



34th Street South Lane Elimination Study

From 54th Avenue South to 22nd Avenue South

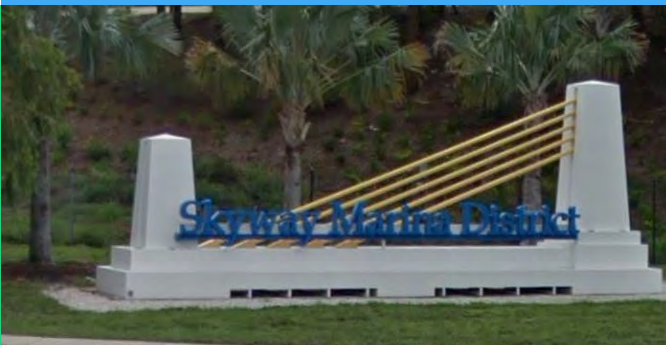
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**FORWARD
PINELLAS**
Integrating Land Use & Transportation



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1.0 Introduction

1.1 Project Overview

Forward Pinellas, the Pinellas County Metropolitan Planning Organization (MPO), is working with the City of St. Petersburg and the Skyway Marina District (SMD) representatives to evaluate the potential for repurposing travel lanes on 34th Street South from 54th Avenue South to 22nd Avenue South. This report provides a review of the existing conditions, future travel demand, typical sections and future conditions for the two alternatives (No Build and Build), and public involvement related to the lane elimination project. The study area can be found on **Figure 1.1**.

1.2 Skyway Marina District Plan

The SMD encompasses the segment of 34th Street South from 54th Avenue South to 30th Avenue South, including the businesses along the east and west sides of the corridor. The SMD's vision for the area is to have an activity center in southern Pinellas County that includes shopping, dining, and entertainment options. Currently, plans exist for three new large-scale multifamily housing projects which will result in increased demand for bicycle, pedestrian, and transit accommodations. The three projects - the Sur Club, the Addison Skyway Marina, and Marina Walk - are set to add hundreds of apartments to the area. In addition, the SMD looks to improve the streetscape and multimodal transportation through this corridor, which can be facilitated through lane repurposing. The Skyway Marina District Plan can be found in **Appendix B**. The Plan includes the District's goals, actions, and implementation strategies.

1.3 Transit Enhancement Plans and Projects

Forward Pinellas recently completed an evaluation of the potential for express bus service in and around the study area. The study resulted in recommendation for two route options as preferred concepts to connect southern Pinellas County, including Eckerd College and the Skyway Marina District, to the Gateway area. For both options, the southern portion of the route follows the current Route 34 corridor between Eckerd College and Grand Central Station. The northern portion of the routes travel either to downtown St. Petersburg and then Gateway (Option 1), or directly to Gateway via 34th Street North/Gandy Boulevard (Option 2). Service along both route options would operate more like a limited stop express bus service, with fewer stops than a local bus service, but with more frequent stops than a more traditional express bus service.

Additionally, the City of St. Petersburg adopted a Complete Streets Plan in May of 2019 which calls for a potential future lane re-allocation along 34th Street South from 54th Avenue South to 22nd Avenue South. Bus Rapid Transit is the proposed facility in the plan.

Furthermore, seven bus stop shelters have been recently installed along 34th Street South as a local investment to support transit. These new shelter installations include solar lighting and are located at 11th Ave S, 46th Ave S, 38th Ave S, 36th Ave S, 32nd Ave S, 36th Ave S, and 50th Ave S.

1.4 Purpose and Need

To support the delivery of enhanced transit service along the corridor and implementation of the Skyway Marina District Plan, Forward Pinellas is currently considering repurposing the segment's existing outside lanes to bus-only (BAT) lanes. As described in greater detail in Section 4.0 of this report, a buffer stripe could be added between the new BAT lane and travel lane by narrowing the existing lanes. As an alternative, the additional width could be used to widen the new BAT lane to 13 feet. The sidewalk would be widened to 10 feet, where feasible with this project, or to the extent feasible within the right-of-way (ROW). The proposed BAT lanes would allow for emergency vehicle use, as well as for general purpose travel during an evacuation. This, combined with the SMD vision of increased attractors, is expected to increase bus ridership in this area. This report provides analysis for two alternatives:

- The 6-Lane Configuration (No Build Alternative) which has no changes to the existing year (2018) lane geometry or traffic control features within the project area, and
- The 4-Lane Configuration (Build Alternative) which allows for a 6-lane typical section with four lanes dedicated to general purpose travel and the two outside lanes repurposed as BAT lanes.

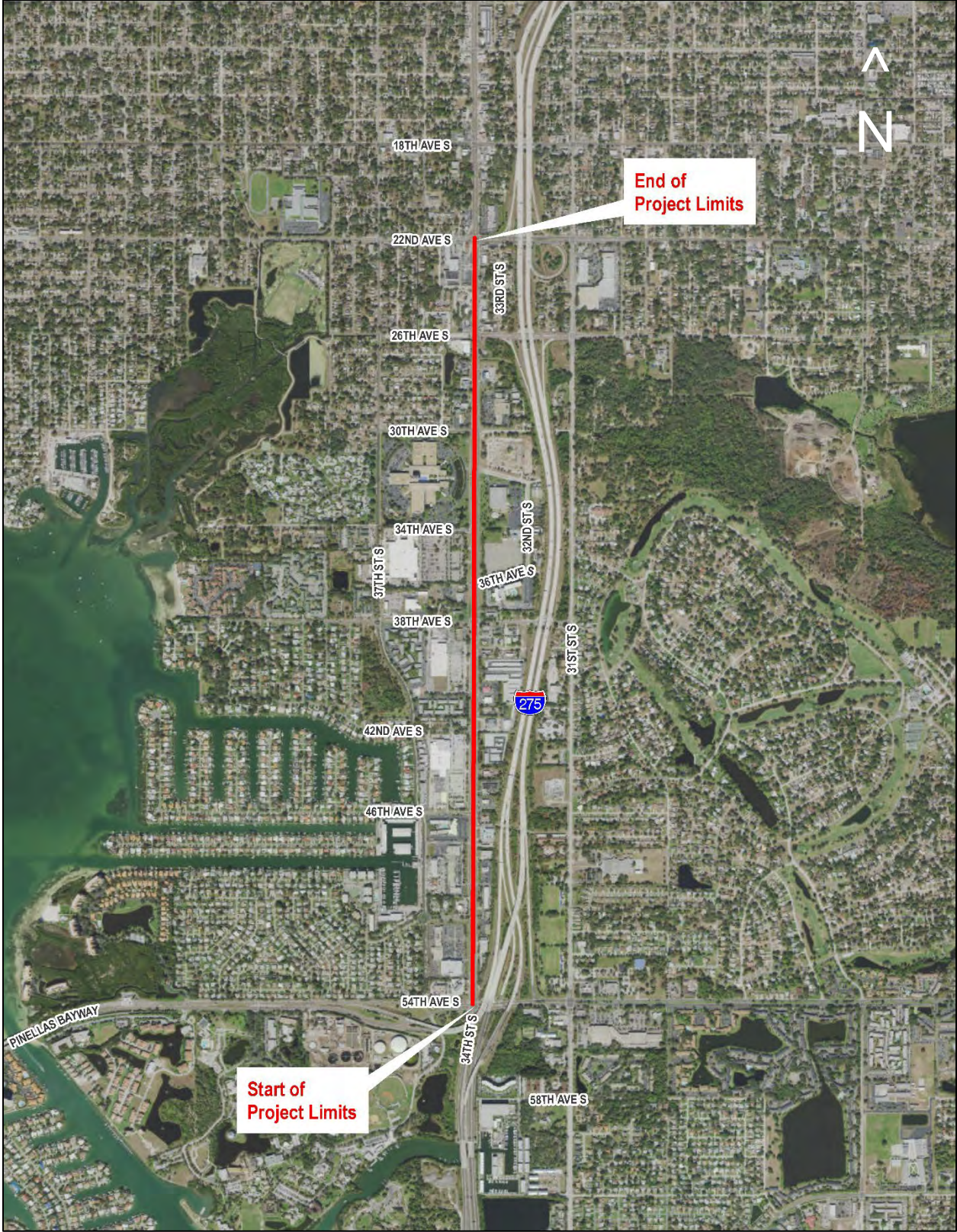


Figure 1.1. 34th Street South Project Location Map

2.0 Existing Conditions

2.1 Roadway and Intersection Characteristics

34th Street South is part of the US Highway 19 north-south arterial and is designated as an evacuation route. **Figure 2.1** shows the existing conditions typical section. 34th Street South has two inside lanes ranging from 10 to 12 feet and one 13-foot outside lane in each direction with curb and gutter to the outside and an 11-foot median. Sidewalks on either side of the road range from 5 to 6 feet. Two local bus routes, routes 34 and 90, run along 34th Street South within the study area. The posted speed limit on 34th Street South is 45 miles per hour (mph) between 54th Avenue South and 26th Avenue South. South of 26th Avenue South it is 40 mph through the end of the study limits at 22nd Avenue South.

This segment of 34th Street South is a commercial corridor with several driveways that access restaurants, hotels, shopping centers, a business park, and St. Petersburg College – Allstate Center. Behind the frontage properties on the west side of the corridor is predominantly residential land use. Behind the land uses on the east side of the corridor is I-275. There are six signalized cross streets within the study area.

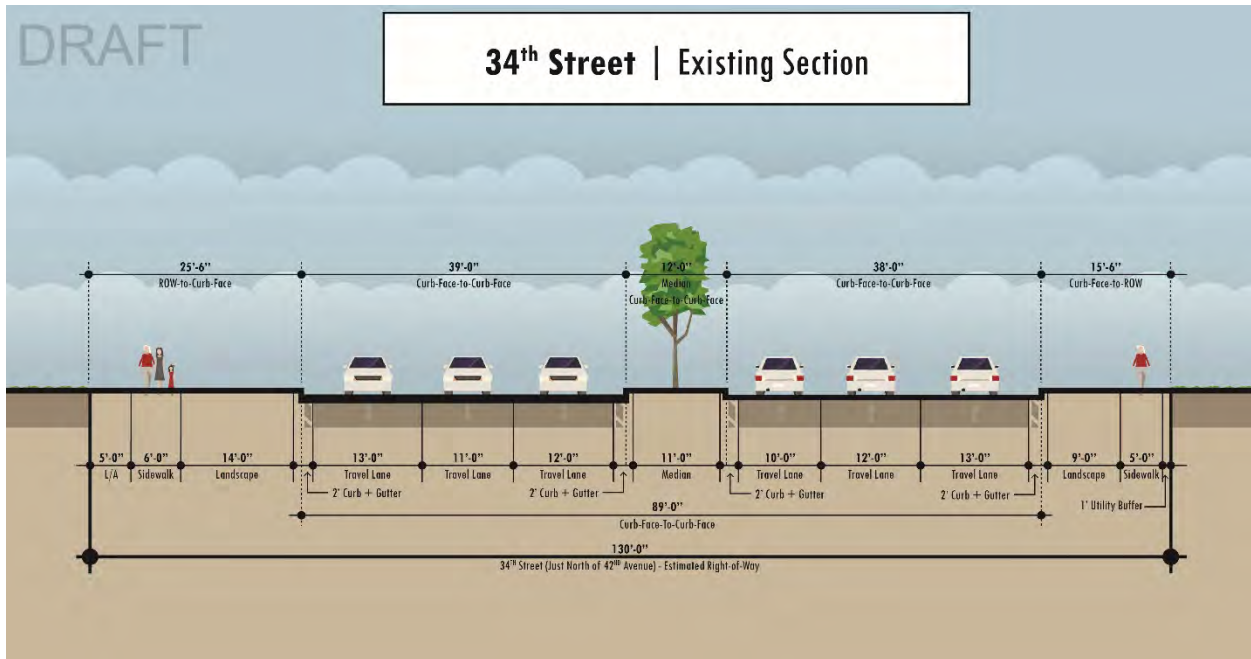


Figure 2.1. 34th Street South Existing Conditions Section

2.2 Traffic Data Collection

Traffic counts were collected along 34th Street South within the study area. Peak period turning movement counts were collected between April 3, 2018 and April 11, 2018 at six intersections from 7:00 AM to 9:00 AM and 4:00 PM and 6:00 PM. **Appendix C** shows the traffic count data.

2.3 Traffic Parameters

The peak-to-daily ratios (K-pk), directional distribution (D-pk), and 24-hour percentage of trucks (T24) were measured based on the results of the traffic counts provided by the City of St. Petersburg. The AM peak hour begins at 8:00 AM and has a Peak-Hour Factor (PHF) of 0.91. The PM peak hour begins at 5:00 PM and has a PHF of 0.96. The PHF compares the traffic volume during the busiest 15-minutes of the peak hour with the total volume during the peak hour. This provides an indication of how consistent traffic volume is during the peak hour. In the AM and PM peak period, the southbound direction on 34th Street South is the peak direction of travel. The network has an average percentage of heavy vehicles of 3.0 percent. The measured traffic parameters were compared to historical data provided by the Florida Department of Transportation (FDOT) *Florida Traffic Information (FTI) 2016*. The historical data is shown in **Appendix D**.

These sources were also used to determine the design hour truck percentage (DHT), which is generally taken as half of the existing 24-hour percentage of trucks (T24) based on the *FDOT Project Traffic Forecasting Handbook, 2014* methodology. The DHT was developed using the traffic count data and historical data. The traffic parameters recommended for the study area are as follows:

$K_{std} =$ 9.0 percent (proportion of AADT occurring within the peak hour)

$D =$ 56.0 percent (percentage of the total, two-way design hour traffic traveling in the peak direction)

$DHT =$ 2.0 percent on all streets

A K_{std} of 9.0 percent is recommended by FDOT for urbanized areas and the D-factor of 56.0 percent is within the thresholds recommended in the *FDOT Project Traffic Forecasting Handbook*. The intent of selecting the appropriate design-hour traffic factors is to ensure that the facility is designed to accommodate a specific level of future traffic loadings. A Peak-Hour Factor (PHF) of 0.95 was used in the future year analyses.

2.4 Development of Existing Year (2018) Traffic Volumes

Annual Average Daily Traffic (AADT) volumes were estimated by dividing the total PM peak hour approach and departure volumes on each segment by the K_{std} . The AM and PM Directional Design Hourly Volumes (DDHVs) were developed by applying K_{std} and D to the AADT volumes and applying the existing measured turning movement count percentages to the DDHV to develop the turning movement proportions. A manual smoothing process was performed to adjust the counts so that traffic flows were not too high or low when compared to the field-measured counts and that the design factors were reasonably maintained. The existing year (2018) volumes were used as a basis for future volume projections. **Figure 2.2** shows the existing year (2018) AM and PM peak period DDHVs. Existing year (2018) volume development calculations can be found in **Appendix C**.

AM		PM	
	155 990 60 ↓ ↓ ↓	170 540 305 ← ← ←	
22nd Avenue S	60 565 85 ↓ ↓ ↓	225 700 155 ↑ ↑ ↑	200 650 290 ← ← ←
	250 1100 15 ↓ ↓ ↓	325 115 90 ← ← ←	125 1055 80 ↓ ↓ ↓
26th Avenue S	25 85 25 ↓ ↓ ↓	50 740 65 ↑ ↑ ↑	85 550 110 ↓ ↓ ↓
	1205 120 ↓ ↓		195 1590 30 ↓ ↓ ↓
WalMart Driveway	120 35 ↓ ↓	80 900 ↑ ↑	260 100 85 ← ← ←
	60 645 50 ↓ ↓ ↓	95 35 80 ← ← ←	15 75 35 ↓ ↓ ↓
38th Avenue S	55 50 20 ↓ ↓ ↓	15 800 25 ↑ ↑ ↑	1740 295 ↓ ↓
	40 640 20 ↓ ↓ ↓	5 10 15 ← ← ←	280 75 ↓ ↓
46th Avenue S	50 5 25 ↓ ↓ ↓	65 485 25 ↑ ↑ ↑	200 890 ↑ ↑
	340 95 210 ↓ ↓ ↓	445 275 35 ← ← ←	110 1545 75 ↓ ↓ ↓
54th Avenue S	210 170 100 ↓ ↓ ↓	125 155 30 ↑ ↑ ↑	80 60 65 35 ← ← ←
			100 40 20 ↓ ↓ ↓
			1420 25 25 ↓ ↓ ↓
			10 5 15 ← ← ←
			75 5 40 ↓ ↓ ↓
			70 790 10 ↑ ↑ ↑
			845 295 285 ↓ ↓ ↓
			540 300 200 ← ← ←
			280 290 230 ↓ ↓ ↓
			270 240 70 ↑ ↑ ↑

Figure 2.2. Existing Year (2018) 34th Street South DDHV

2.5 Crash Analysis

Crash data for the five years between 2013 and 2017 was obtained from FDOT and Forward Pinellas. A total of 590 crashes occurred within the vicinity of the study area during these five years. **Table 2.1** and **Table 2.2** show the crashes by severity and type, respectively. There were 418 crashes that resulted in no known injuries and 159 that resulted in minor or possible injuries. There were 13 incapacitating crashes within this 5-year span. These 590 crashes resulted in 263 total injuries.

Rear-end crashes account for approximately 38 percent of the total crashes. There were also 101 (17 percent) angle crashes and 3 head-on collisions, which are crash types that have a greater potential for severe injuries. The 82 sideswipe crashes indicate that drivers may have difficulty changing lanes within the study area.

There were 14 collisions involving pedestrians and 7 involving bicyclists. Thirteen crashes involved intoxicated drivers, which were removed from the final set of crashes. It should be noted that two of these crashes resulted in the only fatalities reported on 34th Street South, with one of these fatal crashes also resulting in 14 injuries. In addition to intoxication, distracted driving and excessive speeding were contributing factors to this crash. Crash data can be found in **Appendix E**.

Table 2.1. Crashes by Severity

Year	Fatal Crashes	Incapacitating Crashes	Non-Incapacitating Crashes	Possible Injury Crashes	No Injury Crashes	Number of Fatalities	Number of Injuries
2013	0	3	10	12	70	0	40
2014	0	4	16	19	93	0	63
2015	0	1	15	23	75	0	56
2016	0	4	9	24	108	0	60
2017	0	1	8	23	72	0	44
Total	0	13	58	101	418	0	263

Table 2.2. Crashes by Type

Year	Angle	Head On	Rear End	Sideswipe	Bike	Pedestrian	Other	Total
2013	13	1	38	7	0	2	34	95
2014	25	1	50	17	2	3	34	132
2015	26	1	45	14	2	3	23	114
2016	22	0	48	27	3	3	42	145
2017	15	0	44	17	0	3	25	104
Total	101	3	225	82	7	14	158	590

Of the 590 crashes that occurred on 34th Street South, 516 of them occurred at the six study intersections. The intersections with the highest crashes were 34th Street South/22nd Avenue South and 34th Street South/54th Avenue South with 188 and 136 crashes, respectively. The highest crash type at both of these locations is rear end crashes, which is usually indicative of vehicles travelling at high speeds and unable to stop in time before reaching the back of queue from a signalized intersection. Sideswipe crashes are the next frequently observed crash types at these locations. Under the lane elimination design, the posted speed limit could be reduced to aid in traffic calming. Depending on the speed reduction percentage, the corresponding crash modification factor (CMF) can range from 0.56 to 0.90, resulting in crash reductions between 10 and 44 percent. Currently,

there are no CMFs related to reducing the number of travel lanes from 6 to 4 or repurposing existing vehicle travel lanes as bus only lanes.

2.6 Existing Year (2018) Traffic Operational Analysis

The signalized intersection analyses were conducted using the Highway Capacity Manual (HCM) 2010 Module in Synchro, version 9. The corridor analyses were conducted using Synchro, version 9. The signal timing plans for all six signalized intersections along the study corridor were obtained from the City of St. Petersburg. Existing truck percentages for each approach and the measured global PHFs were used in these models. Synchro results can be found in **Appendix F**. The MOEs discussed in the following subsections were used to analyze the existing configuration and to establish a baseline for comparison with the future traffic analysis years.

2.6.1 Intersection Delay Analysis

Table 2.3 shows the existing year (2018) approach and overall intersection control delay and Level of Service (LOS) results for the existing configuration of the six signalized intersections within the study corridor. The delay results were extracted from Synchro and LOS thresholds were taken from the Highway Capacity Manual (HCM) 2010. Synchro delay results by movement type can be found in **Appendix F**.

The 34th Street South/54th Avenue South and 34th Street South/22nd Avenue South intersections experience overall delays over 60 seconds/vehicle (s/veh) during both the AM and PM peak hours, resulting in LOS E or worse. The eastbound approach of the 34th Street South/54th Avenue South intersection incurs delay over 110 s/veh during the AM and PM peak hours, while the westbound approach incurs delay over 200 s/veh during the PM peak hour. All approaches of the 34th Street South/22nd Avenue South intersection incur delays over 55 sec/veh in both the AM and PM peak hours.

Most of the eastbound and westbound approaches at the intermediate intersections operate at LOS E or worse in both the AM and PM peak hours, while the northbound and southbound approaches operate at LOS D or better, indicating that the cross streets may not receive adequate green time or that the geometries may not be sufficient.

Table 2.3. Existing Year (2018) Intersection Delay (s/veh)

Intersection	Intersection Approach								Overall Intersection	
	Eastbound		Westbound		Northbound		Southbound			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
AM										
34th Street S & 54th Avenue S	111.6	F	34.3	C	56.0	E	63.4	E	60.3	E
34th Street S & 46th Avenue S	55.8	E	52.2	D	0.2	A	9.2	A	8.9	A
34th Street S & 38th Avenue S	65.2	E	68.1	E	30.5	C	6.1	A	26.8	C
34th Street S & 34th Avenue S*	52.2	D	-	-	8.1	A	17.0	B	15.7	B
34th Street S & 26th Avenue S	44.2	D	89.1	F	6.7	A	15.6	B	27.8	C
34th Street S & 22nd Avenue S	81.7	F	63.2	E	81.3	F	56.8	E	69.4	E
PM										
34th Street S & 54th Avenue S	201.2	F	204.1	F	97.9	F	79.1	E	142.3	F

34th Street S & 46th Avenue S	65.1	E	56.9	E	0.1	A	0.4	A	3.9	A
34th Street S & 38th Avenue S	80.4	F	74.8	E	37.4	D	5.2	A	23.3	C
34th Street S & 34th Avenue S*	60.1	E	-	-	17.9	B	20.1	C	23.5	C
34th Street S & 26th Avenue S	52.6	D	90.4	F	3.8	A	29.3	C	29.4	C
34th Street S & 22nd Avenue S	75.0	E	85.9	F	76.5	E	55.5	E	72.6	E

*HCM 2010 results are not available for this intersection due to signal phasing scheme. Synchro analysis is reported instead.

2.6.2 Intersection Queue Analysis

Table 2.4 shows the 95th percentile queue length results for the existing year (2018) existing configuration at the signalized intersections along 34th Street South rounded to the nearest 25 feet (ft). The 34th Street South/54th Avenue South intersection experiences excessive queuing along the eastbound and westbound approaches. The eastbound left and westbound left and right queue lengths exceed the available turn bay storage and spill into the through lane, which contribute to the high delays associated with these approaches. The northbound and southbound left turn bays also experience excessive queuing in the PM peak hour.

The 34th Street South/22nd Avenue South intersection experiences excessive queuing on the eastbound and westbound approaches due to the heavy through and right movements utilizing a shared through-right lane. These queue lengths exceed 500 ft in both the AM and PM peak hours which impact business driveway and cross streets on the west leg and the southbound I-275 off-ramp on the east leg. In addition, the northbound left queue length extends beyond the available left-turn storage bay, forcing vehicles to spill out into the through lanes.

Table 2.4. Existing Year (2018) Intersection Queue Length (ft)

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
AM												
34th Street S & 54th Avenue S	625	100	0	75	175	575	225	150	50	300	175	0
34th Street S & 46th Avenue S	150	0	0	50	0	0	25	25	25	50	200	225
34th Street S & 38th Avenue S	125	0	125	125	0	250	50	375	400	125	25	25
34th Street S & 34th Avenue S*	100	-	50	-	-	-	150	50	-	-	300	100
34th Street S & 26th Avenue S	50	0	175	150	175	825	100	50	50	575	25	25
34th Street S & 22nd Avenue S	150	575	575	300	525	525	750	350	375	375	475	525
PM												
34th Street S & 54th Avenue S	1025	200	0	825	225	1475	725	200	125	675	450	0
34th Street S & 46th Avenue S	225	0	0	50	0	0	25	0	25	0	25	25
34th Street S & 38th Avenue S	225	0	100	75	0	250	100	425	450	200	25	25
34th Street S & 34th Avenue S*	200	-	50	-	-	-	300	50	-	-	625	150
34th Street S & 26th Avenue S	25	0	200	175	175	675	75	50	50	275	525	550
34th Street S & 22nd Avenue S	200	550	550	275	750	750	600	475	475	275	525	575

*HCM 2010 results are not available for this intersection due to signal phasing scheme. Synchro analysis is reported instead.

3.0 Future Travel Demand

Future planned network and development growth plans were reviewed for use in forecasting future volume projections. Various growth patterns were analyzed using different sources to determine the most reasonable method for volume growth.

3.1 Development and Network Improvements Review

The study corridor is within the City of St. Petersburg in southern Pinellas County. The SMD community contains 227 acres of land and is bisected by 34th Street South between 30th Avenue South and 54th Avenue South. The corridor is comprised of various land uses, with commercial making up the largest portion at almost 45 percent. Office is the second highest usage primarily due to the Ceridian campus at the northern end of the study area. Other land use activity in the corridor includes residential, industrial, marina, and institutional. The Skyway Marina District envisions the area as a destination for shopping, dining, and entertainment that encourages walkability and multimodal travel. In order to achieve this vision, the Skyway Marina District is actively engaged in planning and neighborhood improvement activities in coordination with the City of St. Petersburg. **Appendix B** shows the Skyway Marina District Plan for this corridor.

In order to provide a better balance of multimodal options, community planning efforts encouraged by Forward Pinellas are focused on encouraging mixed-use centers, while supporting walkable and economically sustainable neighborhoods.

3.2 Population Growth Estimates

Historical population data obtained from the Bureau of Economic and Business Research (BEBR) was used to analyze growth rates that may be applicable in developing future traffic projections. As shown in **Table 3.1**, Pinellas County had a population of about 954,600 in 2016. **Table 3.1** shows the low, medium, and high population estimates for 2020, 2030, and 2040, along with the corresponding growth rates from 2016 to each future year.

Table 3.1. BEBR Population Growth Rates

Projection Range	2016 Population	2020		2030		2040	
		Population	Growth	Population	Growth	Population	Growth
Low	954,569	932,400	-0.58%	912,400	-0.32%	887,400	-0.29%
Medium	954,569	967,400	0.34%	995,700	0.31%	1,012,800	0.25%
High	954,569	1,004,900	1.32%	1,083,300	0.96%	1,154,800	0.87%

3.3 Development of Future Year Traffic Volumes

The design year (2040) AADT volumes were developed using the Tampa Bay Regional Planning Model, version 8.2 (TBRPMv8.2). The Model's validated base year is 2010 and the most recently adopted Cost-Affordable (CA) Model has a horizon year of 2040. The horizon year (2040) AADT volumes were compared to the existing year (2018) AADT volumes to ensure that reasonable growth was captured by the Model in the study area. In cases where the growth was determined to be unreasonable, a 0.5 percent growth rate was linearly applied to the existing year (2018) volumes

to obtain the design year (2040) volumes. This growth rate was selected due to it falling in between the medium and high growth rate values calculated from the BEBR in **Table 3.1**.

The AM and PM DDHVs were developed by applying K_{std} and D to the AADT volumes and applying the existing measured turning movement count percentages to the DDHV to develop the turning movement proportions. A manual smoothing process was performed to adjust the counts so that the traffic flows were not lower than existing year (2018) and that the design factors were reasonably maintained. The opening year (2020) volumes were developed by linearly interpolating the turning movement volumes between the existing year (2018) and design year (2040) volumes. **Figure 3.1** and **Figure 3.2** show the design year (2040) and opening year (2020) AM and PM peak-hour volumes, respectively. Plots from the TBRPM, v8.2 can be found in **Appendix G**.

AM		PM	
22nd Avenue S			
26th Avenue S			
WalMart Driveway			
38th Avenue S			
46th Avenue S			
54th Avenue S			

Figure 3.1. Design Year (2040) 34th Street South DDHV

AM		PM	
	<p>155 1000 80</p> <p>175 545 305</p>		<p>130 1065 80</p> <p>200 665 295</p>
22nd Avenue S	<p>60 570 85</p> <p>225 705 160</p>	22nd Avenue S	<p>90 560 110</p> <p>215 665 300</p>
	<p>255 1110 15</p> <p>330 115 95</p>		<p>200 1605 30</p> <p>265 100 85</p>
26th Avenue S	<p>25 85 25</p> <p>50 745 65</p>	26th Avenue S	<p>15 75 35</p> <p>30 1050 100</p>
	<p>1215 120</p> <p>1760 300</p>		
WalMart Driveway	<p>120 35</p> <p>80 910</p>	WalMart Driveway	<p>285 75</p> <p>200 900</p>
	<p>60 650 50</p> <p>115 1560 75</p>		<p>60 65 35</p>
38th Avenue S	<p>55 50 20</p> <p>15 810 25</p>	38th Avenue S	<p>100 40 20</p> <p>40 910 50</p>
	<p>40 645 20</p> <p>5 10 15</p>		<p>25 1430 25</p> <p>10 5 15</p>
46th Avenue S	<p>50 5 25</p> <p>65 490 25</p>	46th Avenue S	<p>75 5 40</p> <p>70 800 10</p>
	<p>340 95 210</p> <p>450 280 35</p>		<p>850 300 290</p> <p>545 305 200</p>
54th Avenue S	<p>210 170 100</p> <p>125 155 30</p>	54th Avenue S	<p>285 290 235</p> <p>275 240 70</p>

Figure 3.2. Opening Year (2020) 34th Street South DDHV

4.0 Proposed Design

The Florida Department of Transportation (FDOT) District 7 has a planned resurfacing, restoration, and rehabilitation (RRR) project for 34th Street South from 54th Avenue South to 22nd Avenue North. In addition to the RRR project, the section from 54th Avenue South to 22nd Avenue South is planned to include the following:

- Repurposing outside lanes from general purpose to business access and transit (BAT) lanes (i.e. shared bus and right-turn lanes);
- Widening sidewalks on both sides of the road, where feasible; and
- Adding enhanced pedestrian crosswalks.

The existing typical section is shown in **Figure 2.1**. Corridorwide conceptual drawings, including BAT lane operation, pavement markings, and proposed crossing locations, can be found in **Appendix H**.

4.1 BAT Lanes

The proposed typical section converts the outside travel lane into a BAT lane. As shown on **Figure 4.1**, by narrowing the lanes, a buffer stripe can be added between the BAT lane and travel lane. As an alternative, the additional width could be used to widen the BAT lane to 13 feet (**Figure 4.2**). The sidewalk will be widened to 10 feet, where feasible with this project, or to the extent feasible within the right-of-way (ROW). The proposed typical section would allow for the BAT lanes to be used for emergency vehicles and repurposing for a general purpose travel lane during an evacuation.

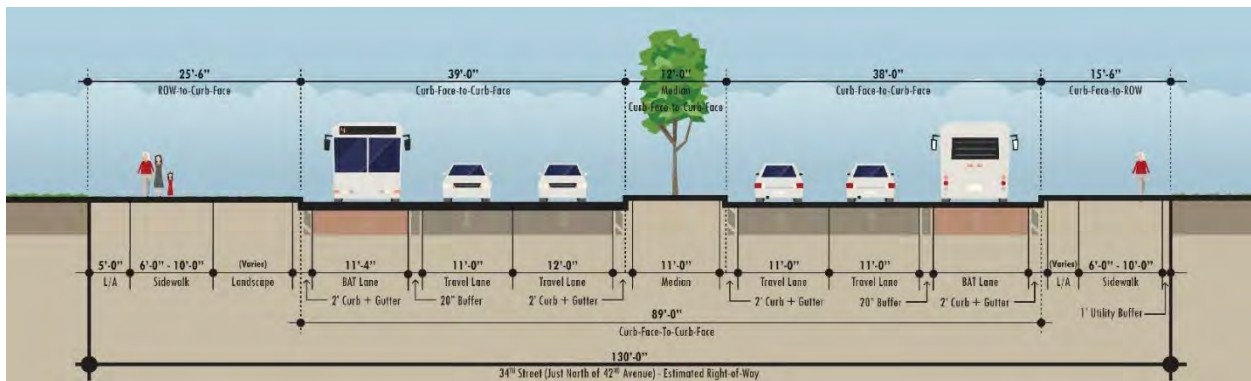


Figure 4.1. 34th Street South Proposed Typical Section with Buffer Stripe

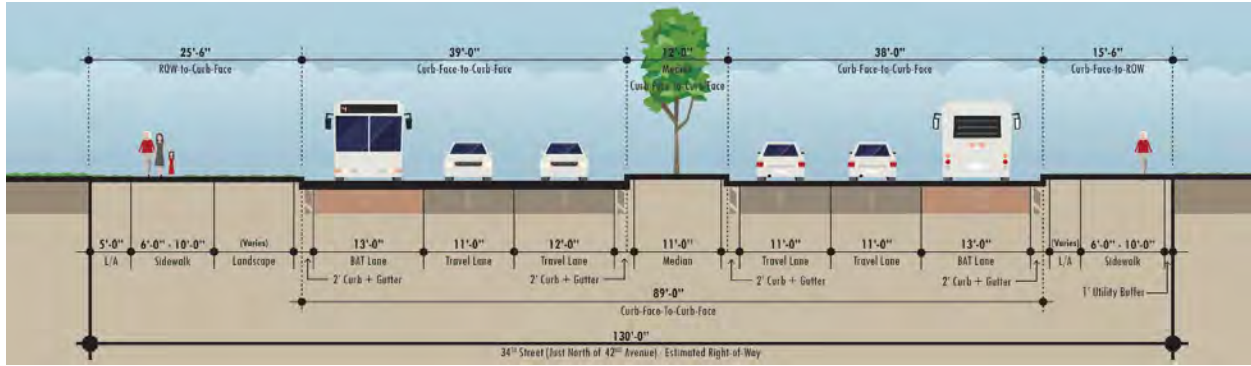


Figure 4.2. 34th Street South Proposed Typical Section with Wide Outside Lane

Red paint could be used to mark transition and conflict points. The use of red paint requires approval from the Federal Highway Administration (FHWA). PSTA would likely need to apply for approval before construction begins, as well as agree to maintain and fund the markings. These details would need to be addressed in the design phase of work. Additionally, signage and BUS ONLY pavement marking would be used to communicate the use of the lane. To improve pedestrian safety and access to transit, the existing medians at signalized intersections could be widened and extended to provide refuge. This would also be addressed in the design phase of work.

