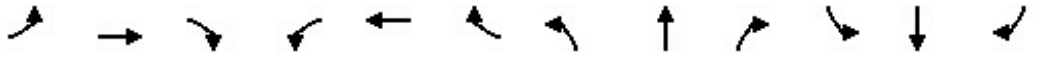
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 92.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.45			
Intersection Signal Delay: 91.7		Intersection LOS: F	
Intersection Capacity Utilization 96.0%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St





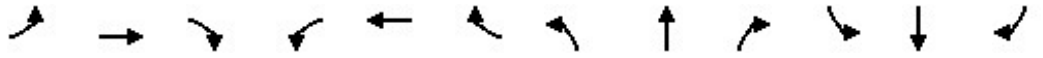
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	103	471	7	0	128	0	624	22	114	579	0
Future Volume (vph)	198	103	471	7	0	128	0	624	22	114	579	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.872			0.995				
Flt Protected		0.968			0.997					0.950		
Satd. Flow (prot)	0	1803	1583	0	1619	0	0	3522	0	1770	1863	0
Flt Permitted		0.740			0.980					0.226		
Satd. Flow (perm)	0	1378	1583	0	1592	0	0	3522	0	421	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			252		139			4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	215	112	512	8	0	139	0	678	24	124	629	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	327	512	0	147	0	0	702	0	124	629	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		24.1	24.1		23.0			21.4		31.4	30.9	
Actuated g/C Ratio		0.38	0.38		0.36			0.33		0.49	0.48	
v/c Ratio		0.63	0.68		0.22			0.59		0.32	0.70	
Control Delay		24.4	14.4		4.9			22.0		12.0	18.4	
Queue Delay		0.0	0.0		0.0			0.0		0.1	0.4	
Total Delay		24.4	14.4		4.9			22.0		12.1	18.8	
LOS		C	B		A			C		B	B	
Approach Delay		18.3			4.9			22.0			17.7	
Approach LOS		B			A			C			B	
Queue Length 50th (ft)		104	78		2			124		24	176	
Queue Length 95th (ft)		230	223		39			219		61	355	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		811	1036		969			1819		674	1521	
Starvation Cap Reductn		0	0		0			0		103	430	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.40	0.49		0.15			0.39		0.22	0.58	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 63.9			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 18.4		Intersection LOS: B	
Intersection Capacity Utilization 78.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	588	452	234	478	686	85	22	650	109
Future Volume (vph)	0	0	0	588	452	234	478	686	85	22	650	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.972			0.984			0.979	
Flt Protected					0.977		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3361	0	1770	3483	0	0	3461	0
Flt Permitted					0.977		0.950				0.911	
Satd. Flow (perm)	0	0	0	0	3361	0	1770	3483	0	0	3157	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					29			25			19	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	639	491	254	520	746	92	24	707	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1384	0	520	838	0	0	849	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	



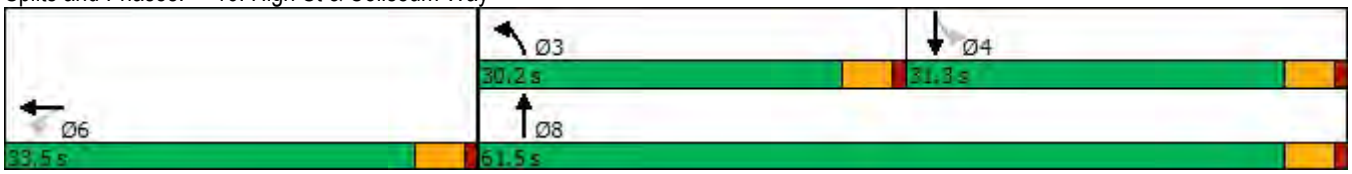
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		30.2	61.5		31.3	31.3	
Total Split (%)				35.3%	35.3%		31.8%	64.7%		32.9%	32.9%	
Maximum Green (s)				29.0	29.0		25.7	57.0		26.8	26.8	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		25.7	57.0			26.8	
Actuated g/C Ratio					0.31		0.27	0.60			0.28	
v/c Ratio					1.32		1.09	0.40			0.94	
Control Delay					181.5		101.7	10.3			51.9	
Queue Delay					0.0		8.2	3.8			0.0	
Total Delay					181.5		109.9	14.2			51.9	
LOS					F		F	B			D	
Approach Delay					181.5			50.8			51.9	
Approach LOS					F			D			D	
Queue Length 50th (ft)					~571		~355	124			257	
Queue Length 95th (ft)					#707		#552	163			#381	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1046		478	2099			904	
Starvation Cap Reductn					0		144	1150			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					1.32		1.56	0.88			0.94	

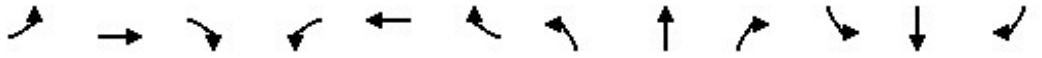
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.32			
Intersection Signal Delay: 101.5		Intersection LOS: F	
Intersection Capacity Utilization 96.9%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

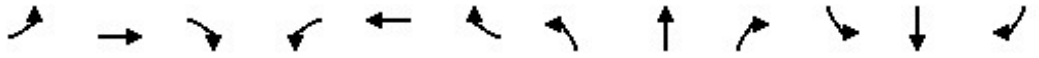
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	464	184	43	0	202	0	908	321	297	907	0
Future Volume (vph)	107	464	184	43	0	202	0	908	321	297	907	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.961				
Flt Protected		0.991		0.950						0.950		
Satd. Flow (prot)	0	3507	1583	1770	0	1583	0	3401	0	1770	3539	0
Flt Permitted		0.991		0.262						0.950		
Satd. Flow (perm)	0	3507	1583	488	0	1583	0	3401	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						220		56				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	116	504	200	47	0	220	0	987	349	323	986	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	620	200	47	0	220	0	1336	0	323	986	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						

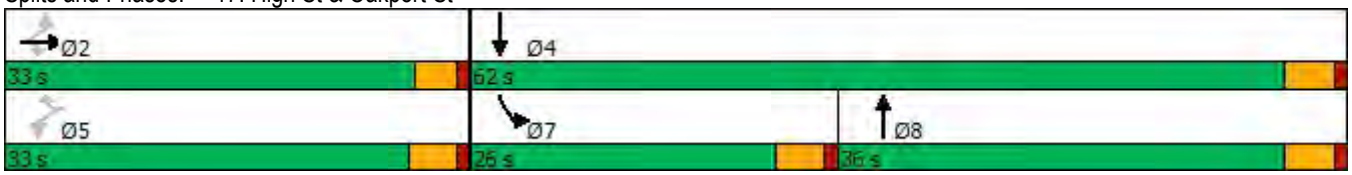


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	33.0	33.0	33.0	33.0		33.0		36.0		26.0	62.0	
Total Split (%)	34.7%	34.7%	34.7%	34.7%		34.7%		37.9%		27.4%	65.3%	
Maximum Green (s)	29.0	29.0	29.0	28.5		28.5		31.5		21.5	57.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		29.0	29.0	28.5		28.5		31.5		21.5	57.5	
Actuated g/C Ratio		0.31	0.31	0.30		0.30		0.33		0.23	0.61	
v/c Ratio		0.58	0.41	0.32		0.35		1.15		0.81	0.46	
Control Delay		30.5	29.5	33.2		5.3		106.4		52.0	11.1	
Queue Delay		0.0	0.0	0.0		0.0		0.0		54.9	9.8	
Total Delay		30.5	29.5	33.2		5.3		106.4		106.9	20.9	
LOS		C	C	C		A		F		F	C	
Approach Delay		30.2			10.2			106.4			42.1	
Approach LOS		C			B			F			D	
Queue Length 50th (ft)		165	95	22		0		~491		185	157	
Queue Length 95th (ft)		222	160	56		51		#626		#322	202	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1070	483	146		628		1165		400	2142	
Starvation Cap Reductn		0	0	0		0		0		108	1126	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.58	0.41	0.32		0.35		1.15		1.11	0.97	

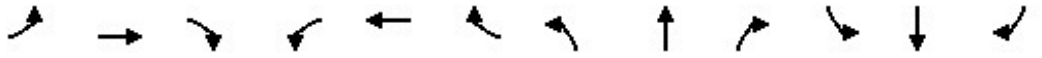
Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 60.2		Intersection LOS: E	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	

Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	337	99	25	29	165	262	0	1455	46	15	1231	425
Future Volume (vph)	337	99	25	29	165	262	0	1455	46	15	1231	425
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.970				0.850		0.995			0.962	
Flt Protected	0.950				0.992							
Satd. Flow (prot)	1770	1807	0	0	1848	1583	0	3522	0	0	3405	0
Flt Permitted	0.592				0.944						0.903	
Satd. Flow (perm)	1103	1807	0	0	1758	1583	0	3522	0	0	3074	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		22						8			122	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	366	108	27	32	179	285	0	1582	50	16	1338	462
Shared Lane Traffic (%)												
Lane Group Flow (vph)	366	135	0	0	211	285	0	1632	0	0	1816	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		



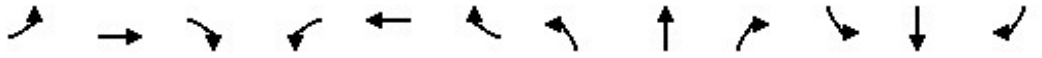
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	18.5	18.5			18.5	18.5		32.5			32.5	
Actuated g/C Ratio	0.31	0.31			0.31	0.31		0.54			0.54	
v/c Ratio	1.08	0.24			0.39	0.58		0.85			1.06	
Control Delay	96.3	14.3			19.0	23.3		17.7			53.9	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	96.3	14.3			19.0	23.3		17.7			53.9	
LOS	F	B			B	C		B			D	
Approach Delay		74.2			21.5			17.7			53.9	
Approach LOS		E			C			B			D	
Queue Length 50th (ft)	~153	30			59	86		237			~380	
Queue Length 95th (ft)	#295	66			110	155		#345			#511	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	340	572			542	488		1911			1721	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	1.08	0.24			0.39	0.58		0.85			1.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 39.3		Intersection LOS: D	
Intersection Capacity Utilization 98.7%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Park St & Blanding Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	283	101	130	353	13	41	590	53	61	946	92
Future Volume (vph)	181	283	101	130	353	13	41	590	53	61	946	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.961			0.995			0.988			0.987	
Flt Protected	0.950			0.950				0.997			0.997	
Satd. Flow (prot)	1770	3401	0	1770	3522	0	0	3486	0	0	3483	0
Flt Permitted	0.950			0.950				0.726			0.855	
Satd. Flow (perm)	1770	3401	0	1770	3522	0	0	2539	0	0	2987	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			5			14			15	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	197	308	110	141	384	14	45	641	58	66	1028	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	197	418	0	141	398	0	0	744	0	0	1194	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		

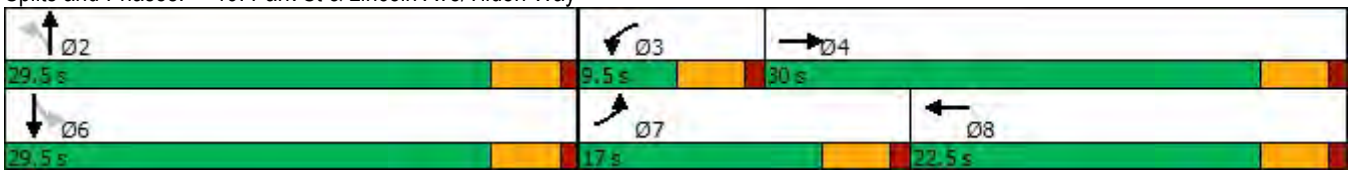


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	10.9	18.3		5.0	12.5			25.2			25.2	
Actuated g/C Ratio	0.18	0.29		0.08	0.20			0.41			0.41	
v/c Ratio	0.64	0.41		0.99	0.56			0.72			0.98	
Control Delay	34.6	16.9		108.7	25.4			21.4			43.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	34.6	16.9		108.7	25.4			21.4			43.0	
LOS	C	B		F	C			C			D	
Approach Delay		22.6			47.2			21.4			43.0	
Approach LOS		C			D			C			D	
Queue Length 50th (ft)	69	59		~55	72			120			228	
Queue Length 95th (ft)	#141	92		#169	111			#215			#420	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	358	1425		143	1031			1037			1219	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.55	0.29		0.99	0.39			0.72			0.98	

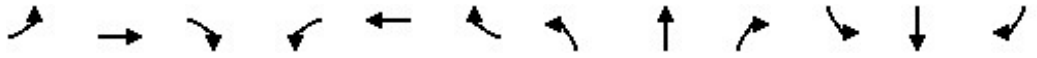
Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 62.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 34.5		Intersection LOS: C	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



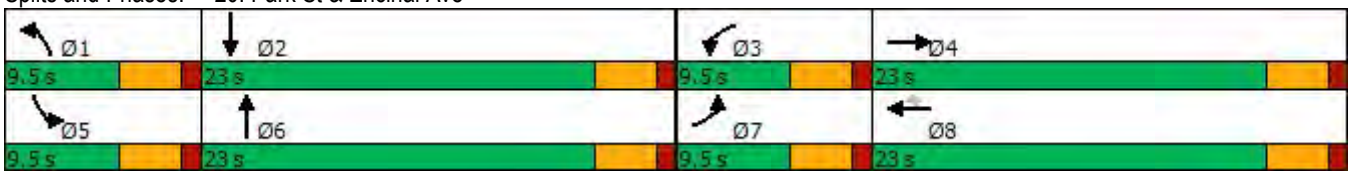
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	609	69	60	387	110	67	336	78	134	415	62
Future Volume (vph)	62	609	69	60	387	110	67	336	78	134	415	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985				0.850		0.972			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				151		44			25	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	67	662	75	65	421	120	73	365	85	146	451	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	737	0	65	421	120	73	450	0	146	518	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						



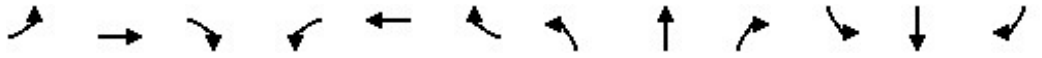
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.6	17.0		5.6	17.0	17.0	5.6	19.3		5.6	23.7	
Actuated g/C Ratio	0.09	0.29		0.09	0.29	0.29	0.09	0.33		0.09	0.40	
v/c Ratio	0.40	0.73		0.39	0.79	0.21	0.44	0.39		0.88	0.37	
Control Delay	35.5	23.9		35.1	33.1	3.4	37.1	16.5		78.5	16.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	35.5	23.9		35.1	33.1	3.4	37.1	16.5		78.5	16.0	
LOS	D	C		D	C	A	D	B		E	B	
Approach Delay		24.9			27.4			19.3			29.7	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	26	132		25	151	0	28	67		59	84	
Queue Length 95th (ft)	#61	190		60	#282	23	#72	105		#161	126	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	166	1148		166	606	617	166	1150		166	1406	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.40	0.64		0.39	0.69	0.19	0.44	0.39		0.88	0.37	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 59.2			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 25.6		Intersection LOS: C	
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	214	24	91	235	229	41	555	143	410	897	326
Future Volume (vph)	166	214	24	91	235	229	41	555	143	410	897	326
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.969			0.960	
Flt Protected		0.979			0.986		0.950			0.950		
Satd. Flow (prot)	0	1824	1583	0	1837	1583	1770	3429	0	1770	3398	0
Flt Permitted		0.979			0.986		0.950			0.950		
Satd. Flow (perm)	0	1824	1583	0	1837	1583	1770	3429	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			249		33			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	180	233	26	99	255	249	45	603	155	446	975	354
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	413	26	0	354	249	45	758	0	446	1329	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



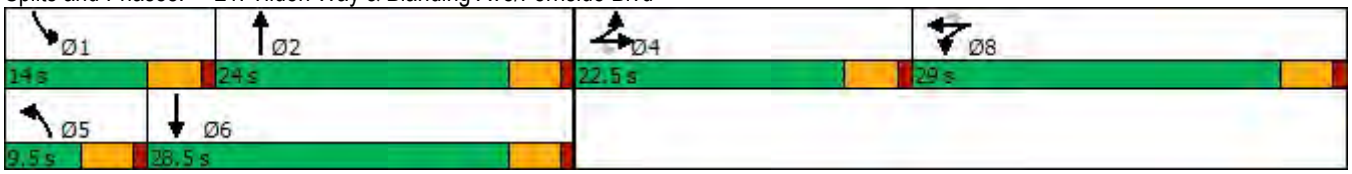
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		18.0	18.0		21.0	21.0	5.0	19.5		9.5	28.1	
Actuated g/C Ratio		0.21	0.21		0.24	0.24	0.06	0.23		0.11	0.33	
v/c Ratio		1.08	0.06		0.79	0.43	0.44	0.94		2.29	1.16	
Control Delay		105.5	0.2		44.3	6.1	54.5	54.0		617.2	111.4	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		105.5	0.2		44.3	6.1	54.5	54.0		617.2	111.4	
LOS		F	A		D	A	D	D		F	F	
Approach Delay		99.3			28.5			54.0			238.5	
Approach LOS		F			C			D			F	
Queue Length 50th (ft)		~268	0		180	0	25	213		~413	~516	
Queue Length 95th (ft)		#451	0		278	55	#65	#341		#600	#658	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		381	432		523	629	102	803		195	1145	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		1.08	0.06		0.68	0.40	0.44	0.94		2.29	1.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 86.1			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 2.29			
Intersection Signal Delay: 145.7		Intersection LOS: F	
Intersection Capacity Utilization 95.5%		ICU Level of Service F	
Analysis Period (min) 15			

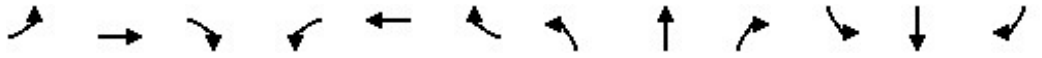
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



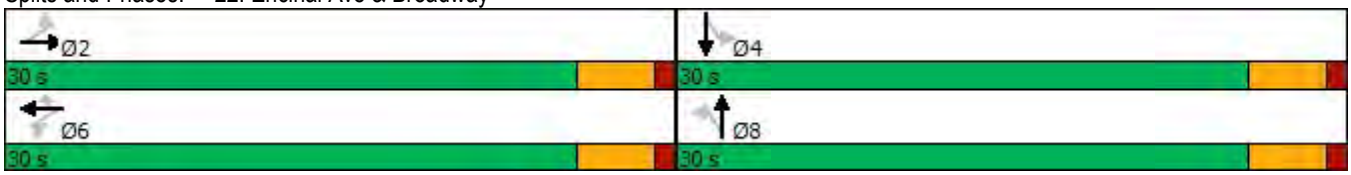
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	450	144	35	312	37	105	393	27	69	467	52
Future Volume (vph)	69	450	144	35	312	37	105	393	27	69	467	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967				0.850		0.990			0.985	
Flt Protected		0.995			0.995		0.950			0.950		
Satd. Flow (prot)	0	3405	0	0	1853	1636	1770	1844	0	1770	1835	0
Flt Permitted		0.827			0.886		0.308			0.405		
Satd. Flow (perm)	0	2830	0	0	1650	1636	574	1844	0	754	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74				40		7			12	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	489	157	38	339	40	114	427	29	75	508	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	721	0	0	377	40	114	456	0	75	565	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



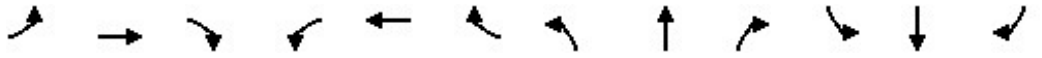
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		18.7			18.7	18.7	25.7	25.7		25.7	25.7	
Actuated g/C Ratio		0.35			0.35	0.35	0.48	0.48		0.48	0.48	
v/c Ratio		0.70			0.65	0.07	0.41	0.51		0.21	0.64	
Control Delay		16.9			20.3	4.4	17.0	13.2		11.7	15.7	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		16.9			20.3	4.4	17.0	13.2		11.7	15.7	
LOS		B			C	A	B	B		B	B	
Approach Delay		16.9			18.8			14.0			15.2	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		88			97	0	22	91		13	121	
Queue Length 95th (ft)		136			169	14	73	199		43	264	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1398			793	807	275	889		362	888	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.52			0.48	0.05	0.41	0.51		0.21	0.64	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 53.5			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 85.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	1049	17	157	869	358	7	98	175	384	115	165
Future Volume (vph)	165	1049	17	157	869	358	7	98	175	384	115	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.916				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3532	0	1770	1863	1583	0	1705	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.994		0.440		
Satd. Flow (perm)	1770	3532	0	1770	1863	1583	0	1696	0	820	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				370		109				179
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			1523			502			2170	
Travel Time (s)		9.3			41.5			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	1140	18	171	945	389	8	107	190	417	125	179
Shared Lane Traffic (%)												
Lane Group Flow (vph)	179	1158	0	171	945	389	0	305	0	417	125	179
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



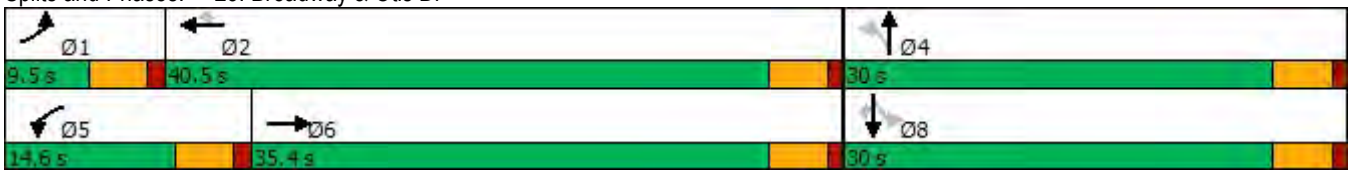
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	31.2		9.8	36.0	36.0		25.5		25.5	25.5	25.5
Actuated g/C Ratio	0.06	0.39		0.12	0.45	0.45		0.32		0.32	0.32	0.32
v/c Ratio	1.63	0.84		0.79	1.13	0.43		0.50		1.60	0.21	0.29
Control Delay	348.8	29.3		60.4	96.5	3.6		17.1		311.1	21.1	4.8
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	348.8	29.3		60.4	96.5	3.6		17.1		311.1	21.1	4.8
LOS	F	C		E	F	A		B		F	C	A
Approach Delay		72.1			68.4			17.1			184.8	
Approach LOS		E			E			B			F	
Queue Length 50th (ft)	~131	271		84	~555	5		75		~302	45	0
Queue Length 95th (ft)	#252	#364		#182	#778	52		149		#472	85	42
Internal Link Dist (ft)		261			1443			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	110	1376		223	838	915		614		261	593	626
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	1.63	0.84		0.77	1.13	0.43		0.50		1.60	0.21	0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.63			
Intersection Signal Delay: 87.3		Intersection LOS: F	
Intersection Capacity Utilization 107.4%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

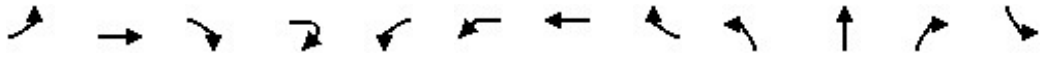
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	109	368	81	4	6	3	219	172	47	310	4	197
Future Volume (vph)	109	368	81	4	6	3	219	172	47	310	4	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.999		
Flt Protected	0.950						0.998			0.994		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1859	1583	0	1850	0	1770
Flt Permitted	0.464						0.980			0.879		0.950
Satd. Flow (perm)	864	1863	1583	0	0	0	1825	1583	0	1636	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								187				
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	400	88	4	7	3	238	187	51	337	4	214
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	400	92	0	0	0	248	187	0	392	0	214
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

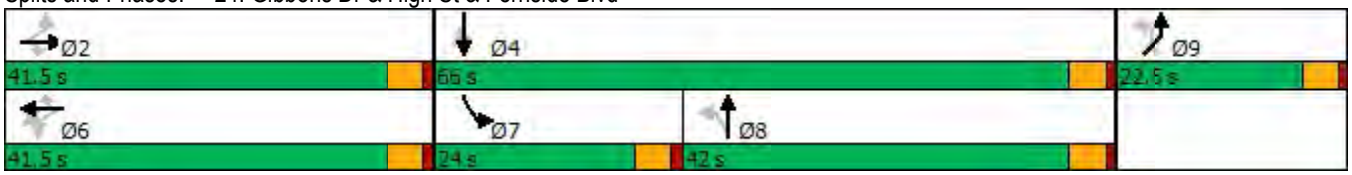
Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations							
Traffic Volume (vph)	461	90	140	2	95	8	4
Future Volume (vph)	461	90	140	2	95	8	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0			0	50	
Storage Lanes		1			1	1	
Taper Length (ft)					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.988		0.850
Flt Protected					0.956		
Satd. Flow (prot)	1863	1583	0	0	1759	0	1583
Flt Permitted					0.993		
Satd. Flow (perm)	1863	1583	0	0	1828	0	1583
Right Turn on Red			No				Yes
Satd. Flow (RTOR)							88
Link Speed (mph)	25				25		
Link Distance (ft)	1133				459		
Travel Time (s)	30.9				12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	501	98	152	2	103	9	4
Shared Lane Traffic (%)							
Lane Group Flow (vph)	501	250	0	0	114	0	4
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Right
Median Width(ft)	12				12		
Link Offset(ft)	0				0		
Crosswalk Width(ft)	16				16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	15	9	9
Number of Detectors	2	1		1	1		1
Detector Template	Thru	Right		Left	Left		Right
Leading Detector (ft)	100	20		20	20		20
Trailing Detector (ft)	0	0		0	0		0
Detector 1 Position(ft)	0	0		0	0		0
Detector 1 Size(ft)	6	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm		Perm	Prot		Perm
Protected Phases	4				9		
Permitted Phases		4		9			9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	41.5	41.5	41.5		41.5	41.5	41.5	41.5	42.0	42.0		24.0
Total Split (%)	31.9%	31.9%	31.9%		31.9%	31.9%	31.9%	31.9%	32.3%	32.3%		18.5%
Maximum Green (s)	37.0	37.0	37.0		37.0	37.0	37.0	37.0	37.5	37.5		19.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	37.2	37.2	37.2				37.2	37.2		32.3		19.6
Actuated g/C Ratio	0.31	0.31	0.31				0.31	0.31		0.27		0.16
v/c Ratio	0.44	0.69	0.19				0.44	0.30		0.89		0.74
Control Delay	42.0	45.5	34.1				37.8	6.2		65.7		65.8
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	42.0	45.5	34.1				37.8	6.2		65.7		65.8
LOS	D	D	C				D	A		E		E
Approach Delay		43.1					24.2			65.7		
Approach LOS		D					C			E		
Queue Length 50th (ft)	76	282	54				159	0		292		165
Queue Length 95th (ft)	148	431	106				258	56		#475		#305
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	268	578	490				566	620		514		289
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.44	0.69	0.19				0.44	0.30		0.76		0.74

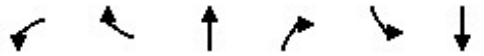
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 120			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 40.7		Intersection LOS: D	
Intersection Capacity Utilization 99.4%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd

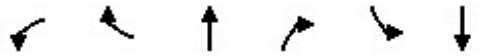


Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Detector Phase	4	4		9	9		9
Switch Phase							
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5
Total Split (s)	66.0	66.0		22.5	22.5		22.5
Total Split (%)	50.8%	50.8%		17.3%	17.3%		17.3%
Maximum Green (s)	61.5	61.5		18.0	18.0		18.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0
Total Lost Time (s)	4.5	4.5			4.5		4.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0
Act Effct Green (s)	56.4	56.4			12.7		12.7
Actuated g/C Ratio	0.47	0.47			0.11		0.11
v/c Ratio	0.57	0.34			0.59		0.02
Control Delay	26.4	21.8			64.7		0.0
Queue Delay	0.0	0.0			0.0		0.0
Total Delay	26.4	21.8			64.7		0.0
LOS	C	C			E		A
Approach Delay	33.9				62.5		
Approach LOS	C				E		
Queue Length 50th (ft)	274	119			88		0
Queue Length 95th (ft)	409	194			152		0
Internal Link Dist (ft)	1053				379		
Turn Bay Length (ft)							50
Base Capacity (vph)	961	816			275		313
Starvation Cap Reductn	0	0			0		0
Spillback Cap Reductn	0	0			0		0
Storage Cap Reductn	0	0			0		0
Reduced v/c Ratio	0.52	0.31			0.41		0.01

Intersection Summary



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	842	17	1184	843	65	1447
Future Volume (vph)	842	17	1184	843	65	1447
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.997			0.850		
Flt Protected	0.953				0.950	
Satd. Flow (prot)	3434	0	3539	1583	1770	3539
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	3434	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	2			273		
Link Speed (mph)	25		35			35
Link Distance (ft)	444		1406			1506
Travel Time (s)	12.1		27.4			29.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	915	18	1287	916	71	1573
Shared Lane Traffic (%)						
Lane Group Flow (vph)	933	0	1287	916	71	1573
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		

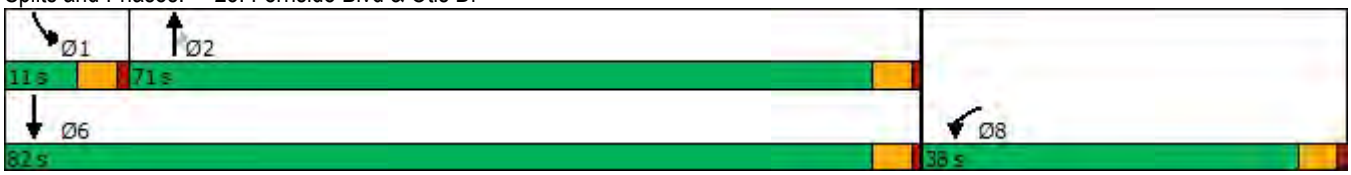


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	38.0		71.0	71.0	11.0	82.0
Total Split (%)	31.7%		59.2%	59.2%	9.2%	68.3%
Maximum Green (s)	33.5		66.5	66.5	6.5	77.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	33.5		66.5	66.5	6.5	77.5
Actuated g/C Ratio	0.28		0.55	0.55	0.05	0.65
v/c Ratio	0.97		0.66	0.92	0.75	0.69
Control Delay	66.0		20.8	32.2	97.7	15.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	66.0		20.8	32.2	97.7	15.6
LOS	E		C	C	F	B
Approach Delay	66.0		25.5			19.1
Approach LOS	E		C			B
Queue Length 50th (ft)	368		351	477	55	378
Queue Length 95th (ft)	#505		426	#820	#136	454
Internal Link Dist (ft)	364		1326			1426
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	960		1961	998	95	2285
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.97		0.66	0.92	0.75	0.69

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 31.2		Intersection LOS: C	
Intersection Capacity Utilization 72.7%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 25: Fernside Blvd & Otis Dr

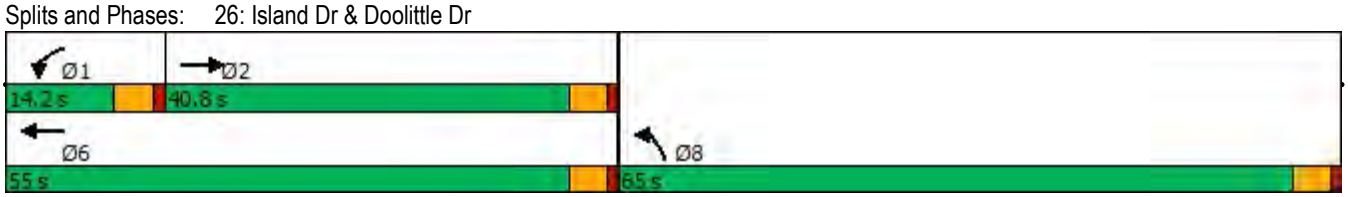


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	878	1363	141	1027	982	97
Future Volume (vph)	878	1363	141	1027	982	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		354				63
Link Speed (mph)	25			25	25	
Link Distance (ft)	1406			365	455	
Travel Time (s)	38.3			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	954	1482	153	1116	1067	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	954	1482	153	1116	1067	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.5	95.1	9.7	50.7	35.3	95.1
Actuated g/C Ratio	0.38	1.00	0.10	0.53	0.37	1.00
v/c Ratio	0.70	0.94	0.85	0.59	0.84	0.07
Control Delay	29.3	13.5	81.3	17.8	33.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	13.5	81.3	17.8	33.8	0.1
LOS	C	B	F	B	C	A
Approach Delay	19.7			25.5	30.7	
Approach LOS	B			C	C	
Queue Length 50th (ft)	251	0	92	228	296	0
Queue Length 95th (ft)	382	#119	#231	366	373	0
Internal Link Dist (ft)	1326			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1357	1583	181	1888	2194	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.94	0.85	0.59	0.49	0.07

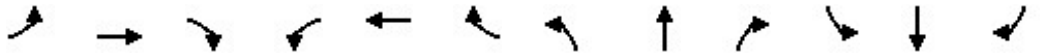
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 95.1			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 23.8		Intersection LOS: C	
Intersection Capacity Utilization 71.3%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 26: Island Dr & Doolittle Dr



2040 Proposed Action Condition

Saturday Peak Hour



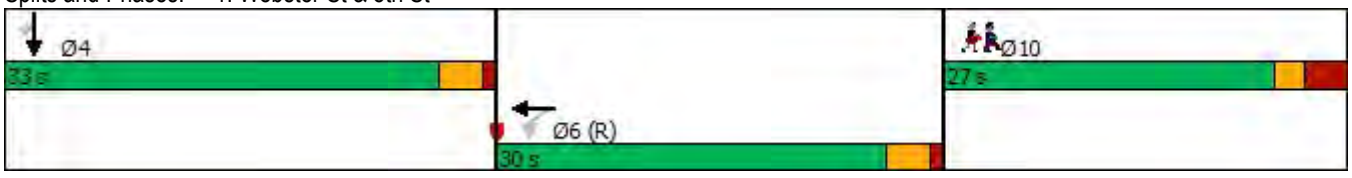
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	402	484	0	0	0	0	0	701	394
Future Volume (vph)	0	0	0	402	484	0	0	0	0	0	701	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	0.86	0.86
Frt											0.974	0.850
Flt Protected				0.950	0.986							
Satd. Flow (prot)	0	0	0	1358	4534	0	0	0	0	0	4278	1191
Flt Permitted				0.950	0.986							
Satd. Flow (perm)	0	0	0	1358	4534	0	0	0	0	0	4278	1191
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				228	109						47	261
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		387			280			292			310	
Travel Time (s)		10.6			7.6			8.0			8.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	8%	2%
Parking (#/hr)				5	5						5	5
Adj. Flow (vph)	0	0	0	423	509	0	0	0	0	0	738	415
Shared Lane Traffic (%)				46%								37%
Lane Group Flow (vph)	0	0	0	228	704	0	0	0	0	0	892	261
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.19	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1						1	1
Detector Template				Left	Thru						Thru	Right
Leading Detector (ft)				20	100						100	20
Trailing Detector (ft)				0	0						0	0
Detector 1 Position(ft)				0	0						0	0
Detector 1 Size(ft)				20	100						100	20
Detector 1 Type				Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0						0.0	0.0
Detector 1 Queue (s)				0.0	0.0						0.0	0.0
Detector 1 Delay (s)				0.0	0.0						0.0	0.0
Turn Type				Perm	NA						NA	Perm
Protected Phases					6						4	
Permitted Phases				6								4
Detector Phase				6	6						4	4
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	5.0
Minimum Split (s)				22.5	22.5						22.5	22.5
Total Split (s)				30.0	30.0						33.0	33.0
Total Split (%)				33.3%	33.3%						36.7%	36.7%

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Parking (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	30%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)				26.0	26.0						29.0	29.0
Yellow Time (s)				3.0	3.0						3.0	3.0
All-Red Time (s)				1.0	1.0						1.0	1.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				4.0	4.0						4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0						3.0	3.0
Recall Mode				C-Max	C-Max						None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)				35.0	35.0						27.8	27.8
Actuated g/C Ratio				0.39	0.39						0.31	0.31
v/c Ratio				0.34	0.38						0.66	0.48
Control Delay				5.2	19.8						27.6	6.0
Queue Delay				0.0	0.0						0.0	0.0
Total Delay				5.2	19.8						27.6	6.0
LOS				A	B						C	A
Approach Delay					16.2						22.7	
Approach LOS					B						C	
Queue Length 50th (ft)				0	102						156	0
Queue Length 95th (ft)				61	147						193	59
Internal Link Dist (ft)		307			200			212			230	
Turn Bay Length (ft)												
Base Capacity (vph)				667	1829						1468	573
Starvation Cap Reductn				0	0						0	0
Spillback Cap Reductn				0	0						0	0
Storage Cap Reductn				0	0						0	0
Reduced v/c Ratio				0.34	0.38						0.61	0.46

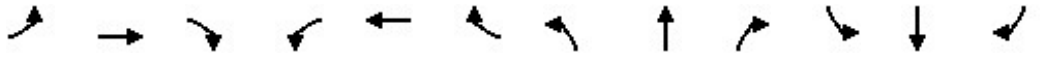
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 19.8		Intersection LOS: B	
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Webster St & 8th St



Lane Group	Ø10
Maximum Green (s)	22.0
Yellow Time (s)	2.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	0.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	60
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

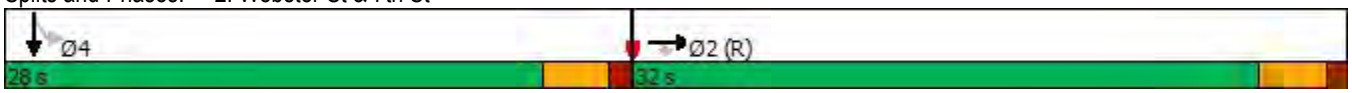


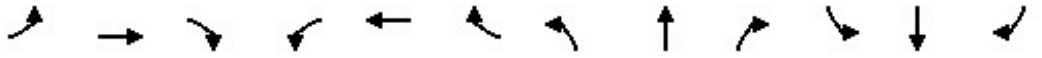
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	766	431	0	0	0	0	0	0	232	755	0
Future Volume (vph)	0	766	431	0	0	0	0	0	0	232	755	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.974	0.850									
Flt Protected											0.988	
Satd. Flow (prot)	0	4404	1348	0	0	0	0	0	0	0	4832	0
Flt Permitted											0.988	
Satd. Flow (perm)	0	4404	1348	0	0	0	0	0	0	0	4832	0
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Satd. Flow (RTOR)		68	68								100	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		340			387			184			292	
Travel Time (s)		9.3			10.6			5.0			8.0	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	3%	3%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Parking (#/hr)		10									10	
Adj. Flow (vph)	0	842	474	0	0	0	0	0	0	255	830	0
Shared Lane Traffic (%)			37%									
Lane Group Flow (vph)	0	1017	299	0	0	0	0	0	0	0	1085	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1							1	1	
Detector Template		Thru	Right							Left	Thru	
Leading Detector (ft)		100	20							20	100	
Trailing Detector (ft)		0	0							0	0	
Detector 1 Position(ft)		0	0							0	0	
Detector 1 Size(ft)		100	20							20	100	
Detector 1 Type		Cl+Ex	Cl+Ex							Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0							0.0	0.0	
Detector 1 Queue (s)		0.0	0.0							0.0	0.0	
Detector 1 Delay (s)		0.0	0.0							0.0	0.0	
Turn Type		NA	Perm							Perm	NA	
Protected Phases		2									4	
Permitted Phases			2							4		
Detector Phase		2	2							4	4	
Switch Phase												
Minimum Initial (s)		5.0	5.0							5.0	5.0	
Minimum Split (s)		32.0	32.0							28.0	28.0	
Total Split (s)		32.0	32.0							28.0	28.0	
Total Split (%)		53.3%	53.3%							46.7%	46.7%	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		28.0	28.0							24.0	24.0	
Yellow Time (s)		3.0	3.0							3.0	3.0	
All-Red Time (s)		1.0	1.0							1.0	1.0	
Lost Time Adjust (s)		0.0	0.0								0.0	
Total Lost Time (s)		4.0	4.0								4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0							3.0	3.0	
Recall Mode		C-Max	C-Max							None	None	
Walk Time (s)		18.0	18.0							12.0	12.0	
Flash Dont Walk (s)		10.0	10.0							12.0	12.0	
Pedestrian Calls (#/hr)		0	0							0	0	
Act Effct Green (s)		30.6	30.6								21.4	
Actuated g/C Ratio		0.51	0.51								0.36	
v/c Ratio		0.45	0.42								0.61	
Control Delay		9.9	9.9								15.5	
Queue Delay		0.0	0.0								0.3	
Total Delay		9.9	9.9								15.8	
LOS		A	A								B	
Approach Delay		9.9									15.8	
Approach LOS		A									B	
Queue Length 50th (ft)		81	55								98	
Queue Length 95th (ft)		118	123								131	
Internal Link Dist (ft)		260			307			104			212	
Turn Bay Length (ft)												
Base Capacity (vph)		2277	720								1992	
Starvation Cap Reductn		0	0								324	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.45	0.42								0.65	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2:EBT and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 44.0%		ICU Level of Service A	
Analysis Period (min) 15			

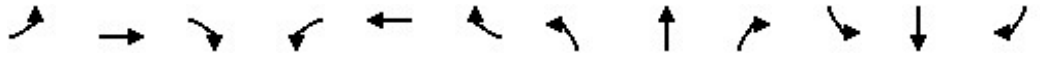
Splits and Phases: 2: Webster St & 7th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	353	629	0	0	0	0	0	702	1800	0	0	0
Future Volume (vph)	353	629	0	0	0	0	0	702	1800	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	1.00	1.00	0.91	*0.85	1.00	1.00	1.00
Frt									0.850			
Flt Protected		0.982										
Satd. Flow (prot)	0	4656	0	0	0	0	0	5136	2718	0	0	0
Flt Permitted		0.982										
Satd. Flow (perm)	0	4656	0	0	0	0	0	5136	2718	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		130							99			
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		387			379			445			307	
Travel Time (s)		10.6			10.3			10.1			7.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	5%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%
Parking (#/hr)		10										
Adj. Flow (vph)	397	707	0	0	0	0	0	789	2022	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1104	0	0	0	0	0	789	2022	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2	1			
Detector Template	Left	Thru						Thru	Right			
Leading Detector (ft)	20	100						100	20			
Trailing Detector (ft)	0	0						0	0			
Detector 1 Position(ft)	0	0						0	0			
Detector 1 Size(ft)	20	6						6	20			
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0			
Detector 1 Queue (s)	0.0	0.0						0.0	0.0			
Detector 1 Delay (s)	0.0	0.0						0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type	Perm	NA						NA	custom			
Protected Phases		2 5!						4	4 6!			
Permitted Phases	2 5											
Detector Phase	2 5	2 5						4	4 6			

Lane Group	Ø2	Ø5	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Parking (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	5	6
Permitted Phases			
Detector Phase			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								27.6				
Total Split (s)								35.0				
Total Split (%)								58.3%				
Maximum Green (s)								29.4				
Yellow Time (s)								3.6				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								5.6				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)								0.2				
Recall Mode								C-Max				
Walk Time (s)								7.0				
Flash Dont Walk (s)								15.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		19.4						29.4	36.1			
Actuated g/C Ratio		0.32						0.49	0.60			
v/c Ratio		0.69						0.31	1.21			
Control Delay		11.9						9.7	116.7			
Queue Delay		0.0						0.0	0.0			
Total Delay		11.9						9.7	116.7			
LOS		B						A	F			
Approach Delay		11.9						86.6				
Approach LOS		B						F				
Queue Length 50th (ft)		58						58	~545			
Queue Length 95th (ft)		74						79	#682			
Internal Link Dist (ft)		307			299			365			227	
Turn Bay Length (ft)												
Base Capacity (vph)		1593						2516	1673			
Starvation Cap Reductn		0						0	0			
Spillback Cap Reductn		0						0	0			
Storage Cap Reductn		0						0	0			
Reduced v/c Ratio		0.69						0.31	1.21			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 51 (85%), Referenced to phase 4:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.21			
Intersection Signal Delay: 65.6		Intersection LOS: E	
Intersection Capacity Utilization 91.9%		ICU Level of Service F	
Analysis Period (min) 15			
* User Entered Value			
~ Volume exceeds capacity, queue is theoretically infinite.			