4.2 Widened Sidewalks

A recurring theme of the City of St. Petersburg's public outreach regarding its Complete Streets Plan and other active transportation planning activity is that most people will not ride a bicycle on a road with high speed traffic without a physical barrier between themselves and the adjacent vehicle lanes. Public input received by Forward Pinellas on the subject of bicycling and bicycle safety in Pinellas County confirms this sentiment. The proposed wide sidewalks would provide bicyclists with a barrier from the roadway and a higher level of comfort. In addition, the project corridor is surrounded by an established network of bicycle facilities that include a parallel section of the Skyway Trail within 0.25 mile to the west, a bike lane along the parallel section of 31st Street a quarter mile to the east and an east-west bike lane and trail that connect the Skyway Trail and 31st Street at 38th Avenue South and 46th Avenue South. The proposed wide sidewalks on 34th Street will help to improve the connectivity of the active transportation network while providing bicyclists and pedestrians with improved accessibility and a safer means of traveling within the Skyway Marina District. It is not known at this time where sidewalks can be widened, but it is being analyzed ahead of the design phase.

4.3 Enhanced Pedestrian Crosswalks

Figure 4.5 shows the typical section for potential midblock crossings which includes a narrowing of the center median and inside travel lanes to include an additional pedestrian refuge between the BAT lane and general-purpose lane. The curb is also moved out one foot on either side. The curb rebuild would be limited to about 300 feet. There would be a slight horizontal shift for drivers toward the center of the road, adding a traffic calming element through the pedestrian crossing area. A traffic control device would be installed at the potential midblock crossings near 50th Ave S and 42nd Ave S. The specific device will be determined in design. The project is not expected to negatively affect school crossings along the corridor.

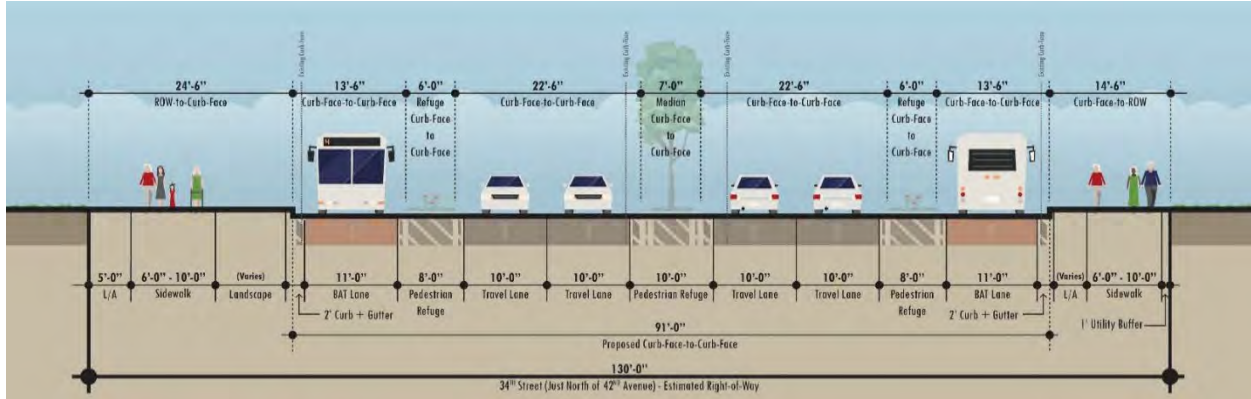


Figure 4.3. Proposed Midblock Pedestrian Crossing

4.4 Design Variations

A potential need for the following design variations were identified under the RRR basic services, and is currently awaiting survey to be fully vetted. At this time it is not expected that any additional variations would be needed as a result of introducing the BAT lanes. Final design will occur during the engineering phase of the project.

- Median Width
- Bike Lanes
- Cross Slope
- Lane Width
- Lateral Offset / Horizontal Clearance
- Drop-off Hazard (Optional Service)

4.5 Impact of Parking Supply

On-street parking does not currently exist on 34th Street South. Therefore, the proposed project will have no impact on existing parking supply.

4.6 Existing Posted Speed Limit

The posted speed limit on 34th Street South is 45 miles per hour (mph) between 54th Avenue South and 26th Avenue South. South of 26th Avenue South it is 40 mph through the end of the study limits at 22nd Avenue South. Any changes to the design/posted speed will be coordinated during and after design

4.7 Traffic Signal Impacts

At this time it is not anticipated that the proposed design described in this section will result in the addition, removal, or modification of existing traffic signals.

4.8 Additional Design Considerations

During the design phase, the following design considerations will be evaluated:

- Potential for lane width variation
- Potential for reduction in design speed
- Modifications to signals
- Modifications to existing drainage systems
- Location and design treatments of midblock pedestrian crossings
- Need for improved lighting for safety at intersections
- Sidewalk widening along the corridor
- Potential for modification or relocation of bus stops

5.0 Future Conditions

5.1 Design Year (2040) Traffic Operational Analysis

The existing year (2018) Synchro models were used as the basis for the design year (2040) models. A PHF of 0.95 was used for the design year (2040) Synchro analyses since less variability of congestion within the peak hour is expected as volumes grow. DHT percentages were used for each approach of the signalized intersections along 34th Street South rather than the existing truck percentages. Synchro signal optimization was used to determine optimized signal timing for the study intersections along 34th Street South. The existing cycle lengths were maintained to allow for continued coordination along the corridor. The signalized intersection MOEs are discussed in this section.

5.1.1 Intersection Delay Analysis

Table 5.1 and **Table 5.2** show the design year (2040) approach and overall intersection control delay and LOS results for the 6-Lane Configuration (No Build Alternative) and 4-Lane Configuration (Build Alternative), respectively, of the signalized intersections within the study area. The delay results were extracted from Synchro and LOS thresholds were taken from the HCM 2010. Synchro delay results by movement type can be found in **Appendix F**.

The results of the 6-Lane Configuration (No Build Alternative) analysis indicate that one intersection is not expected to meet acceptable FDOT LOS standards in the AM peak period and two intersections are not expected to meet acceptable FDOT LOS standards in the PM peak period. The performance of these intersections are consistent with the existing year (2018) analysis results. The intersections that are expected to underperform are 34th Street South/54th Avenue South and 34th Street South/22nd Avenue South. The PM peak period is expected to have the highest incurred delay, with the eastbound and westbound approaches experiencing the highest delays across all intersections.

The results of the 4-Lane Configuration (Build Alternative) analysis indicate that one intersection is not expected to meet acceptable FDOT LOS standards in the AM peak period and two intersections are not expected to meet acceptable FDOT LOS standards in the PM peak period. These intersections are consistent with those of the design year (2040) 6-Lane Configuration (No Build Alternative) results. However, most intersections see a reduction in approach and overall delay; in some case the LOS is improved. This may be due to the right-turn overlap at intersections that allow it, as well as the optimized signal phasing. In addition, the reduction in approach and overall intersection delay may result in improved travel times along the 34th Street South corridor.

It should be noted that a new configuration is currently being considered at 34th Street and 54th Ave S. The new configuration would potentially convert the existing southbound left turn/thru lane into a dedicated southbound left turn lane. This potential change was not included in the analysis for this report. For this report the Build configuration for the southbound approach at the 34th Street and 54th Avenue S intersection was analyzed as one left lane, one shared left-thru, and one right.

**Table 5.1. Design Year (2040) 6-Lane Configuration (No Build Alternative)
 Intersection Delay (s/veh)**

Intersection	Intersection Approach								Overall Intersection	
	Eastbound		Westbound		Northbound		Southbound		Delay	LOS
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
AM										
34th Street S & 54th Avenue S	49.0	D	45.9	D	56.5	E	62.1	E	52.0	D
34th Street S & 46th Avenue S	56.0	E	52.5	D	0.3	A	16.2	B	12.7	B
34th Street S & 38th Avenue S	64.4	E	67.9	E	31.5	C	5.8	A	27.1	C
34th Street S & 34th Avenue S*	52.1	D	-	-	8.7	A	36.0	D	26.1	C
34th Street S & 26th Avenue S	39.0	D	54.8	D	29.6	C	42.3	D	40.7	D
34th Street S & 22nd Avenue S	101.5	F	69.1	E	64.0	E	77.9	E	76.1	E
PM										
34th Street S & 54th Avenue S	82.6	F	423.0	F	80.2	F	72.4	E	185.1	F
34th Street S & 46th Avenue S	64.9	E	55.8	E	18.9	B	0.4	A	10.5	B
34th Street S & 38th Avenue S	66.8	E	80.7	F	39.6	D	5.0	A	23.4	C
34th Street S & 34th Avenue S*	55.4	E	-	-	16.1	B	39.1	D	33.6	C
34th Street S & 26th Avenue S	47.0	D	57.1	E	15.7	B	44.4	D	36.6	D
34th Street S & 22nd Avenue S	101.1	F	111.5	F	67.1	E	89.4	F	91.6	F

HCM 2010 results are not available for this intersection due to signal phasing scheme. Synchro analysis is reported instead.

Table 5.2. Design Year (2040) 4-Lane Configuration (Build Alternative) Intersection Delay (s/veh)

Intersection	Intersection Approach								Overall Intersection	
	Eastbound		Westbound		Northbound		Southbound			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
AM										
34th Street S & 54th Avenue S	28.3	C	65.5	E	57.0	E	51.2	D	53.2	D
34th Street S & 46th Avenue S	56.0	E	52.5	D	0.3	A	10.5	B	9.9	A
34th Street S & 38th Avenue S	67.7	E	69.6	E	46.4	D	2.9	A	32.9	C
34th Street S & 34th Avenue S*	52.1	D	-	-	11.8	B	2.4	A	9.3	A
34th Street S & 26th Avenue S	40.5	D	65.4	E	45.5	D	4.7	A	29.6	C
34th Street S & 22nd Avenue S	139.1	F	110.1	F	9.1	A	88.5	F	81.6	F
PM										
34th Street S & 54th Avenue S	96.4	F	42.0	D	84.8	F	132.0	F	90.9	F
34th Street S & 46th Avenue S	67.3	E	56.6	E	4.4	A	0.4	A	5.5	A
34th Street S & 38th Avenue S	81.0	F	88.0	F	4.8	A	4.8	A	13.1	B
34th Street S & 34th Avenue S*	54.5	D	-	-	49.5	D	17.7	B	31.4	C
34th Street S & 26th Avenue S	54.2	D	123.6	F	30.3	C	2.6	A	28.7	C
34th Street S & 22nd Avenue S	82.3	F	140.8	F	11.8	B	116.1	F	88.9	F

*HCM 2010 results are not available for this intersection due to signal phasing scheme. Synchro analysis is reported instead.

5.1.2 Intersection Queue Analysis

Table 5.3 and **Table 5.4** shows the 95th percentile queue length results for the design year (2040) 6-Lane Configuration (No Build Alternative) and 4-Lane Configuration (Build Alternative), respectively, at the signalized intersections along 34th Street South rounded to the nearest 25 ft. Synchro queue results can be found in **Appendix F**.

The results of the 6-Lane Configuration (No Build Alternative) analysis indicate that the 34th Street South/54th Avenue South intersection experiences excessive queuing along the eastbound and westbound approaches. The eastbound left and westbound left and right queue lengths exceed the available turn bay storage and spill into the through lane. The 34th Street South/22nd Avenue South intersection also experiences excessive queuing on the eastbound and westbound approaches due to the heavy through and right movements utilizing a shared through-right lane. These queue lengths exceed 500 ft in both the AM and PM peak hours. This impacts business driveways and cross streets on the west leg and the southbound I-275 off-ramp on the east leg. In addition, the northbound left queue extends beyond the available left-turn storage bay, forcing vehicles to spill into the through lanes. The southbound through and right queue lengths may extend as far back as the next signalized intersection at 34th Street South/18th Avenue South.

The results of the 4-Lane Configuration (Build Alternative) analysis indicate that the 34th Street South/54th Avenue South intersection experiences excessive queuing along the eastbound and westbound approaches. In the AM peak period, the queue lengths are not significantly different when compared to the 6-Lane Configuration (No Build Alternative). However, in the PM peak period,

the westbound right queue length is reduced significantly, compared to the 6-Lane Configuration (No Build Alternative). This queue is still expected to exceed the allowable storage length and block the southbound I-275 off-ramp. In addition, the southbound left and through queue lengths exceed 1400 ft due to a through lane drop. The 34th Street South/22nd Avenue South intersection continues to experience excessive queuing on all approaches. It is anticipated that the north and south queue lengths at most of the study intersections will be reduced under the 4-Lane Configuration (Build Alternative).

Table 5.3. Design Year (2040) 6-Lane Configuration (No Build Alternative) Intersection Queue Length (ft)

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
AM												
34th Street S & 54th Avenue S	400	100	0	100	200	700	250	150	75	300	200	0
34th Street S & 46th Avenue S	150	0	0	75	0	0	25	25	25	75	300	325
34th Street S & 38th Avenue S	125	0	125	125	0	250	50	375	425	125	25	25
34th Street S & 34th Avenue S*	100	-	50	-	-	-	150	75	-	-	500	150
34th Street S & 26th Avenue S	50	0	175	150	200	550	100	325	350	300	400	450
34th Street S & 22nd Avenue S	175	850	850	325	600	575	425	425	425	325	600	675
PM												
34th Street S & 54th Avenue S	775	250	0	400	275	2600	750	225	150	725	475	0
34th Street S & 46th Avenue S	250	0	0	50	0	0	125	325	350	25	25	25
34th Street S & 38th Avenue S	225	0	125	100	0	275	100	475	500	200	25	25
34th Street S & 34th Avenue S*	200	-	50	-	-	-	325	50	-	-	775	250
34th Street S & 26th Avenue S	25	0	200	175	175	450	75	300	325	250	600	675
34th Street S & 22nd Avenue S	250	975	975	325	1275	1250	550	450	450	300	925	1050

HCM 2010 results are not available for this intersection due to signal phasing scheme. Synchro analysis is reported instead.

Table 5.4. Design Year (2040) 4-Lane Configuration (Build Alternative) Intersection Queue Length (ft)

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
AM												
34th Street S & 54th Avenue S	300	100	0	100	250	800	250	150	75	350	450	0
34th Street S & 46th Avenue S	150	0	0	75	0	0	25	25	0	50	300	25
34th Street S & 38th Avenue S	125	0	150	125	0	275	50	575	50	75	25	0
34th Street S & 34th Avenue S*	100	-	50	-	-	-	200	50	-	-	100	0
34th Street S & 26th Avenue S	50	0	175	175	200	600	100	525	100	225	25	0
34th Street S & 22nd Avenue S	175	925	925	450	925	900	300	100	25	325	1225	50
PM												
34th Street S & 54th Avenue S	800	300	0	350	275	875	775	225	100	1475	1975	0
34th Street S & 46th Avenue S	250	0	0	50	0	0	50	200	25	25	25	0
34th Street S & 38th Avenue S	250	0	125	75	0	300	100	50	25	150	50	0
34th Street S & 34th Avenue S*	200	-	50	-	-	-	450	150	-	-	1125	50
34th Street S & 26th Avenue S	25	0	225	200	200	825	75	650	125	150	25	0
34th Street S & 22nd Avenue S	225	700	700	450	1350	1325	325	150	75	300	1475	75

HCM 2010 results are not available for this intersection due to signal phasing scheme. Synchro analysis is reported instead.

5.2 Opening Year (2020) Traffic Operational Analysis

The existing year (2018) Synchro models were used as the basis for the opening year (2020) models. A PHF of 0.95 was used for the opening year (2020) Synchro analyses since less variability of congestion within the peak hour is expected as volumes grow. DHT percentages were used for each approach of the signalized intersections along 34th Street South rather than the existing truck percentages. Synchro signal optimization was used to determine optimized signal timing for the study intersections along 34th Street South for the 4-Lane Configuration (Build Alternative) only; the existing signal timings were used in the 6-Lane Configuration (No Build Alternative). The existing cycle lengths were maintained to allow for continued coordination along the corridor. The signalized intersection MOEs are discussed in this section.

5.2.1 Intersection Delay Analysis

Table 5.5 and **Table 5.6** shows the opening year (2020) approach and overall intersection control delay and LOS results for the 6-Lane Configuration (No Build Alternative) and 4-Lane Configuration (Build Alternative) respectively, of the signalized intersections within the study area. The delay results were extracted from Synchro and LOS thresholds were taken from the HCM 2010. Synchro delay results by movement can be found in **Appendix F**.

The results of the 6-Lane Configuration (No Build Alternative) analysis indicate that two intersections are not expected to meet acceptable FDOT LOS standards in the AM and PM peak periods. These intersections are 34th Street South/54th Avenue South and 34th Street South/22nd Avenue South. These intersections are consistent with the existing year (2018) analysis results. The PM peak period is expected to see the highest incurred delay, with the eastbound and westbound approaches experiencing the highest delays across all intersections.

The results of the 4-Lane Configuration (Build Alternative) analysis indicate that one intersection is not expected to meet acceptable FDOT LOS standards in the AM peak period and two intersections are not expected to meet acceptable FDOT LOS standards in the PM peak period. The opening year (2020) 4-Lane Configuration (Build Alternative) results show no significant worsening, and in some cases an improvement in LOS. The intersections that do not meet acceptable FDOT LOS standards remain the same as the 6-Lane Configuration (No Build Alternative).

As previously noted, a new configuration is currently being considered at 34th Street and 54th Ave S. The new configuration would potentially convert the existing southbound left turn/thru lane into a dedicated southbound left turn lane. This potential change was not included in the analysis for this report. For this report the Build configuration for the southbound approach at the 34th Street and 54th Avenue S intersection was analyzed as one left lane, one shared left-thru, and one right.

**Table 5.5. Opening Year (2020) 6-Lane Configuration (No Build Alternative)
 Intersection Delay (s/veh)**

Intersection	Intersection Approach								Overall Intersection	
	Eastbound		Westbound		Northbound		Southbound		Delay	LOS
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
AM										
34th Street S & 54th Avenue S	98.6	F	32.7	C	55.6	E	63.0	E	56.7	E
34th Street S & 46th Avenue S	55.5	E	52.2	D	0.2	A	9.1	A	8.8	A
34th Street S & 38th Avenue S	65.5	E	68.4	E	29.6	C	6.0	A	26.5	C
34th Street S & 34th Avenue S*	52.0	D	-	-	8.0	A	16.1	B	15.1	B
34th Street S & 26th Avenue S	44.0	D	81.8	F	6.5	A	14.6	B	26.0	C
34th Street S & 22nd Avenue S	78.3	E	59.6	E	73.7	E	52.1	D	64.4	E
PM										
34th Street S & 54th Avenue S	208.7	F	206.8	F	101.4	F	80.3	F	145.5	F
34th Street S & 46th Avenue S	65.1	E	56.9	E	0.1	A	0.4	A	3.8	A
34th Street S & 38th Avenue S	80.3	F	74.8	E	37.7	D	5.3	A	23.4	C
34th Street S & 34th Avenue S*	60.4	E	-	-	17.8	B	20.4	C	23.7	C
34th Street S & 26th Avenue S	52.6	D	93.7	F	3.8	A	29.5	C	29.9	C
34th Street S & 22nd Avenue S	76.1	E	89.8	F	77.1	E	56.9	E	74.4	E

*HCM 2010 results are not available for this intersection due to signal phasing scheme. Synchro analysis is reported instead.

**Table 5.6. Opening Year (2020) 4-Lane Configuration (Build Alternative)
Intersection Delay (s/veh)**

Intersection	Intersection Approach								Overall Intersection	
	Eastbound		Westbound		Northbound		Southbound		Delay	LOS
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
AM										
34th Street S & 54th Avenue S	27.0	C	57.2	E	55.2	E	51.8	D	49.7	D
34th Street S & 46th Avenue S	55.5	E	52.2	D	0.4	A	17.6	B	13.3	B
34th Street S & 38th Avenue S	67.7	E	66.8	E	46.9	D	2.4	A	32.7	C
34th Street S & 34th Avenue S*	52.2	D	-	-	7.5	A	2.6	A	7.6	A
34th Street S & 26th Avenue S	41.1	D	59.7	E	51.0	D	5.9	A	30.8	C
34th Street S & 22nd Avenue S	76.6	E	65.4	E	51.1	D	76.1	E	66.7	E
PM										
34th Street S & 54th Avenue S	84.8	F	55.7	E	74.9	E	101.6	F	80.4	F
34th Street S & 46th Avenue S	65.1	E	56.9	E	11.2	B	0.4	A	7.8	A
34th Street S & 38th Avenue S	77.3	E	79.7	E	5.3	A	4.9	A	12.7	B
34th Street S & 34th Avenue S*	55.4	E	-	-	40.1	D	9.9	A	24.0	C
34th Street S & 26th Avenue S	53.6	D	102.9	F	28.7	C	2.5	A	25.5	C
34th Street S & 22nd Avenue S	106.3	F	116.1	F	11.4	B	75.9	E	74.2	E

*HCM 2010 results are not available for this intersection due to signal phasing scheme. Synchro analysis is reported instead.

5.2.2 Intersection Queue Analysis

Table 5.7 and **Table 5.8** show the 95th percentile queue length results for the opening year (2020) 6-Lane Configuration (No Build Alternative) and 4-Lane Configuration (Build Alternative), respectively, at the signalized intersections along 34th Street South rounded to the nearest 25 ft. Synchro queue results can be found in **Appendix F**. The results of the 6-Lane Configuration (No Build Alternative) analysis indicate that the 34th Street South/54th Avenue South intersection experiences excessive queuing along the eastbound and westbound approaches. The eastbound left and westbound left and right queue lengths exceed the available turn bay storage and spill into the through lane. The 34th Street South/22nd Avenue South intersection also experiences excessive queuing on the eastbound and westbound approaches due to the through movements. These queue lengths exceed 500 ft in both AM and PM peak hours. This impacts business driveways and cross streets on the west leg and the southbound I-275 off-ramp on the east leg. In addition, the northbound and southbound left queue extends beyond the available left-turn storage bay, forcing vehicles to spill into the through lanes.

The results of the 4-Lane Configuration (Build Alternative) analysis indicate that the 34th Street South/54th Avenue South intersection experiences excessive queuing along the eastbound and westbound approaches. In the AM and PM peak period, the eastbound and westbound approaches are reduced compared to the 6-Lane Configuration (No Build Alternative), although the queues for the turn bays continue to exceed the available storage. The northbound and southbound approaches, however, show an increase in the queue length, especially for the southbound left and through movements. The 34th Street South/22nd Avenue South intersection continues to experience

excessive queuing on all approaches. It is anticipated that the north and south queue lengths at most of the study intersections will be reduced under the 4-Lane Configuration (Build Alternative).

Table 5.7. Opening Year (2020) 6-Lane Configuration (No Build Alternative) Intersection Queue Length (ft)

Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
AM												
34th Street S & 54th Avenue S	575	75	0	75	150	525	225	125	50	275	175	0
34th Street S & 46th Avenue S	150	0	0	50	0	0	25	25	25	50	200	225
34th Street S & 38th Avenue S	125	0	125	125	0	225	50	350	375	125	25	25
34th Street S & 34th Avenue S*	100	-	50	-	-	-	150	50	-	-	300	100
34th Street S & 26th Avenue S	50	0	175	150	175	800	100	50	50	400	25	25
34th Street S & 22nd Avenue S	150	550	550	275	525	500	700	325	350	325	450	500
PM												
34th Street S & 54th Avenue S	1050	200	0	850	225	1525	750	200	125	700	450	0
34th Street S & 46th Avenue S	225	0	0	50	0	0	25	0	25	0	25	25
34th Street S & 38th Avenue S	225	0	100	100	0	250	100	425	450	200	25	25
34th Street S & 34th Avenue S*	200	-	50	-	-	-	300	50	-	-	650	150
34th Street S & 26th Avenue S	25	0	200	175	175	700	75	50	50	275	525	575
34th Street S & 22nd Avenue S	200	575	575	300	1050	1025	600	475	475	300	550	600

HCM 2010 results are not available for this intersection due to signal phasing scheme. Synchro analysis is reported instead.

Table 5.8. Opening Year (2020) 4-Lane Configuration (Build Alternative) Intersection Queue Length (ft)

Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
AM												
34th Street S & 54th Avenue S	275	100	0	75	225	700	225	125	50	325	400	0
34th Street S & 46th Avenue S	150	0	0	50	0	0	25	25	0	75	375	25
34th Street S & 38th Avenue S	125	0	125	125	0	250	50	525	50	75	25	0
34th Street S & 34th Avenue S*	100	-	50	-	-	-	175	25	-	-	75	0
34th Street S & 26th Avenue S	50	0	175	150	175	525	100	500	125	225	25	0
34th Street S & 22nd Avenue S	125	550	550	300	525	525	625	350	50	300	1050	50
PM												
34th Street S & 54th Avenue S	550	275	0	350	300	800	550	200	100	875	1650	0
34th Street S & 46th Avenue S	225	0	0	50	0	0	75	350	25	25	25	0
34th Street S & 38th Avenue S	225	0	125	75	0	250	75	100	25	150	50	0
34th Street S & 34th Avenue S*	200	-	50	-	-	-	425	125	-	-	275	25
34th Street S & 26th Avenue S	25	0	200	175	175	700	75	575	125	150	25	0
34th Street S & 22nd Avenue S	250	650	650	325	1125	1100	300	125	50	250	1200	75

*HCM 2010 results are not available for this intersection due to signal phasing scheme. Synchro analysis is reported instead.

6.0 Parallel Corridor Analysis

Generalized Service Volume Tables (GSVT), found in the FDOT Quality/LOS Handbook 2013, were used to perform a parallel corridor capacity analysis. The existing year (2018) and design year (2040) volumes, the Forward Pinellas 2017 AADT counts, and TBRPM, v8.2 future year (2040) AADTs were compared to the LOS D capacities found in the GSVTs to determine if the study corridor and adjacent corridors would exceed capacity. GSVT 1 (**Table 1**) was used on corridors where AADT count data was available, while GSVT 4 (**Table 4**) was used along 34th Street South where the developed peak hour two-way DDHVs were used. In addition, GSVT 7 (**Table 7**) was used for all locations to compare the peak hour directional volumes of all facilities. **Table 6.1** provides the capacity checks for 34th Street South based on two-way and one-way volumes. The developed volumes were compared to capacities of the 6-Lane Configuration (No Build Alternative) and the 4-Lane Configuration (Build Alternative) in the existing year (2018) and design year (2040). Under both Alternatives, the 34th Street South study corridor would operate under capacity for LOS D. It should be noted that the segment between 26th Avenue South and 22nd Avenue South in the design year (2040) in the PM peak period approaches the capacity of a 4-lane facility, but does not exceed it.

Table 6.2 provides capacity checks for three nearby adjacent parallel corridors, I-275, 31st Street South, and 37th Street South. Forward Pinellas 2017 AADT counts were not available for 37th Street South, but were available in the TBRPM. In the design year (2040) 31st Street South and 37th Street South are expected to have additional capacity available for vehicles that may divert away from 34th Street South. Under its existing configuration, I-275 is not expected to have additional available capacity in the design year (2040). However, there are plans for this segment of I-275 to be widened under the lane continuity project occurring in southern Pinellas County. This project is intended to increase capacity and would therefore provide additional relief for the 34th Street South corridor, although 34th Street South is expected to accommodate the design year (2040) demand under either the build or no-build scenario. In addition, if the SMD's activity center is constructed, it is expected that 37th Street South would become a more desirable route as it would provide a connection to the western side of the center.

Table 6.1. 34th Street South Capacity Check

34th Street South Corridor Segment	AM			PM			LOS D Capacity - Peak Hour One-Way		LOS D Capacity - Peak Hour Two-Way	
	NB	SB	Total	NB	SB	Total	3 Lanes	2 Lanes	6 Lanes	4 Lanes
Existing Year (2018)										
Between 54th Avenue S and 46th Avenue S	810	645	1455	1060	1425	2485	3020	2000	5390	3580
Between 26th Avenue S and 22nd Avenue S	1080	1380	2460	1815	1315	3130				
Design Year (2040)										
Between 54th Avenue S and 46th Avenue S	900	715	1615	1175	1580	2755	3020	2000	5390	3580
Between 26th Avenue S and 22nd Avenue S	1195	1535	2730	1460	2015	3475				

Table 6.2. Adjacent Parallel Corridors Capacity Check

Parallel Corridors	AADT	DHV	LOS D Capacity - Daily Two-way	LOS D Capacity - Peak Hour One-Way
Forward Pinellas Counts (2017)				
I-275	105000	5292	121800	6500
31st Street S	10536	531	13320	675
TBRPM v8.2, Design Year (2040)				
I-275	116100	5851	121800	6500
31st Street S	9100	459	13320	675
37th Street S	10100	509	13320	675

7.0 Public Involvement and Neighborhood Outreach

On April 4, 2019 a public workshop was held at the St. Petersburg College Allstate Center on 34th Street South to provide an opportunity for citizen input on the 34th Street Lane Repurposing Project. Display boards were set up around the room showing the proposed road design as well as other information about local transit plans, complete street concepts, the Skyway Marina District Plan and the results of the 34th Street operations analysis. Staff from FDOT District 7, the City of St. Petersburg, Forward Pinellas, and HDR Inc., as well as representatives of the Skyway Marina District were available to answer questions. A presentation describing the purpose and details of the project was provided by Forward Pinellas staff.

There were 64 people in attendance and 61 of them completed a survey intended to gauge their level of support for the project and to identify their main concerns about the corridor. A summary of the survey results is provided in **Appendix I**. Regarding the proposed improvements, 54 percent supported the lane repurposing, 85 percent supported the wide sidewalks and 80 percent supported the pedestrian activated crosswalks.

Information about this project and a large aerial map of the study corridor and surrounding area was also presented at the FDOT Tampa Bay Next Workshop on October 22, 2018 at the John Hopkins Conference Center in St. Petersburg. Citizens from the area were able to provide comments on the project and leave post it notes on the aerial map indicating locations of concern within or near the study corridor.

Letters of support from City of St. Petersburg Mayor Rick Kriseman, Skyway Marina District Chairman of the Board Jack Dougherty, Eckerd College President Donald Eastman III, and PSTA Chief Executive Officer Brad Miller can also be found in **Appendix I**.

8.0 Conceptual Implementation and Funding Plan

Funding for design and construction for proposed lane elimination improvements is included in the FDOT current work program under FPID: 440246-1. The project is programmed for design in FY2020. The FPID number for resurfacing design is 440246-1-32-01. The FPID number for complete streets design is 440246-1-32-02. Additionally, the project is programmed for construction for FY2022. The FPID number for resurfacing construction is 440246-1-52-01. The FPID number for complete streets construction is 440246-1-52-02. The grand total cost for both projects is \$19,332,227 and reflects the overall cost of the resurfacing and complete streets improvements. The costs associated with the lane elimination have been factored into this estimate, and the project is fully funded.

9.0 Conclusions

It is recommended that the proposed lane repurposing (Build Alternative) is implemented. The results of the operational analysis show that the 4-Lane Configuration (Build Alternative) operates similarly to the 6-Lane Configuration (No Build Alternative), indicating that eliminating a travel lane in each direction is not expected to adversely affect the operations of 34th Street South. This is due to optimized signal timing and right-turn overlaps at the six signalized intersections under the 4-Lane Configuration (Build Alternative) that help counteract the effects of eliminating a lane. The right-turn overlaps can only be implemented under 4-Lane Configuration (Build Alternative), which allows for a right-turn bay along the northbound and southbound approaches. The 4-Lane Configuration (Build Alternative) is expected to operate at LOS E or worse at the 34th Street South/54th Avenue South and 34th Street South/22nd Avenue South intersections in the design year (2040); the 6-Lane Configuration (No Build Alternative) is also expected to operate at LOS E or worse at these same intersections. The results of the parallel corridors analysis show that nearby corridors will have additional capacity to divert traffic from 34th Street South, although 34th Street South is expected to accommodate the design year (2040) demand as a 4-lane facility.