Lane Group	Ø2	Ø5	Ø6
Switch Phase			
Minimum Initial (s)	5.0	5.0	1.0
Minimum Split (s)	20.6	18.6	4.6
Total Split (s)	25.0	19.0	6.0
Total Split (%)	42%	32%	10%
Maximum Green (s)	19.4	13.4	2.4
Yellow Time (s)	3.6	3.6	3.6
All-Red Time (s)	2.0	2.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lead	Lag
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	0.2	0.2	0.2
Recall Mode	Ped	None	Max
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	8.0	6.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

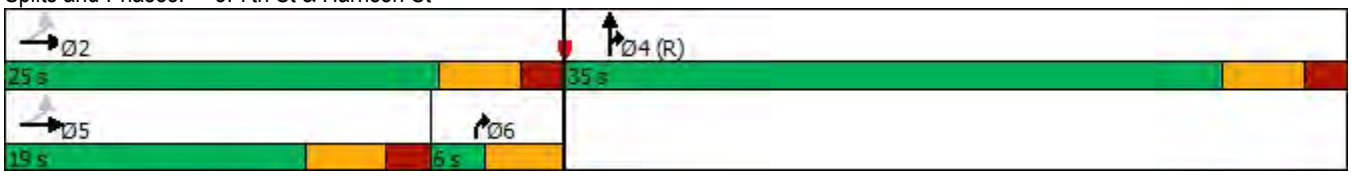
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 3: 7th St & Harrison St

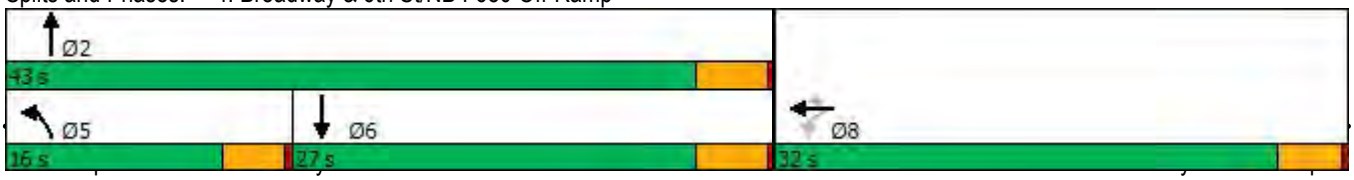


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	272	148	558	49	197	0	0	396	133
Future Volume (vph)	0	0	0	272	148	558	49	197	0	0	396	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		50	0		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850					0.962	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1752	3252	1583	1687	3610	0	0	4916	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1752	3252	1583	1687	3610	0	0	4916	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						607					116	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		415			293			328			469	
Travel Time (s)		11.3			8.0			8.9			12.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	11%	2%	7%	0%	0%	0%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	14
Adj. Flow (vph)	0	0	0	296	161	607	53	214	0	0	430	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	296	161	607	53	214	0	0	575	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	1	1	1	1			1	
Detector Template				Left	Thru	Right	Left	Thru			Thru	
Leading Detector (ft)				20	100	20	20	100			100	
Trailing Detector (ft)				0	0	0	0	0			0	
Detector 1 Position(ft)				0	0	0	0	0			0	
Detector 1 Size(ft)				20	100	20	20	100			100	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				31.0	31.0	31.0	9.5	23.5			23.5	
Total Split (s)				32.0	32.0	32.0	16.0	43.0			27.0	
Total Split (%)				42.7%	42.7%	42.7%	21.3%	57.3%			36.0%	
Maximum Green (s)				28.0	28.0	28.0	12.0	38.5			22.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	4.0			4.0	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				4.0	4.0	4.0	4.0	4.5			4.5	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Recall Mode				None	None	None	None	None			None	
Walk Time (s)				7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)				20.0	20.0	20.0		12.0			12.0	
Pedestrian Calls (#/hr)				0	0	0		0			0	
Act Effct Green (s)				15.4	15.4	15.4	6.9	13.2			9.9	
Actuated g/C Ratio				0.40	0.40	0.40	0.18	0.34			0.26	
v/c Ratio				0.42	0.12	0.61	0.18	0.17			0.43	
Control Delay				11.9	9.0	4.3	21.2	9.4			12.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				11.9	9.0	4.3	21.2	9.4			12.5	
LOS				B	A	A	C	A			B	
Approach Delay					7.1			11.8			12.5	
Approach LOS					A			B			B	
Queue Length 50th (ft)				30	7	0	8	14			22	
Queue Length 95th (ft)				131	34	52	47	43			83	
Internal Link Dist (ft)		335			213			248			389	
Turn Bay Length (ft)				275		50						
Base Capacity (vph)				1345	2497	1356	621	3157			3373	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.22	0.06	0.45	0.09	0.07			0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 38.6			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 47.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Broadway & 6th St/NB I-680 Off-Ramp



Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	55	581	123	53	97	89	252	327	139	225
Future Volume (vph)	55	581	123	53	97	89	252	327	139	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	*0.80	0.91	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Frt		0.997	0.850	0.850	0.883					
Flt Protected		0.996						0.950	0.950	
Satd. Flow (prot)	0	3018	1441	1429	4560	0	0	1787	1787	1863
Flt Permitted		0.996						0.950	0.950	
Satd. Flow (perm)	0	3018	1441	1429	4560	0	0	1787	1787	1863
Right Turn on Red				Yes			Yes			
Satd. Flow (RTOR)				73	268					
Link Speed (mph)		25			25					25
Link Distance (ft)		582			693					328
Travel Time (s)		15.9			18.9					8.9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	2%	13%	2%	0%	0%	1%	1%	2%
Adj. Flow (vph)	59	618	131	56	103	95	268	348	148	239
Shared Lane Traffic (%)			10%							
Lane Group Flow (vph)	0	690	118	56	466	0	0	348	148	239
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right	Right	Left	Left	Left
Median Width(ft)		0			24					24
Link Offset(ft)		0			0					0
Crosswalk Width(ft)		16			16					16
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9		9	9	15	15	
Number of Detectors	1	2	1	1	2			1	1	2
Detector Template	Left	Thru	Right	Right	Thru			Left	Left	Thru
Leading Detector (ft)	20	100	20	20	100			20	20	100
Trailing Detector (ft)	0	0	0	0	0			0	0	0
Detector 1 Position(ft)	0	0	0	0	0			0	0	0
Detector 1 Size(ft)	20	6	20	20	6			20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel										
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
Detector 2 Position(ft)		94			94					94
Detector 2 Size(ft)		6			6					6
Detector 2 Type		Cl+Ex			Cl+Ex					Cl+Ex
Detector 2 Channel										
Detector 2 Extend (s)		0.0			0.0					0.0
Turn Type	Perm	NA	Perm	Perm	NA			Prot	Prot	NA
Protected Phases		4			2			1	1	6
Permitted Phases	4		4	4						
Detector Phase	4	4	4	4	2			1	1	6
Switch Phase										

Lane Group	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0
Minimum Split (s)	30.5	30.5	30.5	30.5	23.5			9.5	9.5	22.5
Total Split (s)	30.5	30.5	30.5	30.5	23.5			21.0	21.0	44.5
Total Split (%)	40.7%	40.7%	40.7%	40.7%	31.3%			28.0%	28.0%	59.3%
Maximum Green (s)	27.0	27.0	27.0	27.0	19.0			17.5	17.5	41.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0			3.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Lost Time (s)		3.5	3.5	3.5	4.5			3.5	3.5	3.5
Lead/Lag					Lag			Lead	Lead	
Lead-Lag Optimize?					Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5			2.5	2.5	2.5
Recall Mode	None	None	None	None	None			None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0					7.0
Flash Dont Walk (s)	20.0	20.0	20.0	20.0	12.0					12.0
Pedestrian Calls (#/hr)	0	0	0	0	0					0
Act Effct Green (s)		19.5	19.5	19.5	8.2			15.4	15.4	28.3
Actuated g/C Ratio		0.35	0.35	0.35	0.15			0.28	0.28	0.51
v/c Ratio		0.65	0.23	0.10	0.52			0.70	0.30	0.25
Control Delay		18.5	14.7	3.3	12.3			29.1	19.9	9.3
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0	0.0
Total Delay		18.5	14.7	3.3	12.3			29.1	19.9	9.3
LOS		B	B	A	B			C	B	A
Approach Delay		17.0			12.3					20.8
Approach LOS		B			B					C
Queue Length 50th (ft)		118	29	0	22			98	37	39
Queue Length 95th (ft)		200	71	15	53			#257	97	93
Internal Link Dist (ft)		502			613					248
Turn Bay Length (ft)										
Base Capacity (vph)		1544	737	766	1813			592	592	1423
Starvation Cap Reductn		0	0	0	0			0	0	0
Spillback Cap Reductn		0	0	0	0			0	0	0
Storage Cap Reductn		0	0	0	0			0	0	0
Reduced v/c Ratio		0.45	0.16	0.07	0.26			0.59	0.25	0.17

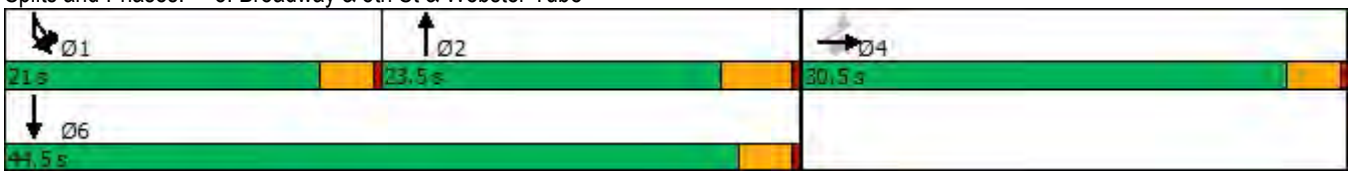
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 55.1			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

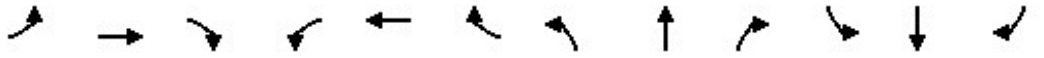
* User Entered Value

\# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Broadway & 5th St & Webster Tube



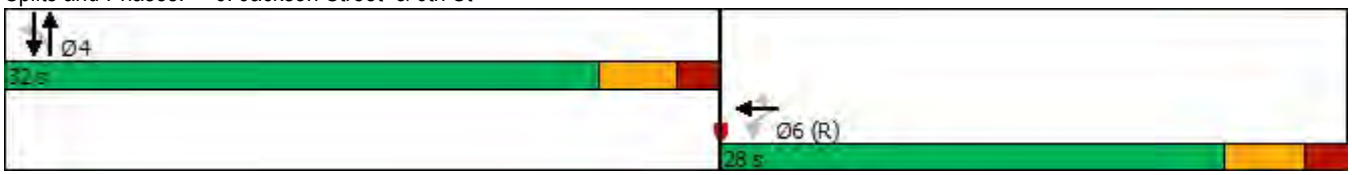


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	8	328	47	241	250	0	0	254	1407
Future Volume (vph)	0	0	0	8	328	47	241	250	0	0	254	1407
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	*1.00
Frt						0.850					0.954	0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1805	1759	1615	1805	1900	0	0	1711	1583
Flt Permitted				0.950			0.440					
Satd. Flow (perm)	0	0	0	1805	1759	1615	836	1900	0	0	1711	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						49					47	434
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		398			582			288			920	
Travel Time (s)		10.9			15.9			7.9			25.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	0%	2%
Adj. Flow (vph)	0	0	0	8	345	49	254	263	0	0	267	1481
Shared Lane Traffic (%)												8%
Lane Group Flow (vph)	0	0	0	8	345	49	254	263	0	0	385	1363
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm	Perm	NA			NA	Free
Protected Phases					6			4			4	
Permitted Phases				6		6	4					Free
Minimum Split (s)				23.5	23.5	23.5	23.5	23.5			23.5	
Total Split (s)				28.0	28.0	28.0	32.0	32.0			32.0	
Total Split (%)				46.7%	46.7%	46.7%	53.3%	53.3%			53.3%	
Maximum Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	
Lost Time Adjust (s)				0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)				5.5	5.5	5.5	5.5	5.5			5.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)				5.0	5.0	5.0	7.0	7.0			7.0	
Flash Dont Walk (s)				10.0	10.0	10.0	5.0	5.0			5.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)				22.5	22.5	22.5	26.5	26.5			26.5	60.0
Actuated g/C Ratio				0.38	0.38	0.38	0.44	0.44			0.44	1.00
v/c Ratio				0.01	0.52	0.08	0.69	0.31			0.49	0.86
Control Delay				11.9	18.1	4.7	22.2	10.1			13.0	7.7
Queue Delay				0.0	0.0	0.0	0.0	0.4			0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				11.9	18.1	4.7	22.2	10.4			13.0	7.7
LOS				B	B	A	C	B			B	A
Approach Delay					16.4			16.2			8.9	
Approach LOS					B			B			A	
Queue Length 50th (ft)				2	94	0	59	56			85	0
Queue Length 95th (ft)				9	164	17	#183	94			155	#52
Internal Link Dist (ft)		318			502			208			840	
Turn Bay Length (ft)												
Base Capacity (vph)				676	659	636	369	839			781	1583
Starvation Cap Reductn				0	0	0	0	232			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.01	0.52	0.08	0.69	0.43			0.49	0.86

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 21 (35%), Referenced to phase 2: and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 86.5%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Jackson Street & 6th St

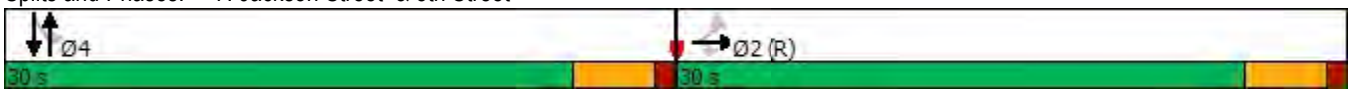


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	269	359	0	0	0	0	348	61	198	139	0
Future Volume (vph)	350	269	359	0	0	0	0	348	61	198	139	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.980				
Flt Protected		0.973									0.971	
Satd. Flow (prot)	0	3482	1615	0	0	0	0	1862	0	0	1614	0
Flt Permitted		0.973									0.439	
Satd. Flow (perm)	0	3482	1615	0	0	0	0	1862	0	0	730	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			344					18				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		991			657			571			288	
Travel Time (s)		27.0			17.9			15.6			7.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)											5	
Adj. Flow (vph)	376	289	386	0	0	0	0	374	66	213	149	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	665	386	0	0	0	0	440	0	0	362	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Minimum Split (s)	23.5	23.5	23.5					25.6		25.6	25.6	
Total Split (s)	30.0	30.0	30.0					30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%	50.0%					50.0%		50.0%	50.0%	
Maximum Green (s)	25.4	25.4	25.4					25.4		25.4	25.4	
Yellow Time (s)	3.6	3.6	3.6					3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0					0.0			0.0	
Total Lost Time (s)		4.6	4.6					4.6			4.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0					7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0					0		0	0	
Act Effct Green (s)		25.4	25.4					25.4			25.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.42	0.42					0.42			0.42	
v/c Ratio		0.45	0.44					0.55			1.17	
Control Delay		13.6	4.0					15.7			132.2	
Queue Delay		0.0	0.0					0.0			0.0	
Total Delay		13.6	4.0					15.7			132.2	
LOS		B	A					B			F	
Approach Delay		10.1						15.7			132.2	
Approach LOS		B						B			F	
Queue Length 50th (ft)		85	9					109			~171	
Queue Length 95th (ft)		125	53					185			#321	
Internal Link Dist (ft)		911			577			491			208	
Turn Bay Length (ft)			50									
Base Capacity (vph)		1474	882					798			309	
Starvation Cap Reductn		0	0					0			0	
Spillback Cap Reductn		0	0					0			0	
Storage Cap Reductn		0	0					0			0	
Reduced v/c Ratio		0.45	0.44					0.55			1.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 51 (85%), Referenced to phase 2:EBTL and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 1.17			
Intersection Signal Delay: 35.2		Intersection LOS: D	
Intersection Capacity Utilization 71.2%		ICU Level of Service C	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: Jackson Street & 5th Street



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	302	91	43	1161	945	314
Future Volume (vph)	302	91	43	1161	945	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	180			0
Storage Lanes	2	1	1			2
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.91	0.88
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3502	1615	1805	3505	4988	2842
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3502	1615	1805	3505	4988	2842
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	1060			1382	722	
Travel Time (s)	28.9			37.7	19.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	3%	4%	0%
Adj. Flow (vph)	318	96	45	1222	995	331
Shared Lane Traffic (%)						
Lane Group Flow (vph)	318	96	45	1222	995	331
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	100	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	Prot	NA	NA	pt+ov
Protected Phases	4		5	2	6	6 4
Permitted Phases		4				
Detector Phase	4	4	5	2	6	6 4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Split (s)	23.0	23.0	11.0	37.0	26.0	
Total Split (%)	38.3%	38.3%	18.3%	61.7%	43.3%	
Maximum Green (s)	18.5	18.5	6.5	32.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	10.7	10.7	6.2	33.7	29.4	47.4
Actuated g/C Ratio	0.20	0.20	0.12	0.63	0.55	0.89
v/c Ratio	0.45	0.30	0.22	0.55	0.36	0.13
Control Delay	20.4	19.8	24.5	7.3	9.0	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.4	19.8	24.5	7.3	9.0	1.6
LOS	C	B	C	A	A	A
Approach Delay	20.3			7.9	7.2	
Approach LOS	C			A	A	
Queue Length 50th (ft)	44	25	13	94	43	0
Queue Length 95th (ft)	73	57	39	173	124	23
Internal Link Dist (ft)	980			1302	642	
Turn Bay Length (ft)		100	180			
Base Capacity (vph)	1215	560	220	2208	2743	2628
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.17	0.20	0.55	0.36	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 53.4			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 48.2%		ICU Level of Service A	
Analysis Period (min) 15			