Appendices

Appendix A

FDOT District 7 Lane Reduction Request Forms
(Initial Checklist - Form 126-A, Methodology
Checklist – Form 126-B, Initial Notice to Central
Office – Form 126-C, Final Review and Approval
Notice to Central Office – Form 126-D)

34th Street Lane Elimination Checklist Meeting

December 6, 2018

FDOT District 7, Tampa

Attendees:

Cheryl Stacks, St. Petersburg Transportation and Parking (via phone)

Evan Mory, St Petersburg Transportation and Parking (via phone)

Sandra Gonzalez, FDOT

Liz Winters, FDOT

Chad Stewart, FDOT

Brian Hunter, FDOT

Ken Spitz, FDOT

Alex Henry, FDOT

Peter Hsu, FDOT

Tim Folsom, Atkins

Steve Schukraft, HDR

Bryan St. George, HDR

Heather Hubbard, HDR

Sarah Caper, Forward Pinellas

Al Bartolotta, Forward Pinellas

The purpose of the meeting was to address the lane elimination study requirements identified on FDOT's form 126. This meeting was one of the requirements. The checklist items on the forms (126-A, 126-B and 126-C) must be completed in order for FDOT to initiate the process of re-striping the lanes as part of the scheduled re-surfacing project.

Al brought up the Federal Highway Administration (FHWA) led road safety evaluation conducted in 2012. It involved staff from FDOT's safety office as well as the City of St. Petersburg, FHWA and the MPO. The section of the corridor included in the study extended from 54th Avenue South to 38th Avenue North. Alex said the recommendations from the study would be considered in the resurfacing project. He added that it is a standard practice to review any previous studies conducted within the limits of a project area. Al mentioned that the 2012 study also prompted the idea of considering a road diet south of 22nd Avenue South.

Al provided the group with some background information about the section of 34th Street South that traverses the Skyway Marina District and why lane elimination was desired there as well as the long term vision for the corridor. He summarized the most recent stakeholder meeting held in St. Petersburg on November 28. He mentioned one of the outcomes of the meeting was the recommendation of a third re-design option, four lanes with a widened center median. This presents a challenge given that a preferred option must be identified in the 126 forms. It was assumed that option would be the six lane configuration with the outside lanes being re-

purposed for bus/business access (BAT) lanes. The operational feasibility analysis conducted by HDR only evaluated this design scenario and a “no-build” scenario.

FDOT staff indicated that the four lane option is not feasible to accomplish as part of the resurfacing project as it would require re-locating curbs, an expense that is outside the budget limits of the project. However, they did agree it was a viable option to consider as a future improvement. [This topic was discussed again later in the meeting]

Steve pointed out the Skyway community’s interest in creating a main street and stated there is some work to do to reach a consensus on the re-design.

The group reviewed the project schedule. Cheryl confirmed the community workshop would be in late January or early February. FDOT staff needs three to four weeks to review the final lane elimination report. They would need to advertise for the resurfacing design work by early February next year.

In response to comments about sidewalk needs along the corridor, Peter explained that FDOT is currently in “backup mode” in terms of responding to all the requests from local governments for safety improvements.

Cheryl talked about opportunities to elongate existing medians. She identified locations where medians could be modified to provide refuge for crossing pedestrians while not impacting left turn movements. She mentioned the 50th Avenue South intersection as one location where the median could be lengthened.

Peter asked whether developers could pay for any pedestrian crossings. Cheryl responded that the City is trying to provide incentives for development projects and has committed \$1 million in local funds for improvements on the corridor. These include trail and signal improvements.

Evan talked about the right-of-way conditions on the corridor. From 38th Avenue South to 30th Avenue South there is 200 feet of right-of-way. North and south of that there is 100 feet of right-of-way and some right turn lanes are on private property. Liz confirmed that no right-of-way would be purchased for the resurfacing project. Sandra added that FDOT can only install wide sidewalks where the needed right-of-way is available. It was mentioned that the design work will be ready in December, 2019.

Regarding the community workshop, Cheryl said they will need to give the public a way to visualize what the project will look like. There was discussion about whether to show the four lane design option. Ken expressed concern about showing the public something that wasn’t going to happen as a result of the resurfacing project. Tim said that it should only be shown conceptually as a potential long term option. In response to showing the potential costs of this option, Alex indicated they could look at FDOT’s long range estimates (LRE) to provide an idea of the costs involved.

There was some discussion about addressing hurricane evacuation impacts. Heather indicated the operations analysis allowed for the BAT lanes to be used for through traffic. Steve stated that the BAT lanes should be acceptable for evacuation use.

Evan asked if FDOT could provide an answer to the third option with the four lanes and widened median. He conveyed to the group that he doesn't want to string the idea along if it's not going to happen. Chad replied that he isn't comfortable investigating that option. Brian added that he wants to reserve the BAT lanes for future BRT service.

In response to a question about when the BRT service might come to 34th Street, Sarah said it depends on when funding would be available. She added that, in the interim or even without BRT, PSTA would pursue express service that would be similar to BRT in terms of headway frequency.

Regarding the second option with the BAT lanes, it was agreed that the lanes could be narrowed to 11 feet. This would allow for the medians to be widened in the future.

There was discussion about landscaping. FDOT staff indicated it would have to be a separate project.

Al posed the question of what could be done to create a main street environment aside from narrowing lanes and installing landscaping. Cheryl responded she would like to see pedestrian crosswalks every four to six blocks. One location for a crosswalk, she noted, would be the 50th Avenue South intersection. Chad replied that they would need to see analysis on the crosswalks. Evan noted that he recently observed that count equipment had been installed to collect count data at the intersections. No one knew who the equipment belonged to.

To install the crosswalks, Peter said they need pedestrian counts. He also said that a full signal or a HAWK signal are the only options for traffic control on six lane State roads. Cheryl explained the City has had a higher rate of success with the rapid flashing beacons (RRFB) as opposed to the HAWK signals. She also contended that the HAWK signals don't work well for bikes. Sandra responded that FDOT is seeing higher compliance rates with the HAWK signals, as compared to RRFBs, in Tampa.

Peter said his office will work with Tallahassee on the question as to whether RRFBs can be considered.

It was agreed the stakeholder group would touch base after the holidays regarding the workshop logistics. In addition, the City and Forward Pinellas staff would follow up with FDOT in a couple weeks regarding the graphic renderings and associated materials.

Methodology Checklist

This is an illustrative list of items that the District Review Team may require the Applicant to address in a Concept Report, as needed:

- | | | | |
|-------------------------------------|--|-------------------------------------|--|
| <input type="checkbox"/> | Conceptual design plans (including proposed typical sections) that meet FDOT design standards for all transportation modes | <input checked="" type="checkbox"/> | Crash data summary and analysis, which may include identification of high-crash locations (by crash type) and locations on FDOT's 5% lists (i.e., the lists of the 5% of segments and intersections with the highest number of crashes) and estimation of the potential increase or decrease in crashes using Crash Modification Factors (CMFs) from the Highway Safety Manual, CMFs from the FHWA CMF Clearinghouse website, or other appropriate methodologies |
| <input type="checkbox"/> | Need for any design variations or exceptions | | |
| <input type="checkbox"/> | Size of impact area | | |
| <input checked="" type="checkbox"/> | Near- and long-range traffic forecasts with and without the proposed (with changes in travel patterns clearly shown) | | |
| <input checked="" type="checkbox"/> | Near- and long-range level of service (LOS) and queuing analysis for intersections and segments in the impact area under the build and no-build scenarios <ul style="list-style-type: none"> • LOS analyses may be daily or peak hour analyses at the District Review Team's discretion. • The District Review Team and the Applicant should agree on an analysis methodology. | <input checked="" type="checkbox"/> | Impact on trucks and designated truck routes (including appropriateness of turn radii and lane widths and possible relocation of designated truck routes) |
| | | <input checked="" type="checkbox"/> | Impact on evacuations routes and emergency response |
| | | <input type="checkbox"/> | Conceptual funding plan (includes cost estimates and funding sources) |
| | | <input type="checkbox"/> | Conceptual implementation plan (including an implementation schedule and a list of the commitments that the applicant will make in support of the lane elimination project) |
| <input checked="" type="checkbox"/> | Mitigation to address significant and adverse LOS impacts on State roads and the regional transportation system resulting from the lane elimination | <input type="checkbox"/> | Existing posted speed and desired posted speed after the lane elimination |
| <input checked="" type="checkbox"/> | Impact on pedestrian and bicycle infrastructure (e.g., sidewalks, bicycle lanes, and multi-use paths) and connectivity | <input type="checkbox"/> | The need to add, remove, or modify traffic signals |
| <input checked="" type="checkbox"/> | Impact on transit routes and transit stops locations (including appropriateness of turn radii and lane widths) | <input type="checkbox"/> | Impacts on school crossing locations and/or midblock pedestrian crossing locations |
| <input checked="" type="checkbox"/> | Impact on parking supply | <input type="checkbox"/> | Case-specific special considerations to be determined (e.g., railroad crossing improvements) |

Lane Elimination
Initial Notice to Central Office

To: Systems Management Administrator From: District Lane Elimination Coordinator Date:

The intent of this message is to inform Central Office that District 7 has received a request for lane elimination on a State Highway.

PROJECT INFORMATION

State Road: 34th Street South/US Highway 19

Project Location: 34th St. S., 22nd Ave S. to 54th Ave S.

Roadway ID:

Context Classification: C3C - Suburban Commercial (planning for transition to urban general or urban center)

Project Limits (MP): From 22nd Ave S. to 54th Ave S.

Applicant: Forward Pinellas

Project Description: Elimination of outside general purpose lanes, re-purposing them to bus/business access (BAT) lanes

Proposed Change in Cross Section: From 6 gen. purpose lanes to 4 gen. purpose lanes

SIS NHS

ACTIONS AND OUTCOMES TO DATE

District staff participated in a meeting with Forward Pinellas and City of St. Petersburg representatives on 12/6/18 to formally commence the lane elimination review process. At that meeting, District staff provided an overview of the lane elimination review process and the Applicant shared initial information about the lane elimination project. The District determined the specific review process and analysis methodology for the lane elimination request.

NEXT STEPS

The Applicant will submit a Draft Concept Report (containing a proposed typical section) as the lane elimination review process proceeds. If the District reviewers find the Draft Concept Report acceptable, the District will recommend that the Applicant submit a formal Application Package (including the Final Concept Report). If the Application Package is complete and acceptable, the District will approve the lane elimination request with the concurrence of Central Office.

Concurrences:

District Planning and Environmental Administrator Date:

District Design Engineer Date:

District Traffic Operations Engineer Date:

Lane Elimination Final Review and Approval Notice to Central Office

The intent of this message is to inform Central Office that District 7 has received a request for lane elimination on a State Highway.

PROJECT INFORMATION

State Road: US 19

Project Location: Pinellas County

Project Limits (MP): From: 54th Avenue South to 22nd Avenue South

Applicant: Forward Pinellas

Project Description: Repurposing the segment's existing outside lanes to bus-only (BAT) lanes
The FDM Context Classification is C3C - Suburban Commercial.

Project Purpose: To support the delivery of enhanced transit service along the corridor.

Proposed Change in Cross Section: From 6 lanes to 4 lanes

SIS NHS

District Approvals:

District Design Engineer

Date: _____

District Traffic Operations Engineer

Date: _____

Concurrence:

Chief Planner

Date: _____

Final Approval:

Chief Engineer

Date: _____

Appendix B
Skyway Marina District Plan

INTRODUCTION

This Plan represents a collective vision for the Skyway Marina District, located on 34th Street South between 30th and 54th Avenues, that will capitalize on its strengths and lead the City to have a South St. Petersburg mixed use center. The community has had a longtime desire to have an activity center in the far southern Pinellas County area as their first option for shopping and dining.

This is an ambitious plan made possible by a high level of agreement behind its recommendations. The dedication of the Steering Committee to meet throughout the planning process was the driving force behind shaping a collective vision. The open nature of the Steering Committee allowed everyone to participate and provide input on the future of the corridor. More than 50 persons representing various groups regularly attended meetings and further reinforced the importance of the Skyway Marina District Plan.

The Skyway Marina District is in a unique position to capitalize on the waterfront, transportation access, tourism and academic institutions - assets rarely found together in the Tampa Bay Region.

The plan has five strategies: Transportation, Streetscape, Land Use & Site Design, Economic Development and Marketing and Promotions. The purpose of the plan is to:

- 1) Improve the retail experience,**
- 2) Create more redevelopment opportunities; and**
- 3) Increase the profits of businesses.**



THE VISION

Envision the Skyway Marina District as the primary activity center in beautiful southern St. Petersburg with a mix of shops, restaurants, offices, residences and neighborhood service businesses. The District is home to a variety of sit down restaurants, apparel shops, home and outdoor stores, and boutiques. Tourists staying on South Pinellas beaches frequently visit the District which is minutes away. Trolley service runs regularly, better connecting the southern St. Petersburg area. Enhanced pedestrian and bike connections provide safe alternative access for surrounding neighborhoods. The District’s public art, interspersed throughout the corridor, provides a unique and memorable enhancement to the streetscape.

New residents within the District enjoy walking to shop, dine, and enjoy outdoor amenities to go with their breathtaking views of the water, downtown St. Petersburg and Sunshine Skyway Bridge. Additional offices provide a daytime vibrancy to the area and additional employment opportunities for the community. New development is environmentally sensitive and sustainable. The image and marketing of the District is guided by a strong business association that enhances the business climate.

The following is an overall vision statement based on the each strategy’s vision statement adopted by the Steering Committee:

The District will have various mobility options and a more attractive appearance. Unique businesses in the District along with mixed use vertical development, and marine and marine-related recreational businesses will be prominent. A strong business organization marketing the District, promoting a positive brand and creating a better business atmosphere will improve economic growth.



Strategy Vision Statements

Transportation

The District should embrace all viable mobility options that are reliable, affordable and safe.

Connectivity and walkability should be a high priority and an important consideration throughout the District.

Streetscape

An attractive appearance should be created within the District that establishes a cohesive image, unique identity and safe environment, and includes public art and Florida friendly landscaping.

Land Use & Site Design

Mixed use vertical development with ground floor retail and integrated parking should be encouraged. Unique businesses and design are desired.

Sites should provide multi-modal amenities, off-site connectivity and native landscaping with signage reflecting the character of the district.

Best environmental practices should be encouraged in the construction of all development.

Economic Development

Additional retail, restaurants and offices are desired in the District to provide additional shopping, dining and employment.

The location of the District supports a special emphasis on marine related development and recreational activities.

Marketing & Promotions

A positive and unified brand should be created for the District that is easily identifiable and marketed.

A strong business organization is desired to focus on activities that improve the business climate and increase customers patronizing the District.



Appendix C
Traffic Count Data

SUMMARY OF TURNING MOVEMENT COUNTS

General Information	Intersection Diagram
Analyst/Observer: Ritter / Stone	
Agency or Company: City of St. Petersburg	
Date Performed: Wednesday, April 4, 2018	
Analysis Time Period: 7AM - 9AM and 4PM - 6PM	
Site Information	Street Name 54th Avenue S
City: St. Petersburg	Street Name 34th Street
County: Pinellas	
Weather: Clear and warm	
Remarks:	

VEHICLE MOVEMENTS																		
Time Begins	Northbound				Southbound				Eastbound				Westbound				Total All	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
7:00 AM	13	28	5	46	72	20	21	113	29	24	30	83	14	43	81	138	380	
7:15 AM	26	25	4	55	93	17	33	143	24	47	34	105	15	39	93	147	450	
7:30 AM	29	45	6	80	73	24	32	129	43	36	21	100	16	45	107	168	477	
7:45 AM	29	59	9	97	96	28	38	162	45	40	34	119	11	89	130	230	608	
TOTAL	97	157	24	278	334	89	124	547	141	147	119	407	56	216	411	683	1915	
8:00 AM	41	41	8	90	78	23	52	153	50	40	17	107	10	78	140	228	578	
8:15 AM	34	52	5	91	80	29	48	157	61	47	33	141	10	82	124	216	605	
8:30 AM	24	36	11	71	93	26	65	184	48	36	28	112	6	67	116	189	556	
8:45 AM	34	37	6	77	112	23	59	194	67	34	30	131	12	71	99	182	584	
TOTAL	133	166	30	329	363	101	224	688	226	157	108	491	38	298	479	815	2323	
4:00 PM	51	29	12	92	201	44	74	319	54	69	62	185	13	75	126	214	810	
4:15 PM	25	24	6	55	154	55	81	290	83	57	63	203	9	63	133	205	753	
4:30 PM	35	39	10	84	184	65	73	322	77	72	55	204	16	64	119	199	809	
4:45 PM	42	37	11	90	163	81	70	314	64	69	74	207	11	98	125	234	845	
TOTAL	153	129	39	321	702	245	298	1245	278	267	254	799	49	300	503	852	3217	
5:00 PM	51	42	8	101	271	90	84	445	75	72	67	214	46	71	112	229	989	
5:15 PM	42	24	16	82	203	70	71	344	57	98	54	209	63	79	131	273	908	
5:30 PM	57	40	7	104	217	76	72	365	64	69	46	179	66	79	110	255	903	
5:45 PM	55	30	15	100	216	81	82	379	56	71	81	208	39	93	144	276	963	
TOTAL	205	136	46	387	907	317	309	1533	252	310	248	810	214	322	497	1033	3763	
TOTAL	588	588	139	1315	2306	752	955	4013	897	881	729	2507	357	1136	1890	3383	11218	

Source: Revised from Exhibit E-7 of the ITE Manual of Transportation Engineering Studies, 2nd Edition

State of Florida Department of Transportation

SUMMARY OF TURNING MOVEMENT COUNTS

General Information	Intersection Diagram
Analyst/Observer: Ritter / Stone	
Agency or Company: City of St. Petersburg	
Date Performed: Wednesday, April 11, 2018	
Analysis Time Period: 7AM - 9AM and 4PM - 6PM	
Site Information	<p>Street Name 46th Avenue S</p>
City: St. Petersburg	<p>Street Name 34th Street</p>
County: Pinellas	
Weather: Clear and warm	
Remarks:	

VEHICLE MOVEMENTS																	
Time Begins	Northbound				Southbound				Eastbound				Westbound				Total All
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	12	69	2	83	10	94	5	109	6	1	5	12	2	0	1	3	207
7:15 AM	10	92	8	110	9	118	1	128	6	0	9	15	2	0	1	3	256
7:30 AM	5	125	5	135	7	125	4	136	10	0	3	13	3	1	1	5	289
7:45 AM	14	132	7	153	7	138	9	154	13	1	11	25	1	0	0	1	333
TOTAL	41	418	22	481	33	475	19	527	35	2	28	65	8	1	3	12	1085
8:00 AM	19	132	7	158	11	146	2	159	12	1	8	21	3	1	0	4	342
8:15 AM	22	140	10	172	12	152	8	172	15	0	6	21	3	0	0	3	368
8:30 AM	18	117	3	138	5	148	8	161	16	2	4	22	1	1	1	3	324
8:45 AM	11	126	8	145	14	162	5	181	10	2	3	15	3	1	0	4	345
TOTAL	70	515	28	613	42	608	23	673	53	5	21	79	10	3	1	14	1379
4:00 PM	17	141	2	160	13	284	9	306	26	3	6	35	4	0	0	4	505
4:15 PM	22	145	3	170	10	311	8	329	14	2	9	25	6	1	2	9	533
4:30 PM	11	142	4	157	10	367	10	387	16	3	9	28	3	1	2	6	578
4:45 PM	14	139	2	155	11	434	4	449	22	0	11	33	2	0	1	3	640
TOTAL	64	567	11	642	44	1396	31	1471	78	8	35	121	15	2	5	22	2256
5:00 PM	18	142	1	161	6	355	2	363	13	0	8	21	6	1	0	7	552
5:15 PM	13	157	1	171	8	453	10	471	20	1	11	32	0	0	2	2	676
5:30 PM	12	129	1	142	9	308	10	327	14	0	10	24	3	0	1	4	497
5:45 PM	13	125	5	143	5	392	5	402	16	0	13	29	7	0	0	7	581
TOTAL	56	553	8	617	28	1508	27	1563	63	1	42	106	16	1	3	20	2306
TOTAL	231	2053	69	2353	147	3987	100	4234	229	16	126	371	49	7	12	68	7026

Source: Revised from Exhibit E-7 of the ITE Manual of Transportation Engineering Studies, 2nd Edition

State of Florida Department of Transportation

SUMMARY OF TURNING MOVEMENT COUNTS

General Information	Intersection Diagram
Analyst/Observer: Ritter / Stone	
Agency or Company: City of St. Petersburg	
Date Performed: Thursday, April 5, 2018	
Analysis Time Period: 7AM - 9AM and 4PM - 6PM	
Site Information	Street Name 38th Avenue S
City: St. Petersburg	Street Name 34th Street
County: Pinellas	
Weather: Clear and warm	
Remarks:	

VEHICLE MOVEMENTS

Time Begins	Northbound				Southbound				Eastbound				Westbound				Total All
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	7	123	3	133	9	99	4	112	15	4	2	21	6	4	15	25	291
7:15 AM	5	131	2	138	15	93	4	112	20	10	7	37	8	7	23	38	325
7:30 AM	5	172	7	184	17	100	9	126	15	10	3	28	7	2	15	24	362
7:45 AM	1	270	4	275	26	151	7	184	17	13	3	33	11	5	25	41	533
TOTAL	18	696	16	730	67	443	24	534	67	37	15	119	32	18	78	128	1511
8:00 AM	1	236	2	239	16	139	14	169	12	15	3	30	12	13	36	61	499
8:15 AM	6	188	5	199	16	168	13	197	11	5	6	22	19	14	18	51	469
8:30 AM	3	149	10	162	18	181	11	210	17	9	1	27	17	4	25	46	445
8:45 AM	4	142	4	150	15	204	17	236	17	11	5	33	18	7	21	46	465
TOTAL	14	715	21	750	65	692	55	812	57	40	15	112	66	38	100	204	1878
4:00 PM	12	188	12	212	43	264	19	326	20	12	4	36	15	13	17	45	619
4:15 PM	7	170	11	188	27	238	21	286	17	12	7	36	12	15	9	36	546
4:30 PM	4	146	8	158	47	399	20	466	22	11	7	40	11	9	8	28	692
4:45 PM	5	182	11	198	40	280	23	343	20	12	2	34	17	12	14	43	618
TOTAL	28	686	42	756	157	1181	83	1421	79	47	20	146	55	49	48	152	2475
5:00 PM	8	184	10	202	41	431	18	490	20	7	6	33	10	13	10	33	758
5:15 PM	6	189	9	204	18	324	20	362	31	14	12	57	6	17	18	41	664
5:30 PM	3	167	6	176	36	534	26	596	22	7	3	32	14	23	14	51	855
5:45 PM	11	167	17	195	25	371	16	412	18	17	2	37	10	4	14	28	672
TOTAL	28	707	42	777	120	1660	80	1860	91	45	23	159	40	57	56	153	2949
TOTAL	88	2804	121	3013	409	3976	242	4627	294	169	73	536	193	162	282	637	8813

Source: Revised from Exhibit E-7 of the ITE Manual of Transportation Engineering Studies, 2nd Edition

State of Florida Department of Transportation

SUMMARY OF TURNING MOVEMENT COUNTS

General Information	Intersection Diagram
Analyst/Observer: <u>Ritter / Stone</u>	
Agency or Company: <u>City of St. Petersburg</u>	
Date Performed: <u>Tuesday, April 10, 2018</u>	
Analysis Time Period: <u>7AM - 9AM and 4PM - 6PM</u>	
Site Information	
City: <u>St. Petersburg</u>	
County: <u>Pinellas</u>	
Weather: <u>Clear and warm</u>	
Remarks: <u>No NB R Turns, No SB L Turns, No EB Thru, No WB vehicles</u>	

VEHICLE MOVEMENTS

Time Begins	Northbound				Southbound				Eastbound				Westbound				Total All
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	8	123		131		172	18	190	17		0	17					338
7:15 AM	16	131		147		291	20	311	7		1	8					466
7:30 AM	7	172		179		281	22	303	12		1	13					495
7:45 AM	13	270		283		384	27	411	13		0	13					707
TOTAL	44	696		740		1128	87	1215	49		2	51					2006
8:00 AM	17	236		253		333	28	361	16		3	19					633
8:15 AM	25	188		213		127	26	153	31		5	36					402
8:30 AM	18	149		167		200	25	225	23		7	30					422
8:45 AM	17	142		159		510	36	546	25		2	27					732
TOTAL	77	715		792		1170	115	1285	95		17	112					2189
4:00 PM	33	188		221		624	55	679	61		12	73					973
4:15 PM	38	170		208		367	58	425	30		9	39					672
4:30 PM	29	146		175		342	50	392	48		11	59					626
4:45 PM	48	182		230		379	52	431	58		15	73					734
TOTAL	148	686		834		1712	215	1927	197		47	244					3005
5:00 PM	34	184		218		388	68	456	58		16	74					748
5:15 PM	39	189		228		458	71	529	46		12	58					815
5:30 PM	53	167		220		399	66	465	59		6	65					750
5:45 PM	42	167		209		446	81	527	66		9	75					811
TOTAL	168	707		875		1691	286	1977	229		43	272					3124
TOTAL	437	2804		3241		5701	703	6404	570		109	679					10324

Source: Revised from Exhibit E-7 of the ITE Manual of Transportation Engineering Studies, 2nd Edition

State of Florida Department of Transportation

SUMMARY OF TURNING MOVEMENT COUNTS

General Information	Intersection Diagram
Analyst/Observer: <u>Ritter / Stone</u>	
Agency or Company: <u>City of St. Petersburg</u>	
Date Performed: <u>Tuesday, April 10, 2018</u>	
Analysis Time Period: <u>7AM - 9AM and 4PM - 6PM</u>	
Site Information	Street Name <u>26th Avenue S</u>
City: <u>St. Petersburg</u>	Street Name <u>34th Street</u>
County: <u>Pinellas</u>	
Weather: <u>Clear and warm</u>	
Remarks: <div style="background-color: #f4a460; height: 20px; width: 100%;"></div>	

VEHICLE MOVEMENTS																		
Time Begins	Northbound				Southbound				Eastbound				Westbound				Total All	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
7:00 AM	3	138	5	146	49	172	3	224	1	6	1	8	10	11	71	92	470	
7:15 AM	4	149	5	158	41	291	2	334	1	14	8	23	10	10	84	104	619	
7:30 AM	4	162	7	173	47	281	3	331	5	15	8	28	13	12	76	101	633	
7:45 AM	6	186	3	195	53	384	5	442	2	11	3	16	17	13	97	127	780	
TOTAL	17	635	20	672	190	1128	13	1331	9	46	20	75	50	46	328	424	2502	
8:00 AM	3	183	7	193	36	333	3	372	0	15	3	18	23	30	98	151	734	
8:15 AM	7	173	15	195	60	127	1	188	0	23	3	26	20	34	71	125	534	
8:30 AM	9	181	8	198	50	200	6	256	0	19	3	22	24	22	69	115	591	
8:45 AM	9	172	6	187	92	510	7	609	2	13	3	18	31	36	107	174	988	
TOTAL	28	709	36	773	238	1170	17	1425	2	70	12	84	98	122	345	565	2847	
4:00 PM	8	237	16	261	77	624	4	705	6	19	4	29	21	16	56	93	1088	
4:15 PM	6	238	21	265	50	367	7	424	5	21	5	31	15	16	47	78	798	
4:30 PM	8	185	18	211	83	342	7	432	6	24	4	34	20	17	66	103	780	
4:45 PM	7	233	19	259	62	379	4	445	9	17	7	33	14	15	37	66	803	
TOTAL	29	893	74	996	272	1712	22	2006	26	81	20	127	70	64	206	340	3469	
5:00 PM	5	256	22	283	46	388	6	440	5	13	20	38	15	25	58	98	859	
5:15 PM	7	215	26	248	55	458	9	522	7	18	7	32	20	19	57	96	898	
5:30 PM	5	183	26	214	63	399	8	470	3	21	6	30	24	22	64	110	824	
5:45 PM	5	184	20	209	46	446	9	501	2	29	3	34	21	30	62	113	857	
TOTAL	22	838	94	954	210	1691	32	1933	17	81	36	134	80	96	241	417	3438	
TOTAL	96	3075	224	3395	910	5701	84	6695	54	278	88	420	298	328	1120	1746	12256	

Source: Revised from Exhibit E-7 of the ITE Manual of Transportation Engineering Studies, 2nd Edition

State of Florida Department of Transportation

SUMMARY OF TURNING MOVEMENT COUNTS

General Information	Intersection Diagram
Analyst/Observer: Ritter / Stone	
Agency or Company: City of St. Petersburg	
Date Performed: Tuesday, April 3, 2018	
Analysis Time Period: 7AM - 9AM and 4PM - 6PM	
Site Information	Street Name 22nd Avenue S
City: St. Petersburg	Street Name 34th Street
County: Pinellas	
Weather: Clear and warm	
Remarks:	

VEHICLE MOVEMENTS

Time Begins	Northbound				Southbound				Eastbound				Westbound				Total All
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	43	115	31	189	25	121	4	150	15	123	18	156	56	75	39	170	665
7:15 AM	29	140	29	198	22	156	5	183	16	140	19	175	78	95	39	212	768
7:30 AM	38	168	45	251	22	138	16	176	6	126	21	153	89	115	39	243	823
7:45 AM	56	188	44	288	35	228	19	282	17	131	33	181	101	98	42	241	992
TOTAL	166	611	149	926	104	643	44	791	54	520	91	665	324	383	159	866	3248
8:00 AM	59	167	45	271	32	243	16	291	15	141	30	186	83	116	47	246	994
8:15 AM	60	188	43	291	59	357	9	425	19	159	22	200	84	136	65	285	1201
8:30 AM	39	164	43	246	45	267	14	326	20	144	18	182	85	148	37	270	1024
8:45 AM	52	155	37	244	31	198	20	249	11	164	21	196	75	138	36	249	938
TOTAL	210	674	168	1052	167	1065	59	1291	65	608	91	764	327	538	185	1050	4157
4:00 PM	61	177	55	293	45	273	20	338	19	143	34	196	45	129	48	222	1049
4:15 PM	52	198	60	310	30	269	30	329	29	125	31	185	68	129	35	232	1056
4:30 PM	52	167	77	296	25	287	10	322	32	195	32	259	53	159	51	263	1140
4:45 PM	59	175	67	301	44	258	24	326	19	106	36	161	64	144	44	252	1040
TOTAL	224	717	259	1200	144	1087	84	1315	99	569	133	801	230	561	178	969	4285
5:00 PM	49	196	73	318	40	267	10	317	22	134	25	181	63	189	53	305	1121
5:15 PM	64	201	90	355	36	371	21	428	29	173	23	225	75	157	41	273	1281
5:30 PM	51	182	94	327	34	274	28	336	25	144	36	205	73	165	34	272	1140
5:45 PM	66	151	62	279	27	221	25	273	18	138	35	191	63	136	47	246	989
TOTAL	230	730	319	1279	137	1133	84	1354	94	589	119	802	274	647	175	1096	4531
TOTAL	830	2732	895	4457	552	3928	271	4751	312	2286	434	3032	1155	2129	697	3981	16221

Source: Revised from Exhibit E-7 of the ITE Manual of Transportation Engineering Studies, 2nd Edition