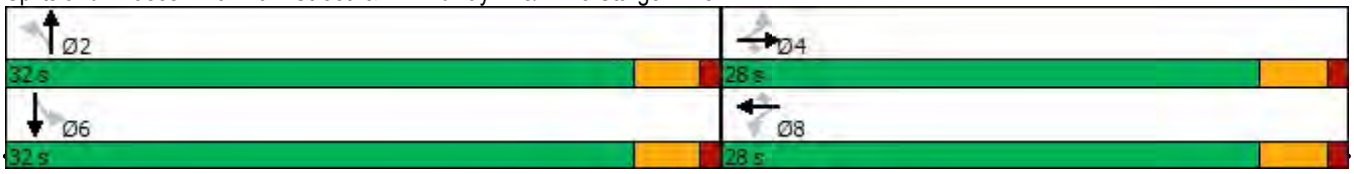
Splits and Phases: 8: Webster Street & Willie Stargell Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	118	103	19	152	172	90	347	17	199	371	6
Future Volume (vph)	11	118	103	19	152	172	90	347	17	199	371	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		100	0		0	0		0
Storage Lanes	0		1	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.994			0.998	
Flt Protected		0.996			0.994			0.990			0.983	
Satd. Flow (prot)	0	1892	1442	0	1889	1524	0	3447	0	0	3542	0
Flt Permitted		0.964			0.954			0.743			0.655	
Satd. Flow (perm)	0	1832	1442	0	1813	1524	0	2587	0	0	2360	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129			215		8			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1006			1930			1883			441	
Travel Time (s)		27.4			52.6			51.4			12.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	12%	0%	0%	6%	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	14	148	129	24	190	215	113	434	21	249	464	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	162	129	0	214	215	0	568	0	0	721	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	

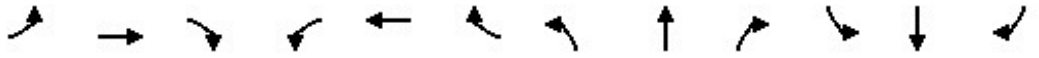
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	28.0	28.0	28.0	28.0	28.0	28.0	32.0	32.0		32.0	32.0	
Total Split (%)	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%	53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	28.0	28.0		28.0	28.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		11.3	11.3		11.3	11.3		28.3			28.3	
Actuated g/C Ratio		0.24	0.24		0.24	0.24		0.59			0.59	
v/c Ratio		0.37	0.29		0.50	0.41		0.37			0.51	
Control Delay		17.3	5.3		19.5	5.2		6.6			8.2	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		17.3	5.3		19.5	5.2		6.6			8.2	
LOS		B	A		B	A		A			A	
Approach Delay		12.0			12.4			6.6			8.2	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		37	0		51	0		32			47	
Queue Length 95th (ft)		65	22		84	26		70			98	
Internal Link Dist (ft)		926			1850			1803			361	
Turn Bay Length (ft)			50			100						
Base Capacity (vph)		929	795		919	879		1538			1401	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.17	0.16		0.23	0.24		0.37			0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 47.6			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 54.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Main Street & W. Midway Ave/Willie Stargell Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	871	235	38	604	363	213	301	144	431	280	22
Future Volume (vph)	6	871	235	38	604	363	213	301	144	431	280	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		400	90		0	195		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt			0.850			0.850		0.951			0.993	
Flt Protected					0.997		0.950			0.950	0.981	
Satd. Flow (prot)	0	3610	1553	0	3571	1568	1805	3343	0	1610	3305	0
Flt Permitted		0.948			0.552		0.950			0.950	0.981	
Satd. Flow (perm)	0	3422	1553	0	1977	1568	1805	3343	0	1610	3305	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			294			454		41			6	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		274			4342			1044			1883	
Travel Time (s)		7.5			118.4			28.5			51.4	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	4%	13%	0%	3%	0%	4%	0%	2%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Adj. Flow (vph)	8	1089	294	48	755	454	266	376	180	539	350	28
Shared Lane Traffic (%)										45%		
Lane Group Flow (vph)	0	1097	294	0	803	454	266	556	0	296	621	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	100	20	20	100	20	20	100		20	100	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Split	NA		Split	NA	
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8		8						
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	



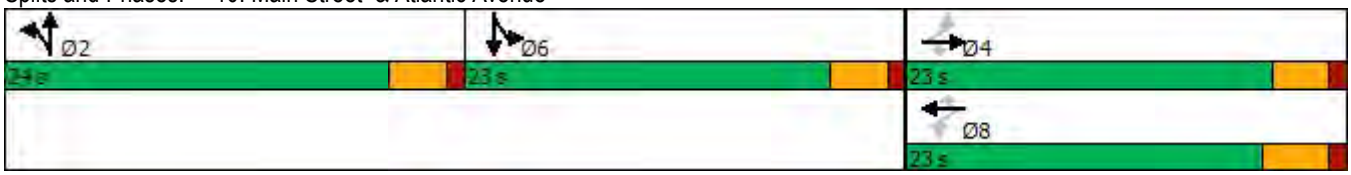
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0		23.0	23.0	
Total Split (%)	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	34.3%	34.3%		32.9%	32.9%	
Maximum Green (s)	19.0	19.0	19.0	18.5	18.5	18.5	20.0	20.0		19.0	19.0	
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0		4.5	4.5	4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Max	Max		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		19.0	19.0		18.5	18.5	20.0	20.0		17.7	17.7	
Actuated g/C Ratio		0.28	0.28		0.27	0.27	0.29	0.29		0.26	0.26	
v/c Ratio		1.16	0.46		1.51	0.60	0.51	0.56		0.71	0.72	
Control Delay		110.6	5.5		263.7	6.3	24.8	21.8		34.1	28.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		110.6	5.5		263.7	6.3	24.8	21.8		34.1	28.6	
LOS		F	A		F	A	C	C		C	C	
Approach Delay		88.4			170.7			22.8			30.3	
Approach LOS		F			F			C			C	
Queue Length 50th (ft)		~305	0		~261	0	95	98		124	129	
Queue Length 95th (ft)		#350	35		#313	37	140	124		182	159	
Internal Link Dist (ft)		194			4262			964			1803	
Turn Bay Length (ft)						400	90			195		
Base Capacity (vph)		945	641		532	753	525	1001		445	917	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		1.16	0.46		1.51	0.60	0.51	0.56		0.67	0.68	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 68.8			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.51			
Intersection Signal Delay: 87.5		Intersection LOS: F	
Intersection Capacity Utilization 82.6%		ICU Level of Service E	
Analysis Period (min) 15			

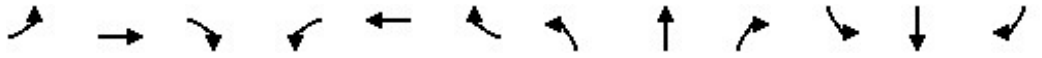
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Main Street & Atlantic Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	285	183	72	222	163	100	815	60	209	869	292
Future Volume (vph)	376	285	183	72	222	163	100	815	60	209	869	292
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		75	150		0	180		0	170		0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.936			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3610	1568	1805	3303	0	1805	3477	0	1805	3471	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3610	1568	1805	3303	0	1805	3477	0	1805	3471	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			191		170			11				301
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		4342			1007			968			1382	
Travel Time (s)		118.4			27.5			26.4			37.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	0%	3%	0%	4%	0%	0%	3%	0%	0%	4%	2%
Adj. Flow (vph)	392	297	191	75	231	170	104	849	63	218	905	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	392	297	191	75	401	0	104	912	0	218	905	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	100	20	20	100		20	100		20	100	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	4	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	10.0

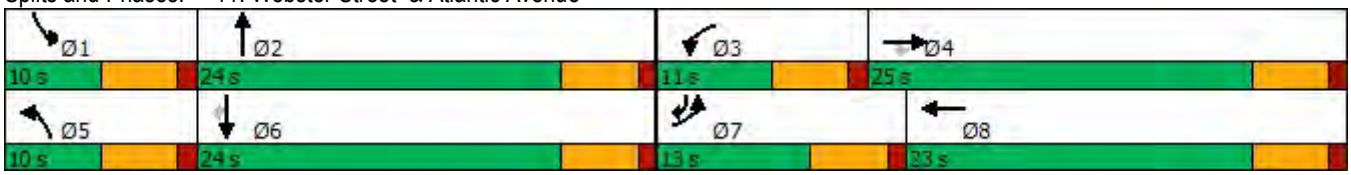


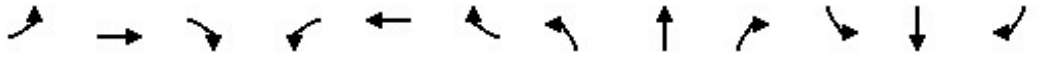
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	13.0	25.0	25.0	11.0	23.0		10.0	24.0		10.0	24.0	13.0
Total Split (%)	18.6%	35.7%	35.7%	15.7%	32.9%		14.3%	34.3%		14.3%	34.3%	18.6%
Maximum Green (s)	8.0	20.0	20.0	6.0	18.0		5.0	19.0		5.0	19.0	8.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	8.0	16.8	16.8	5.9	10.2		5.0	19.0		5.0	19.0	32.1
Actuated g/C Ratio	0.13	0.27	0.27	0.09	0.16		0.08	0.30		0.08	0.30	0.52
v/c Ratio	0.90	0.30	0.34	0.44	0.59		0.72	0.85		1.50	0.85	0.32
Control Delay	54.2	20.5	5.6	36.3	17.1		59.5	30.7		287.4	31.1	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	54.2	20.5	5.6	36.3	17.1		59.5	30.7		287.4	31.1	2.4
LOS	D	C	A	D	B		E	C		F	C	A
Approach Delay		32.3			20.1			33.6			64.2	
Approach LOS		C			C			C			E	
Queue Length 50th (ft)	75	52	0	27	41		39	164		~117	164	1
Queue Length 95th (ft)	#163	83	44	68	78		#119	#298		#252	#297	36
Internal Link Dist (ft)		4262			927			888			1302	
Turn Bay Length (ft)	300		75	150			180			170		
Base Capacity (vph)	437	1177	640	174	1077		145	1070		145	1061	961
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.90	0.25	0.30	0.43	0.37		0.72	0.85		1.50	0.85	0.32

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 62.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.50
Intersection Signal Delay: 43.1 Intersection LOS: D
Intersection Capacity Utilization 74.8% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

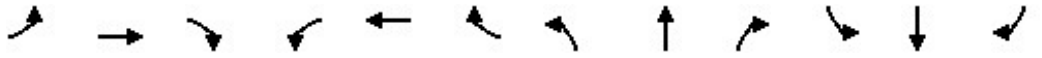
Splits and Phases: 11: Webster Street & Atlantic Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1176	306	78	1050	0	0	0	0	718	7
Future Volume (vph)	0	0	1176	306	78	1050	0	0	0	0	718	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	210		0	0		0	0		0
Storage Lanes	0		2	1		2	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850						0.850
Flt Protected					0.962							
Satd. Flow (prot)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Flt Permitted					0.962							
Satd. Flow (perm)	0	0	2787	0	1792	2787	0	0	0	0	1863	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)					66							
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		249			327			317			249	
Travel Time (s)		6.8			8.9			7.2			5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1278	333	85	1141	0	0	0	0	780	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	1278	0	418	1141	0	0	0	0	780	8
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	L NA	Left	Right	Left	Left	Right	Left	L NA	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors			1	1	2	1					2	1
Detector Template			Right	Left	Thru	Right					Thru	Right
Leading Detector (ft)			20	20	100	20					100	20
Trailing Detector (ft)			0	0	0	0					0	0
Detector 1 Position(ft)			0	0	0	0					0	0
Detector 1 Size(ft)			20	20	6	20					6	20
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Queue (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 1 Delay (s)			0.0	0.0	0.0	0.0					0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			custom	Split	NA	custom					NA	custom
Protected Phases			2 4 8!	4!	4!	2 4 8					2!	2 8!
Permitted Phases												2

Lane Group	Ø3	Ø5	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	5	8
Permitted Phases			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase			2 4 8	4	4	2 4 8					2	2 8
Switch Phase												
Minimum Initial (s)				5.0	5.0						5.0	
Minimum Split (s)				23.0	23.0						21.0	
Total Split (s)				34.0	34.0						34.0	
Total Split (%)				41.0%	41.0%						41.0%	
Maximum Green (s)				30.0	30.0						30.0	
Yellow Time (s)				4.0	4.0						4.0	
All-Red Time (s)				0.0	0.0						0.0	
Lost Time Adjust (s)					0.0						0.0	
Total Lost Time (s)					4.0						4.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				2.0	2.0						2.0	
Recall Mode				None	None						Min	
Walk Time (s)				7.0	7.0						7.0	
Flash Dont Walk (s)				6.0	6.0						10.0	
Pedestrian Calls (#/hr)				0	0						0	
Act Effct Green (s)			68.0		30.0	68.0					30.0	68.0
Actuated g/C Ratio			1.00		0.44	1.00					0.44	1.00
v/c Ratio			0.46		0.51	0.41					0.95	0.01
Control Delay			0.5		13.9	0.4					42.2	0.0
Queue Delay			0.0		1.4	0.0					0.0	0.0
Total Delay			0.5		15.3	0.4					42.2	0.0
LOS			A		B	A					D	A
Approach Delay		0.5			4.4						41.8	
Approach LOS		A			A						D	
Queue Length 50th (ft)			0		99	0					298	0
Queue Length 95th (ft)			0		173	0					#527	0
Internal Link Dist (ft)		169			247			237			169	
Turn Bay Length (ft)												
Base Capacity (vph)			2787		827	2787					821	1583
Starvation Cap Reductn			0		229	0					0	0
Spillback Cap Reductn			0		0	0					0	0
Storage Cap Reductn			0		0	0					0	0
Reduced v/c Ratio			0.46		0.70	0.41					0.95	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 68			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 110.0%		ICU Level of Service H	
Analysis Period (min) 15			

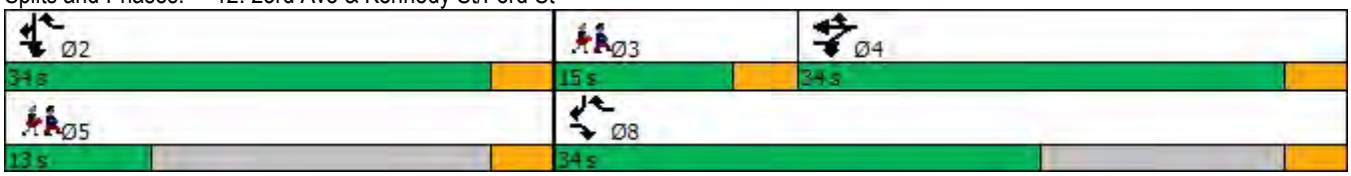
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	Ø3	Ø5	Ø8
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	15.0	13.0	23.0
Total Split (s)	15.0	13.0	34.0
Total Split (%)	18%	16%	41%
Maximum Green (s)	11.0	9.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	0.0	0.0	0.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	2.0	2.0	2.0
Recall Mode	None	None	None
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	8.0	6.0	7.0
Pedestrian Calls (#/hr)	0	0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

! Phase conflict between lane groups.

Splits and Phases: 12: 23rd Ave & Kennedy St/Ford St

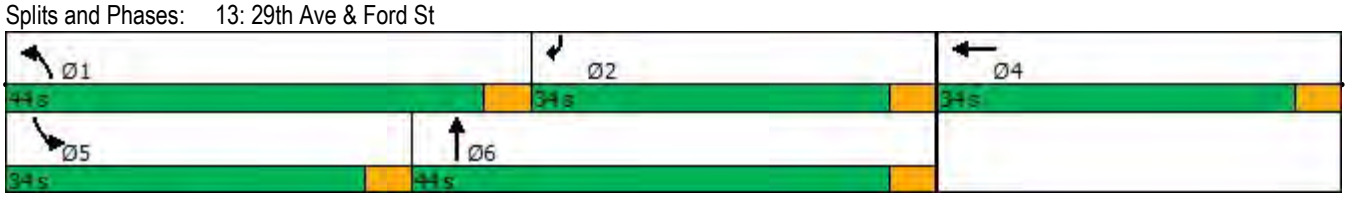


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	54	10	1060	815	23	65	0	299
Future Volume (vph)	0	0	0	0	54	10	1060	815	23	65	0	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.996				0.850
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Flt Permitted							0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1824	0	3433	1855	0	1770	0	1583
Right Turn on Red			Yes			Yes	No		Yes			Yes
Satd. Flow (RTOR)					8			1				325
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		327			285			194			275	
Travel Time (s)		7.4			6.5			5.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	59	11	1152	886	25	71	0	325
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	70	0	1152	911	0	71	0	325
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			24			24	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors					2		1	2		1		1
Detector Template					Thru		Left	Thru		Left		Right
Leading Detector (ft)					100		20	100		20		20
Trailing Detector (ft)					0		0	0		0		0
Detector 1 Position(ft)					0		0	0		0		0
Detector 1 Size(ft)					6		20	6		20		20
Detector 1 Type					Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)					0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)					0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type					NA		Prot	NA		Prot		Prot
Protected Phases					4		1	6		5		2
Permitted Phases												2
Detector Phase					4		1	6		5		2
Switch Phase												
Minimum Initial (s)					5.0		5.0	5.0		5.0		5.0

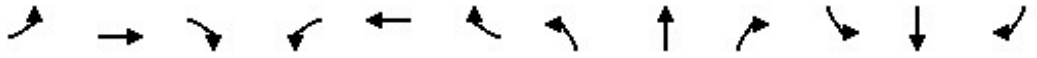
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)					27.0		19.0	18.0		9.0		17.0
Total Split (s)					34.0		44.0	44.0		34.0		34.0
Total Split (%)					30.4%		39.3%	39.3%		30.4%		30.4%
Maximum Green (s)					30.0		40.0	40.0		30.0		30.0
Yellow Time (s)					4.0		4.0	4.0		4.0		4.0
All-Red Time (s)					0.0		0.0	0.0		0.0		0.0
Lost Time Adjust (s)					0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)					4.0		4.0	4.0		4.0		4.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)					2.0		2.0	2.0		2.0		2.0
Recall Mode					None		None	Min		None		Min
Walk Time (s)					7.0		7.0	7.0				7.0
Flash Dont Walk (s)					16.0		8.0	7.0				6.0
Pedestrian Calls (#/hr)					5		5	5				5
Act Effct Green (s)					9.0		24.1	43.7		7.4		23.1
Actuated g/C Ratio					0.14		0.37	0.66		0.11		0.35
v/c Ratio					0.28		0.92	0.74		0.36		0.43
Control Delay					27.2		32.4	18.6		36.2		5.9
Queue Delay					0.0		0.0	0.0		0.0		0.0
Total Delay					27.2		32.4	18.6		36.2		5.9
LOS					C		C	B		D		A
Approach Delay					27.2			26.3			11.3	
Approach LOS					C			C			B	
Queue Length 50th (ft)					24		222	245		27		0
Queue Length 95th (ft)					60		341	#779		77		74
Internal Link Dist (ft)		247			205			114			195	
Turn Bay Length (ft)												
Base Capacity (vph)					876		2250	1227		846		926
Starvation Cap Reductn					0		0	0		0		0
Spillback Cap Reductn					0		0	0		0		0
Storage Cap Reductn					0		0	0		0		0
Reduced v/c Ratio					0.08		0.51	0.74		0.08		0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 66			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 24.0		Intersection LOS: C	
Intersection Capacity Utilization 62.9%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: 29th Ave & Ford St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	103	39	49	27	14	200	447	94	14	464	177
Future Volume (vph)	177	103	39	49	27	14	200	447	94	14	464	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.979			0.974			0.959	
Flt Protected		0.973			0.973		0.950			0.950		
Satd. Flow (prot)	0	1783	0	0	1774	0	1770	1814	0	1770	1786	0
Flt Permitted		0.794			0.731		0.128			0.443		
Satd. Flow (perm)	0	1455	0	0	1333	0	238	1814	0	825	1786	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			9			20			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			178			205			130	
Travel Time (s)		3.9			4.0			4.7			3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	192	112	42	53	29	15	217	486	102	15	504	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	346	0	0	97	0	217	588	0	15	696	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		