Existing Year (2018) AM Volume Calculations

Intersection	Side of Intersection	Direction of Travel	Seasonal Factor (SF)	2018 AADT	k-design	d-design	2018 DDHV	Raw 2018*SF U	Raw 2018*SF L	Raw 2018*SF T	Raw 2018*SF R	Raw 2018*SF Total	U%	L%	T%	R%	Design 2018 U
34th Street S/54th Avenue S AM	W	EB	0.93	17000	0.090	44.0%	675	0	210	146	100	457	0.0%	46.0%	32.0%	22.0%	0
	W	WB	0.93		0.090	56.0%	855	0	124	277	208	609					0
	E	EB	0.93	23700	0.090	44.0%	940	0	28	146	338	512					0
	E	WB	0.93		0.090	56.0%	1195	0	35	277	445	758	0.0%	4.7%	36.6%	58.8%	0
	S	NB	0.93	11200	0.090	56.0%	565	0	124	154	28	306	0.0%	40.4%	50.5%	9.1%	0
	S	SB	0.93		0.090	44.0%	445	0	100	94	35	230					0
	N	NB	0.93	26500	0.090	56.0%	1335	0	210	154	445	810					0
N	SB	0.93		0.090	44.0%	1050	0	338	94	208	640	0.0%	52.8%	14.7%	32.6%	0	
34th Street S/46th Avenue S AM	W	EB	0.94	2000	0.090	44.0%	80	0	50	5	20	74	0.0%	67.1%	6.3%	26.6%	0
	W	WB	0.94		0.090	56.0%	100	0	66	3	22	90					0
	E	EB	0.94	600	0.090	56.0%	30	0	26	5	39	71					0
	E	WB	0.94		0.090	44.0%	25	0	9	3	1	13	0.0%	71.4%	21.4%	7.1%	0
	S	NB	0.94	22800	0.090	44.0%	905	0	66	484	26	576	0.0%	11.4%	84.0%	4.6%	0
	S	SB	0.94		0.090	56.0%	1150	0	20	572	9	601					0
	N	NB	0.94	22800	0.090	44.0%	905	0	50	484	1	535					0
N	SB	0.94		0.090	56.0%	1150	0	39	572	22	633	0.0%	6.2%	90.3%	3.4%	0	
34th Street S/38th Avenue S AM	W	EB	0.93	3300	0.090	56.0%	165	0	53	37	14	104	0.0%	50.9%	35.7%	13.4%	0
	W	WB	0.93		0.090	44.0%	130	0	13	35	51	100					0
	E	EB	0.93	3700	0.090	44.0%	145	0	20	37	60	117					0
	E	WB	0.93		0.090	56.0%	185	0	61	35	93	190	0.0%	32.4%	18.6%	49.0%	0
	S	NB	0.93	25800	0.090	44.0%	1020	0	13	665	20	698	0.0%	1.9%	95.3%	2.8%	0
	S	SB	0.93		0.090	56.0%	1300	0	14	644	61	719					0
	N	NB	0.93	28000	0.090	56.0%	1410	0	53	665	93	811					0
N	SB	0.93		0.090	44.0%	1110	0	60	644	51	755	0.0%	8.0%	85.2%	6.8%	0	
34th Street S/Walmart Driveway AM	W	EB	1.03	8300	0.090	44.0%	330	0	98	0	18	115	0.0%	84.8%	0.0%	15.2%	0
	W	WB	1.03		0.090	56.0%	420	0	79	0	118	198					0
	E	EB	1.03	0	0.090	44.0%	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%	0
	E	WB	1.03		0.090	56.0%	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%	0
	S	NB	1.03	29900	0.090	44.0%	1185	0	79	736	0	816	0.0%	9.7%	90.3%	0.0%	0
	S	SB	1.03		0.090	56.0%	1505	0	18	1205	0	1223					0
	N	NB	1.03	33300	0.090	44.0%	1320	0	98	736	0	834					0
N	SB	1.03		0.090	56.0%	1680	0	0	1205	118	1324	0.0%	0.0%	91.1%	8.9%	0	
34th Street S/26th Avenue S AM	W	EB	0.94	3000	0.090	44.0%	120	0	2	66	11	79	0.0%	2.4%	83.3%	14.3%	0
	W	WB	0.94		0.090	56.0%	150	0	26	115	16	157					0
	E	EB	0.94	8400	0.090	44.0%	335	0	34	66	224	323					0
	E	WB	0.94		0.090	56.0%	425	0	92	115	324	531	0.0%	17.3%	21.6%	61.1%	0
	S	NB	0.94	28000	0.090	44.0%	1110	0	26	666	34	727	0.0%	3.6%	91.7%	4.7%	0
	S	SB	0.94		0.090	56.0%	1410	0	11	1100	92	1203					0
	N	NB	0.94	31600	0.090	44.0%	1250	0	2	666	324	993					0
N	SB	0.94		0.090	56.0%	1595	0	224	1100	16	1340	0.0%	16.7%	82.1%	1.2%	0	
34th Street S/22nd Avenue S AM	W	EB	0.93	22500	0.090	44.0%	890	0	60	565	85	711	0.0%	8.5%	79.6%	11.9%	0
	W	WB	0.93		0.090	56.0%	1135	0	195	500	55	751					0
	E	EB	0.93	22100	0.090	44.0%	875	0	156	565	155	877					0
	E	WB	0.93		0.090	56.0%	1115	0	304	500	172	977	0.0%	31.1%	51.2%	17.6%	0
	S	NB	0.93	28000	0.090	44.0%	1110	0	195	627	156	978	0.0%	20.0%	64.1%	16.0%	0
	S	SB	0.93		0.090	56.0%	1410	0	85	990	304	1379					0
	N	NB	0.93	24300	0.090	44.0%	960	0	60	627	172	859					0
N	SB	0.93		0.090	56.0%	1225	0	155	990	55	1201	0.0%	12.9%	82.5%	4.6%	0	

Existing Year (2018) AM Volume Calculations

Intersection	Side of Intersection	Direction of Travel	Design 2018 L	Design 2018 T	Design 2018 R	Balanced Design 2018 Total	Rounded Adjusted Design 2018 U	Rounded Adjusted Design 2018 L	Rounded Adjusted Design 2018 T	Rounded Adjusted Design 2018 R	Rounded Adjusted Design 2018 Total	U%	L%	T%	R%
34th Street S/54th Avenue S AM	W	EB	311	216	148	675	0	210	170	100	480	0.0%	43.8%	35.4%	20.8%
	W	WB	228	437	342	1007	0	125	275	210	610				
	E	EB	52	216	554	821	0	30	170	340	540				
	E	WB	56	437	702	1195	0	35	275	445	755	0.0%	4.6%	36.4%	58.9%
	S	NB	228	285	52	565	0	125	155	30	310	0.0%	40.3%	50.0%	9.7%
	S	SB	148	154	56	358	0	100	95	35	230				
	N	NB	311	285	702	1298	0	210	155	445	810				
N	SB	554	154	342	1050	0	340	95	210	645	0.0%	52.7%	14.7%	32.6%	
34th Street S/46th Avenue S AM	W	EB	54	5	21	80	0	50	5	25	80	0.0%	62.5%	6.3%	31.3%
	W	WB	103	5	39	148	0	65	10	20	95				
	E	EB	41	5	72	118	0	25	5	40	70				
	E	WB	18	5	2	25	0	15	10	5	30	0.0%	50.0%	33.3%	16.7%
	S	NB	103	760	41	905	0	65	485	25	575	0.0%	11.3%	84.3%	4.3%
	S	SB	21	1039	18	1078	0	25	640	15	680				
	N	NB	54	760	2	816	0	50	485	5	540				
N	SB	72	1039	39	1150	0	40	640	20	700	0.0%	5.7%	91.4%	2.9%	
34th Street S/38th Avenue S AM	W	EB	84	59	22	165	0	55	50	20	125	0.0%	44.0%	40.0%	16.0%
	W	WB	19	34	75	129	0	15	35	50	100				
	E	EB	29	59	89	176	0	25	50	60	135				
	E	WB	60	34	91	185	0	60	35	95	190	0.0%	31.6%	18.4%	50.0%
	S	NB	19	972	29	1020	0	15	800	25	840	0.0%	1.8%	95.2%	3.0%
	S	SB	22	946	60	1028	0	20	645	60	725				
	N	NB	84	972	91	1147	0	55	800	95	950				
N	SB	89	946	75	1110	0	60	645	50	755	0.0%	7.9%	85.4%	6.6%	
34th Street S/Walmart Driveway AM	W	EB	280	0	50	330	0	120	0	35	155	0.0%	77.4%	0.0%	22.6%
	W	WB	115	0	150	266	0	80	0	120	200				
	E	EB	0	0	0	0	0	0	0	0	0				
	E	WB	0	0	0	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	S	NB	115	1070	0	1185	0	80	900	0	980	0.0%	8.2%	91.8%	0.0%
	S	SB	50	1530	0	1580	0	35	1205	0	1240				
	N	NB	280	1070	0	1350	0	120	900	0	1020				
N	SB	0	1530	150	1680	0	0	1205	120	1325	0.0%	0.0%	90.9%	9.1%	
34th Street S/26th Avenue S AM	W	EB	3	100	17	120	0	25	85	25	135	0.0%	18.5%	63.0%	18.5%
	W	WB	40	92	19	151	0	50	115	15	180				
	E	EB	52	100	266	418	0	65	85	250	400				
	E	WB	74	92	260	425	0	90	115	325	530	0.0%	17.0%	21.7%	61.3%
	S	NB	40	1018	52	1110	0	50	740	65	855	0.0%	5.8%	86.5%	7.6%
	S	SB	17	1310	74	1400	0	25	1100	90	1215				
	N	NB	3	1018	260	1280	0	25	740	325	1090				
N	SB	266	1310	19	1595	0	250	1100	15	1365	0.0%	18.3%	80.6%	1.1%	
34th Street S/22nd Avenue S AM	W	EB	76	708	106	890	0	60	565	85	710	0.0%	8.5%	79.6%	12.0%
	W	WB	222	571	56	849	0	225	540	60	825				
	E	EB	177	708	158	1044	0	155	565	155	875				
	E	WB	347	571	196	1115	0	305	540	170	1015	0.0%	30.0%	53.2%	16.7%
	S	NB	222	711	177	1110	0	225	700	155	1080	0.0%	20.8%	64.8%	14.4%
	S	SB	106	1011	347	1464	0	85	990	305	1380				
	N	NB	76	711	196	983	0	60	700	170	930				
N	SB	158	1011	56	1225	0	155	990	60	1205	0.0%	12.9%	82.2%	5.0%	

Existing Year (2018) PM Volume Calculations

Intersection	Side of Intersection	Direction of Travel	Seasonal Factor (SF)	2018 AADT	k-design	d-design	2018 DDHV	Raw 2018*SF U	Raw 2018*SF L	Raw 2018*SF T	Raw 2018*SF R	Raw 2018*SF Total	U%	L%	T%	R%	Design 2018 U
34th Street S/54th Avenue S PM	W	EB	0.93	17000	0.090	44.0%	675	0	234	288	231	753	0.0%	31.1%	38.3%	30.6%	0
	W	WB	0.93		0.090	56.0%	855	0	191	299	287	777					0
	E	EB	0.93	23700	0.090	56.0%	1195	0	43	288	844	1175					0
	E	WB	0.93		0.090	44.0%	940	0	199	299	462	961	0.0%	20.7%	31.2%	48.1%	0
	S	NB	0.93	11200	0.090	44.0%	445	0	191	126	43	360	0.0%	53.0%	35.1%	11.9%	0
	S	SB	0.93		0.090	56.0%	565	0	231	295	199	724					0
	N	NB	0.93	26500	0.090	44.0%	1050	0	234	126	462	823					0
N	SB	0.93		0.090	56.0%	1335	0	844	295	287	1426	0.0%	59.2%	20.7%	20.2%	0	
34th Street S/46th Avenue S PM	W	EB	0.94	2000	0.090	56.0%	100	0	59	1	39	100	0.0%	59.4%	0.9%	39.6%	0
	W	WB	0.94		0.090	44.0%	80	0	53	1	25	79					0
	E	EB	0.94	600	0.090	56.0%	30	0	8	1	26	35					0
	E	WB	0.94		0.090	44.0%	25	0	15	1	3	19	0.0%	80.0%	5.0%	15.0%	0
	S	NB	0.94	22800	0.090	44.0%	905	0	53	520	8	580	0.0%	9.1%	89.6%	1.3%	0
	S	SB	0.94		0.090	56.0%	1150	0	39	1418	15	1472					0
	N	NB	0.94	22800	0.090	44.0%	905	0	59	520	3	582					0
N	SB	0.94		0.090	56.0%	1150	0	26	1418	25	1469	0.0%	1.8%	96.5%	1.7%	0	
34th Street S/38th Avenue S PM	W	EB	0.93	3300	0.090	44.0%	130	0	85	42	21	148	0.0%	57.2%	28.3%	14.5%	0
	W	WB	0.93		0.090	56.0%	165	0	26	53	74	153					0
	E	EB	0.93	3700	0.090	56.0%	185	0	39	42	112	193					0
	E	WB	0.93		0.090	44.0%	145	0	37	53	52	142	0.0%	26.1%	37.3%	36.6%	0
	S	NB	0.93	25800	0.090	44.0%	1020	0	26	658	39	723	0.0%	3.6%	91.0%	5.4%	0
	S	SB	0.93		0.090	56.0%	1300	0	21	1544	37	1602					0
	N	NB	0.93	28000	0.090	44.0%	1110	0	85	658	52	794					0
N	SB	0.93		0.090	56.0%	1410	0	112	1544	74	1730	0.0%	6.5%	89.2%	4.3%	0	
34th Street S/Walmart Driveway PM	W	EB	1.03	8300	0.090	44.0%	330	0	236	0	44	280	0.0%	84.2%	0.0%	15.8%	0
	W	WB	1.03		0.090	56.0%	420	0	173	0	295	468					0
	E	EB	1.03	0	0.090	44.0%	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%	0
	E	WB	1.03		0.090	56.0%	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%	0
	S	NB	1.03	29900	0.090	44.0%	1185	0	173	728	0	901	0.0%	19.2%	80.8%	0.0%	0
	S	SB	1.03		0.090	56.0%	1505	0	44	1742	0	1786					0
	N	NB	1.03	33300	0.090	44.0%	1320	0	236	728	0	964					0
N	SB	1.03		0.090	56.0%	1680	0	0	1742	295	2036	0.0%	0.0%	85.5%	14.5%	0	
34th Street S/26th Avenue S PM	W	EB	0.94	3000	0.090	44.0%	120	0	16	76	34	126	0.0%	12.7%	60.4%	26.9%	0
	W	WB	0.94		0.090	56.0%	150	0	21	90	30	141					0
	E	EB	0.94	8400	0.090	44.0%	335	0	88	76	197	362					0
	E	WB	0.94		0.090	56.0%	425	0	75	90	227	392	0.0%	19.2%	23.0%	57.8%	0
	S	NB	0.94	28000	0.090	44.0%	1110	0	21	788	88	897	0.0%	2.3%	87.8%	9.9%	0
	S	SB	0.94		0.090	56.0%	1410	0	34	1590	75	1699					0
	N	NB	0.94	31600	0.090	44.0%	1250	0	16	788	227	1030					0
N	SB	0.94		0.090	56.0%	1595	0	197	1590	30	1817	0.0%	10.9%	87.5%	1.7%	0	
34th Street S/22nd Avenue S PM	W	EB	0.93	22500	0.090	44.0%	890	0	87	548	111	746	0.0%	11.7%	73.4%	14.8%	0
	W	WB	0.93		0.090	56.0%	1135	0	214	602	78	894					0
	E	EB	0.93	22100	0.090	44.0%	875	0	297	548	127	972					0
	E	WB	0.93		0.090	56.0%	1115	0	255	602	163	1019	0.0%	25.0%	59.0%	16.0%	0
	S	NB	0.93	28000	0.090	44.0%	1110	0	214	679	297	1189	0.0%	18.0%	57.1%	24.9%	0
	S	SB	0.93		0.090	56.0%	1410	0	111	1054	255	1419					0
	N	NB	0.93	24300	0.090	44.0%	960	0	87	679	163	929					0
N	SB	0.93		0.090	56.0%	1225	0	127	1054	78	1259	0.0%	10.1%	83.7%	6.2%	0	

Existing Year (2018) PM Volume Calculations

Intersection	Side of Intersection	Direction of Travel	Design 2018 L	Design 2018 T	Design 2018 R	Balanced Design 2018 Total	Rounded Adjusted Design 2018 U	Rounded Adjusted Design 2018 L	Rounded Adjusted Design 2018 T	Rounded Adjusted Design 2018 R	Rounded Adjusted Design 2018 Total	U%	L%	T%	R%
34th Street S/54th Avenue S PM	W	EB	210	258	207	675	0	280	290	230	800	0.0%	35.0%	36.3%	28.8%
	W	WB	236	293	269	798	0	270	300	285	855				
	E	EB	53	258	790	1101	0	70	290	845	1205				
	E	WB	195	293	452	940	0	200	300	540	1040	0.0%	19.2%	28.8%	51.9%
	S	NB	236	156	53	445	0	270	240	70	580	0.0%	46.6%	41.4%	12.1%
	S	SB	207	276	195	677	0	230	295	200	725				
	N	NB	210	156	452	819	0	280	240	540	1060				
	N	SB	790	276	269	1335	0	845	295	285	1425	0.0%	59.3%	20.7%	20.0%
34th Street S/46th Avenue S PM	W	EB	59	1	40	100	0	75	5	40	120	0.0%	62.5%	4.2%	33.3%
	W	WB	82	1	20	103	0	70	5	25	100				
	E	EB	12	1	21	33	0	10	5	25	40				
	E	WB	20	1	4	25	0	15	5	10	30	0.0%	50.0%	16.7%	33.3%
	S	NB	82	811	12	905	0	70	790	10	870	0.0%	8.0%	90.8%	1.1%
	S	SB	40	1110	20	1169	0	40	1420	15	1475				
	N	NB	59	811	4	874	0	75	790	10	875				
	N	SB	21	1110	20	1150	0	25	1420	25	1470	0.0%	1.7%	96.6%	1.7%
34th Street S/38th Avenue S PM	W	EB	74	37	19	130	0	100	40	20	160	0.0%	62.5%	25.0%	12.5%
	W	WB	37	54	61	151	0	40	65	75	180				
	E	EB	55	37	91	183	0	50	40	110	200				
	E	WB	38	54	53	145	0	35	65	60	160	0.0%	21.9%	40.6%	37.5%
	S	NB	37	928	55	1020	0	40	900	50	990	0.0%	4.0%	90.9%	5.1%
	S	SB	19	1258	38	1315	0	20	1545	35	1600				
	N	NB	74	928	53	1056	0	100	900	60	1060				
	N	SB	91	1258	61	1410	0	110	1545	75	1730	0.0%	6.4%	89.3%	4.3%
34th Street S/Walmart Driveway PM	W	EB	278	0	52	330	0	280	0	75	355	0.0%	78.9%	0.0%	21.1%
	W	WB	228	0	243	471	0	200	0	295	495				
	E	EB	0	0	0	0	0	0	0	0	0				
	E	WB	0	0	0	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	S	NB	228	957	0	1185	0	200	890	0	1090	0.0%	18.3%	81.7%	0.0%
	S	SB	52	1437	0	1489	0	75	1740	0	1815				
	N	NB	278	957	0	1235	0	280	890	0	1170				
	N	SB	0	1437	243	1680	0	0	1740	295	2035	0.0%	0.0%	85.5%	14.5%
34th Street S/26th Avenue S PM	W	EB	15	73	32	120	0	15	75	35	125	0.0%	12.0%	60.0%	28.0%
	W	WB	26	98	26	150	0	30	100	30	160				
	E	EB	109	73	173	355	0	100	75	195	370				
	E	WB	82	98	246	425	0	85	100	260	445	0.0%	19.1%	22.5%	58.4%
	S	NB	26	975	109	1110	0	30	1040	100	1170	0.0%	2.6%	88.9%	8.5%
	S	SB	32	1395	82	1509	0	35	1590	85	1710				
	N	NB	15	975	246	1236	0	15	1040	260	1315				
	N	SB	173	1395	26	1595	0	195	1590	30	1815	0.0%	10.7%	87.6%	1.7%
34th Street S/22nd Avenue S PM	W	EB	104	654	132	890	0	85	550	110	745	0.0%	11.4%	73.8%	14.8%
	W	WB	200	658	76	934	0	215	650	80	945				
	E	EB	277	654	124	1054	0	295	550	125	970				
	E	WB	279	658	178	1115	0	290	650	200	1140	0.0%	25.4%	57.0%	17.5%
	S	NB	200	634	277	1110	0	215	680	295	1190	0.0%	18.1%	57.1%	24.8%
	S	SB	132	1025	279	1436	0	110	1055	290	1455				
	N	NB	104	634	178	916	0	85	680	200	965				
	N	SB	124	1025	76	1225	0	125	1055	80	1260	0.0%	9.9%	83.7%	6.3%

Appendix D
Historical Traffic Data

2016 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 1500 PINELLAS COUNTYWIDE

MOCF: 0.94

WEEK	DATES	SF	PSCF
1	01/01/2016 - 01/02/2016	1.05	1.12
2	01/03/2016 - 01/09/2016	1.04	1.11
3	01/10/2016 - 01/16/2016	1.03	1.10
4	01/17/2016 - 01/23/2016	1.01	1.07
5	01/24/2016 - 01/30/2016	1.00	1.06
6	01/31/2016 - 02/06/2016	0.98	1.04
* 7	02/07/2016 - 02/13/2016	0.96	1.02
* 8	02/14/2016 - 02/20/2016	0.95	1.01
* 9	02/21/2016 - 02/27/2016	0.94	1.00
*10	02/28/2016 - 03/05/2016	0.93	0.99
*11	03/06/2016 - 03/12/2016	0.92	0.98
*12	03/13/2016 - 03/19/2016	0.91	0.97
*13	03/20/2016 - 03/26/2016	0.92	0.98
*14	03/27/2016 - 04/02/2016	0.93	0.99
*15	04/03/2016 - 04/09/2016	0.93	0.99
*16	04/10/2016 - 04/16/2016	0.94	1.00
*17	04/17/2016 - 04/23/2016	0.95	1.01
*18	04/24/2016 - 04/30/2016	0.96	1.02
*19	05/01/2016 - 05/07/2016	0.96	1.02
20	05/08/2016 - 05/14/2016	0.97	1.03
21	05/15/2016 - 05/21/2016	0.98	1.04
22	05/22/2016 - 05/28/2016	0.98	1.04
23	05/29/2016 - 06/04/2016	0.99	1.05
24	06/05/2016 - 06/11/2016	1.00	1.06
25	06/12/2016 - 06/18/2016	1.01	1.07
26	06/19/2016 - 06/25/2016	1.01	1.07
27	06/26/2016 - 07/02/2016	1.01	1.07
28	07/03/2016 - 07/09/2016	1.01	1.07
29	07/10/2016 - 07/16/2016	1.01	1.07
30	07/17/2016 - 07/23/2016	1.02	1.09
31	07/24/2016 - 07/30/2016	1.03	1.10
32	07/31/2016 - 08/06/2016	1.04	1.11
33	08/07/2016 - 08/13/2016	1.04	1.11
34	08/14/2016 - 08/20/2016	1.05	1.12
35	08/21/2016 - 08/27/2016	1.06	1.13
36	08/28/2016 - 09/03/2016	1.06	1.13
37	09/04/2016 - 09/10/2016	1.07	1.14
38	09/11/2016 - 09/17/2016	1.07	1.14
39	09/18/2016 - 09/24/2016	1.06	1.13
40	09/25/2016 - 10/01/2016	1.05	1.12
41	10/02/2016 - 10/08/2016	1.04	1.11
42	10/09/2016 - 10/15/2016	1.03	1.10
43	10/16/2016 - 10/22/2016	1.03	1.10
44	10/23/2016 - 10/29/2016	1.04	1.11
45	10/30/2016 - 11/05/2016	1.04	1.11
46	11/06/2016 - 11/12/2016	1.04	1.11
47	11/13/2016 - 11/19/2016	1.04	1.11
48	11/20/2016 - 11/26/2016	1.05	1.12
49	11/27/2016 - 12/03/2016	1.05	1.12
50	12/04/2016 - 12/10/2016	1.05	1.12
51	12/11/2016 - 12/17/2016	1.05	1.12
52	12/18/2016 - 12/24/2016	1.04	1.11
53	12/25/2016 - 12/31/2016	1.03	1.10

* PEAK SEASON

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2016 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 1527 PINELLAS I275

MOCF: 0.94

WEEK	DATES	SF	PSCF
1	01/01/2016 - 01/02/2016	1.01	1.07
2	01/03/2016 - 01/09/2016	1.02	1.09
3	01/10/2016 - 01/16/2016	1.03	1.10
4	01/17/2016 - 01/23/2016	1.01	1.07
5	01/24/2016 - 01/30/2016	0.99	1.05
* 6	01/31/2016 - 02/06/2016	0.98	1.04
* 7	02/07/2016 - 02/13/2016	0.96	1.02
* 8	02/14/2016 - 02/20/2016	0.94	1.00
* 9	02/21/2016 - 02/27/2016	0.93	0.99
*10	02/28/2016 - 03/05/2016	0.91	0.97
*11	03/06/2016 - 03/12/2016	0.90	0.96
*12	03/13/2016 - 03/19/2016	0.88	0.94
*13	03/20/2016 - 03/26/2016	0.90	0.96
*14	03/27/2016 - 04/02/2016	0.92	0.98
*15	04/03/2016 - 04/09/2016	0.94	1.00
*16	04/10/2016 - 04/16/2016	0.96	1.02
*17	04/17/2016 - 04/23/2016	0.97	1.03
*18	04/24/2016 - 04/30/2016	0.98	1.04
19	05/01/2016 - 05/07/2016	0.99	1.05
20	05/08/2016 - 05/14/2016	1.00	1.06
21	05/15/2016 - 05/21/2016	1.01	1.07
22	05/22/2016 - 05/28/2016	1.01	1.07
23	05/29/2016 - 06/04/2016	1.02	1.09
24	06/05/2016 - 06/11/2016	1.02	1.09
25	06/12/2016 - 06/18/2016	1.02	1.09
26	06/19/2016 - 06/25/2016	1.02	1.09
27	06/26/2016 - 07/02/2016	1.03	1.10
28	07/03/2016 - 07/09/2016	1.03	1.10
29	07/10/2016 - 07/16/2016	1.03	1.10
30	07/17/2016 - 07/23/2016	1.04	1.11
31	07/24/2016 - 07/30/2016	1.05	1.12
32	07/31/2016 - 08/06/2016	1.05	1.12
33	08/07/2016 - 08/13/2016	1.06	1.13
34	08/14/2016 - 08/20/2016	1.07	1.14
35	08/21/2016 - 08/27/2016	1.07	1.14
36	08/28/2016 - 09/03/2016	1.08	1.15
37	09/04/2016 - 09/10/2016	1.08	1.15
38	09/11/2016 - 09/17/2016	1.08	1.15
39	09/18/2016 - 09/24/2016	1.07	1.14
40	09/25/2016 - 10/01/2016	1.06	1.13
41	10/02/2016 - 10/08/2016	1.05	1.12
42	10/09/2016 - 10/15/2016	1.04	1.11
43	10/16/2016 - 10/22/2016	1.03	1.10
44	10/23/2016 - 10/29/2016	1.02	1.09
45	10/30/2016 - 11/05/2016	1.02	1.09
46	11/06/2016 - 11/12/2016	1.01	1.07
47	11/13/2016 - 11/19/2016	1.00	1.06
48	11/20/2016 - 11/26/2016	1.00	1.06
49	11/27/2016 - 12/03/2016	1.01	1.07
50	12/04/2016 - 12/10/2016	1.01	1.07
51	12/11/2016 - 12/17/2016	1.01	1.07
52	12/18/2016 - 12/24/2016	1.02	1.09
53	12/25/2016 - 12/31/2016	1.03	1.10

* PEAK SEASON

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Historical Data Summary

YEAR	AADT	DIRECTION 1		DIRECTION 2		K	D	T	Weighted K	Weighted D	Weighted T		
SITE: 5078 - SR 55/US 19/34TH ST S, S OF 22ND AVE S/CR138													
2016	28000	C	N	13000	S	15000	9.00	55.90	2.90	All Last 10 Last 5	9.73 9.61 9.00	56.34 56.02 55.31	4.13 2.73 2.72
2015	25000	C	N	11500	S	13500	9.00	55.00	2.60				
2014	24500	C	N	11500	S	13000	9.00	55.40	2.70				
2013	25000	C	N	11500	S	13500	9.00	55.20	2.90				
2012	26500	C	N	12500	S	14000	9.00	55.00	2.50				
2011	28500	C	N	13500	S	15000	9.00	56.50	2.50				
2010	27000	C	N	12500	S	14500	10.52	55.26	2.60				
2009	28000	C	N	13000	S	15000	10.53	55.79	3.10				
2008	32000	C	N	15500	S	16500	10.29	58.46	2.90				
2007	33000	C	N	16000	S	17000	10.31	56.79	2.60				
2006	34500	C	N	16500	S	18000	9.88	58.53	3.90				
2005	35500	C	N	16500	S	19000	9.90	58.50	8.60				
2004	31000	C	N	14500	S	16500	9.90	59.20	6.70				
2003	32000	C	N	15500	S	16500	10.00	56.00	6.70				
2002	29000	F	N	13500	S	15500	9.80	55.70	6.70				
2001	29000	C	N	13500	S	15500	10.00	52.10	4.20				
SITE: 5117 - SR 55/US 19, N OF SR 682/54TH AVE S													
2016	26500	C	N	12500	S	14000	9.00	55.90	2.60	All Last 10 Last 5	9.70 9.57 9.00	56.22 55.93 55.30	3.07 2.69 2.56
2015	25000	C	N	12000	S	13000	9.00	55.00	2.70				
2014	24500	C	N	12000	S	12500	9.00	55.40	2.50				
2013	25500	C	N	12000	S	13500	9.00	55.20	2.70				
2012	27000	C	N	13000	S	14000	9.00	55.00	2.30				
2011	28000	C	N	13500	S	14500	9.00	56.50	2.80				
2010	26500	C	N	12500	S	14000	10.52	55.26	2.70				
2009	27000	C	N	13000	S	14000	10.53	55.79	2.60				
2008	25000	C	N	12000	S	13000	10.29	58.46	3.00				
2007	26500	C	N	12500	S	14000	10.31	56.79	3.00				
2006	26500	C	N	12500	S	14000	9.88	58.53	4.60				
2005	30500	C	N	14500	S	16000	9.90	58.50	3.60				
2004	24500	C	N	11500	S	13000	9.90	59.20	3.60				
2003	23500	C	N	11000	S	12500	10.00	56.00	4.10				
2002	29500	C	N	15000	S	14500	9.80	55.70	3.00				
2001	25500	C	N	12000	S	13500	10.00	52.10	3.30				
SITE: 9186 - GULFPORT BLVD, E OF 58TH ST S													
2016	16700	V	E	8300	W	8400	9.00	55.90	2.90	All Last 10 Last 5	9.00 9.00 9.00	55.50 55.50 55.31	2.98 2.98 2.96
2015	16300	R	E	8100	W	8200	9.00	55.00	2.90				
2014	15900	T	E	7900	W	8000	9.00	55.40	3.20				
2013	15700	S	E	7800	W	7900	9.00	55.20	3.00				
2012	15700	F	E	7800	W	7900	9.00	55.00	2.80				
2011	15700	C	E	7800	W	7900	9.00	56.50	3.10				
SITE: 5725 - 22ND AVENUE SOUTH, WEST OF 4TH STREET SOUTH (HPMS)													
2016	7500	E		0		0	9.00	55.90	2.50	All Last 10 Last 5	9.48 9.48 9.00	55.86 55.86 55.31	2.94 2.94 2.21
2015	7200	E					9.00	55.00	3.40				
2014	7100	S	E	3600	W	3500	9.00	55.40	1.70				
2013	6900	F	E	3500	W	3400	9.00	55.20	1.70				
2012	6900	C	E	3500	W	3400	9.00	55.00	1.70				
2011	6500	S	E	3400	W	3100	9.00	56.50	3.50				
2010	6500	F	E	3400	W	3100	10.52	55.26	3.60				
2009	6700	C	E	3500	W	3200	10.53	55.79	3.60				
2008	7700	C	E	3800	W	3900	10.29	58.46	4.70				
SITE: 9101 - 26TH AVE S, E OF 34TH ST S													
2016	5900	V		0		0	9.00	55.90	2.90	All Last 10 Last 5	9.00 9.00 9.00	55.50 55.50 55.30	2.98 2.98 2.96
2015	5800	R		0		0	9.00	55.00	2.90				
2014	5700	T					9.00	55.40	3.20				
2013	5600	S		0		0	9.00	55.20	3.00				
2012	5600	F		0		0	9.00	55.00	2.80				
2011	5600	C	E	0	W	0	9.00	56.50	3.10				

Historical Data Summary

YEAR	AADT	DIRECTION 1	DIRECTION 2	K	D	T	Weighted K	Weighted D	Weighted T				
SITE: 9199 - 54TH AVE S, E OF 22ND ST S													
2016	18300	V	E	9000	W	9300	9.00	55.90	2.90	All Last 10 Last 5	9.00 9.00 9.00	55.50 55.50 55.30	2.98 2.98 2.96
2015	17900	R	E	8800	W	9100	9.00	55.00	2.90				
2014	17500	T	E	8600	W	8900	9.00	55.40	3.20				
2013	17300	S	E	8500	W	8800	9.00	55.20	3.00				
2012	17300	F	E	8500	W	8800	9.00	55.00	2.80				
2011	17300	C	E	8500	W	8800	9.00	56.50	3.10				
SITE: 5116 - SR 682/54TH AVE S, W OF US 19/SR 55/34TH ST S													
2016	39000	C	E	19000	W	20000	9.00	55.90	3.20	All Last 10 Last 5	9.65 9.52 9.00	58.88 60.08 55.30	3.49 2.57 2.58
2015	36500	C	E	18000	W	18500	9.00	55.00	2.50				
2014	35000	C	E	17500	W	17500	9.00	55.40	2.50				
2013	35500	C	E	17500	W	18000	9.00	55.20	2.50				
2012	41000	C	E	20500	W	20500	9.00	55.00	2.20				
2011	41000	C	E	20000	W	21000	9.00	56.50	2.60				
2010	36500	C	E	18000	W	18500	10.52	55.26	2.40				
2009	39000	C	E	19500	W	19500	10.53	55.79	2.20				
2008	21100	C	E	9100	W	12000	10.29	58.46	2.70				
2007	35500	C	E	17500	W	18000	10.31	99.99	3.00				
2006	32000	E	E	15000	W	17000	9.88	58.53	3.00				
2005	31500	C	E	15500	W	16000	9.90	58.50	6.10				
2004	17500	C	E	7500	W	10000	9.90	59.20	6.10				
2003	33000	C	E	17000	W	16000	10.00	56.00	5.90				
2002	32000	F	E	16500	W	15500	9.80	55.70	3.30				
2001	32000	C	E	16500	W	15500	10.00	52.10	8.10				
SITE: 5322 - SR 55/US 19/34TH ST, S OF SR 682/54TH AVE S													
2016	7800	S	N	3900	S	3900	9.00	55.90	3.60	All Last 10 Last 5	9.71 9.60 9.00	74.76 60.82 55.30	3.83 3.40 3.50
2015	7600	F	N	3800	S	3800	9.00	55.00	3.60				
2014	7400	C	N	3700	S	3700	9.00	55.40	3.60				
2013	7600	C	N	3900	S	3700	9.00	55.20	3.40				
2012	8100	F	N	4100	S	4000	9.00	55.00	3.30				
2011	8100	C	N	4100	S	4000	9.00	56.50	3.30				
2010	8400	C	N	4100	S	4300	10.52	55.26	2.90				
2009	8600	C	N	4300	S	4300	10.53	55.79	3.10				
2008	8100	C	N	4000	S	4100	10.29	58.46	3.60				
2007	9100	C	N	4500	S	4600	10.31	99.99	3.60				
2006	8400	C	N	4500	S	3900	9.88	99.99	3.80				
2005	7300	C	N	3500	S	3800	9.90	99.90	4.30				
2004	7100	C	N	3500	S	3600	9.90	99.90	4.30				
2003	7600	F	N	3500	S	4100	10.00	99.90	5.10				
2002	7600	C	N	3500	S	4100	9.80	99.90	5.60				
2001	6800	C	N	3100	S	3700	10.00	99.90	4.70				
SITE: 0102 - SR 93/I-275, N OF 18TH AVE S													
2016	110000	C	N	55500	S	54500	8.50	56.30	4.40	All Last 10 Last 5	8.99 8.95 8.50	57.72 57.95 59.70	5.52 4.90 4.56
2015	109500	C	N	55500	S	54000	8.50	60.40	4.60				
2014	100000	F	N	51500	S	48500	8.50	62.20	4.60				
2013	98000	C	N	50500	S	47500	8.50	62.80	4.60				
2012	94500	C	N	48000	S	46500	8.50	57.00	4.60				
2011	91000	E	N	46500	S	44500	8.50	55.80	5.40				
2010	94000	C	N	48000	S	46000	9.85	55.97	5.50				
2009	95000	C	N	49000	S	46000	9.41	62.10	5.50				
2008	95500	C	N	49000	S	46500	9.86	54.48	5.00				
2007	97500	C	N	49500	S	48000	9.54	51.98	5.00				
2006	92500	C	N	46000	S	46500	9.53	51.46	4.50				
2005	80000	C	N	40500	S	39500	8.50	59.00	10.20				
2004	99000	C	N	48500	S	50500	8.90	70.10	5.80				
2003	93000	C	N	46500	S	46500	8.60	56.20	6.40				
2002	94500	C	N	49000	S	45500	9.60	52.30	7.20				
2001	75500	C	N	38500	S	37000	9.10	53.50	6.40				
SITE: 0104 - SR 93/I-275, N OF 38TH AVE S													
2016	101000	C	N	52000	S	49000	8.50	56.30	4.70	All Last 10 Last 5	8.97 8.95 8.50	57.76 58.01 59.71	5.54 5.11 4.62
2015	95500	C	N	49000	S	46500	8.50	60.40	4.20				
2014	91500	C	N	46500	S	45000	8.50	62.20	4.20				
2013	88000	C	N	44500	S	43500	8.50	62.80	4.90				
2012	82000	C	N	41000	S	41000	8.50	57.00	5.20				
2011	82000	C	N	42000	S	40000	8.50	55.80	5.10				
2010	86000	C	N	43500	S	42500	9.85	55.97	6.00				
2009	84500	C	N	43000	S	41500	9.41	62.10	6.00				
2008	87500	C	N	45500	S	42000	9.86	54.48	6.00				