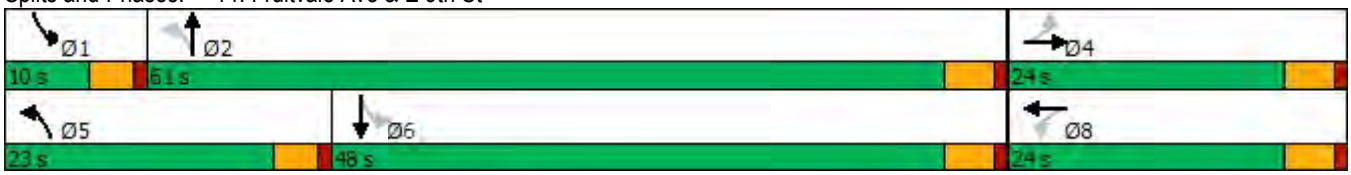


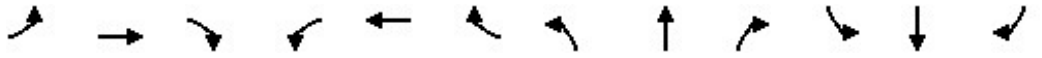
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	9.5		20.5	20.5		9.0	18.5		9.0	21.5	
Total Split (s)	24.0	24.0		24.0	24.0		23.0	61.0		10.0	48.0	
Total Split (%)	25.3%	25.3%		25.3%	25.3%		24.2%	64.2%		10.5%	50.5%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	56.5		6.0	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.0	4.5		4.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)				5.0	5.0			7.0			7.0	
Flash Dont Walk (s)				11.0	11.0			7.0			10.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		19.9			19.9		52.5	50.3		40.9	34.6	
Actuated g/C Ratio		0.25			0.25		0.65	0.62		0.50	0.43	
v/c Ratio		0.96			0.29		0.54	0.52		0.03	0.90	
Control Delay		72.2			29.5		14.0	10.4		5.7	36.4	
Queue Delay		0.0			0.0		0.6	3.0		0.0	0.0	
Total Delay		72.2			29.5		14.5	13.4		5.7	36.4	
LOS		E			C		B	B		A	D	
Approach Delay		72.2			29.5			13.7			35.8	
Approach LOS		E			C			B			D	
Queue Length 50th (ft)		177			38		38	130		2	308	
Queue Length 95th (ft)		#409			92		100	281		8	#546	
Internal Link Dist (ft)		93			98			125			50	
Turn Bay Length (ft)										90		
Base Capacity (vph)		362			334		520	1321		491	990	
Starvation Cap Reductn		0			0		94	605		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.96			0.29		0.51	0.82		0.03	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 81.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 32.8		Intersection LOS: C	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Fruitvale Ave & E 9th St



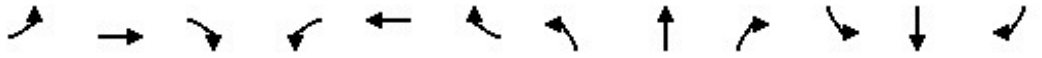


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	159	83	376	6	0	102	0	498	18	91	463	0
Future Volume (vph)	159	83	376	6	0	102	0	498	18	91	463	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.873			0.995				
Flt Protected		0.968			0.997					0.950		
Satd. Flow (prot)	0	1803	1583	0	1621	0	0	3522	0	1770	1863	0
Flt Permitted		0.742			0.979					0.302		
Satd. Flow (perm)	0	1382	1583	0	1592	0	0	3522	0	563	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			340		111			4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		177			160			323			205	
Travel Time (s)		4.0			3.6			7.3			4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	173	90	409	7	0	111	0	541	20	99	503	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	263	409	0	118	0	0	561	0	99	503	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2			2		1	2	
Detector Template	Left	Thru	Right	Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100			100		20	100	
Trailing Detector (ft)	0	0	0	0	0			0		0	0	
Detector 1 Position(ft)	0	0	0	0	0			0		0	0	
Detector 1 Size(ft)	20	6	20	20	6			6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0			0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0		5.0	5.0	

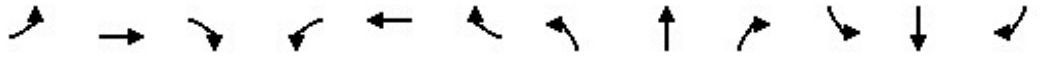
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.5	23.5	23.5	22.5	22.5			22.5		9.5	22.5	
Total Split (s)	37.4	37.4	37.4	37.4	37.4			34.2		23.4	57.6	
Total Split (%)	39.4%	39.4%	39.4%	39.4%	39.4%			36.0%		24.6%	60.6%	
Maximum Green (s)	33.9	33.9	33.9	32.9	32.9			29.7		19.4	53.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5			3.5		3.0	3.5	
All-Red Time (s)	0.0	0.0	0.0	1.0	1.0			1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)		3.5	3.5		4.5			4.5		4.0	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Recall Mode	None	None	None	None	None			Min		None	Min	
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	
Flash Dont Walk (s)	13.0	13.0	13.0					9.0			7.0	
Pedestrian Calls (#/hr)	0	0	0					0			0	
Act Effct Green (s)		17.6	17.6		16.5			16.3		25.5	25.0	
Actuated g/C Ratio		0.34	0.34		0.32			0.32		0.49	0.48	
v/c Ratio		0.56	0.54		0.20			0.50		0.21	0.56	
Control Delay		20.4	6.4		5.0			18.2		9.2	12.9	
Queue Delay		0.0	0.0		0.0			0.0		0.0	0.1	
Total Delay		20.4	6.4		5.0			18.2		9.2	13.0	
LOS		C	A		A			B		A	B	
Approach Delay		11.9			5.0			18.2			12.4	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		63	14		1			73		14	92	
Queue Length 95th (ft)		155	79		32			157		46	236	
Internal Link Dist (ft)		97			80			243			125	
Turn Bay Length (ft)												
Base Capacity (vph)		948	1192		1105			2204		827	1708	
Starvation Cap Reductn		0	0		0			0		144	431	
Spillback Cap Reductn		0	0		0			0		0	0	
Storage Cap Reductn		0	0		0			0		0	0	
Reduced v/c Ratio		0.28	0.34		0.11			0.25		0.14	0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 51.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 15: Fruitvale Ave & E 8th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	469	361	187	382	548	68	17	519	87
Future Volume (vph)	0	0	0	469	361	187	382	548	68	17	519	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95
Frt					0.972			0.983			0.979	
Flt Protected					0.977		0.950				0.999	
Satd. Flow (prot)	0	0	0	0	3361	0	1770	3479	0	0	3461	0
Flt Permitted					0.977		0.950				0.926	
Satd. Flow (perm)	0	0	0	0	3361	0	1770	3479	0	0	3208	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					38			25			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		242			415			274			258	
Travel Time (s)		5.5			9.4			6.2			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	510	392	203	415	596	74	18	564	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1105	0	415	670	0	0	677	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2		1	2		1	2	
Detector Template				Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)				20	100		20	100		20	100	
Trailing Detector (ft)				0	0		0	0		0	0	
Detector 1 Position(ft)				0	0		0	0		0	0	
Detector 1 Size(ft)				20	6		20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					6		3	8			4	
Permitted Phases				6						4		
Detector Phase				6	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)				5.0	5.0		7.0	5.0		5.0	5.0	

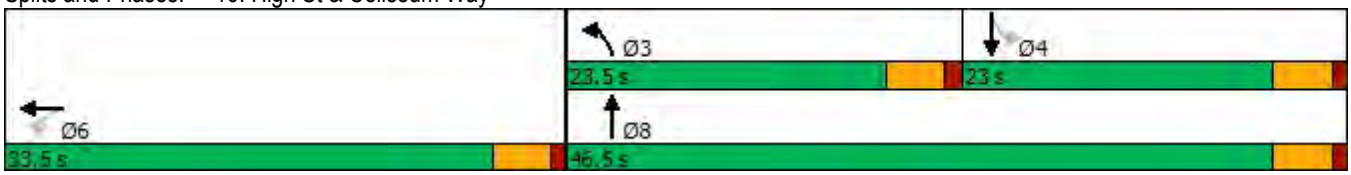


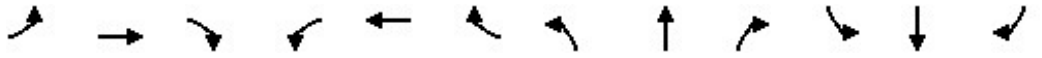
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				22.5	22.5		11.5	22.5		9.5	9.5	
Total Split (s)				33.5	33.5		23.5	46.5		23.0	23.0	
Total Split (%)				41.9%	41.9%		29.4%	58.1%		28.8%	28.8%	
Maximum Green (s)				29.0	29.0		19.0	42.0		18.5	18.5	
Yellow Time (s)				3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Minimum Gap (s)				2.0	2.0		4.0	2.0		2.0	2.0	
Time Before Reduce (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Time To Reduce (s)				2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode				Max	Max		Max	Max		Max	Max	
Walk Time (s)				5.0	5.0			5.0				
Flash Dont Walk (s)				13.0	13.0			13.0				
Pedestrian Calls (#/hr)				0	0			0				
Act Effct Green (s)					29.0		19.0	42.0			18.5	
Actuated g/C Ratio					0.36		0.24	0.52			0.23	
v/c Ratio					0.89		0.99	0.36			0.89	
Control Delay					33.9		74.2	11.4			45.4	
Queue Delay					0.0		37.0	1.6			0.0	
Total Delay					33.9		111.2	13.0			45.4	
LOS					C		F	B			D	
Approach Delay					33.9			50.5			45.4	
Approach LOS					C			D			D	
Queue Length 50th (ft)					260		207	93			167	
Queue Length 95th (ft)					#385		#386	128			#268	
Internal Link Dist (ft)		162			335			194			178	
Turn Bay Length (ft)												
Base Capacity (vph)					1242		420	1838			757	
Starvation Cap Reductn					0		78	939			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.89		1.21	0.75			0.89	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 42.9		Intersection LOS: D	
Intersection Capacity Utilization 79.6%		ICU Level of Service D	
Analysis Period (min) 15			

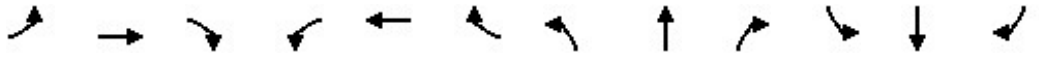
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: High St & Coliseum Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	371	147	34	0	161	0	725	258	237	724	0
Future Volume (vph)	86	371	147	34	0	161	0	725	258	237	724	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		125	0		0	300		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.961				
Flt Protected		0.991		0.950						0.950		
Satd. Flow (prot)	0	3507	1583	1770	0	1583	0	3401	0	1770	3539	0
Flt Permitted		0.991		0.368						0.950		
Satd. Flow (perm)	0	3507	1583	685	0	1583	0	3401	0	1770	3539	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						175		66				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		237			418			1198			274	
Travel Time (s)		5.4			9.5			27.2			6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	403	160	37	0	175	0	788	280	258	787	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	496	160	37	0	175	0	1068	0	258	787	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1		1		2		1	2	
Detector Template	Left	Thru	Right	Left		Right		Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20		20		100		20	100	
Trailing Detector (ft)	0	0	0	0		0		0		0	0	
Detector 1 Position(ft)	0	0	0	0		0		0		0	0	
Detector 1 Size(ft)	20	6	20	20		20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA	Perm	Perm		Perm		NA		Prot	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2		2	5		5						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2	2	5		5		8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0		5.0		5.0	5.0	
Minimum Split (s)	25.5	25.5	25.5	22.5		22.5		28.5		9.5	9.5	
Total Split (s)	29.0	29.0	29.0	29.0		29.0		30.0		21.0	51.0	
Total Split (%)	36.3%	36.3%	36.3%	36.3%		36.3%		37.5%		26.3%	63.8%	
Maximum Green (s)	25.0	25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Yellow Time (s)	3.0	3.0	3.0	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.5		4.5		4.5		4.5	4.5	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0	1.0	1.0		1.0		1.0		1.0	1.0	
Time To Reduce (s)	2.0	2.0	2.0	2.0		2.0		2.0		2.0	2.0	
Recall Mode	Max	Max	Max	None		None		None		Max	Max	
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	14.0	14.0	14.0					17.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.0	25.0	24.5		24.5		25.5		16.5	46.5	
Actuated g/C Ratio		0.31	0.31	0.31		0.31		0.32		0.21	0.58	
v/c Ratio		0.45	0.32	0.18		0.29		0.95		0.71	0.38	
Control Delay		23.7	23.3	23.1		5.0		42.9		41.7	9.7	
Queue Delay		0.0	0.0	0.0		0.0		0.0		2.6	2.0	
Total Delay		23.7	23.3	23.1		5.0		42.9		44.3	11.7	
LOS		C	C	C		A		D		D	B	
Approach Delay		23.6			8.2			42.9			19.8	
Approach LOS		C			A			D			B	
Queue Length 50th (ft)		103	61	13		0		257		121	101	
Queue Length 95th (ft)		147	111	38		42		#390		#221	137	
Internal Link Dist (ft)		157			338			1118			194	
Turn Bay Length (ft)						125				300		
Base Capacity (vph)		1095	494	209		606		1129		365	2057	
Starvation Cap Reductn		0	0	0		0		0		41	1078	
Spillback Cap Reductn		0	0	0		0		0		0	0	
Storage Cap Reductn		0	0	0		0		0		0	0	
Reduced v/c Ratio		0.45	0.32	0.18		0.29		0.95		0.80	0.80	

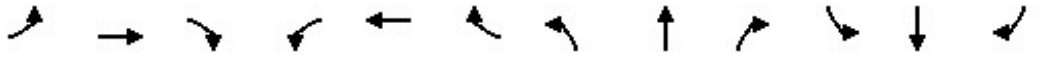
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 28.1		Intersection LOS: C	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	

Analysis Period (min) 15

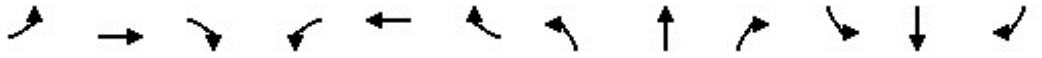
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: High St & Oakport St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	269	79	20	23	132	209	0	1164	37	12	983	340
Future Volume (vph)	269	79	20	23	132	209	0	1164	37	12	983	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	0		90	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.969				0.850		0.995			0.962	
Flt Protected	0.950				0.993							
Satd. Flow (prot)	1770	1805	0	0	1850	1583	0	3522	0	0	3405	0
Flt Permitted	0.651				0.951						0.940	
Satd. Flow (perm)	1213	1805	0	0	1771	1583	0	3522	0	0	3200	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		22						8			123	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		225			1695			1725			186	
Travel Time (s)		6.1			46.2			47.0			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	292	86	22	25	143	227	0	1265	40	13	1068	370
Shared Lane Traffic (%)												
Lane Group Flow (vph)	292	108	0	0	168	227	0	1305	0	0	1451	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20		100		20	100	
Trailing Detector (ft)	0	0		0	0	0		0		0	0	
Detector 1 Position(ft)	0	0		0	0	0		0		0	0	
Detector 1 Size(ft)	20	6		20	6	20		6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8				2		

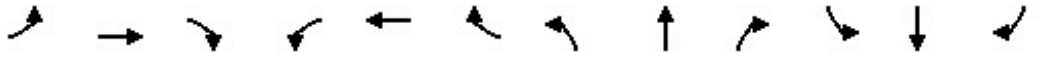


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8	8		6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0		5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5		22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0	23.0		37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%		61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5	18.5		32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0		1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5		4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Recall Mode	None	None		None	None	None		Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0		0	0	
Act Effct Green (s)	16.7	16.7			16.7	16.7		32.6			32.6	
Actuated g/C Ratio	0.29	0.29			0.29	0.29		0.56			0.56	
v/c Ratio	0.84	0.20			0.33	0.50		0.66			0.79	
Control Delay	43.0	13.9			18.2	21.5		11.4			13.8	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	43.0	13.9			18.2	21.5		11.4			13.8	
LOS	D	B			B	C		B			B	
Approach Delay		35.1			20.1			11.4			13.8	
Approach LOS		D			C			B			B	
Queue Length 50th (ft)	95	22			46	65		161			186	
Queue Length 95th (ft)	#212	54			89	122		225			273	
Internal Link Dist (ft)		145			1615			1645			106	
Turn Bay Length (ft)	90					90						
Base Capacity (vph)	385	588			563	503		1970			1841	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.76	0.18			0.30	0.45		0.66			0.79	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 81.2%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 18: Park St & Blanding Ave

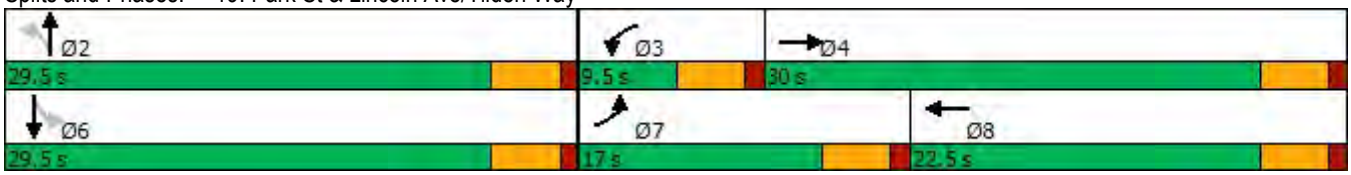
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	228	81	104	281	11	33	471	42	49	756	73
Future Volume (vph)	146	228	81	104	281	11	33	471	42	49	756	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.961			0.994			0.988			0.988	
Flt Protected	0.950			0.950				0.997			0.997	
Satd. Flow (prot)	1770	3401	0	1770	3518	0	0	3486	0	0	3486	0
Flt Permitted	0.950			0.950				0.864			0.891	
Satd. Flow (perm)	1770	3401	0	1770	3518	0	0	3021	0	0	3116	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			5			14			15	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		468			437			1808			1725	
Travel Time (s)		12.8			11.9			49.3			47.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	159	248	88	113	305	12	36	512	46	53	822	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	336	0	113	317	0	0	594	0	0	954	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		



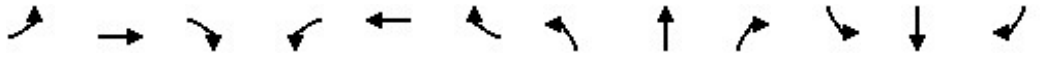
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	17.0	30.0		9.5	22.5		29.5	29.5		29.5	29.5	
Total Split (%)	24.6%	43.5%		13.8%	32.6%		42.8%	42.8%		42.8%	42.8%	
Maximum Green (s)	12.5	25.5		5.0	18.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	10.1	15.2		5.0	12.8			25.2			25.2	
Actuated g/C Ratio	0.17	0.26		0.08	0.22			0.43			0.43	
v/c Ratio	0.53	0.36		0.75	0.42			0.46			0.71	
Control Delay	29.9	14.8		62.3	23.0			14.3			18.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	29.9	14.8		62.3	23.0			14.3			18.9	
LOS	C	B		E	C			B			B	
Approach Delay		19.6			33.3			14.3			18.9	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	52	40		41	53			75			141	
Queue Length 95th (ft)	110	68		#130	90			136			#246	
Internal Link Dist (ft)		388			357			1728			1645	
Turn Bay Length (ft)	175			120								
Base Capacity (vph)	377	1518		151	1084			1297			1339	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.42	0.22		0.75	0.29			0.46			0.71	

Intersection Summary			
Area Type:	Other		
Cycle Length: 69			
Actuated Cycle Length: 59.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 71.2%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 19: Park St & Lincoln Ave/Tilden Way



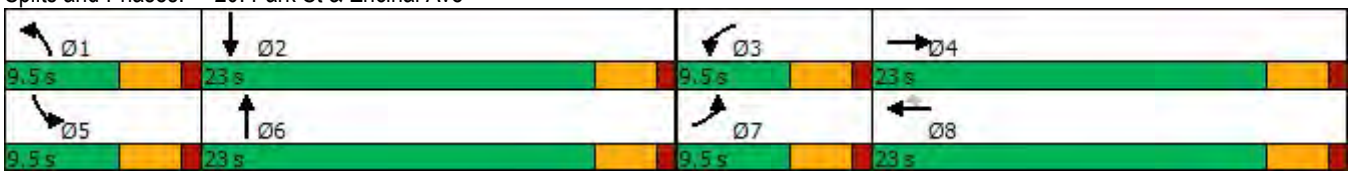
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	488	55	48	309	88	54	268	62	107	332	49
Future Volume (vph)	49	488	55	48	309	88	54	268	62	107	332	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	90		0	90		0	90		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985				0.850		0.972			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3486	0	1770	1863	1583	1770	3440	0	1770	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				151		43			25	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			1235			230			1808	
Travel Time (s)		6.1			33.7			6.3			49.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	530	60	52	336	96	59	291	67	116	361	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	590	0	52	336	96	59	358	0	116	414	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						

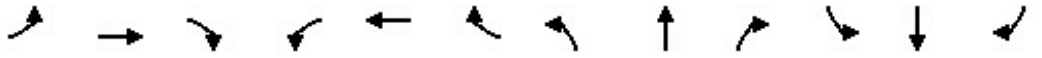


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0		9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%		14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.5	19.0		5.5	19.0	19.0	5.5	19.0		5.5	19.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.8	15.4		5.8	15.4	15.4	5.8	20.0		5.8	22.1	
Actuated g/C Ratio	0.10	0.28		0.10	0.28	0.28	0.10	0.36		0.10	0.40	
v/c Ratio	0.29	0.61		0.28	0.66	0.18	0.32	0.28		0.63	0.30	
Control Delay	31.9	20.9		31.8	26.1	2.1	32.6	14.8		48.1	15.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	31.9	20.9		31.8	26.1	2.1	32.6	14.8		48.1	15.0	
LOS	C	C		C	C	A	C	B		D	B	
Approach Delay		21.8			22.0			17.3			22.2	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	20	100		19	114	0	22	48		44	61	
Queue Length 95th (ft)	51	147		50	192	12	56	83		#126	100	
Internal Link Dist (ft)		143			1155			150			1728	
Turn Bay Length (ft)	90			90			90			90		
Base Capacity (vph)	183	1260		183	666	663	183	1258		183	1392	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.29	0.47		0.28	0.50	0.14	0.32	0.28		0.63	0.30	