Historical Data Summary

YEAR	AADT	DIRECTION 1	DIRECTION 2	K	D	T	Weighted K	Weighted D	Weighted T
2007	75500	C N	37500 S	38000	9.54	51.98	5.00		
2006	80000	C N	36500 S	43500	9.53	51.46	6.40		
2005	91000	C N	47000 S	44000	8.50	59.00	6.30		
2004	78000	C N	39500 S	38500	8.90	70.10	6.30		
2003	78500	C N	40000 S	38500	8.60	56.20	6.50		
2002	77500	C N	39500 S	38000	9.60	52.30	6.30		
2001	58000	S N	29500 S	28500	9.10	53.50	6.30		
SITE: 2774 - RP, NB I-275 TO 54TH AVE S									
2016	3400	C N	3400	0	9.00	99.90	4.40	All	9.27 99.94 4.63
2015	3100	T	0	0	9.00	99.90	4.40	Last 10	9.27 99.94 4.63
2014	3200	S			9.00	99.90	4.20	Last 5	9.00 99.90 4.44
2013	3100	F	0	0	9.00	99.90	4.60		
2012	3100	C N	3100	0	9.00	99.90	4.60		
2011	3000	S	0	0	9.00	99.90	4.20		
2010	3000	F	0	0	9.85	99.99	4.40		
2009	3000	C N	3000	0	9.41	99.99	5.10		
2008	3300	C N	3300	0	9.86	99.99	5.50		
2007	3600	C N	3600	0	9.54	99.99	4.80		
SITE: 2708 - RP, EB 54TH AVE S TO NB SR93/I-275									
2016	9200	C N	9200	0	9.00	99.90	4.40	All	9.56 99.94 4.62
2015	7500	T	0	0	9.00	99.90	4.40	Last 10	9.56 99.94 4.62
2014	7300	S			9.00	99.90	4.20	Last 5	9.00 99.90 4.44
2013	7200	F	0	0	9.00	99.90	4.60		
2012	7200	C N	7200	0	9.00	99.90	4.60		
2011	7200	S	0	0	9.00	99.90	4.20		
2010	7200	F	0	0	10.52	99.99	4.40		
2009	7400	C N	7400	0	10.53	99.99	5.10		
2008	7300	C N	7300	0	10.29	99.99	5.50		
2007	8500	C N	8500	0	10.31	99.99	4.80		
SITE: 2707 - RP, SB SR93/I-275 TO WB 54TH AVE S									
2016	8900	C W	8900	0	9.00	99.90	4.40	All	9.55 99.93 4.61
2015	7700	T	0	0	9.00	99.90	4.40	Last 10	9.55 99.93 4.61
2014	7500	S			9.00	99.90	4.20	Last 5	9.00 99.90 4.44
2013	7400	F	0	0	9.00	99.90	4.60		
2012	7400	C W	7400	0	9.00	99.90	4.60		
2011	7000	S	0	0	9.00	99.90	4.20		
2010	7000	F	0	0	10.52	99.99	4.40		
2009	7200	C W	7200	0	10.53	99.99	5.10		
2008	7000	C W	7000	0	10.29	99.99	5.50		
2007	8000	C W	8000	0	10.31	99.99	4.80		
SITE: 2706 - RP, SB SR93/I-275 TO 34TH ST S & 54TH AVE S									
2016	8100	C S	8100	0	9.00	99.90	4.40	All	9.53 99.93 4.60
2015	8100	T	0	0	9.00	99.90	4.40	Last 10	9.53 99.93 4.60
2014	7900	S			9.00	99.90	4.20	Last 5	9.00 99.90 4.44
2013	7800	F	0	0	9.00	99.90	4.60		
2012	7800	C S	7800	0	9.00	99.90	4.60		
2011	7100	S	0	0	9.00	99.90	4.20		
2010	7100	F	0	0	10.52	99.99	4.40		
2009	7300	C S	7300	0	10.53	99.99	5.10		
2008	6700	C S	6700	0	10.29	99.99	5.50		
2007	6500	C S	6500	0	10.31	99.99	4.80		
SITE: 2709 - RP, 34TH ST S & 54TH AVE S TO NB SR93/I-275									
2016	9500	C N	9500	0	9.00	99.90	4.40	All	9.53 99.93 4.61
2015	8400	T	0	0	9.00	99.90	4.40	Last 10	9.53 99.93 4.61
2014	8200	S			9.00	99.90	4.20	Last 5	9.00 99.90 4.44
2013	8100	F	0	0	9.00	99.90	4.60		
2012	8100	C N	8100	0	9.00	99.90	4.60		

Historical Data Summary

YEAR	AADT	DIRECTION 1		DIRECTION 2		K	D	T	
2011	7700	S		0		0	9.00	99.90	4.20
2010	7700	F		0		0	10.52	99.99	4.40
2009	7900	C	N	7900		0	10.53	99.99	5.10
2008	7300	C	N	7300		0	10.29	99.99	5.50
2007	7400	C	N	7400		0	10.31	99.99	4.80

Weighted K Weighted D Weighted T

SITE: 2710 - RP, 26TH AVE S TO SB SR93/I-275

2016	3900	C	S	3900		0	9.00	99.90	4.40
2015	3600	T		0		0	9.00	99.90	4.40
2014	3500	S				0	9.00	99.90	4.20
2013	3400	F		0		0	9.00	99.90	4.60
2012	3400	C	S	3400		0	9.00	99.90	4.60
2011	3100	S		0		0	9.00	99.90	4.20
2010	3100	F		0		0	10.52	99.99	4.40
2009	3200	C	S	3200		0	10.53	99.99	5.10
2008	3200	C	S	3200		0	10.29	99.99	5.50
2007	2800	C	S	2800		0	10.31	99.99	4.80

All	9.53	99.93	4.61
Last 10	9.52	99.93	4.61
Last 5	9.00	99.90	4.44

SITE: 2711 - RP, NB SR93/I-275 TO 26TH AVE S

2016	3900	C	N	3900		0	9.00	99.90	4.40
2015	3400	T		0		0	9.00	99.90	4.40
2014	3300	S				0	9.00	99.90	4.20
2013	3200	F		0		0	9.00	99.90	4.60
2012	3200	C	N	3200		0	9.00	99.90	4.60
2011	3300	S		0		0	9.00	99.90	4.20
2010	3300	F		0		0	10.52	99.99	4.40
2009	3400	C	N	3400		0	10.53	99.99	5.10
2008	3000	C	N	3000		0	10.29	99.99	5.50
2007	2600	C	N	2600		0	10.31	99.99	4.80

All	9.54	99.93	4.60
Last 10	9.54	99.93	4.60
Last 5	9.00	99.90	4.44

SITE: 2713 - RP, EB CR138/22ND AVE S TO NB SR93/I-275

2016	7700	C	N	7700		0	9.00	99.90	4.40
2015	7200	T		0		0	9.00	99.90	4.40
2014	7000	S				0	9.00	99.90	4.20
2013	6900	F		0		0	9.00	99.90	4.60
2012	6900	C	N	6900		0	9.00	99.90	4.60
2011	6500	S		0		0	9.00	99.90	4.20
2010	6500	F		0		0	10.52	99.99	4.40
2009	6700	C	N	6700		0	10.53	99.99	5.10
2008	6300	C	N	6300		0	10.29	99.99	5.50
2007	5700	C	N	5700		0	10.31	99.99	4.80

All	9.53	99.93	4.61
Last 10	9.53	99.93	4.61
Last 5	9.00	99.90	4.44

SITE: 2714 - RP, WB CR138/22ND AVE S TO NB SR93/I-275

2016	3600	C	N	3600	0	9	99.90	4.40
2015	3000	T		0	0	9	99.90	4.40
2014	2900	S				9	99.90	4.20
2013	2900	F		0	0	9	99.90	4.60
2012	2900	C	N	2900	0	9	99.90	4.60
2011	2800	S		0	0	9	99.90	4.20
2010	2800	F		0	0	10.52	99.99	4.40
2009	2900	C	N	2900	0	10.53	99.99	5.10
2008	2800	C	N	2800	0	10.29	99.99	5.50
2007	2500	C	N	2500	0	10.31	99.99	4.80

All	99.93	4.61	0.00
Last 10	99.93	4.61	0.00
Last 5	99.90	4.44	0.00

SITE: 2712 - RP, SB SR93/I-275 TO CR138/22ND AVE S

2016	11000	C	S	11000		0	9.00	99.90	4.40
2015	9300	T		0		0	9.00	99.90	4.40
2014	9100	S				0	9.00	99.90	4.20

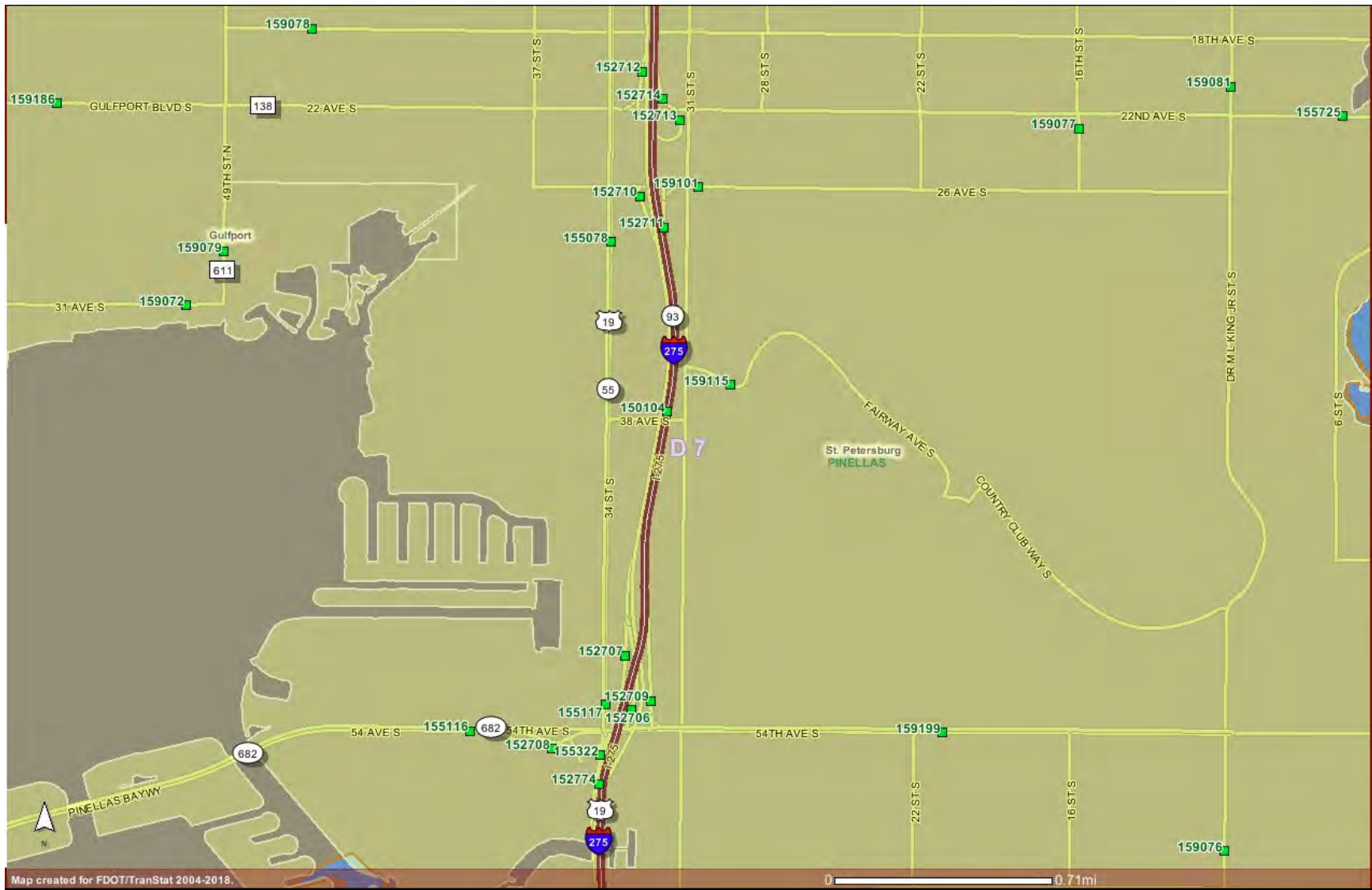
All	9.53	99.93	4.61
Last 10	9.53	99.93	4.61
Last 5	9.00	99.90	4.44

Historical Data Summary

YEAR	AADT	DIRECTION 1		DIRECTION 2		K	D	T
2013	9000	F		0	0	9.00	99.90	4.60
2012	9000	C	S	9000	0	9.00	99.90	4.60
2011	8900	S		0	0	9.00	99.90	4.20
2010	8900	F		0	0	10.52	99.99	4.40
2009	9200	C	S	9200	0	10.53	99.99	5.10
2008	8300	C	S	8300	0	10.29	99.99	5.50
2007	7500	C	S	7500	0	10.31	99.99	4.80

Weighted K Weighted D Weighted T

	K-hist	D-hist	T-hist
34th	9.72	56.28	3.63
22nd	9.19	55.64	2.97
26th	9.00	55.50	2.98
54th	9.55	58.33	3.41
US 19	9.71	74.76	3.83
I-275	8.98	57.74	5.53
Ramps 54th	9.52	99.93	4.61
Ramps 26th	9.53	99.93	4.61
Ramps 22nd	23.62	85.08	3.89
Total with ramps (DNU)	9.75	62.07	4.69
Total without ramps	9.22	57.91	4.73
Total without ramps and I-275	9.60	58.18	3.50





FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2016 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 0102 - SR 93/I-275, N OF 18TH AVE S

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	110000	C	N 55500		S 54500	8.50	56.30	4.40
2015	109500	C	N 55500		S 54000	8.50	60.40	4.60
2014	100000	F	N 51500		S 48500	8.50	62.20	4.60
2013	98000	C	N 50500		S 47500	8.50	62.80	4.60
2012	94500	C	N 48000		S 46500	8.50	57.00	4.60
2011	91000	E	N 46500		S 44500	8.50	55.80	5.40
2010	94000	C	N 48000		S 46000	9.85	55.97	5.50
2009	95000	C	N 49000		S 46000	9.41	62.10	5.50
2008	95500	C	N 49000		S 46500	9.86	54.48	5.00
2007	97500	C	N 49500		S 48000	9.54	51.98	5.00
2006	92500	C	N 46000		S 46500	9.53	51.46	4.50
2005	80000	C	N 40500		S 39500	8.50	59.00	10.20
2004	99000	C	N 48500		S 50500	8.90	70.10	5.80
2003	93000	C	N 46500		S 46500	8.60	56.20	6.40
2002	94500	C	N 49000		S 45500	9.60	52.30	7.20
2001	75500	C	N 38500		S 37000	9.10	53.50	6.40

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
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COUNTY: 15 - PINELLAS

SITE: 0104 - SR 93/I-275, N OF 38TH AVE S

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	101000	C	N 52000		S 49000	8.50	56.30	4.70
2015	95500	C	N 49000		S 46500	8.50	60.40	4.20
2014	91500	C	N 46500		S 45000	8.50	62.20	4.20
2013	88000	C	N 44500		S 43500	8.50	62.80	4.90
2012	82000	C	N 41000		S 41000	8.50	57.00	5.20
2011	82000	C	N 42000		S 40000	8.50	55.80	5.10
2010	86000	C	N 43500		S 42500	9.85	55.97	6.00
2009	84500	C	N 43000		S 41500	9.41	62.10	6.00
2008	87500	C	N 45500		S 42000	9.86	54.48	6.00
2007	75500	C	N 37500		S 38000	9.54	51.98	5.00
2006	80000	C	N 36500		S 43500	9.53	51.46	6.40
2005	91000	C	N 47000		S 44000	8.50	59.00	6.30
2004	78000	C	N 39500		S 38500	8.90	70.10	6.30
2003	78500	C	N 40000		S 38500	8.60	56.20	6.50
2002	77500	C	N 39500		S 38000	9.60	52.30	6.30
2001	58000	S	N 29500		S 28500	9.10	53.50	6.30

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2706 - RP, SB SR93/I-275 TO 34TH ST S & 54TH AVE S

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	8100	C	S 8100	0	9.00	99.90	4.40
2015	8100	T	0	0	9.00	99.90	4.40
2014	7900	S	0	0	9.00	99.90	4.20
2013	7800	F	0	0	9.00	99.90	4.60
2012	7800	C	S 7800	0	9.00	99.90	4.60
2011	7100	S	0	0	9.00	99.90	4.20
2010	7100	F	0	0	10.52	99.99	4.40
2009	7300	C	S 7300	0	10.53	99.99	5.10
2008	6700	C	S 6700	0	10.29	99.99	5.50
2007	6500	C	S 6500	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2707 - RP, SB SR93/I-275 TO WB 54TH AVE S

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	8900	C	W 8900	0	9.00	99.90	4.40
2015	7700	T	0	0	9.00	99.90	4.40
2014	7500	S			9.00	99.90	4.20
2013	7400	F	0	0	9.00	99.90	4.60
2012	7400	C	W 7400	0	9.00	99.90	4.60
2011	7000	S	0	0	9.00	99.90	4.20
2010	7000	F	0	0	10.52	99.99	4.40
2009	7200	C	W 7200	0	10.53	99.99	5.10
2008	7000	C	W 7000	0	10.29	99.99	5.50
2007	8000	C	W 8000	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2708 - RP, EB 54TH AVE S TO NB SR93/I-275

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	9200	C	N 9200	0	9.00	99.90	4.40
2015	7500	T	0	0	9.00	99.90	4.40
2014	7300	S			9.00	99.90	4.20
2013	7200	F	0	0	9.00	99.90	4.60
2012	7200	C	N 7200	0	9.00	99.90	4.60
2011	7200	S	0	0	9.00	99.90	4.20
2010	7200	F	0	0	10.52	99.99	4.40
2009	7400	C	N 7400	0	10.53	99.99	5.10
2008	7300	C	N 7300	0	10.29	99.99	5.50
2007	8500	C	N 8500	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2709 - RP, 34TH ST S & 54TH AVE S TO NB SR93/I-275

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	9500	C	N 9500	0	9.00	99.90	4.40
2015	8400	T	0	0	9.00	99.90	4.40
2014	8200	S			9.00	99.90	4.20
2013	8100	F	0	0	9.00	99.90	4.60
2012	8100	C	N 8100	0	9.00	99.90	4.60
2011	7700	S	0	0	9.00	99.90	4.20
2010	7700	F	0	0	10.52	99.99	4.40
2009	7900	C	N 7900	0	10.53	99.99	5.10
2008	7300	C	N 7300	0	10.29	99.99	5.50
2007	7400	C	N 7400	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2016 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2710 - RP, 26TH AVE S TO SB SR93/I-275

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	3900	C	S 3900	0	9.00	99.90	4.40
2015	3600	T	0	0	9.00	99.90	4.40
2014	3500	S			9.00	99.90	4.20
2013	3400	F	0	0	9.00	99.90	4.60
2012	3400	C	S 3400	0	9.00	99.90	4.60
2011	3100	S	0	0	9.00	99.90	4.20
2010	3100	F	0	0	10.52	99.99	4.40
2009	3200	C	S 3200	0	10.53	99.99	5.10
2008	3200	C	S 3200	0	10.29	99.99	5.50
2007	2800	C	S 2800	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2711 - RP, NB SR93/I-275 TO 26TH AVE S

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	3900	C	N 3900	0	9.00	99.90	4.40
2015	3400	T	0	0	9.00	99.90	4.40
2014	3300	S			9.00	99.90	4.20
2013	3200	F	0	0	9.00	99.90	4.60
2012	3200	C	N 3200	0	9.00	99.90	4.60
2011	3300	S	0	0	9.00	99.90	4.20
2010	3300	F	0	0	10.52	99.99	4.40
2009	3400	C	N 3400	0	10.53	99.99	5.10
2008	3000	C	N 3000	0	10.29	99.99	5.50
2007	2600	C	N 2600	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2712 - RP, SB SR93/I-275 TO CR138/22ND AVE S

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	11000	C	S 11000	0	9.00	99.90	4.40
2015	9300	T	0	0	9.00	99.90	4.40
2014	9100	S			9.00	99.90	4.20
2013	9000	F	0	0	9.00	99.90	4.60
2012	9000	C	S 9000	0	9.00	99.90	4.60
2011	8900	S	0	0	9.00	99.90	4.20
2010	8900	F	0	0	10.52	99.99	4.40
2009	9200	C	S 9200	0	10.53	99.99	5.10
2008	8300	C	S 8300	0	10.29	99.99	5.50
2007	7500	C	S 7500	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

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COUNTY: 15 - PINELLAS

SITE: 2713 - RP, EB CR138/22ND AVE S TO NB SR93/I-275

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	7700	C	N 7700	0	9.00	99.90	4.40
2015	7200	T	0	0	9.00	99.90	4.40
2014	7000	S			9.00	99.90	4.20
2013	6900	F	0	0	9.00	99.90	4.60
2012	6900	C	N 6900	0	9.00	99.90	4.60
2011	6500	S	0	0	9.00	99.90	4.20
2010	6500	F	0	0	10.52	99.99	4.40
2009	6700	C	N 6700	0	10.53	99.99	5.10
2008	6300	C	N 6300	0	10.29	99.99	5.50
2007	5700	C	N 5700	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2016 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2714 - RP, WB CR138/22ND AVE S TO NB SR93/I-275

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	3600	C	N 3600	0	9.00	99.90	4.40
2015	3000	T	0	0	9.00	99.90	4.40
2014	2900	S			9.00	99.90	4.20
2013	2900	F	0	0	9.00	99.90	4.60
2012	2900	C	N 2900	0	9.00	99.90	4.60
2011	2800	S	0	0	9.00	99.90	4.20
2010	2800	F	0	0	10.52	99.99	4.40
2009	2900	C	N 2900	0	10.53	99.99	5.10
2008	2800	C	N 2800	0	10.29	99.99	5.50
2007	2500	C	N 2500	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

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COUNTY: 15 - PINELLAS

SITE: 2774 - RP, NB I-275 TO 54TH AVE S

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	3400	C	N 3400	0	9.00	99.90	4.40
2015	3100	T	0	0	9.00	99.90	4.40
2014	3200	S			9.00	99.90	4.20
2013	3100	F	0	0	9.00	99.90	4.60
2012	3100	C	N 3100	0	9.00	99.90	4.60
2011	3000	S	0	0	9.00	99.90	4.20
2010	3000	F	0	0	9.85	99.99	4.40
2009	3000	C	N 3000	0	9.41	99.99	5.10
2008	3300	C	N 3300	0	9.86	99.99	5.50
2007	3600	C	N 3600	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

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COUNTY: 15 - PINELLAS

SITE: 5078 - SR 55/US 19/34TH ST S, S OF 22ND AVE S/CR138

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	28000	C	N 13000		S 15000	9.00	55.90	2.90
2015	25000	C	N 11500		S 13500	9.00	55.00	2.60
2014	24500	C	N 11500		S 13000	9.00	55.40	2.70
2013	25000	C	N 11500		S 13500	9.00	55.20	2.90
2012	26500	C	N 12500		S 14000	9.00	55.00	2.50
2011	28500	C	N 13500		S 15000	9.00	56.50	2.50
2010	27000	C	N 12500		S 14500	10.52	55.26	2.60
2009	28000	C	N 13000		S 15000	10.53	55.79	3.10
2008	32000	C	N 15500		S 16500	10.29	58.46	2.90
2007	33000	C	N 16000		S 17000	10.31	56.79	2.60
2006	34500	C	N 16500		S 18000	9.88	58.53	3.90
2005	35500	C	N 16500		S 19000	9.90	58.50	8.60
2004	31000	C	N 14500		S 16500	9.90	59.20	6.70
2003	32000	C	N 15500		S 16500	10.00	56.00	6.70
2002	29000	F	N 13500		S 15500	9.80	55.70	6.70
2001	29000	C	N 13500		S 15500	10.00	52.10	4.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
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COUNTY: 15 - PINELLAS

SITE: 5116 - SR 682/54TH AVE S, W OF US 19/SR 55/34TH ST S

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	39000	C	E 19000		W 20000	9.00	55.90	3.20
2015	36500	C	E 18000		W 18500	9.00	55.00	2.50
2014	35000	C	E 17500		W 17500	9.00	55.40	2.50
2013	35500	C	E 17500		W 18000	9.00	55.20	2.50
2012	41000	C	E 20500		W 20500	9.00	55.00	2.20
2011	41000	C	E 20000		W 21000	9.00	56.50	2.60
2010	36500	C	E 18000		W 18500	10.52	55.26	2.40
2009	39000	C	E 19500		W 19500	10.53	55.79	2.20
2008	21100	C	E 9100		W 12000	10.29	58.46	2.70
2007	35500	C	E 17500		W 18000	10.31	99.99	3.00
2006	32000	E	E 15000		W 17000	9.88	58.53	3.00
2005	31500	C	E 15500		W 16000	9.90	58.50	6.10
2004	17500	C	E 7500		W 10000	9.90	59.20	6.10
2003	33000	C	E 17000		W 16000	10.00	56.00	5.90
2002	32000	F	E 16500		W 15500	9.80	55.70	3.30
2001	32000	C	E 16500		W 15500	10.00	52.10	8.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 5117 - SR 55/US 19, N OF SR 682/54TH AVE S

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	26500	C	N 12500		S 14000	9.00	55.90	2.60
2015	25000	C	N 12000		S 13000	9.00	55.00	2.70
2014	24500	C	N 12000		S 12500	9.00	55.40	2.50
2013	25500	C	N 12000		S 13500	9.00	55.20	2.70
2012	27000	C	N 13000		S 14000	9.00	55.00	2.30
2011	28000	C	N 13500		S 14500	9.00	56.50	2.80
2010	26500	C	N 12500		S 14000	10.52	55.26	2.70
2009	27000	C	N 13000		S 14000	10.53	55.79	2.60
2008	25000	C	N 12000		S 13000	10.29	58.46	3.00
2007	26500	C	N 12500		S 14000	10.31	56.79	3.00
2006	26500	C	N 12500		S 14000	9.88	58.53	4.60
2005	30500	C	N 14500		S 16000	9.90	58.50	3.60
2004	24500	C	N 11500		S 13000	9.90	59.20	3.60
2003	23500	C	N 11000		S 12500	10.00	56.00	4.10
2002	29500	C	N 15000		S 14500	9.80	55.70	3.00
2001	25500	C	N 12000		S 13500	10.00	52.10	3.30

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2016 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 5322 - SR 55/US 19/34TH ST, S OF SR 682/54TH AVE S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	7800 S	N 3900	S 3900	9.00	55.90	3.60
2015	7600 F	N 3800	S 3800	9.00	55.00	3.60
2014	7400 C	N 3700	S 3700	9.00	55.40	3.60
2013	7600 C	N 3900	S 3700	9.00	55.20	3.40
2012	8100 F	N 4100	S 4000	9.00	55.00	3.30
2011	8100 C	N 4100	S 4000	9.00	56.50	3.30
2010	8400 C	N 4100	S 4300	10.52	55.26	2.90
2009	8600 C	N 4300	S 4300	10.53	55.79	3.10
2008	8100 C	N 4000	S 4100	10.29	58.46	3.60
2007	9100 C	N 4500	S 4600	10.31	99.99	3.60
2006	8400 C	N 4500	S 3900	9.88	99.99	3.80
2005	7300 C	N 3500	S 3800	9.90	99.90	4.30
2004	7100 C	N 3500	S 3600	9.90	99.90	4.30
2003	7600 F	N 3500	S 4100	10.00	99.90	5.10
2002	7600 C	N 3500	S 4100	9.80	99.90	5.60
2001	6800 C	N 3100	S 3700	10.00	99.90	4.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2016 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 5725 - 22ND AVENUE SOUTH, WEST OF 4TH STREET SOUTH (HPMS)

YEAR	AADT	DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2016	7500 E	0		0		9.00	55.90	2.50
2015	7200 E					9.00	55.00	3.40
2014	7100 S	E	3600	W	3500	9.00	55.40	1.70
2013	6900 F	E	3500	W	3400	9.00	55.20	1.70
2012	6900 C	E	3500	W	3400	9.00	55.00	1.70
2011	6500 S	E	3400	W	3100	9.00	56.50	3.50
2010	6500 F	E	3400	W	3100	10.52	55.26	3.60
2009	6700 C	E	3500	W	3200	10.53	55.79	3.60
2008	7700 C	E	3800	W	3900	10.29	58.46	4.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2016 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 9101 - 26TH AVE S, E OF 34TH ST S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	5900 V	0	0	9.00	55.90	2.90
2015	5800 R	0	0	9.00	55.00	2.90
2014	5700 T			9.00	55.40	3.20
2013	5600 S	0	0	9.00	55.20	3.00
2012	5600 F	0	0	9.00	55.00	2.80
2011	5600 C	E 0	W 0	9.00	56.50	3.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2016 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 9186 - GULFPORT BLVD, E OF 58TH ST S

YEAR	AADT		DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2016	16700	V	E	8300	W	8400	9.00	55.90	2.90
2015	16300	R	E	8100	W	8200	9.00	55.00	2.90
2014	15900	T	E	7900	W	8000	9.00	55.40	3.20
2013	15700	S	E	7800	W	7900	9.00	55.20	3.00
2012	15700	F	E	7800	W	7900	9.00	55.00	2.80
2011	15700	C	E	7800	W	7900	9.00	56.50	3.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2016 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 9199 - 54TH AVE S, E OF 22ND ST S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	18300 V	E 9000	W 9300	9.00	55.90	2.90
2015	17900 R	E 8800	W 9100	9.00	55.00	2.90
2014	17500 T	E 8600	W 8900	9.00	55.40	3.20
2013	17300 S	E 8500	W 8800	9.00	55.20	3.00
2012	17300 F	E 8500	W 8800	9.00	55.00	2.80
2011	17300 C	E 8500	W 8800	9.00	56.50	3.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

COUNTY: 15
 STATION: 0102
 DESCRIPTION: SR 93/I-275, N OF 18TH AVE S
 START DATE: 02/02/2016
 START TIME: 0100

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	113	93	69	73	348	134	100	73	62	369	717
0100	45	62	50	58	215	64	46	57	59	226	441
0200	49	22	38	48	157	56	58	36	45	195	352
0300	38	58	61	70	227	41	67	36	45	189	416
0400	90	107	126	184	507	62	87	93	87	329	836
0500	187	289	407	472	1355	119	156	237	249	761	2116
0600	520	733	967	1083	3303	383	471	586	654	2094	5397
0700	1137	1348	1332	1308	5125	784	691	740	801	3016	8141
0800	1197	1213	1164	1056	4630	928	923	874	737	3462	8092
0900	894	821	855	783	3353	721	726	723	760	2930	6283
1000	781	769	757	812	3119	730	738	710	779	2957	6076
1100	695	772	746	762	2975	752	680	793	740	2965	5940
1200	781	806	747	792	3126	804	777	814	782	3177	6303
1300	738	722	772	814	3046	768	760	752	788	3068	6114
1400	750	824	881	897	3352	835	889	831	825	3380	6732
1500	876	915	935	923	3649	923	958	1016	1036	3933	7582
1600	899	953	998	922	3772	1026	1183	1181	1218	4608	8380
1700	948	1003	881	852	3684	1262	1265	1184	1119	4830	8514
1800	732	838	783	791	3144	1080	1034	899	793	3806	6950
1900	586	569	468	435	2058	758	723	663	631	2775	4833
2000	402	342	331	316	1391	622	519	469	443	2053	3444
2100	297	301	274	266	1138	426	446	419	413	1704	2842
2200	245	231	233	203	912	325	282	215	228	1050	1962
2300	178	190	128	128	624	241	227	216	173	857	1481
24-HOUR TOTALS:	55210					54734					109944