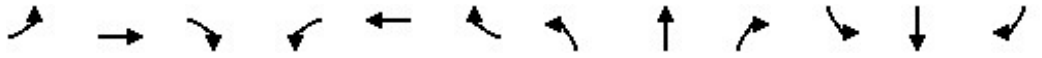
Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 55.8			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 21.1		Intersection LOS: C	
Intersection Capacity Utilization 49.1%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 20: Park St & Encinal Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	171	19	72	188	183	33	443	116	327	716	260
Future Volume (vph)	133	171	19	72	188	183	33	443	116	327	716	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		90	0		0	115		0	125		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.969			0.960	
Flt Protected		0.979			0.986		0.950			0.950		
Satd. Flow (prot)	0	1824	1583	0	1837	1583	1770	3429	0	1770	3398	0
Flt Permitted		0.979			0.986		0.950			0.950		
Satd. Flow (perm)	0	1824	1583	0	1837	1583	1770	3429	0	1770	3398	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			199		33			57	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1695			348			809			282	
Travel Time (s)		46.2			9.5			22.1			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	145	186	21	78	204	199	36	482	126	355	778	283
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	331	21	0	282	199	36	608	0	355	1061	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						



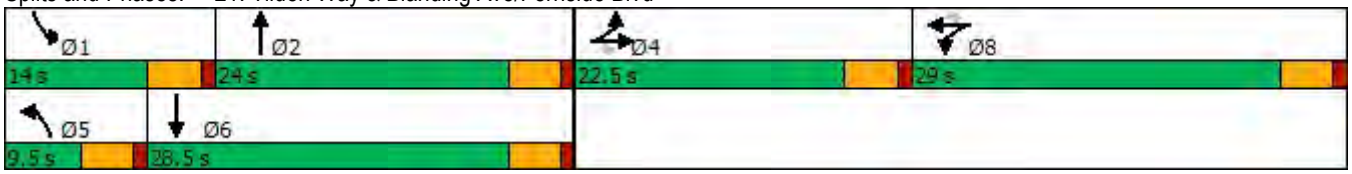
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5	22.5	29.0	29.0	29.0	9.5	24.0		14.0	28.5	
Total Split (%)	25.1%	25.1%	25.1%	32.4%	32.4%	32.4%	10.6%	26.8%		15.6%	31.8%	
Maximum Green (s)	18.0	18.0	18.0	24.5	24.5	24.5	5.0	19.5		9.5	24.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		17.4	17.4		17.7	17.7	5.1	17.7		9.6	26.5	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.06	0.22		0.12	0.33	
v/c Ratio		0.84	0.05		0.70	0.40	0.33	0.78		1.69	0.92	
Control Delay		53.1	0.2		39.1	6.6	47.6	36.9		356.4	41.4	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		53.1	0.2		39.1	6.6	47.6	36.9		356.4	41.4	
LOS		D	A		D	A	D	D		F	D	
Approach Delay		49.9			25.6			37.5			120.4	
Approach LOS		D			C			D			F	
Queue Length 50th (ft)		168	0		136	0	19	147		~282	~311	
Queue Length 95th (ft)		#339	0		217	49	51	#227		#479	#481	
Internal Link Dist (ft)		1615			268			729			202	
Turn Bay Length (ft)			90				115			125		
Base Capacity (vph)		412	456		565	624	110	864		210	1156	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.80	0.05		0.50	0.32	0.33	0.70		1.69	0.92	

Intersection Summary			
Area Type:	Other		
Cycle Length: 89.5			
Actuated Cycle Length: 80.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.69			
Intersection Signal Delay: 77.6		Intersection LOS: E	
Intersection Capacity Utilization 79.3%		ICU Level of Service D	
Analysis Period (min) 15			

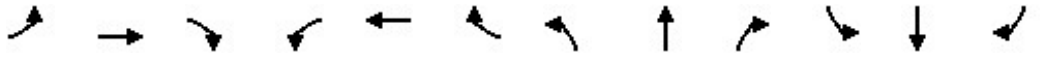
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 21: Tilden Way & Blanding Ave/Fernside Blvd



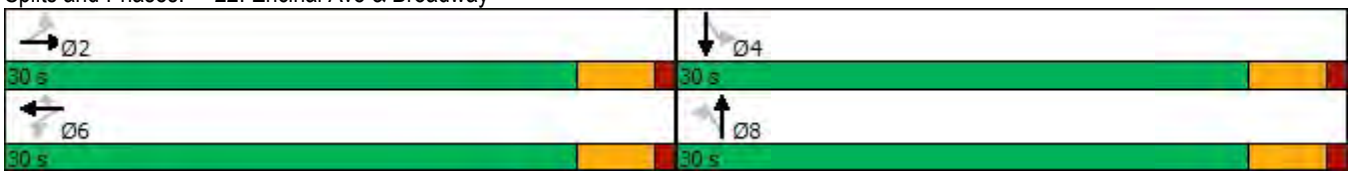
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	360	117	28	249	30	84	314	22	55	373	42
Future Volume (vph)	55	360	117	28	249	30	84	314	22	55	373	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	16	12	12	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	125		125	85		100
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967				0.850		0.990			0.985	
Flt Protected		0.995			0.995		0.950			0.950		
Satd. Flow (prot)	0	3405	0	0	1853	1636	1770	1844	0	1770	1835	0
Flt Permitted		0.878			0.906		0.437			0.513		
Satd. Flow (perm)	0	3005	0	0	1688	1636	814	1844	0	956	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75				33		7			12	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1235			633			2170			302	
Travel Time (s)		33.7			17.3			59.2			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	391	127	30	271	33	91	341	24	60	405	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	578	0	0	301	33	91	365	0	60	451	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.85	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	



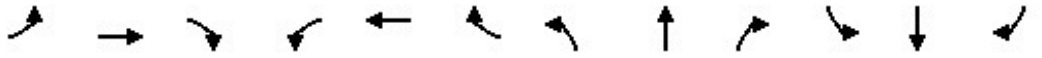
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		14.4			14.4	14.4	25.7	25.7		25.7	25.7	
Actuated g/C Ratio		0.29			0.29	0.29	0.52	0.52		0.52	0.52	
v/c Ratio		0.62			0.61	0.07	0.21	0.38		0.12	0.47	
Control Delay		15.8			20.4	5.3	9.4	9.3		8.2	10.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		15.8			20.4	5.3	9.4	9.3		8.2	10.2	
LOS		B			C	A	A	A		A	B	
Approach Delay		15.8			18.9			9.3			10.0	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		63			72	0	12	52		8	68	
Queue Length 95th (ft)		102			132	13	43	130		29	167	
Internal Link Dist (ft)		1155			553			2090			222	
Turn Bay Length (ft)							125			85		
Base Capacity (vph)		1606			882	870	425	967		499	965	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.36			0.34	0.04	0.21	0.38		0.12	0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 49.1			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 22: Encinal Ave & Broadway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	838	13	125	695	286	6	78	140	308	92	132
Future Volume (vph)	132	838	13	125	695	286	6	78	140	308	92	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		80	125		0	0		0	185		200
Storage Lanes	1		1	1		1	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.916				0.850
Flt Protected	0.950			0.950				0.999		0.950		
Satd. Flow (prot)	1770	3532	0	1770	1863	1583	0	1705	0	1770	1863	1583
Flt Permitted	0.950			0.950				0.994		0.519		
Satd. Flow (perm)	1770	3532	0	1770	1863	1583	0	1696	0	967	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				311		109				143
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			1523			502			2170	
Travel Time (s)		9.3			41.5			13.7			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	143	911	14	136	755	311	7	85	152	335	100	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	925	0	136	755	311	0	244	0	335	100	143
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases						2	4			8		8



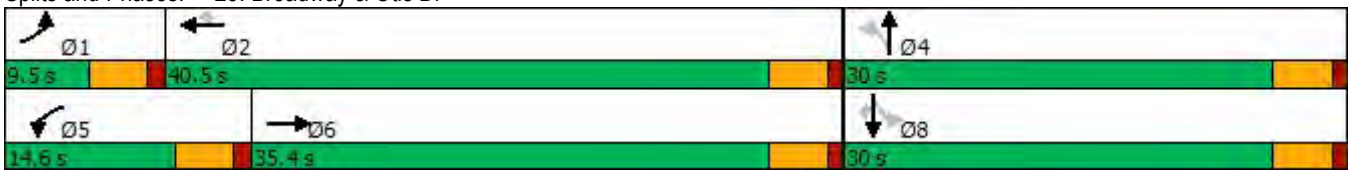
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5		9.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	9.5	35.4		14.6	40.5	40.5	30.0	30.0		30.0	30.0	30.0
Total Split (%)	11.9%	44.3%		18.3%	50.6%	50.6%	37.5%	37.5%		37.5%	37.5%	37.5%
Maximum Green (s)	5.0	30.9		10.1	36.0	36.0	25.5	25.5		25.5	25.5	25.5
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	Max
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	0
Act Effct Green (s)	5.0	30.1		9.4	34.5	34.5		25.5		25.5	25.5	25.5
Actuated g/C Ratio	0.06	0.38		0.12	0.44	0.44		0.32		0.32	0.32	0.32
v/c Ratio	1.28	0.68		0.64	0.92	0.36		0.39		1.07	0.17	0.23
Control Delay	211.1	23.4		48.5	39.9	3.0		13.6		99.5	20.5	4.9
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0
Total Delay	211.1	23.4		48.5	39.9	3.0		13.6		99.5	20.5	4.9
LOS	F	C		D	D	A		B		F	C	A
Approach Delay		48.5			31.3			13.6			62.4	
Approach LOS		D			C			B			E	
Queue Length 50th (ft)	~93	196		65	335	0		49		~191	36	0
Queue Length 95th (ft)	#204	263		#134	#563	42		109		#347	71	38
Internal Link Dist (ft)		261			1443			422			2090	
Turn Bay Length (ft)	80			125						185		200
Base Capacity (vph)	112	1396		227	855	894		624		314	605	611
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	1.28	0.66		0.60	0.88	0.35		0.39		1.07	0.17	0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 78.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.28			
Intersection Signal Delay: 41.7		Intersection LOS: D	
Intersection Capacity Utilization 89.0%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

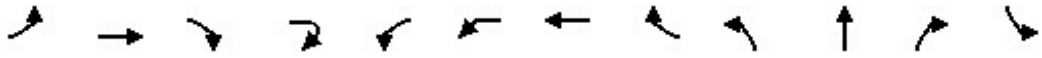
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 23: Broadway & Otis Dr



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	87	294	65	4	4	3	175	137	37	247	4	158
Future Volume (vph)	87	294	65	4	4	3	175	137	37	247	4	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		125			0		470	0		0	125
Storage Lanes	1		0			0		1	0		0	2
Taper Length (ft)	25					25			25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.850		0.998		
Flt Protected	0.950						0.998			0.994		0.950
Satd. Flow (prot)	1770	1863	1583	0	0	0	1859	1583	0	1848	0	1770
Flt Permitted	0.552						0.987			0.902		0.950
Satd. Flow (perm)	1028	1863	1583	0	0	0	1839	1583	0	1677	0	1770
Right Turn on Red				No				Yes			Yes	
Satd. Flow (RTOR)								149		1		
Link Speed (mph)		25					25			25		
Link Distance (ft)		322					298			354		
Travel Time (s)		8.8					8.1			9.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	95	320	71	4	4	3	190	149	40	268	4	172
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	320	75	0	0	0	197	149	0	312	0	172
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		12					12			12		
Link Offset(ft)		0					0			0		
Crosswalk Width(ft)		16					16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15	15		9	15		9	15
Number of Detectors	1	2	1		1	1	2	1	1	2		1
Detector Template	Left	Thru	Right		Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	100	20		20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6	20		20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94					94			94		
Detector 2 Size(ft)		6					6			6		
Detector 2 Type		Cl+Ex					Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0					0.0			0.0		
Turn Type	Perm	NA	Perm		Perm	Perm	NA	Perm	Perm	NA		Prot
Protected Phases		2					6			8		7
Permitted Phases	2		2		6	6		6	8			

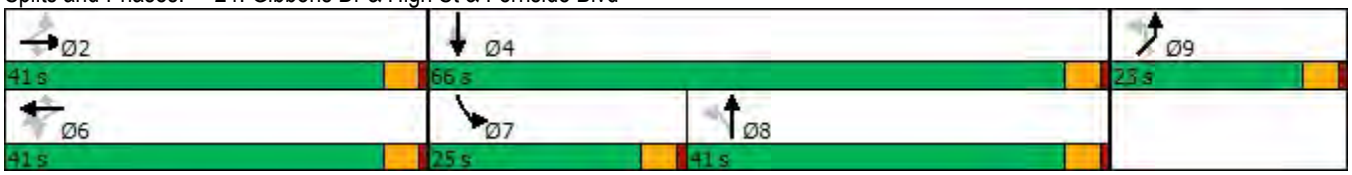
Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations							
Traffic Volume (vph)	368	72	111	2	76	6	4
Future Volume (vph)	368	72	111	2	76	6	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0			0	50	
Storage Lanes		1			1	1	
Taper Length (ft)					25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.989		0.850
Flt Protected					0.956		
Satd. Flow (prot)	1863	1583	0	0	1761	0	1583
Flt Permitted					0.992		
Satd. Flow (perm)	1863	1583	0	0	1828	0	1583
Right Turn on Red			No				Yes
Satd. Flow (RTOR)							88
Link Speed (mph)	25				25		
Link Distance (ft)	1133				459		
Travel Time (s)	30.9				12.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	400	78	121	2	83	7	4
Shared Lane Traffic (%)							
Lane Group Flow (vph)	400	199	0	0	92	0	4
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Right
Median Width(ft)	12				12		
Link Offset(ft)	0				0		
Crosswalk Width(ft)	16				16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	9	15	15	9	9
Number of Detectors	2	1		1	1		1
Detector Template	Thru	Right		Left	Left		Right
Leading Detector (ft)	100	20		20	20		20
Trailing Detector (ft)	0	0		0	0		0
Detector 1 Position(ft)	0	0		0	0		0
Detector 1 Size(ft)	6	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)	94						
Detector 2 Size(ft)	6						
Detector 2 Type	Cl+Ex						
Detector 2 Channel							
Detector 2 Extend (s)	0.0						
Turn Type	NA	Perm		Perm	Prot		Perm
Protected Phases	4				9		
Permitted Phases		4		9			9



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Detector Phase	2	2	2		6	6	6	6	8	8		7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	22.5		22.5
Total Split (s)	41.0	41.0	41.0		41.0	41.0	41.0	41.0	41.0	41.0		25.0
Total Split (%)	31.5%	31.5%	31.5%		31.5%	31.5%	31.5%	31.5%	31.5%	31.5%		19.2%
Maximum Green (s)	36.5	36.5	36.5		36.5	36.5	36.5	36.5	36.5	36.5		20.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5		3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5				4.5	4.5		4.5		4.5
Lead/Lag									Lag	Lag		Lead
Lead-Lag Optimize?									Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max		Max	Max	Max	Max	None	None		Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0		0
Act Effct Green (s)	36.8	36.8	36.8				36.8	36.8		25.7		20.7
Actuated g/C Ratio	0.33	0.33	0.33				0.33	0.33		0.23		0.18
v/c Ratio	0.28	0.52	0.14				0.33	0.24		0.81		0.53
Control Delay	34.0	36.5	30.8				32.6	6.2		58.2		50.6
Queue Delay	0.0	0.0	0.0				0.0	0.0		0.0		0.0
Total Delay	34.0	36.5	30.8				32.6	6.2		58.2		50.6
LOS	C	D	C				C	A		E		D
Approach Delay		35.2					21.3			58.2		
Approach LOS		D					C			E		
Queue Length 50th (ft)	50	186	38				106	0		212		113
Queue Length 95th (ft)	114	328	88				202	50		329		212
Internal Link Dist (ft)		242					218			274		
Turn Bay Length (ft)	125		125					470				125
Base Capacity (vph)	336	610	518				602	618		550		325
Starvation Cap Reductn	0	0	0				0	0		0		0
Spillback Cap Reductn	0	0	0				0	0		0		0
Storage Cap Reductn	0	0	0				0	0		0		0
Reduced v/c Ratio	0.28	0.52	0.14				0.33	0.24		0.57		0.53

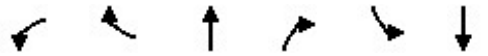
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 112.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 35.0		Intersection LOS: C	
Intersection Capacity Utilization 83.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 24: Gibbons Dr & High St & Fernside Blvd

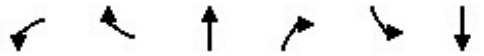


Lane Group	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Detector Phase	4	4		9	9		9
Switch Phase							
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5
Total Split (s)	66.0	66.0		23.0	23.0		23.0
Total Split (%)	50.8%	50.8%		17.7%	17.7%		17.7%
Maximum Green (s)	61.5	61.5		18.5	18.5		18.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0
Total Lost Time (s)	4.5	4.5			4.5		4.5
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0
Act Effct Green (s)	50.9	50.9			11.0		11.0
Actuated g/C Ratio	0.45	0.45			0.10		0.10
v/c Ratio	0.47	0.28			0.51		0.02
Control Delay	23.7	20.5			59.9		0.2
Queue Delay	0.0	0.0			0.0		0.0
Total Delay	23.7	20.5			59.9		0.2
LOS	C	C			E		A
Approach Delay	28.9				57.4		
Approach LOS	C				E		
Queue Length 50th (ft)	195	87			64		0
Queue Length 95th (ft)	299	148			127		0
Internal Link Dist (ft)	1053				379		
Turn Bay Length (ft)							50
Base Capacity (vph)	1028	873			303		336
Starvation Cap Reductn	0	0			0		0
Spillback Cap Reductn	0	0			0		0
Storage Cap Reductn	0	0			0		0
Reduced v/c Ratio	0.39	0.23			0.30		0.01

Intersection Summary



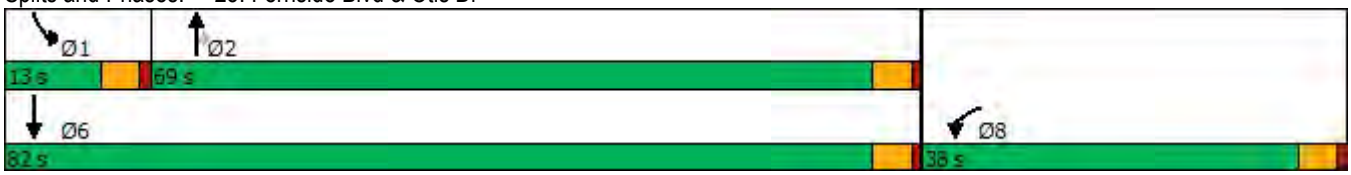
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	673	14	947	674	52	1157
Future Volume (vph)	673	14	947	674	52	1157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		50	300	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.997			0.850		
Flt Protected	0.953				0.950	
Satd. Flow (prot)	3434	0	3539	1583	1770	3539
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	3434	0	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	2			263		
Link Speed (mph)	25		35			35
Link Distance (ft)	312		1414			1511
Travel Time (s)	8.5		27.5			29.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	732	15	1029	733	57	1258
Shared Lane Traffic (%)						
Lane Group Flow (vph)	747	0	1029	733	57	1258
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (ft)	20		100	20	20	100
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	32.5		22.5	22.5	9.5	22.5
Total Split (s)	38.0		69.0	69.0	13.0	82.0
Total Split (%)	31.7%		57.5%	57.5%	10.8%	68.3%
Maximum Green (s)	33.5		64.5	64.5	8.5	77.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0					
Flash Dont Walk (s)	21.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	29.4		67.5	67.5	7.7	77.6
Actuated g/C Ratio	0.25		0.58	0.58	0.07	0.67
v/c Ratio	0.86		0.50	0.71	0.49	0.53
Control Delay	51.9		16.6	16.4	67.4	11.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	51.9		16.6	16.4	67.4	11.3
LOS	D		B	B	E	B
Approach Delay	51.9		16.6			13.8
Approach LOS	D		B			B
Queue Length 50th (ft)	274		250	266	42	243
Queue Length 95th (ft)	347		322	452	89	316
Internal Link Dist (ft)	232		1334			1431
Turn Bay Length (ft)				50	300	
Base Capacity (vph)	994		2060	1031	129	2367
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.75		0.50	0.71	0.44	0.53