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	5185	745	3526	730	8442
P.M.	1630	3871	1645	4929	1630	8797
DAILY	715	5185	1645	4929	1630	8797

COUNTY: 15
 STATION: 0102
 DESCRIPTION: SR 93/I-275, N OF 18TH AVE S
 START DATE: 02/03/2016
 START TIME: 0100

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL	
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL		
0000	113	100	96	87	396	179	132	104	77	492	888	
0100	59	65	52	55	231	57	53	63	64	237	468	
0200	61	44	32	53	190	57	51	46	60	214	404	
0300	36	55	67	67	225	51	56	41	66	214	439	
0400	84	129	138	143	494	58	63	78	102	301	795	
0500	198	269	369	473	1309	136	152	208	261	757	2066	
0600	539	741	890	1040	3210	387	454	665	723	2229	5439	
0700	1122	1299	1304	1203	4928	717	806	740	863	3126	8054	
0800	1192	1258	1172	1085	4707	888	949	793	828	3458	8165	
0900	876	931	890	850	3547	733	700	712	773	2918	6465	
1000	743	805	757	782	3087	669	702	746	738	2855	5942	
1100	723	751	790	771	3035	722	806	759	760	3047	6082	
1200	767	702	752	749	2970	766	747	766	743	3022	5992	
1300	714	784	786	803	3087	740	704	871	830	3145	6232	
1400	775	850	897	936	3458	869	935	875	854	3533	6991	
1500	838	898	918	935	3589	885	937	1013	1043	3878	7467	
1600	938	921	921	986	3766	1179	1149	1260	1178	4766	8532	
1700	920	918	903	896	3637	1289	1180	1159	1104	4732	8369	
1800	803	837	809	845	3294	996	953	932	886	3767	7061	
1900	708	568	494	406	2176	697	726	685	622	2730	4906	
2000	378	397	333	296	1404	581	575	478	445	2079	3483	
2100	333	308	302	289	1232	471	473	441	474	1859	3091	
2200	284	282	283	231	1080	350	362	270	305	1287	2367	
2300	207	184	141	148	680	312	303	297	221	1133	1813	
24-HOUR TOTALS:					55732						55779	111511

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	4998	745	3493	730	8397
P.M.	1600	3766	1630	4907	1630	8652
DAILY	715	4998	1630	4907	1630	8652

COUNTY: 15
 STATION: 0102
 DESCRIPTION: SR 93/I-275, N OF 18TH AVE S
 START DATE: 09/07/2016
 START TIME: 0100

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	107	94	69	74	344	116	121	103	93	433	777
0100	55	46	52	57	210	63	51	70	59	243	453
0200	42	34	42	63	181	47	49	50	44	190	371
0300	40	53	61	76	230	49	41	48	63	201	431
0400	88	111	162	152	513	52	59	60	97	268	781
0500	195	295	416	451	1357	133	207	175	266	781	2138
0600	561	749	923	1061	3294	355	473	547	702	2077	5371
0700	1056	1204	1230	1270	4760	696	778	803	804	3081	7841
0800	1244	1243	1223	1072	4782	886	908	831	709	3334	8116
0900	893	826	790	771	3280	698	628	720	666	2712	5992
1000	728	741	734	762	2965	675	676	632	642	2625	5590
1100	713	679	704	764	2860	716	631	679	657	2683	5543
1200	716	801	796	796	3109	719	677	766	728	2890	5999
1300	714	718	792	743	2967	713	686	720	721	2840	5807
1400	743	778	860	827	3208	791	793	771	728	3083	6291
1500	816	891	866	884	3457	752	883	1016	959	3610	7067
1600	861	868	851	861	3441	1011	1096	1095	1256	4458	7899
1700	816	892	934	858	3500	1411	1267	1176	1045	4899	8399
1800	782	851	754	664	3051	1070	992	925	816	3803	6854
1900	557	494	450	432	1933	711	687	591	551	2540	4473
2000	510	431	409	391	1741	547	573	504	511	2135	3876
2100	336	350	311	305	1302	483	412	372	338	1605	2907
2200	248	250	195	194	887	316	283	259	224	1082	1969
2300	186	148	133	124	591	200	253	195	178	826	1417
24-HOUR TOTALS:	53963					52399					106362

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	4987	745	3429	745	8409
P.M.	1645	3503	1645	5110	1645	8613
DAILY	730	4987	1645	5110	1645	8613

COUNTY: 15
 STATION: 0102
 DESCRIPTION: SR 93/I-275, N OF 18TH AVE S
 START DATE: 09/08/2016
 START TIME: 0100

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	123	99	87	97	406	190	148	103	116	557	963
0100	68	50	52	51	221	92	77	67	55	291	512
0200	53	42	38	38	171	46	45	66	58	215	386
0300	52	66	73	82	273	58	44	58	53	213	486
0400	99	109	133	166	507	83	58	77	111	329	836
0500	210	304	388	448	1350	127	182	187	317	813	2163
0600	586	762	942	1062	3352	381	487	580	663	2111	5463
0700	1065	1214	1276	1283	4838	687	765	745	821	3018	7856
0800	1215	1202	1174	1038	4629	880	899	791	726	3296	7925
0900	911	872	763	851	3397	691	681	703	746	2821	6218
1000	765	707	723	699	2894	635	672	605	627	2539	5433
1100	676	673	710	737	2796	594	721	661	670	2646	5442
1200	710	731	785	775	3001	684	683	674	660	2701	5702
1300	710	713	771	726	2920	696	727	720	829	2972	5892
1400	789	882	846	914	3431	841	811	831	775	3258	6689
1500	871	821	854	896	3442	816	898	1019	1003	3736	7178
1600	882	856	873	831	3442	1018	1124	1171	1234	4547	7989
1700	887	852	850	841	3430	1267	1193	1328	1390	5178	8608
1800	820	794	757	679	3050	1140	968	863	740	3711	6761
1900	602	674	516	482	2274	707	712	630	564	2613	4887
2000	492	443	392	398	1725	523	587	562	503	2175	3900
2100	333	346	324	278	1281	464	445	390	365	1664	2945
2200	234	261	218	191	904	325	332	296	234	1187	2091
2300	210	156	131	127	624	230	265	203	162	860	1484
24-HOUR TOTALS:	54358					53451					107809

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	4988	745	3391	730	8321
P.M.	1415	3513	1700	5178	1700	8608
DAILY	715	4988	1700	5178	1700	8608

COUNTY: 15
 STATION: 0104
 DESCRIPTION: SR 93/I-275, N OF 38TH AVE S
 START DATE: 09/07/2016
 START TIME: 0000

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	83	66	52	52	253	93	83	71	48	295	548
0100	42	36	37	45	160	55	45	55	45	200	360
0200	26	26	35	43	130	44	36	40	37	157	287
0300	32	33	47	57	169	32	39	32	35	138	307
0400	69	97	127	142	435	41	44	54	57	196	631
0500	159	260	352	404	1175	93	134	169	204	600	1775
0600	483	671	851	995	3000	287	418	428	541	1674	4674
0700	1013	1132	1188	1228	4561	605	589	634	629	2457	7018
0800	1171	1181	1116	962	4430	644	677	718	620	2659	7089
0900	831	763	729	699	3022	582	559	530	576	2247	5269
1000	654	657	650	659	2620	535	545	564	521	2165	4785
1100	625	589	615	655	2484	578	559	525	575	2237	4721
1200	577	686	707	728	2698	598	635	601	621	2455	5153
1300	608	630	640	658	2536	605	628	565	613	2411	4947
1400	637	726	726	690	2779	675	676	630	667	2648	5427
1500	725	786	748	754	3013	623	744	836	874	3077	6090
1600	742	780	793	756	3071	900	976	1016	1075	3967	7038
1700	696	786	834	797	3113	1241	1290	1039	1041	4611	7724
1800	720	746	683	573	2722	887	930	909	769	3495	6217
1900	504	433	414	391	1742	638	612	562	513	2325	4067
2000	388	382	357	329	1456	485	524	474	451	1934	3390
2100	278	315	245	253	1091	426	418	356	316	1516	2607
2200	193	207	183	154	737	261	285	195	214	955	1692
2300	140	123	96	98	457	178	182	193	155	708	1165
24-HOUR TOTALS:	47854					45127					92981

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	4768	745	2668	745	7364
P.M.	1715	3137	1645	4645	1700	7724
DAILY	730	4768	1645	4645	1700	7724

TRUCK PERCENTAGE 4.44 4.72 4.58

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	39	36288	9402	63	1000	151	122	281	481	17	7	2	1	0	0	2125	47854
S	34	34064	8897	77	1000	252	16	311	453	14	5	1	3	0	0	2132	45127

COUNTY: 15
 STATION: 0104
 DESCRIPTION: SR 93/I-275, N OF 38TH AVE S
 START DATE: 09/08/2016
 START TIME: 0000

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	86	67	50	57	260	109	99	91	73	372	632
0100	51	39	37	41	168	73	77	49	48	247	415
0200	32	21	28	31	112	38	41	43	50	172	284
0300	43	49	53	63	208	31	44	42	43	160	368
0400	74	83	113	145	415	45	53	58	63	219	634
0500	167	264	335	405	1171	95	137	153	236	621	1792
0600	510	685	895	973	3063	316	419	457	548	1740	4803
0700	1021	1143	1214	1196	4574	579	615	621	635	2450	7024
0800	1167	1169	1052	987	4375	650	699	665	591	2605	6980
0900	847	814	720	720	3101	560	549	606	596	2311	5412
1000	684	623	643	618	2568	589	561	562	548	2260	4828
1100	590	577	629	645	2441	517	596	586	604	2303	4744
1200	615	596	710	682	2603	581	593	600	580	2354	4957
1300	626	630	686	680	2622	566	626	606	674	2472	5094
1400	678	787	765	752	2982	722	666	717	650	2755	5737
1500	773	719	777	779	3048	720	756	807	938	3221	6269
1600	742	767	765	748	3022	906	967	1051	1111	4035	7057
1700	822	809	777	805	3213	1003	1070	1024	1154	4251	7464
1800	725	698	682	592	2697	1059	959	829	674	3521	6218
1900	492	485	409	410	1796	672	661	620	565	2518	4314
2000	433	367	357	351	1508	463	511	493	503	1970	3478
2100	260	283	275	235	1053	410	387	352	346	1495	2548
2200	190	240	197	154	781	312	269	277	199	1057	1838
2300	172	119	113	100	504	198	213	179	147	737	1241
24-HOUR TOTALS:	48285					45846					94131

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	4746	745	2649	730	7351
P.M.	1700	3213	1715	4307	1700	7464
DAILY	730	4746	1715	4307	1700	7464

TRUCK PERCENTAGE 4.66 4.94 4.79

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	29	36252	9756	65	1079	197	144	254	477	25	7	0	0	0	0	2248	48285
S	31	34342	9208	74	1068	285	47	282	491	12	4	0	2	0	0	2265	45846

COUNTY: 15
 STATION: 2706
 DESCRIPTION: RP, SB SR93/I-275 TO 34TH ST S & 54TH AVE S
 START DATE: 09/07/2016
 START TIME: 0000

TIME	DIRECTION: S				TOTAL
	1ST	2ND	3RD	4TH	
0000	20	19	14	17	70
0100	11	7	11	10	39
0200	7	13	11	8	39
0300	12	10	6	8	36
0400	5	4	1	7	17
0500	10	16	17	27	70
0600	34	39	74	137	284
0700	88	103	125	113	429
0800	116	138	104	78	436
0900	82	73	89	86	330
1000	70	58	74	72	274
1100	76	67	90	81	314
1200	110	89	99	84	382
1300	89	111	107	147	454
1400	125	132	128	110	495
1500	105	121	147	163	536
1600	140	134	133	172	579
1700	171	168	185	156	680
1800	146	156	144	133	579
1900	116	108	104	99	427
2000	120	112	103	83	418
2100	105	95	79	75	354
2200	61	64	48	37	210
2300	34	50	42	27	153

 24-HOUR TOTALS: 7605

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	730	492
P.M.	1645	696
DAILY	1645	696

COUNTY: 15
 STATION: 2706
 DESCRIPTION: RP, SB SR93/I-275 TO 34TH ST S & 54TH AVE S
 START DATE: 09/08/2016
 START TIME: 0000

TIME	DIRECTION: S				TOTAL
	1ST	2ND	3RD	4TH	
0000	28	20	20	15	83
0100	18	15	13	12	58
0200	14	11	19	5	49
0300	8	9	11	3	31
0400	9	4	3	10	26
0500	9	12	15	25	61
0600	35	48	82	134	299
0700	72	101	96	143	412
0800	121	131	93	105	450
0900	75	80	85	101	341
1000	71	78	83	70	302
1100	68	85	87	86	326
1200	83	82	81	97	343
1300	91	98	115	139	443
1400	140	139	114	121	514
1500	114	158	145	126	543
1600	146	126	144	154	570
1700	170	201	211	225	807
1800	157	150	139	128	574
1900	117	139	115	127	498
2000	97	111	119	86	413
2100	96	86	75	77	334
2200	73	57	63	40	233
2300	36	65	48	33	182

 24-HOUR TOTALS: 7892

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	730	491
P.M.	1700	807
DAILY	1700	807

COUNTY: 15
 STATION: 2707
 DESCRIPTION: RP, SB SR93/I-275 TO WB 54TH AVE S
 START DATE: 09/07/2016
 START TIME: 0000

TIME	DIRECTION: W				TOTAL
	1ST	2ND	3RD	4TH	
0000	9	10	5	7	31
0100	8	9	3	3	23
0200	3	5	2	4	14
0300	3	2	1	6	12
0400	2	6	5	7	20
0500	6	9	14	29	58
0600	32	50	71	78	231
0700	72	81	102	137	392
0800	147	124	138	130	539
0900	133	112	122	123	490
1000	117	140	120	127	504
1100	134	137	144	136	551
1200	151	128	118	139	536
1300	121	120	121	128	490
1400	132	121	125	152	530
1500	135	157	141	168	601
1600	150	161	176	186	673
1700	207	220	173	160	760
1800	171	159	117	134	581
1900	134	107	112	100	453
2000	83	92	82	84	341
2100	86	81	68	42	277
2200	47	29	29	35	140
2300	25	35	15	16	91

 24-HOUR TOTALS: 8338

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	745	546
P.M.	1630	789
DAILY	1630	789

COUNTY: 15
 STATION: 2707
 DESCRIPTION: RP, SB SR93/I-275 TO WB 54TH AVE S
 START DATE: 09/08/2016
 START TIME: 0000

TIME	DIRECTION: W				TOTAL
	1ST	2ND	3RD	4TH	
0000	8	15	11	7	41
0100	12	5	3	4	24
0200	2	5	3	2	12
0300	8	4	5	4	21
0400	6	6	9	10	31
0500	14	17	13	40	84
0600	28	51	69	87	235
0700	76	90	90	119	375
0800	114	130	146	130	520
0900	130	137	154	135	556
1000	146	139	89	119	493
1100	124	154	128	139	545
1200	125	141	133	139	538
1300	127	150	140	150	567
1400	123	112	143	141	519
1500	132	121	162	215	630
1600	125	164	170	170	629
1700	149	153	178	182	662
1800	189	179	165	119	652
1900	152	137	117	89	495
2000	92	95	102	92	381
2100	57	85	70	60	272
2200	46	49	59	38	192
2300	33	29	14	18	94

 24-HOUR TOTALS: 8568

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	845	551
P.M.	1730	728
DAILY	1730	728

COUNTY: 15
 STATION: 2708
 DESCRIPTION: RP, EB 54TH AVE S TO NB SR93/I-275
 START DATE: 09/07/2016
 START TIME: 0000

TIME	DIRECTION: N				TOTAL
	1ST	2ND	3RD	4TH	
0000	9	9	4	8	30
0100	4	8	12	6	30
0200	2	3	4	10	19
0300	4	3	5	3	15
0400	7	12	15	12	46
0500	17	39	52	49	157
0600	61	90	114	155	420
0700	125	174	189	197	685
0800	175	217	188	141	721
0900	150	136	141	133	560
1000	142	141	174	158	615
1100	116	141	138	144	539
1200	107	143	120	130	500
1300	127	146	172	146	591
1400	151	127	139	152	569
1500	154	162	168	153	637
1600	150	165	159	135	609
1700	176	177	168	139	660
1800	118	129	123	105	475
1900	73	80	69	72	294
2000	70	79	73	78	300
2100	63	60	43	37	203
2200	37	33	24	32	126
2300	30	18	16	10	74

 24-HOUR TOTALS: 8875

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	730	778
P.M.	1700	660
DAILY	730	778

COUNTY: 15
 STATION: 2708
 DESCRIPTION: RP, EB 54TH AVE S TO NB SR93/I-275
 START DATE: 09/08/2016
 START TIME: 0000

TIME	DIRECTION: N				TOTAL
	1ST	2ND	3RD	4TH	
0000	9	10	9	8	36
0100	7	6	9	2	24
0200	1	0	3	3	7
0300	3	4	3	6	16
0400	8	9	15	16	48
0500	15	23	42	42	122
0600	62	74	123	135	394
0700	129	186	179	171	665
0800	170	201	159	172	702
0900	155	126	141	180	602
1000	125	119	123	123	490
1100	132	125	150	157	564
1200	127	141	147	147	562
1300	127	144	123	132	526
1400	151	159	153	151	614
1500	176	168	180	143	667
1600	139	146	151	132	568
1700	183	177	149	130	639
1800	134	102	118	91	445
1900	74	94	64	70	302
2000	119	81	78	57	335
2100	34	47	57	33	171
2200	43	55	36	34	168
2300	42	21	16	12	91

 24-HOUR TOTALS: 8758

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	730	721
P.M.	1445	675
DAILY	730	721

COUNTY: 15
 STATION: 2709
 DESCRIPTION: RP, 34TH ST S & 54TH AVE S TO NB SR93/I-275
 START DATE: 09/07/2016
 START TIME: 0000

TIME	DIRECTION: N				TOTAL
	1ST	2ND	3RD	4TH	
0000	17	14	18	12	61
0100	8	10	4	7	29
0200	6	4	3	5	18
0300	6	10	12	8	36
0400	14	15	29	29	87
0500	39	49	72	83	243
0600	86	114	201	212	613
0700	224	237	227	212	900
0800	222	228	226	167	843
0900	150	131	126	93	500
1000	124	118	110	111	463
1100	80	108	95	98	381
1200	104	110	124	128	466
1300	104	134	129	119	486
1400	114	172	155	146	587
1500	149	154	114	131	548
1600	127	152	116	112	507
1700	116	112	159	121	508
1800	153	118	129	123	523
1900	111	95	84	71	361
2000	73	80	86	73	312
2100	62	74	52	37	225
2200	52	44	50	41	187
2300	30	28	26	26	110

 24-HOUR TOTALS: 8994

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	645	900
P.M.	1415	622
DAILY	645	900

COUNTY: 15
 STATION: 2709
 DESCRIPTION: RP, 34TH ST S & 54TH AVE S TO NB SR93/I-275
 START DATE: 09/08/2016
 START TIME: 0000

TIME	DIRECTION: N				TOTAL
	1ST	2ND	3RD	4TH	
0000	23	12	9	10	54
0100	7	9	13	12	41
0200	2	7	8	12	29
0300	6	14	11	10	41
0400	17	18	33	29	97
0500	23	47	73	99	242
0600	98	154	187	204	643
0700	222	209	236	252	919
0800	239	207	217	157	820
0900	146	125	127	132	530
1000	100	106	130	102	438
1100	103	106	86	99	394
1200	115	103	116	127	461
1300	103	112	111	115	441
1400	138	184	158	158	638
1500	143	137	131	118	529
1600	122	130	127	126	505
1700	144	131	124	133	532
1800	121	133	125	116	495
1900	93	100	85	93	371
2000	93	74	97	95	359
2100	53	53	52	54	212
2200	40	65	52	33	190
2300	39	28	38	25	130

 24-HOUR TOTALS: 9111

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	715	936
P.M.	1415	643
DAILY	715	936

COUNTY: 15
 STATION: 2710
 DESCRIPTION: RP, 26TH AVE S TO SB SR93/I-275
 START DATE: 09/06/2016
 START TIME: 1900

DIRECTION: S

TIME	1ST	2ND	3RD	4TH	TOTAL
0000	9	11	6	5	31
0100	3	6	8	5	22
0200	3	2	3	6	14
0300	5	3	1	1	10
0400	3	5	4	3	15
0500	6	12	17	29	64
0600	29	37	24	50	140
0700	50	55	48	48	201
0800	62	65	73	75	275
0900	48	38	37	34	157
1000	36	45	37	45	163
1100	44	37	33	54	168
1200	46	52	33	47	178
1300	43	46	44	48	181
1400	79	52	57	64	252
1500	81	69	67	57	274
1600	64	72	88	103	327
1700	98	91	76	72	337
1800	70	62	73	54	259
1900	51	36	43	52	182
2000	44	44	43	37	168
2100	34	33	33	34	134
2200	24	21	32	15	92
2300	18	17	10	10	55

24-HOUR TOTALS: 3699

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	800	275
P.M.	1630	380
DAILY	1630	380

COUNTY: 15
 STATION: 2710
 DESCRIPTION: RP, 26TH AVE S TO SB SR93/I-275
 START DATE: 09/07/2016
 START TIME: 1900

TIME	DIRECTION: S				TOTAL
	1ST	2ND	3RD	4TH	
0000	9	12	6	8	35
0100	7	2	2	2	13
0200	1	9	7	4	21
0300	4	2	5	3	14
0400	2	5	1	6	14
0500	5	11	19	20	55
0600	29	32	36	55	152
0700	48	52	52	42	194
0800	73	85	61	40	259
0900	40	50	47	44	181
1000	39	48	48	46	181
1100	41	54	43	47	185
1200	45	51	54	55	205
1300	55	51	46	49	201
1400	62	66	77	55	260
1500	73	63	66	77	279
1600	76	65	74	77	292
1700	80	81	83	76	320
1800	73	62	50	56	241
1900	39	34	48	50	171
2000	54	42	54	36	186
2100	41	43	25	36	145
2200	18	25	21	22	86
2300	15	18	17	9	59

 24-HOUR TOTALS: 3749

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	745	261
P.M.	1645	321
DAILY	1645	321

COUNTY: 15
 STATION: 2711
 DESCRIPTION: RP, NB SR93/I-275 TO 26TH AVE S
 START DATE: 09/06/2016
 START TIME: 1900

TIME	DIRECTION: N				TOTAL
	1ST	2ND	3RD	4TH	
0000	9	10	8	5	32
0100	3	3	3	5	14
0200	5	1	6	4	16
0300	5	3	1	2	11
0400	3	6	4	7	20
0500	9	12	14	25	60
0600	23	42	69	72	206
0700	75	84	100	98	357
0800	95	126	102	70	393
0900	47	65	49	47	208
1000	49	50	46	44	189
1100	42	40	32	37	151
1200	37	54	58	45	194
1300	34	45	62	51	192
1400	48	71	67	73	259
1500	52	56	47	54	209
1600	67	69	61	64	261
1700	64	65	58	81	268
1800	60	51	62	49	222
1900	39	37	34	34	144
2000	31	32	35	23	121
2100	21	20	15	14	70
2200	17	15	17	10	59
2300	19	8	12	4	43

 24-HOUR TOTALS: 3699

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	745	421
P.M.	1700	268
DAILY	745	421

COUNTY: 15
 STATION: 2711
 DESCRIPTION: RP, NB SR93/I-275 TO 26TH AVE S
 START DATE: 09/07/2016
 START TIME: 1900

TIME	DIRECTION: N				TOTAL
	1ST	2ND	3RD	4TH	
0000	2	6	7	4	19
0100	6	3	2	5	16
0200	3	1	5	1	10
0300	6	4	5	4	19
0400	4	7	5	4	20
0500	9	10	13	26	58
0600	24	40	69	70	203
0700	69	71	74	88	302
0800	104	121	73	75	373
0900	65	67	62	53	247
1000	42	54	46	36	178
1100	37	46	49	38	170
1200	42	38	50	50	180
1300	40	52	48	57	197
1400	57	78	78	74	287
1500	61	49	70	51	231
1600	59	57	54	63	233
1700	90	95	76	72	333
1800	50	56	50	59	215
1900	44	29	43	49	165
2000	37	33	36	31	137
2100	20	32	15	19	86
2200	17	23	21	15	76
2300	14	22	7	9	52

 24-HOUR TOTALS: 3807

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	730	387
P.M.	1700	333
DAILY	730	387

COUNTY: 15
 STATION: 2712
 DESCRIPTION: RP, SB SR93/I-275 TO CR138/22ND AVE S
 START DATE: 09/07/2016
 START TIME: 0700

TIME	DIRECTION: S				TOTAL
	1ST	2ND	3RD	4TH	
0000	25	34	26	23	108
0100	16	17	16	11	60
0200	11	10	23	11	55
0300	16	8	12	11	47
0400	15	6	17	14	52
0500	14	28	20	28	90
0600	55	60	90	147	352
0700	128	190	181	248	747
0800	267	284	192	184	927
0900	148	119	155	138	560
1000	141	136	113	115	505
1100	130	120	120	124	494
1200	111	109	144	163	527
1300	130	114	159	134	537
1400	170	193	171	148	682
1500	144	186	218	150	698
1600	160	168	183	167	678
1700	223	239	216	215	893
1800	193	164	162	163	682
1900	118	127	110	118	473
2000	92	120	104	107	423
2100	89	83	66	84	322
2200	69	62	63	46	240
2300	47	50	49	44	190

 24-HOUR TOTALS: 10342

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	745	991
P.M.	1700	893
DAILY	745	991

COUNTY: 15
 STATION: 2712
 DESCRIPTION: RP, SB SR93/I-275 TO CR138/22ND AVE S
 START DATE: 09/08/2016
 START TIME: 0700

TIME	DIRECTION: S				TOTAL
	1ST	2ND	3RD	4TH	
0000	37	41	22	22	122
0100	21	14	22	13	70
0200	15	13	9	10	47
0300	15	16	18	12	61
0400	15	9	11	10	45
0500	18	21	22	31	92
0600	36	57	97	154	344
0700	130	175	175	220	700
0800	322	323	314	172	1131
0900	173	146	139	143	601
1000	104	119	115	104	442
1100	88	137	109	98	432
1200	112	130	124	112	478
1300	152	119	135	160	566
1400	180	195	202	146	723
1500	153	166	204	183	706
1600	180	189	195	234	798
1700	294	309	313	309	1225
1800	265	165	142	124	696
1900	124	117	111	86	438
2000	103	113	110	105	431
2100	103	76	74	61	314
2200	62	77	64	49	252
2300	55	55	50	43	203

 24-HOUR TOTALS: 10917

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	745	1179
P.M.	1700	1225
DAILY	1700	1225

COUNTY: 15
 STATION: 2713
 DESCRIPTION: RP, EB CR138/22ND AVE S TO NB SR93/I-275
 START DATE: 09/07/2016
 START TIME: 0700

TIME	DIRECTION: N				TOTAL
	1ST	2ND	3RD	4TH	
0000	15	21	18	13	67
0100	18	10	8	5	41
0200	9	14	7	5	35
0300	3	11	14	12	40
0400	10	12	8	18	48
0500	26	29	32	47	134
0600	74	88	112	140	414
0700	114	146	130	142	532
0800	150	175	149	147	621
0900	112	83	93	101	389
1000	97	106	96	90	389
1100	94	82	99	100	375
1200	117	85	87	99	388
1300	99	88	124	85	396
1400	93	88	132	122	435
1500	126	119	135	151	531
1600	159	123	119	140	541
1700	154	167	134	130	585
1800	97	125	88	91	401
1900	84	71	69	60	284
2000	74	57	69	62	262
2100	44	49	61	40	194
2200	58	42	26	38	164
2300	41	38	31	19	129

 24-HOUR TOTALS: 7395

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	800	621
P.M.	1645	595
DAILY	800	621

COUNTY: 15
 STATION: 2713
 DESCRIPTION: RP, EB CR138/22ND AVE S TO NB SR93/I-275
 START DATE: 09/08/2016
 START TIME: 0700

TIME	DIRECTION: N				TOTAL
	1ST	2ND	3RD	4TH	
0000	25	14	12	14	65
0100	16	12	13	9	50
0200	6	7	8	4	25
0300	6	14	8	11	39
0400	13	6	15	30	64
0500	19	27	50	41	137
0600	48	75	113	102	338
0700	123	126	157	127	533
0800	115	130	153	127	525
0900	106	92	82	105	385
1000	104	96	88	82	370
1100	82	89	109	86	366
1200	103	100	98	113	414
1300	84	100	87	86	357
1400	118	120	105	114	457
1500	129	124	122	153	528
1600	137	139	134	120	530
1700	128	114	121	99	462
1800	103	126	103	93	425
1900	150	202	114	75	541
2000	68	81	49	60	258
2100	53	47	51	47	198
2200	40	32	27	36	135
2300	30	28	16	19	93

 24-HOUR TOTALS: 7295

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	700	533
P.M.	1545	563
DAILY	1545	563

COUNTY: 15
 STATION: 2714
 DESCRIPTION: RP, WB CR138/22ND AVE S TO NB SR93/I-275
 START DATE: 09/07/2016
 START TIME: 0700

TIME	DIRECTION: N				TOTAL
	1ST	2ND	3RD	4TH	
0000	7	10	5	3	25
0100	2	2	6	7	17
0200	6	0	3	5	14
0300	2	5	4	8	19
0400	5	7	9	7	28
0500	11	18	26	23	78
0600	34	27	65	61	187
0700	59	75	67	65	266
0800	76	95	113	51	335
0900	33	45	37	41	156
1000	29	32	40	38	139
1100	34	36	35	37	142
1200	36	47	48	31	162
1300	44	47	44	39	174
1400	62	45	105	85	297
1500	48	41	63	48	200
1600	58	56	42	48	204
1700	50	48	48	55	201
1800	45	48	37	42	172
1900	35	21	29	27	112
2000	91	29	20	31	171
2100	23	23	25	28	99
2200	20	16	13	8	57
2300	12	10	9	7	38

 24-HOUR TOTALS: 3293

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	745	349
P.M.	1400	297
DAILY	745	349

COUNTY: 15
 STATION: 2714
 DESCRIPTION: RP, WB CR138/22ND AVE S TO NB SR93/I-275
 START DATE: 09/08/2016
 START TIME: 0700

TIME	DIRECTION: N				TOTAL
	1ST	2ND	3RD	4TH	
0000	14	5	7	9	35
0100	4	5	5	6	20
0200	3	2	4	8	17
0300	3	4	2	10	19
0400	9	2	7	6	24
0500	13	18	26	22	79
0600	26	43	59	61	189
0700	57	77	79	73	286
0800	93	120	109	59	381
0900	45	50	46	35	176
1000	45	29	39	46	159
1100	43	31	39	47	160
1200	35	44	35	29	143
1300	43	31	37	45	156
1400	44	39	86	121	290
1500	77	53	39	61	230
1600	63	46	45	51	205
1700	52	37	56	42	187
1800	48	70	57	47	222
1900	35	52	65	34	186
2000	27	41	22	33	123
2100	22	26	23	16	87
2200	22	8	12	15	57
2300	16	14	11	13	54

 24-HOUR TOTALS: 3485

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	745	395
P.M.	1430	337
DAILY	745	395

COUNTY: 15
 STATION: 2774
 DESCRIPTION: RP, NB I-275 TO 54TH AVE S
 START DATE: 09/13/2016
 START TIME: 2000

DIRECTION: N

TIME	1ST	2ND	3RD	4TH	TOTAL
0000	3	7	3	1	14
0100	6	3	3	0	12
0200	0	2	1	1	4
0300	6	2	1	0	9
0400	1	5	6	15	27
0500	7	5	13	21	46
0600	17	33	30	44	124
0700	36	62	66	68	232
0800	79	72	55	65	271
0900	51	47	57	43	198
1000	43	44	46	45	178
1100	37	30	30	50	147
1200	36	50	53	46	185
1300	28	52	57	42	179
1400	37	44	40	41	162
1500	46	45	71	63	225
1600	65	76	68	77	286
1700	73	82	80	63	298
1800	58	51	67	42	218
1900	33	34	38	28	133
2000	17	17	20	21	75
2100	17	21	18	24	80
2200	8	20	14	11	53
2300	7	11	6	10	34

24-HOUR TOTALS: 3190

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	730	285
P.M.	1645	312
DAILY	1645	312

COUNTY: 15
 STATION: 2774
 DESCRIPTION: RP, NB I-275 TO 54TH AVE S
 START DATE: 09/14/2016
 START TIME: 2000

TIME	DIRECTION: N				TOTAL
	1ST	2ND	3RD	4TH	
0000	2	5	2	4	13
0100	5	2	2	1	10
0200	4	3	3	2	12
0300	6	6	1	1	14
0400	4	6	8	2	20
0500	10	11	15	23	59
0600	24	36	36	41	137
0700	58	45	72	76	251
0800	64	65	59	61	249
0900	49	56	43	46	194
1000	52	53	57	52	214
1100	35	42	46	29	152
1200	46	56	42	51	195
1300	50	56	47	42	195
1400	39	49	59	65	212
1500	45	47	71	64	227
1600	62	49	63	47	221
1700	60	73	68	68	269
1800	50	61	55	65	231
1900	50	38	48	32	168
2000	37	18	25	25	105
2100	17	16	19	23	75
2200	19	22	9	12	62
2300	6	7	8	4	25

 24-HOUR TOTALS: 3310

PEAK VOLUME INFORMATION

	HOUR	VOLUME
A.M.	730	277
P.M.	1700	269
DAILY	730	277

COUNTY: 15
 STATION: 5078
 DESCRIPTION: SR 55/US 19/34TH ST S, S OF 22ND AVE S/CR138
 START DATE: 03/01/2016
 START TIME: 0000

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	36	30	22	18	106	52	44	36	22	154	260
0100	18	32	22	21	93	20	17	24	32	93	186
0200	16	19	16	19	70	17	21	15	21	74	144
0300	9	22	24	17	72	27	20	14	19	80	152
0400	20	31	28	36	115	16	16	20	29	81	196
0500	24	30	39	44	137	26	34	37	54	151	288
0600	73	91	117	130	411	73	103	128	160	464	875
0700	139	152	163	175	629	175	182	235	222	814	1443
0800	200	178	196	170	744	239	255	305	279	1078	1822
0900	201	173	193	197	764	212	214	203	215	844	1608
1000	226	201	212	229	868	233	228	207	223	891	1759
1100	222	227	271	220	940	224	250	250	275	999	1939
1200	229	245	221	243	938	271	281	277	273	1102	2040
1300	205	208	187	234	834	273	227	246	258	1004	1838
1400	248	220	227	217	912	232	257	281	261	1031	1943
1500	272	244	255	242	1013	266	265	271	275	1077	2090
1600	247	258	276	299	1080	274	266	274	274	1088	2168
1700	278	256	289	236	1059	299	281	291	280	1151	2210
1800	205	196	203	175	779	257	246	241	237	981	1760
1900	176	141	164	118	599	235	224	205	211	875	1474
2000	142	127	113	120	502	162	148	167	144	621	1123
2100	95	142	120	110	467	151	150	132	151	584	1051
2200	107	107	106	75	395	119	142	95	82	438	833
2300	62	51	62	39	214	70	86	63	54	273	487
24-HOUR TOTALS:	13741					15948					29689

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	745	749	800	1078	800	1822
P.M.	1645	1122	1700	1151	1645	2267
DAILY	1645	1122	1700	1151	1645	2267

TRUCK PERCENTAGE 3.16 2.92 3.03

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	71	10881	2355	44	228	28	1	98	35	0	0	0	0	0	0	434	13741
S	54	12721	2708	44	269	19	1	102	26	1	0	0	3	0	0	465	15948

COUNTY: 15
 STATION: 5078
 DESCRIPTION: SR 55/US 19/34TH ST S, S OF 22ND AVE S/CR138
 START DATE: 03/02/2016
 START TIME: 0000

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL	
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL		
0000	28	44	36	31	139	54	53	36	22	165	304	
0100	22	28	18	18	86	22	23	11	24	80	166	
0200	20	24	11	17	72	15	16	18	13	62	134	
0300	13	15	14	23	65	20	14	13	13	60	125	
0400	17	22	26	17	82	11	15	13	20	59	141	
0500	23	30	30	39	122	30	30	33	58	151	273	
0600	67	93	97	136	393	61	77	119	134	391	784	
0700	142	121	196	170	629	168	190	213	233	804	1433	
0800	171	190	188	190	739	223	237	279	249	988	1727	
0900	169	173	179	197	718	218	222	188	214	842	1560	
1000	207	208	216	218	849	215	205	217	241	878	1727	
1100	220	241	242	245	948	211	241	261	232	945	1893	
1200	240	217	232	222	911	244	248	281	283	1056	1967	
1300	231	271	207	242	951	245	262	268	239	1014	1965	
1400	223	226	248	250	947	264	289	256	284	1093	2040	
1500	267	242	239	250	998	256	262	273	300	1091	2089	
1600	286	293	237	296	1112	266	260	288	299	1113	2225	
1700	302	222	249	195	968	343	349	310	300	1302	2270	
1800	211	208	174	223	816	303	259	256	248	1066	1882	
1900	259	211	153	144	767	213	211	182	158	764	1531	
2000	119	114	95	107	435	156	153	135	160	604	1039	
2100	91	114	125	108	438	150	159	169	154	632	1070	
2200	112	123	99	71	405	145	141	101	90	477	882	
2300	63	67	68	49	247	94	89	73	56	312	559	
24-HOUR TOTALS:					13837						15949	29786

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	800	739	800	988	800	1727
P.M.	1615	1128	1700	1302	1645	2370
DAILY	1615	1128	1700	1302	1645	2370

TRUCK PERCENTAGE 3.02 2.70 2.85

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	56	11076	2287	37	204	37	4	107	25	1	1	0	2	0	0	418	13837
S	56	12772	2691	42	208	14	3	126	34	1	0	0	2	0	0	430	15949

COUNTY: 15
 STATION: 5116
 DESCRIPTION: SR 682/54TH AVE S, W OF US 19/SR 55/34TH ST S
 START DATE: 02/17/2016
 START TIME: 0000

TIME	DIRECTION: E					DIRECTION: W					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	30	15	23	15	83	23	18	26	20	87	170
0100	12	12	10	8	42	11	16	5	7	39	81
0200	7	10	12	7	36	9	7	7	5	28	64
0300	11	7	6	9	33	10	11	5	8	34	67
0400	13	22	16	25	76	13	6	10	12	41	117
0500	26	31	58	94	209	21	20	34	62	137	346
0600	105	144	179	234	662	53	92	107	148	400	1062
0700	217	310	343	314	1184	144	144	212	269	769	1953
0800	302	354	340	333	1329	285	334	330	307	1256	2585
0900	302	340	371	324	1337	249	284	309	281	1123	2460
1000	346	376	350	347	1419	287	374	325	362	1348	2767
1100	384	357	390	369	1500	357	356	381	384	1478	2978
1200	344	371	324	342	1381	379	408	379	387	1553	2934
1300	317	326	345	318	1306	376	376	345	387	1484	2790
1400	325	336	377	333	1371	378	408	395	448	1629	3000
1500	378	357	403	433	1571	390	411	424	448	1673	3244
1600	406	390	398	349	1543	369	423	435	470	1697	3240
1700	461	366	306	324	1457	444	440	423	425	1732	3189
1800	282	280	289	260	1111	406	343	309	333	1391	2502
1900	243	173	164	127	707	243	280	213	213	949	1656
2000	125	137	131	120	513	192	200	175	185	752	1265
2100	141	132	101	119	493	166	187	128	111	592	1085
2200	92	89	79	55	315	112	91	73	76	352	667
2300	52	50	47	33	182	66	61	43	36	206	388
24-HOUR TOTALS:	19860					20750					40610

PEAK VOLUME INFORMATION

	DIRECTION: E		DIRECTION: W		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	845	1346	800	1256	800	2585
P.M.	1530	1632	1630	1789	1615	3370
DAILY	1530	1632	1630	1789	1615	3370

TRUCK PERCENTAGE 3.38 3.13 3.25

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
E	64	15348	3776	45	385	67	4	152	14	2	0	0	3	0	0	672	19860
W	75	16171	3855	45	347	52	15	168	22	0	0	0	0	0	0	649	20750

COUNTY: 15
 STATION: 5116
 DESCRIPTION: SR 682/54TH AVE S, W OF US 19/SR 55/34TH ST S
 START DATE: 02/18/2016
 START TIME: 0000

TIME	DIRECTION: E					DIRECTION: W					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	41	22	20	16	99	48	25	17	16	106	205
0100	10	12	9	11	42	18	14	11	17	60	102
0200	10	8	9	8	35	9	9	6	8	32	67
0300	8	8	10	9	35	9	10	6	12	37	72
0400	13	16	17	22	68	10	14	8	21	53	121
0500	32	33	73	80	218	18	32	34	58	142	360
0600	105	144	173	219	641	58	96	113	160	427	1068
0700	245	314	329	318	1206	149	154	219	259	781	1987
0800	299	375	376	313	1363	304	312	305	312	1233	2596
0900	333	298	367	332	1330	253	248	295	348	1144	2474
1000	379	369	370	348	1466	337	260	338	367	1302	2768
1100	344	385	352	371	1452	383	354	380	368	1485	2937
1200	394	348	330	302	1374	425	388	400	363	1576	2950
1300	327	349	361	323	1360	403	383	377	368	1531	2891
1400	342	379	393	414	1528	340	400	426	435	1601	3129
1500	379	427	382	402	1590	440	440	453	429	1762	3352
1600	412	399	356	386	1553	398	414	425	424	1661	3214
1700	463	388	385	334	1570	399	429	434	395	1657	3227
1800	337	282	283	289	1191	383	375	327	315	1400	2591
1900	267	211	142	171	791	317	294	248	245	1104	1895
2000	168	122	137	109	536	229	204	175	189	797	1333
2100	121	146	144	105	516	200	214	163	169	746	1262
2200	92	93	70	54	309	116	110	94	112	432	741
2300	79	51	54	51	235	98	99	76	54	327	562
24-HOUR TOTALS:	20508					21396					41904

	PEAK VOLUME INFORMATION					
	DIRECTION: E		DIRECTION: W		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	815	1397	800	1233	800	2596
P.M.	1515	1623	1445	1768	1445	3370
DAILY	1515	1623	1445	1768	1445	3370

TRUCK PERCENTAGE 3.21 3.15 3.18

CLASSIFICATION SUMMARY DATABASE																	
DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
E	76	15995	3778	37	376	47	3	166	25	3	0	0	2	0	0	659	20508
W	77	16569	4077	54	343	56	10	174	32	3	0	0	1	0	0	673	21396

COUNTY: 15
 STATION: 5117
 DESCRIPTION: SR 55/US 19, N OF SR 682/54TH AVE S
 START DATE: 02/16/2016
 START TIME: 1200

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL	
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL		
0000	21	20	22	16	79	49	40	32	41	162	241	
0100	6	15	10	11	42	13	21	14	13	61	103	
0200	8	10	13	22	53	15	14	14	10	53	106	
0300	7	6	12	5	30	11	8	5	7	31	61	
0400	11	17	21	15	64	12	4	16	13	45	109	
0500	28	37	34	62	161	14	19	35	26	94	255	
0600	63	83	102	139	387	64	69	73	123	329	716	
0700	123	159	170	185	637	93	134	152	155	534	1171	
0800	220	198	215	190	823	148	175	176	199	698	1521	
0900	166	233	221	205	825	174	187	169	179	709	1534	
1000	200	237	226	208	871	203	219	222	223	867	1738	
1100	237	214	198	233	882	228	248	263	262	1001	1883	
1200	212	236	234	247	929	234	273	271	268	1046	1975	
1300	231	186	203	223	843	244	260	209	245	958	1801	
1400	211	239	251	232	933	259	260	260	271	1050	1983	
1500	216	255	263	240	974	267	252	253	271	1043	2017	
1600	228	276	241	210	955	269	275	313	287	1144	2099	
1700	235	217	231	245	928	299	307	276	286	1168	2096	
1800	216	187	217	185	805	272	284	229	225	1010	1815	
1900	203	151	139	106	599	243	215	208	194	860	1459	
2000	140	124	103	81	448	147	177	164	138	626	1074	
2100	95	91	89	68	343	142	150	123	101	516	859	
2200	57	47	44	46	194	95	80	57	56	288	482	
2300	35	49	31	24	139	54	53	50	32	189	328	
24-HOUR TOTALS:					12944						14482	27426

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	800	823	830	736	830	1540
P.M.	1530	1007	1630	1206	1615	2136
DAILY	1530	1007	1630	1206	1615	2136

TRUCK PERCENTAGE 2.48 2.64 2.57

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	36	10703	1884	18	165	20	4	93	18	1	0	0	2	0	0	321	12944
S	44	11714	2341	50	181	43	2	93	12	1	0	0	1	0	0	383	14482

COUNTY: 15
 STATION: 5117
 DESCRIPTION: SR 55/US 19, N OF SR 682/54TH AVE S
 START DATE: 02/17/2016
 START TIME: 1200

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	35	23	18	17	93	63	45	30	17	155	248
0100	13	17	10	10	50	11	14	15	14	54	104
0200	7	12	7	8	34	20	11	13	22	66	100
0300	10	6	5	10	31	13	10	5	10	38	69
0400	14	11	17	18	60	12	23	13	26	74	134
0500	23	25	42	66	156	18	31	33	39	121	277
0600	57	83	109	110	359	62	70	89	101	322	681
0700	147	157	163	187	654	126	113	146	146	531	1185
0800	231	237	195	220	883	171	174	169	193	707	1590
0900	208	246	209	204	867	171	190	184	192	737	1604
1000	202	217	206	221	846	205	172	227	211	815	1661
1100	231	209	224	273	937	234	250	230	244	958	1895
1200	235	218	220	244	917	221	240	271	269	1001	1918
1300	214	191	206	227	838	257	216	231	242	946	1784
1400	201	201	214	234	850	235	261	256	267	1019	1869
1500	227	228	241	217	913	272	247	251	267	1037	1950
1600	223	229	208	225	885	248	276	272	323	1119	2004
1700	275	251	223	222	971	276	295	276	270	1117	2088
1800	240	212	195	186	833	290	259	241	246	1036	1869
1900	160	159	170	132	621	226	228	220	222	896	1517
2000	125	137	94	98	454	172	170	137	158	637	1091
2100	76	107	94	79	356	161	161	137	134	593	949
2200	71	53	63	52	239	102	117	95	77	391	630
2300	37	27	36	33	133	75	67	61	48	251	384
24-HOUR TOTALS:	12980					14621					27601

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	800	883	845	738	845	1621
P.M.	1645	974	1645	1170	1645	2144
DAILY	1645	974	1645	1170	1645	2144

TRUCK PERCENTAGE 2.61 2.80 2.71

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	52	10679	1910	8	171	32	0	101	26	1	0	0	0	0	0	339	12980
S	48	11841	2323	42	196	56	3	99	10	1	0	0	2	0	0	409	14621

Appendix E
Crash Data

Crash Year	Event On Street	Event Cross Street	Crash Type	Event Impact Type	Event Lighting Condition	Total Fatalities	Total Injuries	Total Serious	Total Non-Incapacitating	Total	Pedestrian Involved	Bicycle Involved
2013	22ND AVE		Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Sideswipe	Front to Rear	Daylight	0	0	0	0	1	0	0
2013	22ND AVE	34TH ST	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Left Turn	Angle	Daylight	0	0	0	0	1	0	0
2013	22ND AVE	34TH ST	Pedestrian	Other, Explain in Narrative	Daylight	0	1	0	1	0	1	0
2013	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Head On	Front to Front	Unknown	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Angle	Angle	Dark-Lighted	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Angle	Angle	Dark-Lighted	0	2	0	2	0	0	0
2013	22ND AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Angle	Angle	Unknown	0	0	0	0	0	0	0
2013	22ND AVE	34TH ST	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2013	26TH AVE	34TH ST	Angle	Angle	Unknown	0	0	0	0	0	0	0
2013	26TH AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	26TH AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2013	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	3	0	0	3	0	0
2013	34TH ST	22ND AVE S	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	34TH ST	22ND AVE S	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2013	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	2	1	1	0	0	0
2013	34TH ST	22ND AVE S	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	0	0	0	2	0	0
2013	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2013	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2013	34TH ST	22ND AVE S	Unknown	Unknown	Unknown	0	0	0	0	0	0	0
2013	34TH ST	26TH AVE	Single Vehicle	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	34TH ST	26TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2013	34TH ST	26TH AVE	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2013	34TH ST	26TH AVE	Rear End	Front to Rear	Dawn	0	1	0	1	0	0	0
2013	34TH ST	32ND AVE S	Unknown	Unknown	Unknown	0	0	0	0	0	0	0
2013	34TH ST	32ND AVE S	Hit Fixed Object	Other, Explain in Narrative	Daylight	0	0	0	0	0	0	0
2013	34TH ST	34TH AVE	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	34TH ST	34TH AVE	Angle	Angle	Dark-Lighted	0	0	0	0	0	0	0
2013	34TH ST	34TH AVE	Angle	Angle	Dark-Lighted	0	0	0	0	1	0	0
2013	34TH ST	38TH AVE	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2013	34TH ST	38TH AVE	Angle	Angle	Daylight	0	0	0	0	0	0	0
2013	34TH ST	38TH AVE	Angle	Angle	Daylight	0	8	0	8	0	0	0
2013	34TH ST	38TH AVE	Left Turn	Angle	Dark-Lighted	0	1	0	1	0	0	0
2013	34TH ST	42ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	34TH ST	46TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	34TH ST	46TH AVE	Right Turn	Angle	Daylight	0	0	0	0	0	0	0
2013	34TH ST	46TH AVE	Left Turn	Angle	Daylight	0	2	2	0	0	0	0
2013	34TH ST	46TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2013	34TH ST	46TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2013	34TH ST	46TH AVE	Unknown	Unknown	Unknown	0	0	0	0	0	0	0
2013	34TH ST	46TH AVE	U-Turn	Angle	Daylight	0	1	1	0	0	0	0
2013	34TH ST	46TH AVE	U-Turn	Angle	Daylight	0	2	0	2	0	0	0
2013	34TH ST	48TH AVE	Rear End	Angle	Daylight	0	0	0	0	0	0	0
2013	34TH ST	50TH AVE	Pedestrian	Angle	Dark-Lighted	0	1	0	1	0	1	0
2013	34TH ST	54TH AVE	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2013	34TH ST	54TH AVE	Unknown	Unknown	Unknown	0	0	0	0	0	0	0
2013	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	34TH ST	54TH AVE	Hit Fixed Object	Front to Rear	Dark-Lighted	0	1	0	0	1	0	0
2013	34TH ST	54TH AVE	Rear End	Front to Rear	Dark-Lighted	0	2	0	2	0	0	0
2013	34TH ST	PINELLAS POINT DR	Angle	Angle	Daylight	0	0	0	0	0	0	0
2013	34TH ST		Unknown	Rear to Side	Unknown	0	0	0	0	0	0	0
2013	34TH ST		Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	34TH ST		Angle	Angle	Unknown	0	0	0	0	0	0	0
2013	34TH ST		Unknown	Unknown	Unknown	0	0	0	0	0	0	0
2013	34TH ST		Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2013	34TH ST		Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	34TH ST		Unknown	Rear to Side	Unknown	0	0	0	0	0	0	0
2013	34TH ST		Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	34TH ST		Angle	Angle	Daylight	0	0	0	0	0	0	0
2013	34TH ST		Hit Fixed Object	Rear to Rear	Unknown	0	0	0	0	0	0	0
2013	34TH ST		Hit Fixed Object	Angle	Daylight	0	0	0	0	0	0	0
2013	34TH ST		Angle	Angle	Unknown	0	0	0	0	0	0	0
2013	34TH ST		Unknown	Unknown	Unknown	0	0	0	0	0	0	0
2013	34TH ST		Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2013	34TH ST		Hit Fixed Object	Rear to Rear	Daylight	0	0	0	0	0	0	0
2013	34TH ST		Unknown	Rear to Rear	Unknown	0	0	0	0	0	0	0

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2013	34TH ST		Angle	Angle	Daylight	0	0	0	0	0	0	0
2013	34TH ST		Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	34TH ST	22ND AVE S	Left Turn	Sideswipe, Opposite Direction	Daylight	0	0	0	0	0	0	0
2013	34TH ST		Sideswipe	Front to Rear	Daylight	0	0	0	0	1	0	0
2013	34TH ST	MM 11	Sideswipe	Other, Explain in Narrative	Daylight	0	0	0	0	0	0	0
2013	38TH AVE	34TH ST	Unknown	Unknown	Unknown	0	0	0	0	0	0	0
2013	38TH AVE	34TH ST	Hit Fixed Object	Other, Explain in Narrative	Dark-Lighted	0	1	0	1	0	0	0
2013	42ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2013	54TH AVE	34TH ST	Unknown	Unknown	Unknown	0	0	0	0	0	0	0
2013	54TH AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2013	54TH AVE	34TH ST	Hit Fixed Object	Other, Explain in Narrative	Daylight	0	0	0	0	0	0	0
2013	54TH AVE	34TH ST	Unknown	Unknown	Unknown	0	0	0	0	0	0	0
2013	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2013	54TH AVE	34TH ST	Rear End	Front to Rear	Dark-Lighted	0	1	0	1	0	0	0
2013	54TH AVE	US 19	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2014	22ND AVE	34TH ST	Sideswipe	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Pedestrian	Other, Explain in Narrative	Daylight	0	0	0	0	0	1	0
2014	22ND AVE	34TH ST	Angle	Front to Rear	Daylight	0	2	0	2	0	0	0
2014	22ND AVE	34TH ST	Left Turn	Angle	Daylight	0	2	0	2	0	0	0
2014	22ND AVE	34TH ST	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Angle	Angle	Daylight	0	1	0	1	0	0	0
2014	22ND AVE	34TH ST	Single Vehicle	Other, Explain in Narrative	Daylight	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Angle	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Unknown	Unknown	Unknown	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Hit Fixed Object	Other, Explain in Narrative	Unknown	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Unknown	Other, Explain in Narrative	Unknown	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	22ND AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	26TH AVE	34TH ST	Left Turn	Angle	Dark-Lighted	0	1	0	1	0	0	0
2014	26TH AVE	34TH ST	Angle	Angle	Dark-Lighted	0	2	0	2	0	0	0
2014	26TH AVE	34TH ST	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2014	26TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	1	0	1	0	0	0
2014	26TH AVE	34TH ST	Angle	Front to Rear	Daylight	0	1	0	0	1	0	0
2014	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Angle	Angle	Dark-Lighted	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Rear End	Front to Rear	Dusk	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Hit Fixed Object	Other, Explain in Narrative	Unknown	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	1	0	1	0	0	0
2014	34TH ST	22ND AVE S	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Angle	Angle	Dark-Lighted	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	2	0	0	2	0	0
2014	34TH ST	22ND AVE S	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2014	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2014	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	2	0	0	2	0	0
2014	34TH ST	26TH AVE	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST	26TH AVE	Left Turn	Angle	Dark-Lighted	0	0	0	0	1	0	0
2014	34TH ST	26TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	34TH ST	26TH AVE	U-Turn	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2014	34TH ST	26TH AVE	Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	34TH ST	26TH AVE	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2014	34TH ST	26TH AVE	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2014	34TH ST	26TH AVE	Bike	Angle	Daylight	0	0	0	0	1	0	1
2014	34TH ST	26TH AVE	Angle	Angle	Daylight	0	1	1	0	1	0	0
2014	34TH ST	26TH AVE	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2014	34TH ST	26TH AVE	Left Turn	Angle	Dark-Lighted	0	2	0	0	2	0	0
2014	34TH ST	34TH AVE	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0

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2014	34TH ST	36TH AVE S	Pedestrian	Angle	Dark-Lighted	0	1	1	0	0	1	0
2014	34TH ST	38TH AVE	Pedestrian	Other, Explain in Narrative	Dawn	0	1	0	1	0	1	0
2014	34TH ST	38TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	34TH ST	38TH AVE	Left Turn	Angle	Dark-Lighted	0	1	0	1	1	0	0
2014	34TH ST	38TH AVE	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2014	34TH ST	38TH AVE	Sideswipe	Front to Rear	Dark-Lighted	0	0	0	0	2	0	0
2014	34TH ST	38TH AVE	Left Turn	Angle	Daylight	0	1	1	0	0	0	0
2014	34TH ST	38TH AVE	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST	38TH AVE	Left Turn	Front to Front	Daylight	0	3	0	3	0	0	0
2014	34TH ST	38TH AVE	Hit Fixed Object	Sideswipe, same direction	Dusk	0	0	0	0	0	0	0
2014	34TH ST	38TH AVE	Hit Fixed Object	Front to Front	Daylight	0	0	0	0	0	0	0
2014	34TH ST	42ND AVE S	Rear End	Front to Rear	Dark-Lighted	0	1	0	0	1	0	0
2014	34TH ST	42ND AVE S	Angle	Angle	Daylight	0	1	0	0	1	0	0
2014	34TH ST	46TH AVE	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2014	34TH ST	46TH AVE	Rear End	Front to Rear	Daylight	0	3	0	0	3	0	0
2014	34TH ST	46TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2014	34TH ST	46TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2014	34TH ST	46TH AVE	Unknown	Other, Explain in Narrative	Unknown	0	0	0	0	0	0	0
2014	34TH ST	46TH AVE	Hit Fixed Object	Front to Front	Dark-Lighted	0	0	0	0	0	0	0
2014	34TH ST	50TH AVE	Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	34TH ST	50TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	34TH ST	50TH AVE	Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	34TH ST	50TH AVE	Left Turn	Front to Front	Daylight	0	2	0	0	2	0	0
2014	34TH ST	50TH AVE	Sideswipe	Front to Rear	Daylight	0	1	0	1	0	0	0
2014	34TH ST	50TH AVE	Angle	Sideswipe, Opposite direction	Daylight	0	1	0	0	1	0	0
2014	34TH ST	54TH AVE	Unknown	Rear to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	2	0	2	0	0	0
2014	34TH ST	54TH AVE	Hit Fixed Object	Front to Front	Dark-Lighted	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Right Turn	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Angle	Angle	Daylight	0	1	0	1	1	0	0
2014	34TH ST	54TH AVE	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Rear End	Angle	Dark-Lighted	0	3	2	1	1	0	0
2014	34TH ST	54TH AVE	Rear End	Angle	Daylight	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Angle	Angle	Daylight	0	0	0	0	2	0	0
2014	34TH ST	54TH AVE	Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Bike	Angle	Dark-Lighted	0	1	0	0	1	0	1
2014	34TH ST	54TH AVE	Left Turn	Angle	Daylight	0	1	0	1	0	0	0
2014	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	2	0	1	1	0	0
2014	34TH ST	54TH AVE	Hit Fixed Object	Front to Rear	Dark-Lighted	0	1	0	1	0	0	0
2014	34TH ST		Angle	Angle	Daylight	0	0	0	0	0	0	0
2014	34TH ST		Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	34TH ST		Hit Fixed Object	Unknown	Unknown	0	0	0	0	0	0	0
2014	34TH ST		Hit Fixed Object	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST		Head On	Front to Front	Unknown	0	0	0	0	0	0	0
2014	34TH ST		Hit Fixed Object	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST		Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	34TH ST		Hit Fixed Object	Rear to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST		Hit Fixed Object	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2014	34TH ST		Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	34TH ST		Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST		Unknown	Rear to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST	46TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2014	34TH ST	46TH AVE	Hit Fixed Object	Angle	Dark-Lighted	0	0	0	0	2	0	0
2014	34TH ST	38TH AVE	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	34TH ST	54TH AVE	Rear End	Angle	Daylight	0	0	0	0	0	0	0
2014	38TH AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	54TH AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	54TH AVE	34TH ST	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2014	54TH AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	54TH AVE	34TH ST	Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	54TH AVE	34TH ST	Left Turn	Angle	Dark-Lighted	0	0	0	0	1	0	0
2014	54TH AVE	34TH ST	Left Turn	Other, Explain in Narrative	Daylight	0	0	0	0	0	0	0
2014	54TH AVE	34TH ST	Angle	Angle	Unknown	0	0	0	0	0	0	0
2014	54TH AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2014	54TH AVE	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	22ND AVE	34TH ST	Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2015	22ND AVE	34TH ST	Angle	Angle	Daylight	0	0	0	0	1	0	0
2015	22ND AVE	34TH ST	Angle	Angle	Daylight	0	0	0	0	0	0	0
2015	22ND AVE	34TH ST	Angle	Angle	Daylight	0	0	0	0	0	0	0
2015	22ND AVE	34TH ST	Hit Fixed Object	Other, Explain in Narrative	Daylight	0	0	0	0	0	0	0
2015	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2015	22ND AVE	34TH ST	Sideswipe	Angle	Dark-Lighted	0	0	0	0	0	0	0

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2015	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	22ND AVE	S I-275	Rear End	Front to Rear	Daylight	0	1	0	1	0	0	0
2015	22ND AVE	S I-275	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	26TH AVE	34TH ST	Angle	Angle	Daylight	0	0	0	1	0	0	0
2015	26TH AVE	34TH ST	Angle	Angle	Dark-Lighted	0	0	0	0	1	0	0
2015	26TH AVE	S I-275 RAMP	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	2	0	0	0
2015	26TH AVE	34TH ST	Angle	Angle	Daylight	0	2	0	2	0	0	0
2015	34TH ST	22ND AVE S	Bike	Angle	Daylight	0	1	0	1	0	0	1
2015	34TH ST	22ND AVE S	Angle	Angle	Daylight	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Angle	Angle	Daylight	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Pedestrian	Unknown	Daylight	0	1	0	1	0	1	0
2015	34TH ST	22ND AVE S	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Angle	Angle	Daylight	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2015	34TH ST	22ND AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Bike	No Data	Daylight	0	1	0	1	0	0	1
2015	34TH ST	22ND AVE S	Rear End	Other, Explain in Narrative	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Angle	Angle	Daylight	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Angle	Angle	Dark-Lighted	0	1	0	1	0	0	0
2015	34TH ST	26TH AVE	Hit Fixed Object	Front to Rear	Daylight	0	1	1	0	0	0	0
2015	34TH ST	26TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	26TH AVE	Angle	Angle	Dark-Lighted	0	1	0	1	0	0	0
2015	34TH ST	26TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	2	0	0
2015	34TH ST	26TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2015	34TH ST	26TH AVE	Angle	Angle	Dark-Lighted	0	0	0	0	1	0	0
2015	34TH ST	26TH AVE	Left Turn	Angle	Dark-Lighted	0	0	0	0	2	0	0
2015	34TH ST	26TH AVE	Left Turn	Angle	Daylight	0	0	0	0	1	0	0
2015	34TH ST	26TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	2	0	0	2	0	0
2015	34TH ST	26TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	26TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	26TH AVE	Rear End	Front to Rear	Daylight	0	2	0	2	0	0	0
2015	34TH ST	26TH AVE	Rear End	Front to Rear	Dark-Lighted	0	2	0	2	0	0	0
2015	34TH ST	26TH AVE	U-Turn	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	32ND AVE S	Rear End	Front to Rear	Daylight	0	1	0	1	0	0	0
2015	34TH ST	32ND AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2015	34TH ST	38TH AVE	Angle	Other, Explain in Narrative	Daylight	0	0	0	0	2	0	0
2015	34TH ST	38TH AVE	Angle	Angle	Daylight	0	0	0	0	0	0	0
2015	34TH ST	38TH AVE	Angle	Angle	Dark-Lighted	0	2	0	2	0	0	0
2015	34TH ST	38TH AVE	Head On	Front to Front	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	38TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	38TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	38TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	42ND AVE S	Rear End	Angle	Daylight	0	0	0	0	0	0	0
2015	34TH ST	42ND AVE S	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	42ND AVE S	Hit Fixed Object	Angle	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	42ND AVE S	Hit Fixed Object	Sideswipe, same direction	Daylight	0	1	0	1	0	0	0
2015	34TH ST	42ND AVE S	Rear End	Angle	Daylight	0	0	0	0	0	0	0
2015	34TH ST	46TH AVE	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2015	34TH ST	46TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	46TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	46TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	46TH AVE	Angle	Angle	Dark-Not Lighted	0	2	0	1	1	0	0
2015	34TH ST	46TH AVE	Angle	Angle	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	46TH AVE	Angle	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	46TH AVE	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2015	34TH ST	46TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2015	34TH ST	46TH AVE	Left Turn	Angle	Dark-Lighted	0	2	0	0	2	0	0
2015	34TH ST	50TH AVE	Rear End	Front to Rear	Daylight	0	3	0	3	0	0	0
2015	34TH ST	50TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2015	34TH ST	50TH AVE	Angle	Angle	Daylight	0	0	0	0	0	0	0
2015	34TH ST	50TH AVE	Angle	Angle	Daylight	0	1	0	0	1	0	0
2015	34TH ST	50TH AVE	Sideswipe	Angle	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	50TH AVE	Pedestrian	Angle	Daylight	0	1	0	1	0	1	0
2015	34TH ST	50TH AVE	Angle	Angle	Dark-Lighted	0	1	0	0	1	0	0
2015	34TH ST	50TH AVE	Angle	Angle	Dark-Lighted	0	1	0	0	1	0	0
2015	34TH ST	50TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2015	34TH ST	54TH AVE	Pedestrian	No Data	Dark-Lighted	0	1	0	0	1	1	0
2015	34TH ST	54TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	1	0	0
2015	34TH ST	54TH AVE	Angle	Front to Front	Daylight	0	2	0	2	0	0	0