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 116			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 22.5		Intersection LOS: C	
Intersection Capacity Utilization 61.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 25: Fernside Blvd & Otis Dr

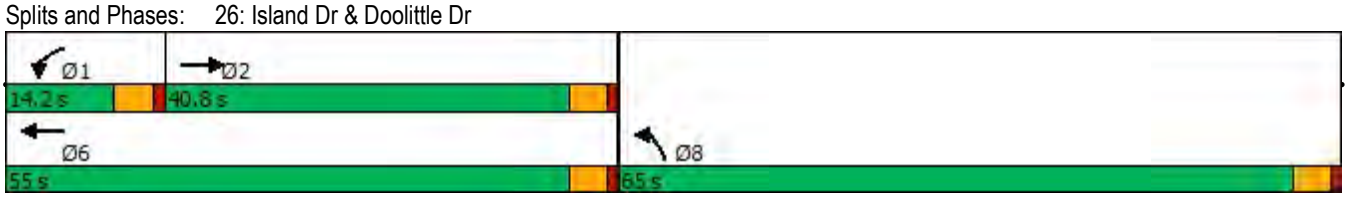


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	703	1089	112	820	785	78
Future Volume (vph)	703	1089	112	820	785	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		75	140		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		353				64
Link Speed (mph)	25			25	25	
Link Distance (ft)	1414			365	455	
Travel Time (s)	38.6			10.0	12.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	764	1184	122	891	853	85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	764	1184	122	891	853	85
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Free	Prot	NA	Prot	Free
Protected Phases	2		1	6	8	
Permitted Phases		Free				Free

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	9.5	
Total Split (s)	40.8		14.2	55.0	65.0	
Total Split (%)	34.0%		11.8%	45.8%	54.2%	
Maximum Green (s)	36.3		9.7	50.5	60.5	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Max		None	None	None	
Act Effct Green (s)	36.4	86.5	9.6	50.5	27.0	86.5
Actuated g/C Ratio	0.42	1.00	0.11	0.58	0.31	1.00
v/c Ratio	0.51	0.75	0.63	0.43	0.80	0.05
Control Delay	20.9	3.3	53.7	11.5	33.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	3.3	53.7	11.5	33.4	0.1
LOS	C	A	D	B	C	A
Approach Delay	10.2			16.6	30.4	
Approach LOS	B			B	C	
Queue Length 50th (ft)	156	0	64	130	217	0
Queue Length 95th (ft)	244	0	#151	215	283	0
Internal Link Dist (ft)	1334			285	375	
Turn Bay Length (ft)		75	140			
Base Capacity (vph)	1490	1583	199	2073	2409	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.75	0.61	0.43	0.35	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 86.5			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 59.3%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 26: Island Dr & Doolittle Dr



Appendix C

Roadway Segment Analysis

Arterial Segment PM Peak Hour Analysis

No.	Roadway	From	To	Volume		V/C	
				2020 Existing		2020 Existing	
				NB/EB	SB/WB	NB/EB	SB/WB
1	SR-61 (Doolittle Dr)	Oakland City Limit (Harbor Bay Pkwy)	Fernside Blvd	2210	1978	1.38	1.24
2	SR-61 (Otis Dr)	Fernside Blvd	SR-61 (Broadway)	1472	1155	0.92	0.72
3	SR-61 (Broadway)	Otis Dr	SR-61 (Encinal Ave)	504	552	0.63	0.69
4	SR-61 (Encinal Ave)	SR-61 (Broadway)	Sherman St	635	470	0.4	0.29
5	SR-260 (Posey/Webster Tubes)	SR-260 (Webster St)	Oakland City Limit	2132	1898	0.53	0.47
6	Atlantic Ave	SR-260 (Webster St)	Main St	619	262	0.39	0.16
7	Park St	Oakland City Limit	Central Ave	1135	915	0.71	0.57
8	Park St	Central Ave	SR-61 (Encinal Ave)	569	516	0.36	0.32
9	Main St	Atlantic Ave	Willie Stargell Ave	156	240	0.1	0.15
10	Webster St	Atlantic Ave	Willie Stargell Ave	797	1395	0.5	0.58
11	Webster St	7th St	8th St		1296		0.54
12	Harrison St	7th St	8th St	824		0.34	
13	5th St	Washington St	Broadway	1556		0.49	
14	Broadway	5th St	6th St	356	972	0.15	0.41
15	Broadway	5th St	4th St	668		0.28	
16	7th St	Harrison St	Alice St	2482		0.78	
17	Jackson St	7th St	6th St	428	1382	0.54	0.86

**Assumed Capacity: 800 vehicles per hour per lane*

*** V/C bolded if overcapacity*

No.	Roadway	From	To	Volume				V/C				V/C Difference	
				2025 No Action		2025 Proposed Action		2025 No Action		2025 Proposed Action			
				NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
1	SR-61 (Doolittle Dr)	Oakland City Limit (Harbor Bay Pkwy)	Fernside Blvd	2217	1990	2220	1991	**1.39**	**1.24**	**1.39**	**1.24**	0.00	0.00
2	SR-61 (Otis Dr)	Fernside Blvd	SR-61 (Broadway)	1481	1208	1484	1209	0.93	0.76	0.93	0.76	0.00	0.00
3	SR-61 (Broadway)	Otis Dr	SR-61 (Encinal Ave)	509	577	510	580	0.64	0.72	0.64	0.73	0.00	0.01
4	SR-61 (Encinal Ave)	SR-61 (Broadway)	Sherman St	641	490	644	491	0.40	0.31	0.40	0.31	0.00	0.00
5	SR-260 (Posey/Webster Tubes)	SR-260 (Webster St)	Oakland City Limit	2208	1952	2304	1980	0.55	0.49	0.58	0.50	0.03	0.01
6	Atlantic Ave	SR-260 (Webster St)	Main St	659	349	660	350	0.41	0.22	0.41	0.22	0.00	0.00
7	Park St	Oakland City Limit	Central Ave	1217	958	1219	959	0.76	0.60	0.76	0.60	0.00	0.00
8	Park St	Central Ave	SR-61 (Encinal Ave)	596	538	596	538	0.37	0.34	0.37	0.34	0.00	0.00
9	Main St	Atlantic Ave	Willie Stargell Ave	188	320	195	333	0.12	0.20	0.12	0.21	0.00	0.01
10	Webster St	Atlantic Ave	Willie Stargell Ave	820	1485	820	1485	0.51	0.62	0.51	0.62	0.00	0.00
11	Webster St	7th St	8th St		1332		1337		0.56		0.56		0.00
12	Harrison St	7th St	8th St	853		860		0.36		0.36		0.00	
13	5th St	Washington St	Broadway	1554		1569		0.49		0.49		0.00	
14	Broadway	5th St	6th St	353	970	353	977	0.15	0.40	0.15	0.41	0.00	0.01
15	Broadway	5th St	4th St	667		668		0.28		0.28		0.00	
16	7th St	Harrison St	Alice St	2570		2659		0.80		0.83		0.03	
17	Jackson St	7th St	6th St	430	1389	430	1463	0.54	0.87	0.54	0.91	0.00	0.04

**Assumed Capacity: 800 vehicles per hour per lane*

*** V/C bolded if overcapacity*

No.	Roadway	From	To	Volume				V/C				V/C Difference	
				2040 No Action		2040 Proposed Action		2040 No Action		2040 Proposed Action			
				NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
1	SR-61 (Doolittle Dr)	Oakland City Limit (Harbor Bay Pkwy)	Fernside Blvd	2238	2026	2241	2027	**1.40**	**1.27**	**1.40**	**1.27**	0.00	0.00
2	SR-61 (Otis Dr)	Fernside Blvd	SR-61 (Broadway)	1509	1383	1512	1384	0.94	0.86	0.95	0.87	0.01	0.01
3	SR-61 (Broadway)	Otis Dr	SR-61 (Encinal Ave)	524	661	525	664	0.66	0.83	0.66	0.83	0.00	0.00
4	SR-61 (Encinal Ave)	SR-61 (Broadway)	Sherman St	660	556	663	557	0.41	0.35	0.41	0.35	0.00	0.00
5	SR-260 (Posey/Webster Tubes)	SR-260 (Webster St)	Oakland City Limit	2451	2126	2547	2154	0.61	0.53	0.64	0.54	0.03	0.01
6	Atlantic Ave	SR-260 (Webster St)	Main St	794	820	795	821	0.50	0.51	0.50	0.51	0.00	0.00
7	Park St	Oakland City Limit	Central Ave	1499	1098	1501	1099	0.94	0.69	0.94	0.69	0.00	0.00
8	Park St	Central Ave	SR-61 (Encinal Ave)	684	611	684	611	0.43	0.38	0.43	0.38	0.00	0.00
9	Main St	Atlantic Ave	Willie Stargell Ave	333	751	340	764	0.21	0.47	0.21	0.48	0.00	0.01
10	Webster St	Atlantic Ave	Willie Stargell Ave	893	1790	893	1790	0.56	0.75	0.56	0.75	0.00	0.00
11	Webster St	7th St	8th St		1445		1450		0.60		0.60		0.00
12	Harrison St	7th St	8th St	948		955		0.40		0.40		0.00	
13	5th St	Washington St	Broadway	1547		1562		0.48		0.49		0.01	
14	Broadway	5th St	6th St	343	966	343	973	0.14	0.40	0.14	0.41	0.00	0.01
15	Broadway	5th St	4th St	664		665		0.28		0.28		0.00	
16	7th St	Harrison St	Alice St	2853		2942		0.89		0.92		0.03	
17	Jackson St	7th St	6th St	436	1408	436	1482	0.55	0.88	0.55	0.93	0.00	0.05

**Assumed Capacity: 800 vehicles per hour per lane*

*** V/C bolded if overcapacity*

Freeway Segment PM Peak Hour Analysis

Northbound		No Action Condition					
Segment List	Lanes	Volume			V/C		
		2020	2025	2040	2020	2025	2040
West of I-980	3	4299	4372	4600	0.72	0.73	0.77
East of Oak St	4	6343	6456	6806	0.79	0.81	0.85
West of Park St	4	6452	6586	7005	0.81	0.82	0.88
East of High St	5	6571	6705	7122	0.66	0.67	0.71

**Assumed Capacity: 2,000 vehicles per hour per lane*

*** V/C bolded if overcapacity*

Northbound		Trip Generation		Proposed Action Condition				V/C Difference	
Segment List	Lanes	Volume		Volume		V/C		2025	2040
		2025	2040	2025	2040	2025	2040		
West of I-980	3	30	30	4402	4630	0.73	0.77	0.00	0.00
East of Oak St	4	4	4	6460	6810	0.81	0.85	0.00	0.00
West of Park St	4	4	4	6590	7009	0.82	0.88	0.00	0.00
East of High St	5	7	7	6712	7129	0.67	0.71	0.00	0.00

**Assumed Capacity: 2,000 vehicles per hour per lane*

*** V/C bolded if overcapacity*

Southbound		No Action Condition					
Segment List	Lanes	Volume			V/C		
		2020	2025	2040	2020	2025	2040
West of I-980	3	4267	4394	4800	0.71	0.73	0.80
East of Oak St	4	7140	7239	7544	0.71	0.72	0.75
West of Park St	4	7214	7325	7667	0.90	0.92	0.96
East of High St	5	6892	7024	7437	0.86	0.88	0.93

**Assumed Capacity: 2,000 vehicles per hour per lane*

*** V/C bolded if overcapacity*

Southbound		Trip Generation		Proposed Action Condition				V/C Difference	
Segment List	Lanes	Volume		Volume		V/C		2025	2040
		2025	2040	2025	2040	2025	2040		
West of I-980	3	5	5	4399	4805	0.73	0.80	0.00	0.00
East of Oak St	4	16	16	7255	7560	0.73	0.76	0.01	0.01
West of Park St	4	16	16	7341	7683	0.92	0.96	0.00	0.00
East of High St	5	23	23	7047	7460	0.88	0.93	0.00	0.00

**Assumed Capacity: 2,000 vehicles per hour per lane*

*** V/C bolded if overcapacity*

Appendix D

Vehicle Miles Travelled (VMT) Analysis

Appendix D – Vehicle Miles Travelled (VMT) Analysis Summary

VMT performance of the Proposed Action was compared to that of the region (Bay Area counties), the City of Alameda, and TAZ 964. The regional, City of Alameda, and TAZ 964 VMT were calculated using Metropolitan Transportation Commission (MTC) Travel Model One which provides the Transportation Analysis Zone VMT data for the years 2020, 2030, and 2040. MTC Travel Model One is an activity-based archetype that simulates travel activities of households and persons that occur during a typical weekday in nine Bay Area counties. The model system simulates a series of travel related choices that are consisted of the following ten factors:

1. Usual workplace and school location
2. Household automobile ownership
3. Daily activity pattern
4. Work and school tour frequency and scheduling
5. Join non-mandatory tour frequency, party size, participation, destination, and scheduling
6. Non-mandatory tour frequency, destination, and scheduling
7. Tour travel mode
8. Stop frequency and location
9. Trip travel mode
10. Assignment

Travel Model One offers two different measures of VMT's, which are Simulated VMT by Place of Work (per employees), or Simulated VMT by Place of Residence (per capita). For the purpose of this study, MTC Travel Model One's Simulated VMT by Place of Work model was used to capture the regional, City of Alameda, and TAZ 964's VMT performance in comparison to the Proposed Action. It was determined that the trip characteristics of patients, cemetery visitors and other miscellaneous trips would resemble those of employees rather than those of capita due to their long trip lengths. VMT performance of the Proposed Action was evaluated for 2030 and 2040, and not for 2020 as the Proposed Action is anticipated to complete by 2025.

Based on Travel Model One, it was calculated that the Bay Area Regional VMT per employee would be 21.40 in 2030 and 20.70 in 2040. In comparison, the City of Alameda VMT per employee would be 25.20 in 2030 and 2380 in 2040. City of Alameda's geographical and locational limitation as an island, supplemented by the lack of transit choices make it difficult for employees to contribute to a lower VMT. Thus, it is observed that the VMT per employee is anticipated to be higher in the City of Alameda compared to the Bay Area Region. Finally, TAZ 964, which is the location of the Proposed Action, is found at the western most side of the Alameda Island. The TAZ 964 VMT per employee would be 28.95 in 2030 and 25.50 in 2040. The nearest major bus stop is located on Webster Street, and only one bus route travels within a mile distance of TAZ 964 (AC Transit Route 96). It is observed that the western most location and a lack of transit option relative to the rest of Alameda Island contributed to higher VMT in TAZ 964 than both the Bay Area Region and the City of Alameda.

The analysis revealed that the Proposed Action would generate 12.25 VMT per client, 28.68 VMT per employee, 28.69 VMT per cortege, 75.55 VMT per visitor in 2030. The Proposed Action would also generate 12.25 VMT per client, 28.68 VMT per employee, 28.66 VMT per

cortege, and 75.55 VMT per visitor in 2040. A total of 951 round trips (1,901 weekday daily one way trips / 2) consisted of clients, employees, corteges, and visitors would generate an average of 18.3 VMT per employee in 2030, and a total of 967 round trips (1,933 weekday daily one way trips / 2) would generate 18.4 VMT per employee. Detailed calculation tables of client VMT, employee VMT, cortege VMT, and visitor VMT are each available in the Attached Appendix D.1, D.2, D.3, and D.4.

Table D-1 summarizes the VMT comparison of the Proposed Action to TAZ 964, the City of Alameda, and the Bay Area region in 2030. For any average development under TAZ 964, it is estimated that there would be 951 net trips generating 27,531 net VMT. This equates to an average of 28.95 VMT per employee for an average development that could occur under current zoning. Further, for that same average development, it is estimated that those 951 net trips would each generate 23,965 and 20,351 net VMT in Alameda, and the Region, respectively. These each represent 87 percent, and 74 percent net VMT, respectively, relative to the TAZ 964 estimate. In comparison, 951 net trips resulting from the Proposed Action would only generate 17,379 net VMT, which is equal to 18.30 VMT per employee and a 63 percent net VMT relative to the TAZ 964. As summarized, results suggest that the Proposed Action would generate a lower VMT in comparison to the average development in TAZ 964, and would therefore, reduce the city and regional VMT in 2030.

Table D-2 summarizes the VMT comparison of the Proposed Action to TAZ 964, Alameda, and the Bay Area region in 2040. It is estimated that there would be 967 net trips generating 24,661 net VMT if an average development was built in TAZ 964. Further, for the same average development, it is estimated that the 967 net trips would generate 23,015 and 20,017 net VMT in Alameda, and the Region, respectively. These each represent 93 percent and 81 percent net VMT, respectively, relative to the TAZ 964. In comparison, 967 net trips resulting from the Proposed Action would generate 17,747 net VMT, which is a 72 percent net VMT relative to the TAZ 964. As summarized, results suggest that the Proposed Action would generate a lower VMT in comparison to the average development in TAZ 964, and would therefore, reduce the city and regional VMT in 2040.

Table D-1: Proposed Action VMT per Employee in Comparison to the TAZ 964, Alameda and Regional VMT in 2030

	TAZ 964	Alameda	Regional	Proposed Action
Net Trips	951	951	951	951
x Trip Length	28.95	25.20	21.40	18.30
Net VMT	27,531	23,965	20,351	17,379
% Typical in TAZ 964	100%	87%	74%	**63%**

Table D-2: Proposed Action VMT per Employee in Comparison to the TAZ 964, Alameda and Regional VMT in 2040

	TAZ 964	Alameda	Regional	Proposed Action
Net Trips	967	967	967	967
x Trip Length	25.50	23.80	20.70	18.40
Net VMT	24,661	23,015	20,017	17,747
% Typical in TAZ 964	100%	93%	81%	**72%**

Appendix D.1 - Client VMT Calculations

Reference	
Percentage of Transit Trip (5% Bart, 3% AC Transit)	**11%**
Percentage of ZIpCodes Affected	**67%**
Transit_Percentage within Affected Zipcode Taking Transit to Fulfill 11% total Transit Trip	**16%**
Average VMT from Transit (miles)	**2**
Shuttle VMT or Bus VMT per passenger (miles)	**1**
Distance from Naval Base to 12th St Station (miles)	**3.7**
Percentage of Walk Trip	**2%**
Walk_Percentage of Zip Codes Affected (94501)	**11%**
Walk_Percentage within Affected Zipcode Walking to Fulfill 2% Total Walk Trip	**18%**
Number of Clients	**513**
Martinez Shuttle Trip Length (mi)	**29.3**
Telehealth %	**20**

Assumptions	
80 Trips from Contra Costa County added as a part of VA development	
Number of Shuttles to Alameda	**6**
Person Trips from Martinez OPC	**25**
Walk Trip Only Generated from 94501.	
Vehicle Occupancy	**1.08**

Definition	
Trips	Number of Trips
Distance	Average Distance from Zipcode
VMT	Vehicle Miles Travelled

Zipcodes	Trip Sample	Distance Avg Auto	Dist %	Trip Generated	VMT Total Unweighted	Transit Affected?	Walk Affected?	Transit Trips	Walk Trips	Telehealth Deduction	Trips Auto Only	VMT Auto Only Total	VMT AVO Adjusted	VMT Park n Ride	VMT Shuttle/Bus	Adjusted VMT Total
94501	342	8	11%	55.09	440.72	Yes	Yes	8.81	9.92	11.02	25.34	202.72	187.7	17.62	8.81	214.13
94502	16	13	1%	2.58	33.54	Yes	No	0.41	0	0.52	1.65	21.45	19.86	0.82	0.41	21.09
94546	86	44	3%	13.85	609.4	Yes	No	2.22	0	2.77	8.86	389.84	360.96	4.44	2.22	367.62
94552	6	45	0%	0.97	43.65	No	No	0	0	0.19	0.78	35.1	32.5	0	0	32.5
94577	115	25	4%	18.52	463	Yes	No	2.96	0	3.7	11.86	296.5	274.54	5.92	2.96	283.42
94578	96	37	3%	15.46	572.02	Yes	No	2.47	0	3.09	9.9	366.3	339.17	4.94	2.47	346.58
94579	51	28	2%	8.21	229.88	No	No	0	0	1.64	6.57	183.96	170.33	0	0	170.33
94601	127	15	4%	20.46	306.9	Yes	No	3.27	0	4.09	13.1	196.5	181.94	6.54	3.27	191.75
94602	112	17	4%	18.04	306.68	No	No	0	0	3.61	14.43	245.31	227.14	0	0	227.14
94603	97	21	3%	15.62	328.02	Yes	No	2.5	0	3.12	10	210	194.44	5	2.5	201.94
94605	229	28	7%	36.88	1032.64	No	No	0	0	7.38	29.5	826	764.81	0	0	764.81
94606	122	10	4%	19.65	196.5	Yes	No	3.14	0	3.93	12.58	125.8	116.48	6.28	3.14	125.9
94607	124	10	4%	19.97	199.7	Yes	No	3.2	0	3.99	12.78	127.8	118.33	6.4	3.2	127.93
94608	133	14	4%	21.42	299.88	Yes	No	3.43	0	4.28	13.71	191.94	177.72	6.86	3.43	188.01
94609	104	14	3%	16.75	234.5	Yes	No	2.68	0	3.35	10.72	150.08	138.96	5.36	2.68	147
94610	178	15	6%	28.67	430.05	No	No	0	0	5.73	22.94	344.1	318.61	0	0	318.61
94611	98	15	3%	15.78	236.7	No	No	0	0	3.16	12.62	189.3	175.28	0	0	175.28
94612	235	9	7%	37.85	340.65	Yes	No	6.06	0	7.57	24.22	217.98	201.83	12.12	6.06	220.01
94613	5	21	0%	0.81	17.01	No	No	0	0	0.16	0.65	13.65	12.64	0	0	12.64
94615	1	10	0%	0.16	1.6	Yes	No	0.03	0	0.03	0.1	1	0.93	0.06	0.03	1.02
94618	27	17	1%	4.35	73.95	Yes	No	0.7	0	0.87	2.78	47.26	43.76	1.4	0.7	45.86
94619	101	23	3%	16.27	374.21	No	No	0	0	3.25	13.02	299.46	277.28	0	0	277.28
94621	151	21	5%	24.32	510.72	Yes	No	3.89	0	4.86	15.57	326.97	302.75	7.78	3.89	314.42
94623	1	11	0%	0.16	1.76	Yes	No	0.03	0	0.03	0.1	1.1	1.02	0.06	0.03	1.11
94662	1	17	0%	0.16	2.72	Yes	No	0.03	0	0.03	0.1	1.7	1.57	0.06	0.03	1.66
94702	70	20	2%	11.27	225.4	Yes	No	1.8	0	2.25	7.22	144.4	133.7	3.6	1.8	139.1
94703	64	17	2%	10.31	175.27	Yes	No	1.65	0	2.06	6.6	112.2	103.89	3.3	1.65	108.84
94704	56	19	2%	9.02	171.38	Yes	No	1.44	0	1.8	5.78	109.82	101.69	2.88	1.44	106.01
94705	29	17	1%	4.67	79.39	No	No	0	0	0.93	3.74	63.58	58.87	0	0	58.87
94706	57	24	2%	9.18	220.32	Yes	No	1.47	0	1.84	5.87	140.88	130.44	2.94	1.47	134.85
94707	35	21	1%	5.64	118.44	No	No	0	0	1.13	4.51	94.71	87.69	0	0	87.69
94708	23	24	1%	3.7	88.8	No	No	0	0	0.74	2.96	71.04	65.78	0	0	65.78
94709	26	21	1%	4.19	87.99	Yes	No	0.67	0	0.84	2.68	56.28	52.11	1.34	0.67	54.12
94710	41	22	1%	6.6	145.2	Yes	No	1.06	0	1.32	4.22	92.84	85.96	2.12	1.06	89.14
94720	2	19	0%	0.32	6.08	Yes	No	0.05	0	0.06	0.21	3.99	3.69	0.1	0.05	3.84
CC Adjust	80	32	3%	12.89	412.48	No	No	0	0	2.58	10.31	329.92	305.48	0	0	305.48
Mart Shuttle	144	58.6	5%	23.19	1358.934	Yes	No	23.19	0	0	0	0	0	0	351.6	351.6
Total	**3185**		**100%**	**513**	**10376.084**			**77.16**	**9.92**		**327.98**	**6231.48**	**5769.85**	**107.94**	**405.57**	**6283.36**

VMT per client **12.25**

Appendix D.2 - Employee VMT Calculations

Reference	
Percentage of Transit Trip (5% Bart, 3% AC Transit)	**11%**
Percentage of ZIpCodes Affected	**35%**
Transit_Percentage within Affected Zipcode Taking Transit to Fulfill 11% total Transit Trip	**31%**
Average VMT from Transit (miles)	**2**
Shuttle VMT or Bus VMT per passenger (miles)	**1**
Distance from Naval Base to 12th St Station (miles)	**3.7**
Percentage of Walk Trip	**2%**
Walk_Percentage of Zip Codes Affected (94501)	**2%**
Walk_Percentage within Affected Zipcode Walking to Fulfill 2% Total Walk Trip	**87%**
Number of Employees	**276**
Telehealth %	**20**

Assumptions	
Zip Code information from VA	
Zip Codes Omitted if Commute Distance > 130 miles:	93955, 95337, 95363 ,33974
Walk Trip Only from 94501	
Vehicle Occupancy	**1.08**

Definition	
Trips	Number of Trips
Distance	Average Distance from Zipcode
VMT	Vehicle Miles Travelled

Zipcodes	Trip Sample	Distance Avg Auto	Dist %	Trip Generated	VMT Total Unweighted	Transit Affected?	Walk Affected?	Transit Trips	Walk Trips	Telehealth Deduction	Trips Auto Only	VMT Auto Only Total	VMT AVO Adjusted	VMT Park n Ride	VMT Shuttle/Bus	Adjusted VMT Total
94015	1	52	1%	1.61	83.72	No	No	0	0	0.32	1.29	67.08	62.11	0	0	62.11
94040	1	94	1%	1.61	151.34	No	No	0	0	0.32	1.29	121.26	112.28	0	0	112.28
94044	1	54	1%	1.61	86.94	No	No	0	0	0.32	1.29	69.66	64.5	0	0	64.5
94066	1	52	1%	1.61	83.72	No	No	0	0	0.32	1.29	67.08	62.11	0	0	62.11
94107	2	30	1%	3.23	96.9	Yes	No	1	0	0.65	1.58	47.4	43.89	2	1	46.89
94109	1	30	1%	1.61	48.3	Yes	No	0.5	0	0.32	0.79	23.7	21.94	1	0.5	23.44
94110	1	32	1%	1.61	51.52	Yes	No	0.5	0	0.32	0.79	25.28	23.41	1	0.5	24.91
94122	2	36	1%	3.23	116.28	Yes	No	1	0	0.65	1.58	56.88	52.67	2	1	55.67
94127	1	40	1%	1.61	64.4	No	No	0	0	0.32	1.29	51.6	47.78	0	0	47.78
94129	1	35	1%	1.61	56.35	No	No	0	0	0.32	1.29	45.15	41.81	0	0	41.81
94132	1	44	1%	1.61	70.84	No	No	0	0	0.32	1.29	56.76	52.56	0	0	52.56
94134	1	39	1%	1.61	62.79	Yes	No	0.5	0	0.32	0.79	30.81	28.53	1	0.5	30.03
94303	1	70	1%	1.61	112.7	No	No	0	0	0.32	1.29	90.3	83.61	0	0	83.61
94501	4	8	2%	6.46	51.68	No	Yes	0	5.62	0.84	0	0	0	0	0	0
94502	1	13	1%	1.61	20.93	Yes	No	0.5	0	0.32	0.79	10.27	9.51	1	0.5	11.01
94503	1	72	1%	1.61	115.92	No	No	0	0	0.32	1.29	92.88	86	0	0	86
94506	1	61	1%	1.61	98.21	No	No	0	0	0.32	1.29	78.69	72.86	0	0	72.86
94509	3	80	2%	4.84	387.2	No	No	0	0	0.97	3.87	309.6	286.67	0	0	286.67
94513	1	96	1%	1.61	154.56	No	No	0	0	0.32	1.29	123.84	114.67	0	0	114.67
94516	1	32	1%	1.61	51.52	No	No	0	0	0.32	1.29	41.28	38.22	0	0	38.22
94518	1	48	1%	1.61	77.28	Yes	No	0.5	0	0.32	0.79	37.92	35.11	1	0.5	36.61
94520	1	50	1%	1.61	80.5	Yes	No	0.5	0	0.32	0.79	39.5	36.57	1	0.5	38.07
94521	3	54	2%	4.84	261.36	No	No	0	0	0.97	3.87	208.98	193.5	0	0	193.5
94523	1	46	1%	1.61	74.06	Yes	No	0.5	0	0.32	0.79	36.34	33.65	1	0.5	35.15
94524	1	50	1%	1.61	80.5	No	No	0	0	0.32	1.29	64.5	59.72	0	0	59.72
94525	1	50	1%	1.61	80.5	No	No	0	0	0.32	1.29	64.5	59.72	0	0	59.72
94526	1	55	1%	1.61	88.55	No	No	0	0	0.32	1.29	70.95	65.69	0	0	65.69
94530	1	30	1%	1.61	48.3	Yes	No	0.5	0	0.32	0.79	23.7	21.94	1	0.5	23.44
94531	4	86	2%	6.46	555.56	No	No	0	0	1.29	5.17	444.62	411.69	0	0	411.69
94533	2	100	1%	3.23	323	No	No	0	0	0.65	2.58	258	238.89	0	0	238.89
94534	1	76	1%	1.61	122.36	No	No	0	0	0.32	1.29	98.04	90.78	0	0	90.78
94536	1	52	1%	1.61	83.72	No	No	0	0	0.32	1.29	67.08	62.11	0	0	62.11
94539	1	64	1%	1.61	103.04	No	No	0	0	0.32	1.29	82.56	76.44	0	0	76.44
94541	6	35	4%	9.68	338.8	Yes	No	3	0	1.94	4.74	165.9	153.61	6	3	162.61
94544	1	43	1%	1.61	69.23	Yes	No	0.5	0	0.32	0.79	33.97	31.45	1	0.5	32.95
94545	2	38	1%	3.23	122.74	No	No	0	0	0.65	2.58	98.04	90.78	0	0	90.78
94546	1	44	1%	1.61	70.84	Yes	No	0.5	0	0.32	0.79	34.76	32.19	1	0.5	33.69
94547	2	47	1%	3.23	151.81	No	No	0	0	0.65	2.58	121.26	112.28	0	0	112.28
94549	2	33	1%	3.23	106.59	Yes	No	1	0	0.65	1.58	52.14	48.28	2	1	51.28
94555	1	50	1%	1.61	80.5	No	No	0	0	0.32	1.29	64.5	59.72	0	0	59.72
94556	1	37	1%	1.61	59.57	No	No	0	0	0.32	1.29	47.73	44.19	0	0	44.19
94559	1	100	1%	1.61	161	No	No	0	0	0.32	1.29	129	119.44	0	0	119.44
94561	3	92	2%	4.84	445.28	No	No	0	0	0.97	3.87	356.04	329.67	0	0	329.67
94564	1	40	1%	1.61	64.4	No	No	0	0	0.32	1.29	51.6	47.78	0	0	47.78
94565	7	70	4%	11.3	791	No	No	0	0	2.26	9.04	632.8	585.93	0	0	585.93
94566	2	64	1%	3.23	206.72	No	No	0	0	0.65	2.58	165.12	152.89	0	0	152.89
94577	6	25	4%	9.68	242	Yes	No	3	0	1.94	4.74	118.5	109.72	6	3	118.72
94578	3	37	2%	4.84	179.08	Yes	No	1.5	0	0.97	2.37	87.69	81.19	3	1.5	85.69
94579	1	28	1%	1.61	45.08	No	No	0	0	0.32	1.29	36.12	33.44	0	0	33.44
94583	1	64	1%	1.61	103.04	No	No	0	0	0.32	1.29	82.56	76.44	0	0	76.44
94585	1	100	1%	1.61	161	No	No	0	0	0.32	1.29	129	119.44	0	0	119.44

94587	4	46	2%	6.46	297.16	No	No	0	0	1.29	5.17	237.82	220.2	0	0	220.2
94588	1	55	1%	1.61	88.55	No	No	0	0	0.32	1.29	70.95	65.69	0	0	65.69
94589	1	66	1%	1.61	106.26	No	No	0	0	0.32	1.29	85.14	78.83	0	0	78.83
94590	4	60	2%	6.46	387.6	No	No	0	0	1.29	5.17	310.2	287.22	0	0	287.22
94591	6	64	4%	9.68	619.52	No	No	0	0	1.94	7.74	495.36	458.67	0	0	458.67
94595	2	42	1%	3.23	135.66	No	No	0	0	0.65	2.58	108.36	100.33	0	0	100.33
94596	1	44	1%	1.61	70.84	Yes	No	0.5	0	0.32	0.79	34.76	32.19	1	0.5	33.69
94598	1	46	1%	1.61	74.06	Yes	No	0.5	0	0.32	0.79	36.34	33.65	1	0.5	35.15
94601	2	15	1%	3.23	48.45	Yes	No	1	0	0.65	1.58	23.7	21.94	2	1	24.94
94602	3	17	2%	4.84	82.28	No	No	0	0	0.97	3.87	65.79	60.92	0	0	60.92
94605	1	28	1%	1.61	45.08	No	No	0	0	0.32	1.29	36.12	33.44	0	0	33.44
94606	1	10	1%	1.61	16.1	Yes	No	0.5	0	0.32	0.79	7.9	7.31	1	0.5	8.81
94607	3	10	2%	4.84	48.4	Yes	No	1.5	0	0.97	2.37	23.7	21.94	3	1.5	26.44
94608	4	14	2%	6.46	90.44	Yes	No	2	0	1.29	3.17	44.38	41.09	4	2	47.09
94609	4	14	2%	6.46	90.44	Yes	No	2	0	1.29	3.17	44.38	41.09	4	2	47.09
94610	5	15	3%	8.07	121.05	No	No	0	0	1.61	6.46	96.9	89.72	0	0	89.72
94611	2	15	1%	3.23	48.45	No	No	0	0	0.65	2.58	38.7	35.83	0	0	35.83
94612	4	9	2%	6.46	58.14	Yes	No	2	0	1.29	3.17	28.53	26.42	4	2	32.42
94618	1	17	1%	1.61	27.37	No	No	0	0	0.32	1.29	21.93	20.31	0	0	20.31
94619	2	23	1%	3.23	74.29	No	No	0	0	0.65	2.58	59.34	54.94	0	0	54.94
94621	2	21	1%	3.23	67.83	Yes	No	1	0	0.65	1.58	33.18	30.72	2	1	33.72
94702	3	20	2%	4.84	96.8	Yes	No	1.5	0	0.97	2.37	47.4	43.89	3	1.5	48.39
94704	2	19	1%	3.23	61.37	Yes	No	1	0	0.65	1.58	30.02	27.8	2	1	30.8
94705	2	17	1%	3.23	54.91	No	No	0	0	0.65	2.58	43.86	40.61	0	0	40.61
94707	1	21	1%	1.61	33.81	No	No	0	0	0.32	1.29	27.09	25.08	0	0	25.08
94708	1	24	1%	1.61	38.64	No	No	0	0	0.32	1.29	30.96	28.67	0	0	28.67
94803	2	40	1%	3.23	129.2	No	No	0	0	0.65	2.58	103.2	95.56	0	0	95.56
94804	2	28	1%	3.23	90.44	Yes	No	1	0	0.65	1.58	44.24	40.96	2	1	43.96
94805	3	30	2%	4.84	145.2	No	No	0	0	0.97	3.87	116.1	107.5	0	0	107.5
94806	8	40	5%	12.91	516.4	No	No	0	0	2.58	10.33	413.2	382.59	0	0	382.59
94820	1	40	1%	1.61	64.4	No	No	0	0	0.32	1.29	51.6	47.78	0	0	47.78
94914	1	52	1%	1.61	83.72	No	No	0	0	0.32	1.29	67.08	62.11	0	0	62.11
94949	1	64	1%	1.61	103.04	No	No	0	0	0.32	1.29	82.56	76.44	0	0	76.44
94965	1	48	1%	1.61	77.28	No	No	0	0	0.32	1.29	61.92	57.33	0	0	57.33
95122	1	90	1%	1.61	144.9	No	No	0	0	0.32	1.29	116.1	107.5	0	0	107.5
Total	**171**		**100%**	**276**	**11581.31**			**30**	**5.62**	**54.69**	**185.52**	**8451.75**	**7825.65**	**60**	**30**	**7915.65**

VMT per employee **28.68**

Appendix D.3 - Cemetery Corteges VMT

Cortege Trip: Distance to and from funeral homes to the cemetery

Distance (mi)	Avg One Way Dist (mi)	Round Trip Dist (mi)	Distribution	2030 Trips Assigned	2030 VMT Total	2040 Trips Assigned	2040 VMT Total
<15	7.5	15	16.4%	22	330	24	360
15 - 29	22.5	45	18.0%	24	1080	27	1215
30 - 44	37.5	75	17.3%	23	1725	26	1950
45 - 59	52.5	105	17.2%	23	2415	26	2730
60 - 75	67.5	135	15.8%	21	2835	23	3105
75>	75	150	15.3%	21	3150	23	3450
Total				134	11535	149	12810

Source: NCA

NCA provides auto occupancy of 3.0

TAZ 964

	2030	**2040**
Number of Cortege Persons	**45**	**50**
VMT_Average Cortege	28.69	28.66
Total VMT for Cortege	1291.05	1433

Appendix D.4 - Cemetery Visitor VMT

Number of Times Visit	Number of Visitors Surveyed	Average Distance from Cemetery for Visitor (mi)						Weighted Avg
		7.5	22.5	37.5	52.5	67.5	75	
1-3	7146	13.2%	22.2%	17.0%	12.4%	10.0%	25.3%	44.60
4-6	3494	23.6%	28.2%	17.9%	12.0%	6.8%	11.5%	34.34
7-9	1126	31.1%	28.5%	17.5%	9.7%	6.2%	7.0%	29.84
10+	2237	38.9%	30.9%	13.9%	7.4%	3.9%	5.0%	25.35
	14003							**37.78**

Source: NCA

Conservatively auto occupancy of 1.0 was assumed

TAZ 964

	2030	**2040**
Cemetery Visitor #	25	28
Visitor Avg Roundtrip Dist (mi)	75.55	75.55
Cemetery Visitor Total VMT	1888.78	2115.43

Appendix E

Construction Activity Sensitivity Analysis

Appendix E – Construction Activity Sensitivity Analysis Summary

In order to assess the temporary impact of construction activities of the Proposed Action, a sensitivity analysis was conducted with the assumption that all construction trucks take the same truck routes to VA Transfer Parcel. Since most equipment and material deliveries are expected before or during the AM peak hour, the construction impact is assessed during the AM peak hour. The last year of the construction is anticipated to be 2025, and thus the sensitivity analysis was conducted using the 2025 No Action Condition volume as a baseline.

Several intersections and roadway segments along the truck routes are evaluated to identify potential choke points to conduct the sensitivity analysis.

The evaluation process was conducted under the 2025 No Action Condition during the AM peak hour, and the following intersection and roadway segment were selected to be tested:

- Otis Drive and Fernside Boulevard (Intersection #25) – this intersection is located in Alameda right across the Bay Farm Island Bridge. The intersection would operate at LOS D with a 50.3-second intersection delay under the 2025 No Action Condition during the AM peak hour. The construction would have cause temporary impacts if the intersection delay would increase by 4.7 seconds, which would degrade the intersection LOS to LOS E in Alameda.
- SR-61 (Otis Drive) between Fernside Boulevard and Broadway (Arterial Segment #2) westbound– this segment is located in Alameda right across the Bay Farm Island Bridge. This segment would operate at the V/C ratio of 1.00 under the 2025 No Action Condition during the AM peak hour. The construction would cause temporary impacts if the segment v/c would increase by 0.03.

Table E-1 presents the sensitivity test analysis results at Otis Drive and Fernside Boulevard 2025 No Action Condition during the AM peak hour. As presented, an increase of **47 trucks per hour** would increase the intersection delay to increase from 50.3 without the construction to 55.0, which would degrade the intersection LOS to LOS E, which is a threshold in Alameda.

Table E-1: Otis Drive and Fernside Boulevard Intersection 2025 No Action Condition AM Peak Hour Sensitivity Analysis Results

Scenario	NBT Volume	Added Truck	Total Truck	Truck %	Intersection Delay
2025 No Action	1,673	0	33	2%	50.3
10 Additional Trucks	1,683	10	43	3%	51.3
20 Additional Trucks	1,693	20	53	3%	51.8
30 Additional Trucks	1,703	30	63	4%	53.2
40 Additional Trucks	1,713	40	73	4%	53.7
47 Additional Trucks	**1,720**	**47**	**80**	**5%**	**55.0**

** All volumes hourly*

SR-61 (Otis Drive) between Fernside Boulevard and Broadway (Arterial Segment #2) is a 2 lane roadway westbound with an assumed roadway capacity of 1,600 vehicles per hour. An increase of 0.03 in V/C represents an increase of hourly volume in 48 vehicles. Thus, an increase of 48 trucks per hour would result in temporary impacts. As this number is larger than the sensitivity

analysis result of 47 trucks per hour from the Otis Drive and Fernside Boulevard intersection, the sensitivity analysis revealed that construction would not cause a temporary impact if the peak construction vehicles do not exceed 47 trucks per hour.