Crash Year	Event On Street	Event Cross Street	Crash Type	Event Impact Type	Event Lighting Condition	Total Fatalities	Total Injuries	Total Serious	Total Non-Incapacitating	Total	Pedestrian Involved	Bicycle Involved
2015	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	34TH ST	54TH AVE	Rear End	Front to Rear	Dark-Lighted	0	3	0	0	3	0	0
2015	34TH ST	54TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST	54TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST		Rear End	Front to Rear	Unknown	0	0	0	0	0	0	0
2015	34TH ST		Hit Fixed Object	Rear to Rear	Unknown	0	0	0	0	0	0	0
2015	34TH ST		Hit Fixed Object	Other, Explain in Narrative	Unknown	0	0	0	0	0	0	0
2015	34TH ST		Hit Fixed Object	Front to Rear	Unknown	0	0	0	0	0	0	0
2015	34TH ST		U-Turn	Front to Front	Dark-Lighted	0	0	0	0	0	0	0
2015	34TH ST		Hit Fixed Object	Unknown	Unknown	0	0	0	0	0	0	0
2015	34TH ST		Unknown	Rear to Side	Other, Explain in Narrative	0	0	0	0	0	0	0
2015	34TH ST		Hit Fixed Object	Angle	Unknown	0	0	0	0	0	0	0
2015	34TH ST	22ND AVE S	Angle	Angle	Unknown	0	0	0	0	0	0	0
2015	38TH AVE	34TH ST	Left Turn	Front to Front	Daylight	0	0	0	0	0	0	0
2015	38TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	54TH AVE	34TH ST	Left Turn	Angle	Dark-Lighted	0	0	0	0	1	0	0
2015	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	54TH AVE	34TH ST	Angle	Angle	Daylight	0	0	0	0	0	0	0
2015	54TH AVE	34TH ST	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2015	54TH AVE	34TH ST	Rear End	Front to Rear	Dusk	0	1	0	0	1	0	0
2015	54TH AVE	34TH ST	Sideswipe	Sideswipe, same direction	Unknown	0	0	0	0	0	0	0
2015	54TH AVE	SR-682	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	1	0	0
2015	54TH AVE	SR-682	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2015	54TH AVE	SR-682	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2015	54TH AVE	US 19	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2015	54TH AVE		Sideswipe	Sideswipe, same direction	Other, Explain in Narrative	0	0	0	0	0	0	0
2015	54TH AVE	54TH AVE	Hit Fixed Object	Other, Explain in Narrative	Dark-Lighted	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Left Turn	Angle	Daylight	0	2	0	0	2	0	0
2016	22ND AVE	34TH ST	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	2	0	0	2	0	0
2016	22ND AVE	34TH ST	Angle	Angle	Daylight	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Left Turn	Unknown	Dark-Lighted	0	0	0	0	2	0	0
2016	22ND AVE	34TH ST	Sideswipe	Sideswipe, same direction	Dark-Lighted	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Left Turn	Angle	Daylight	0	0	0	0	2	0	0
2016	22ND AVE	34TH ST	Angle	Angle	Daylight	0	0	0	0	2	0	0
2016	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	22ND AVE	CR 296	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2016	22ND AVE	22ND AVE S	Sideswipe	Sideswipe, same direction	Dark-Lighted	0	0	0	0	0	0	0
2016	26TH AVE	34TH ST	Angle	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	26TH AVE	34TH ST	Angle	Angle	Daylight	0	0	0	0	0	0	0
2016	26TH AVE	34TH ST	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	0	0	0	1	0	0
2016	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Sideswipe	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Rear End	Front to Rear	Dark-Lighted	0	1	0	0	1	0	0
2016	34TH ST	22ND AVE S	Rear End	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	1	1	0	0	0	0
2016	34TH ST	22ND AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	1	0	0
2016	34TH ST	22ND AVE S	Angle	Angle	Daylight	0	0	0	0	1	0	0
2016	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	1	0	0	1	0	0
2016	34TH ST	22ND AVE S	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Rear End	Front to Rear	Dark-Lighted	0	1	0	0	1	0	0
2016	34TH ST	22ND AVE S	Rear End	Front to Rear	Dark-Lighted	0	2	0	0	2	0	0
2016	34TH ST	22ND AVE S	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2016	34TH ST	22ND AVE S	Bike	No Data	Daylight	0	0	0	0	0	0	1
2016	34TH ST	26TH AVE	Left Turn	Angle	Dark-Lighted	0	0	0	0	7	0	0
2016	34TH ST	26TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	26TH AVE	Angle	Angle	Dark-Lighted	0	0	0	0	0	0	0

Crash Year	Event On Street	Event Cross Street	Crash Type	Event Impact Type	Event Lighting Condition	Total Fatalities	Total Injuries	Total Serious	Total Non-Incapacitating	Total	Pedestrian Involved	Bicycle Involved
2016	34TH ST	26TH AVE	Left Turn	Angle	Daylight	0	0	0	0	1	0	0
2016	34TH ST	26TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	26TH AVE	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	26TH AVE	Angle	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	26TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	26TH AVE	Angle	Angle	Dark-Lighted	0	1	0	1	0	0	0
2016	34TH ST	26TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	26TH AVE	Left Turn	Angle	Daylight	0	3	2	1	1	0	0
2016	34TH ST	26TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	26TH AVE	Bike	Unknown	Daylight	0	0	0	0	0	0	1
2016	34TH ST	26TH AVE	Sideswipe	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	26TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	26TH AVE	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2016	34TH ST	26TH AVE	Angle	Other, Explain in Narrative	Daylight	0	0	0	0	0	0	0
2016	34TH ST	32ND AVE S	Single Vehicle	No Data	Daylight	0	1	0	0	1	0	0
2016	34TH ST	32ND AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	34TH AVE	Angle	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	36TH AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	38TH AVE	Angle	Front to Front	Daylight	0	0	0	0	0	0	0
2016	34TH ST	38TH AVE	Left Turn	Angle	Daylight	0	3	0	3	3	0	0
2016	34TH ST	38TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	38TH AVE	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	38TH AVE	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	38TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	38TH AVE	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	42ND AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	42ND AVE S	Angle	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	42ND AVE S	U-Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	42ND AVE S	Hit Fixed Object	No Data	Dark-Lighted	0	1	0	0	1	0	0
2016	34TH ST	42ND AVE S	Hit Fixed Object	No Data	Daylight	0	1	0	0	1	0	0
2016	34TH ST	42ND AVE S	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Angle	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Angle	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Sideswipe	Sideswipe, same direction	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Hit Non-Fixed Object	No Data	Daylight	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Sideswipe	Sideswipe, same direction	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Hit Fixed Object	No Data	Daylight	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Hit Fixed Object	No Data	Daylight	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Hit Fixed Object	No Data	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Rear End	Sideswipe, same direction	Daylight	0	2	0	2	0	0	0
2016	34TH ST	46TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	46TH AVE	Sideswipe	Sideswipe, same direction	Dark-Lighted	0	1	0	0	1	0	0
2016	34TH ST	46TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	50TH AVE	Angle	Front to Rear	Dusk	0	0	0	0	0	0	0
2016	34TH ST	50TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	50TH AVE	Angle	Angle	Daylight	0	1	0	0	1	0	0
2016	34TH ST	50TH AVE	Rear End	Front to Rear	Daylight	0	2	2	0	0	0	0
2016	34TH ST	50TH AVE	Right Turn	Angle	Daylight	0	2	1	1	0	0	0
2016	34TH ST	50TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	50TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	50TH AVE	Angle	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	50TH AVE	Angle	Angle	Daylight	0	1	0	1	0	0	0
2016	34TH ST	50TH AVE	Sideswipe	Sideswipe, same direction	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	50TH AVE	Pedestrian	No Data	Dark-Lighted	0	1	0	1	0	1	0
2016	34TH ST	50TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	50TH AVE	Sideswipe	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	50TH AVE	Angle	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Rear End	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Sideswipe	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Rear End	Front to Rear	Dark-Lighted	0	1	0	1	0	0	0
2016	34TH ST	54TH AVE	Sideswipe	Angle	Daylight	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	34TH ST	54TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2016	38TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	38TH AVE	34TH ST	Pedestrian	No Data	Dark-Not Lighted	0	1	0	0	1	1	0

Crash Year	Event On Street	Event Cross Street	Crash Type	Event Impact Type	Event Lighting Condition	Total Fatalities	Total Injuries	Total Serious	Total Non-Incapacitating	Total	Pedestrian Involved	Bicycle Involved
2016	38TH AVE	34TH ST	Angle	Angle	Daylight	0	0	0	0	1	0	0
2016	46TH AVE S	34TH ST	Left Turn	Angle	Dusk	0	0	0	0	0	0	0
2016	46TH AVE S	34TH ST	Angle	Angle	Dark-Lighted	0	0	0	0	0	0	0
2016	46TH AVE S	34TH ST	Angle	Angle	Daylight	0	0	0	0	1	0	0
2016	54TH AVE	34TH ST	Left Turn	Angle	Dark-Lighted	0	0	0	0	1	0	0
2016	54TH AVE	34TH ST	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	54TH AVE	34TH ST	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	54TH AVE	34TH ST	Bike	No Data	Daylight	0	1	0	1	0	0	1
2016	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	54TH AVE	34TH ST	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	54TH AVE	34TH ST	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2016	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2016	54TH AVE	34TH ST	Hit Fixed Object	No Data	Dark-Lighted	0	0	0	0	0	0	0
2016	54TH AVE	34TH ST	Rear End	Angle	Daylight	0	0	0	0	0	0	0
2016	54TH AVE	34TH ST	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2016	54TH AVE	31ST ST S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	22ND AVE	34TH ST	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	22ND AVE	34TH ST	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	22ND AVE	34TH ST	Pedestrian	No Data	Dark-Unknown Lighting	0	1	0	0	1	1	0
2017	22ND AVE	34TH ST	Angle	Angle	Daylight	0	0	0	0	0	0	0
2017	22ND AVE	34TH ST	Sideswipe	Angle	Daylight	0	0	0	0	0	0	0
2017	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	22ND AVE	34TH ST	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	22ND AVE	34TH ST	Angle	Angle	Daylight	0	0	0	0	0	0	0
2017	22ND AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	22ND AVE	49TH ST	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	26TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	26TH AVE	34TH ST	Angle	Angle	Dusk	0	0	0	0	0	0	0
2017	26TH AVE	34TH ST	Angle	Angle	Dark-Lighted	0	1	0	1	2	0	0
2017	26TH AVE	34TH ST	Angle	Angle	Daylight	0	0	0	0	1	0	0
2017	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2017	34TH ST	22ND AVE S	Hit Fixed Object	Angle	Daylight	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Rear End	Front to Rear	Dusk	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Left Turn	Angle	Dark-Lighted	0	1	0	1	2	0	0
2017	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Sideswipe	Sideswipe, same direction	Dark-Lighted	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Rear End	Front to Rear	Dark-Lighted	0	2	0	0	2	0	0
2017	34TH ST	22ND AVE S	Sideswipe	Sideswipe, same direction	Dark-Lighted	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	U-Turn	Angle	Dawn	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Angle	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	0	0	0	1	0	0
2017	34TH ST	22ND AVE S	Left Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2017	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	0	0	0	1	0	0
2017	34TH ST	22ND AVE S	Left Turn	Angle	Daylight	0	1	0	1	1	0	0
2017	34TH ST	22ND AVE S	Sideswipe	Angle	Daylight	0	0	0	0	0	0	0
2017	34TH ST	26TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	26TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	26TH AVE	Left Turn	Angle	Dark-Not Lighted	0	0	0	0	0	0	0
2017	34TH ST	26TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2017	34TH ST	26TH AVE	Left Turn	Angle	Daylight	0	0	0	0	2	0	0
2017	34TH ST	26TH AVE	Angle	Angle	Daylight	0	0	0	0	0	0	0
2017	34TH ST	26TH AVE	Hit Fixed Object	No Data	Dark-Lighted	0	0	0	0	0	0	0
2017	34TH ST	26TH AVE	Rear End	Front to Rear	Dark-Lighted	0	1	0	0	1	0	0
2017	34TH ST	26TH AVE	Pedestrian	No Data	Daylight	0	1	0	0	1	1	0
2017	34TH ST	30TH AVE S	Hit Fixed Object	No Data	Daylight	0	1	0	0	1	0	0
2017	34TH ST	32ND AVE S	Angle	Angle	Daylight	0	1	0	0	1	0	0
2017	34TH ST	36TH AVE S	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	38TH AVE	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	34TH ST	38TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	1	0	0	1	0	0
2017	34TH ST	38TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	34TH ST	46TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2017	34TH ST	46TH AVE	Sideswipe	Front to Rear	Dark-Lighted	0	1	0	0	1	0	0
2017	34TH ST	46TH AVE	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2017	34TH ST	46TH AVE	Sideswipe	Sideswipe, Opposite direction	Daylight	0	0	0	0	0	0	0
2017	34TH ST	46TH AVE	Hit Fixed Object	No Data	Dark-Lighted	0	1	0	1	0	0	0
2017	34TH ST	46TH AVE	Angle	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	34TH ST	46TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	34TH ST	46TH AVE	Angle	Angle	Dusk	0	1	0	1	0	0	0

Crash Year	Event On Street	Event Cross Street	Crash Type	Event Impact Type	Event Lighting Condition	Total Fatalities	Total Injuries	Total Serious	Total Non-Incapacitating	Total	Pedestrian Involved	Bicycle Involved
2017	34TH ST	50TH AVE	Angle	Angle	Daylight	0	2	0	0	2	0	0
2017	34TH ST	50TH AVE	U-Turn	Angle	Daylight	0	1	0	0	1	0	0
2017	34TH ST	50TH AVE	U-Turn	Angle	Dark-Lighted	0	0	0	0	0	0	0
2017	34TH ST	50TH AVE	Angle	Angle	Daylight	0	1	0	0	1	0	0
2017	34TH ST	50TH AVE	Angle	Angle	Daylight	0	0	0	0	0	0	0
2017	34TH ST	50TH AVE	Rear End	Front to Rear	Dark-Lighted	0	2	0	0	2	0	0
2017	34TH ST	50TH AVE	Angle	Angle	Daylight	0	2	0	0	2	0	0
2017	34TH ST	50TH AVE	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2017	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Pedestrian	No Data	Daylight	0	1	0	1	0	1	0
2017	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Rear End	Front to Rear	Dark-Lighted	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Rear End	Angle	Dusk	0	0	0	0	0	0	0
2017	34TH ST	54TH AVE	Rear End	Sideswipe, same direction	Dawn	0	0	0	0	0	0	0
2017	38TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	38TH AVE	34TH ST	Rear End	Angle	Dark-Lighted	0	0	0	0	0	0	0
2017	54TH AVE	31ST ST S	Rear End	Sideswipe, same direction	Dark-Lighted	0	0	0	0	0	0	0
2017	54TH AVE	31ST ST S	Sideswipe	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	54TH AVE	31ST ST S	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	54TH AVE	31ST ST S	Rear End	Sideswipe, same direction	Daylight	0	0	0	0	0	0	0
2017	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2017	54TH AVE	34TH ST	Sideswipe	Rear to Side	Daylight	0	0	0	0	0	0	0
2017	54TH AVE	34TH ST	Right Turn	Angle	Daylight	0	0	0	0	0	0	0
2017	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	54TH AVE	34TH ST	Rear End	Sideswipe, same direction	Dark-Lighted	0	0	0	0	0	0	0
2017	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	54TH AVE	34TH ST	Angle	Angle	Daylight	0	1	0	1	0	0	0
2017	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	54TH AVE	34TH ST	Hit Fixed Object	No Data	Dark-Lighted	0	1	0	1	0	0	0
2017	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2017	54TH AVE	34TH ST	Left Turn	Angle	Daylight	0	0	0	0	0	0	0
2017	54TH AVE	34TH ST	Sideswipe	Angle	Daylight	0	0	0	0	0	0	0
2017	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	1	0	0	1	0	0
2017	54TH AVE	34TH ST	Left Turn	Angle	Daylight	0	3	2	1	0	0	0
2017	54TH AVE	34TH ST	Rear End	Front to Rear	Daylight	0	0	0	0	0	0	0
2017	54TH AVE	34TH ST	Left Turn	Angle	Daylight	0	0	0	0	0	0	0

Appendix F
Synchro Output






















Existing Year (2018) Analysis

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: 34th Street & 46th Avenue






















07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	5	25	15	10	5	65	485	25	40	640	20
Future Volume (veh/h)	50	5	25	15	10	5	65	485	25	40	640	20
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	55	5	27	16	11	0	71	533	27	44	703	22
Adj No. of Lanes	0	1	0	0	1	1	1	3	0	1	3	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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	143	20	53	139	85	178	563	3832	193	709	3916	122
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	1.00	1.00	1.00	0.52	0.52	0.52
Sat Flow, veh/h	858	173	464	838	748	1568	719	4911	247	838	5018	157
Grp Volume(v), veh/h	87	0	0	27	0	0	71	363	197	44	470	255
Grp Sat Flow(s),veh/h/ln	1494	0	0	1586	0	1568	719	1679	1801	838	1679	1817
Q Serve(g_s), s	5.2	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	3.4	9.6	9.6
Cycle Q Clear(g_c), s	6.9	0.0	0.0	1.8	0.0	0.0	11.0	0.0	0.0	3.4	9.6	9.6
Prop In Lane	0.63		0.31	0.59		1.00	1.00		0.14	1.00		0.09
Lane Grp Cap(c), veh/h	215	0	0	224	0	178	563	2620	1405	709	2620	1418
V/C Ratio(X)	0.40	0.00	0.00	0.12	0.00	0.00	0.13	0.14	0.14	0.06	0.18	0.18
Avail Cap(c_a), veh/h	419	0	0	438	0	398	563	2620	1405	709	2620	1418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.78	0.78	0.78	0.98	0.98	0.98
Uniform Delay (d), s/veh	54.0	0.0	0.0	51.8	0.0	0.0	0.5	0.0	0.0	7.6	9.1	9.1
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.3	0.0	0.0	0.4	0.1	0.2	0.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	0.0	0.0	1.6	0.0	0.0	0.6	0.1	0.1	1.5	8.0	8.6
LnGrp Delay(d),s/veh	55.8	0.0	0.0	52.2	0.0	0.0	0.9	0.1	0.2	7.8	9.2	9.4
LnGrp LOS	E			D			A	A	A	A	A	A
Approach Vol, veh/h		87			27			631			769	
Approach Delay, s/veh		55.8			52.2			0.2			9.2	
Approach LOS		E			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		108.2		21.8		108.2		21.8				
Change Period (Y+Rc), s		6.8		7.0		6.8		7.0				
Max Green Setting (Gmax), s		83.2		33.0		83.2		33.0				
Max Q Clear Time (g_c+I1), s		11.6		3.8		13.0		8.9				
Green Ext Time (p_c), s		11.4		0.9		11.4		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

3: 34th Street & 38th Avenue

07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	50	20	60	35	95	15	800	25	60	645	50
Future Volume (veh/h)	55	50	20	60	35	95	15	800	25	60	645	50
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	60	55	22	66	38	104	16	879	27	66	709	55
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	77	131	52	84	47	130	30	2970	91	84	2967	229
Arrive On Green	0.04	0.10	0.10	0.05	0.11	0.11	0.01	0.20	0.20	0.10	1.00	1.00
Sat Flow, veh/h	1757	1254	502	1757	437	1196	1757	5021	154	1757	4769	368
Grp Volume(v), veh/h	60	0	77	66	0	142	16	587	319	66	498	266
Grp Sat Flow(s),veh/h/ln	1757	0	1756	1757	0	1634	1757	1679	1817	1757	1679	1780
Q Serve(g_s), s	4.4	0.0	5.3	4.8	0.0	11.0	1.2	19.4	19.5	4.8	0.0	0.0
Cycle Q Clear(g_c), s	4.4	0.0	5.3	4.8	0.0	11.0	1.2	19.4	19.5	4.8	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.73	1.00		0.08	1.00		0.21
Lane Grp Cap(c), veh/h	77	0	183	84	0	177	30	1986	1075	84	2089	1107
V/C Ratio(X)	0.78	0.00	0.42	0.78	0.00	0.80	0.54	0.30	0.30	0.79	0.24	0.24
Avail Cap(c_a), veh/h	170	0	390	170	0	363	124	1986	1075	138	2089	1107
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.99	0.99	0.99	0.92	0.92	0.92
Uniform Delay (d), s/veh	61.5	0.0	54.5	61.2	0.0	56.6	64.1	29.2	29.2	58.2	0.0	0.0
Incr Delay (d2), s/veh	15.4	0.0	1.5	14.4	0.0	8.1	14.3	0.4	0.7	14.1	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.4	0.0	4.8	4.8	0.0	9.2	1.2	14.1	15.2	4.7	0.1	0.3
LnGrp Delay(d),s/veh	76.9	0.0	56.1	75.6	0.0	64.6	78.4	29.6	29.9	72.3	0.2	0.5
LnGrp LOS	E		E	E		E	E	C	C	E	A	A
Approach Vol, veh/h		137			208			922			830	
Approach Delay, s/veh		65.2			68.1			30.5			6.1	
Approach LOS		E			E			C			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	87.7	12.1	21.2	13.0	83.7	12.6	20.7				
Change Period (Y+Rc), s	6.8	6.8	6.4	* 7.1	6.8	6.8	6.4	* 7.1				
Max Green Setting (Gmax), s	9.2	52.2	12.6	* 29	10.2	51.2	12.6	* 29				
Max Q Clear Time (g_c+I1), s	3.2	2.0	6.4	13.0	6.8	21.5	6.8	7.3				
Green Ext Time (p_c), s	0.0	14.4	0.0	1.1	0.0	12.3	0.1	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			26.8									
HCM 2010 LOS			C									
Notes												
























* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 methodology does not support exclusive ped or hold phases.

HCM 2010 Signalized Intersection Summary






















5: 34th Street & 26th Avenue

07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	85	25	90	115	325	50	740	65	250	1100	15
Future Volume (veh/h)	25	85	25	90	115	325	50	740	65	250	1100	15
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	27	93	27	99	126	357	55	813	71	275	1209	16
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	197	296	86	254	397	338	116	2222	193	273	2884	38
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.13	0.94	0.94	0.31	1.00	1.00
Sat Flow, veh/h	900	1375	399	1254	1845	1568	1757	4719	410	1757	5122	68
Grp Volume(v), veh/h	27	0	120	99	126	357	55	577	307	275	792	433
Grp Sat Flow(s),veh/h/ln	900	0	1774	1254	1845	1568	1757	1679	1772	1757	1679	1833
Q Serve(g_s), s	3.4	0.0	7.4	9.4	7.5	28.0	3.8	2.0	2.0	20.2	0.0	0.0
Cycle Q Clear(g_c), s	10.9	0.0	7.4	16.8	7.5	28.0	3.8	2.0	2.0	20.2	0.0	0.0
Prop In Lane	1.00		0.22	1.00		1.00	1.00		0.23	1.00		0.04
Lane Grp Cap(c), veh/h	197	0	382	254	397	338	116	1581	834	273	1890	1032
V/C Ratio(X)	0.14	0.00	0.31	0.39	0.32	1.06	0.47	0.37	0.37	1.01	0.42	0.42
Avail Cap(c_a), veh/h	197	0	382	254	397	338	116	1581	834	273	1890	1032
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97	0.46	0.46	0.46
Uniform Delay (d), s/veh	47.5	0.0	42.9	50.0	42.9	51.0	54.3	2.1	2.1	44.8	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.5	1.0	0.5	64.8	12.8	0.6	1.2	38.7	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	0.0	6.6	6.0	7.0	32.7	4.0	1.7	2.0	22.7	0.1	0.3
LnGrp Delay(d),s/veh	47.8	0.0	43.4	50.9	43.4	115.8	67.1	2.7	3.3	83.5	0.3	0.6
LnGrp LOS	D		D	D	D	F	E	A	A	F	A	A
Approach Vol, veh/h		147			582			939			1500	
Approach Delay, s/veh		44.2			89.1			6.7			15.6	
Approach LOS		D			F			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	80.0		35.0	27.0	68.0		35.0				
Change Period (Y+Rc), s	6.4	6.8		7.0	6.8	6.8		7.0				
Max Green Setting (Gmax), s	8.6	73.2		28.0	20.2	61.2		28.0				
Max Q Clear Time (g_c+I1), s	5.8	2.0		30.0	22.2	4.0		12.9				
Green Ext Time (p_c), s	0.0	24.0		0.0	0.0	22.7		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				27.8								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary
6: 34th Street & 22nd Avenue

























07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	565	85	305	540	170	225	700	155	155	990	60
Future Volume (veh/h)	60	565	85	305	540	170	225	700	155	155	990	60
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1660	1660	1710	1660	1660	1710	1660	1660	1710	1660	1660	1710
Adj Flow Rate, veh/h	66	621	93	335	593	187	247	769	170	170	1088	66
Adj No. of Lanes	1	2	0	2	2	0	1	3	0	1	3	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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	81	657	98	361	721	227	178	1207	264	171	1417	86
Arrive On Green	0.05	0.24	0.24	0.12	0.30	0.30	0.15	0.43	0.43	0.11	0.32	0.32
Sat Flow, veh/h	1581	2753	412	3067	2363	744	1581	3722	816	1581	4370	265
Grp Volume(v), veh/h	66	355	359	335	395	385	247	623	316	170	752	402
Grp Sat Flow(s),veh/h/ln	1581	1577	1588	1534	1577	1529	1581	1511	1516	1581	1511	1613
Q Serve(g_s), s	5.4	28.8	28.9	14.1	30.2	30.4	14.6	21.0	21.3	14.0	29.1	29.2
Cycle Q Clear(g_c), s	5.4	28.8	28.9	14.1	30.2	30.4	14.6	21.0	21.3	14.0	29.1	29.2
Prop In Lane	1.00		0.26	1.00		0.49	1.00		0.54	1.00		0.16
Lane Grp Cap(c), veh/h	81	377	379	361	481	466	178	980	492	171	980	523
V/C Ratio(X)	0.81	0.94	0.95	0.93	0.82	0.82	1.39	0.64	0.64	0.99	0.77	0.77
Avail Cap(c_a), veh/h	101	380	382	361	481	466	178	980	492	171	980	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.0	48.6	48.7	56.8	41.9	42.0	55.3	31.0	31.0	57.9	39.5	39.5
Incr Delay (d2), s/veh	31.5	31.8	32.3	29.7	11.0	11.5	203.1	2.7	5.5	66.0	5.7	10.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	22.4	22.6	11.9	20.9	20.5	29.5	13.7	14.3	14.2	18.8	20.7
LnGrp Delay(d),s/veh	92.5	80.4	81.0	86.5	52.9	53.4	258.4	33.7	36.6	123.9	45.3	49.9
LnGrp LOS	F	F	F	F	D	D	F	C	D	F	D	D
Approach Vol, veh/h		780			1115			1186			1324	
Approach Delay, s/veh		81.7			63.2			81.3			56.8	
Approach LOS		F			E			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	49.3	13.4	46.3	21.0	49.3	22.0	37.7				
Change Period (Y+Rc), s	6.4	* 7.1	6.7	6.7	6.9	* 7.1	6.7	6.7				
Max Green Setting (Gmax), s	14.6	* 42	8.3	38.3	14.1	* 42	15.3	31.3				
Max Q Clear Time (g_c+I1), s	16.6	31.2	7.4	32.4	16.0	23.3	16.1	30.9				
Green Ext Time (p_c), s	0.0	8.2	0.0	4.0	0.0	12.6	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay				69.4								
HCM 2010 LOS				E								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 1: 54th Avenue & 34th Street

07/06/2018




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	290	230	200	300	540	270	240	70	845	295	285
Future Volume (veh/h)	280	290	230	200	300	540	270	240	70	845	295	285
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	292	302	0	208	312	562	281	250	73	880	307	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	2	1	1
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	178	1192	533	102	1041	466	255	508	227	906	476	404
Arrive On Green	0.10	0.34	0.00	0.06	0.30	0.30	0.14	0.14	0.14	0.09	0.09	0.00
Sat Flow, veh/h	1757	3505	1568	1757	3505	1568	1757	3505	1568	3514	1845	1568
Grp Volume(v), veh/h	292	302	0	208	312	562	281	250	73	880	307	0
Grp Sat Flow(s),veh/h/ln	1757	1752	1568	1757	1752	1568	1757	1752	1568	1757	1845	1568
Q Serve(g_s), s	14.2	8.7	0.0	8.1	9.6	41.6	20.3	9.2	5.8	35.0	22.6	0.0
Cycle Q Clear(g_c), s	14.2	8.7	0.0	8.1	9.6	41.6	20.3	9.2	5.8	35.0	22.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1192	533	102	1041	466	255	508	227	906	476	404
V/C Ratio(X)	1.64	0.25	0.00	2.05	0.30	1.21	1.10	0.49	0.32	0.97	0.65	0.00
Avail Cap(c_a), veh/h	178	1192	533	102	1041	466	255	508	227	906	476	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.00
Uniform Delay (d), s/veh	62.9	33.4	0.0	65.9	38.0	49.2	59.8	55.1	53.7	63.5	57.8	0.0
Incr Delay (d2), s/veh	311.3	0.5	0.0	503.3	0.7	111.6	86.8	0.7	0.8	22.0	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	40.1	7.7	0.0	32.6	8.3	58.4	28.8	8.0	4.6	26.8	17.4	0.0
LnGrp Delay(d),s/veh	374.2	33.9	0.0	569.2	38.7	160.8	146.6	55.8	54.5	85.5	60.6	0.0
LnGrp LOS	F	C		F	D	F	F	E	D	F	E	
Approach Vol, veh/h		594			1082			604			1187	
Approach Delay, s/veh		201.2			204.1			97.9			79.1	
Approach LOS		F			F			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.0	49.0		43.0	15.0	55.0		27.0				
Change Period (Y+Rc), s	6.8	7.4		6.9	6.9	7.4		6.7				
Max Green Setting (Gmax), s	14.2	41.6		36.1	8.1	47.6		20.3				
Max Q Clear Time (g_c+I1), s	16.2	43.6		37.0	10.1	10.7		22.3				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	6.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			142.3									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary






















2: 34th Street & 46th Avenue

07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	5	40	15	5	10	70	790	10	25	1420	25
Future Volume (veh/h)	75	5	40	15	5	10	70	790	10	25	1420	25
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	78	5	42	16	5	0	73	823	10	26	1479	26
Adj No. of Lanes	0	1	0	0	1	1	1	3	0	1	3	0
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	136	11	54	151	41	167	324	4076	49	568	4050	71
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	887	107	503	988	386	1568	343	5129	62	650	5097	90
Grp Volume(v), veh/h	125	0	0	21	0	0	73	539	294	26	974	531
Grp Sat Flow(s),veh/h/ln	1498	0	0	1374	0	1568	343	1679	1834	650	1679	1829
Q Serve(g_s), s	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.62		0.34	0.76		1.00	1.00		0.03	1.00		0.05
Lane Grp Cap(c), veh/h	202	0	0	192	0	167	324	2668	1457	568	2668	1453
V/C Ratio(X)	0.62	0.00	0.00	0.11	0.00	0.00	0.23	0.20	0.20	0.05	0.37	0.37
Avail Cap(c_a), veh/h	338	0	0	326	0	314	324	2668	1457	568	2668	1453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.35	0.35	0.35	0.80	0.80	0.80
Uniform Delay (d), s/veh	60.7	0.0	0.0	56.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.4	0.0	0.0	0.4	0.0	0.0	0.6	0.1	0.1	0.1	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	0.0	0.0	1.4	0.0	0.0	0.1	0.0	0.1	0.0	0.2	0.4
LnGrp Delay(d),s/veh	65.1	0.0	0.0	56.9	0.0	0.0	0.6	0.1	0.1	0.1	0.3	0.6
LnGrp LOS	E			E			A	A	A	A	A	A
Approach Vol, veh/h		125			21			906			1531	
Approach Delay, s/veh		65.1			56.9			0.1			0.4	
Approach LOS		E			E			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		118.1		21.9		118.1		21.9				
Change Period (Y+Rc), s		6.8		7.0		6.8		7.0				
Max Green Setting (Gmax), s		98.2		28.0		98.2		28.0				
Max Q Clear Time (g_c+I1), s		2.0		3.8		2.0		13.3				
Green Ext Time (p_c), s		37.4		1.1		37.4		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			3.9									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary
 3: 34th Street & 38th Avenue

07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	40	20	35	65	60	40	900	50	110	1545	75
Future Volume (veh/h)	100	40	20	35	65	60	40	900	50	110	1545	75
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	104	42	21	36	68	62	42	938	52	115	1609	78
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	126	163	81	47	85	78	54	2741	152	138	2995	145
Arrive On Green	0.07	0.14	0.14	0.03	0.10	0.10	0.01	0.19	0.19	0.16	1.00	1.00
Sat Flow, veh/h	1757	1161	581	1757	890	811	1757	4884	270	1757	4921	238
Grp Volume(v), veh/h	104	0	63	36	0	130	42	644	346	115	1097	590
Grp Sat Flow(s),veh/h/ln	1757	0	1742	1757	0	1701	1757	1679	1797	1757	1679	1803
Q Serve(g_s), s	8.2	0.0	4.5	2.9	0.0	10.5	3.3	23.4	23.4	8.9	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	4.5	2.9	0.0	10.5	3.3	23.4	23.4	8.9	0.0	0.0
Prop In Lane	1.00		0.33	1.00		0.48	1.00		0.15	1.00		0.13
Lane Grp Cap(c), veh/h	126	0	244	47	0	163	54	1884	1008	138	2043	1097
V/C Ratio(X)	0.83	0.00	0.26	0.76	0.00	0.80	0.78	0.34	0.34	0.84	0.54	0.54
Avail Cap(c_a), veh/h	133	0	347	133	0	339	128	1884	1008	291	2043	1097
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	0.99	0.99	0.99	0.75	0.75	0.75
Uniform Delay (d), s/veh	64.1	0.0	53.7	67.7	0.0	62.0	68.8	34.6	34.6	58.2	0.0	0.0
Incr Delay (d2), s/veh	32.1	0.0	0.6	21.8	0.0	8.7	20.4	0.5	0.9	9.5	0.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	0.0	4.0	3.0	0.0	9.1	3.5	16.4	17.6	7.7	0.4	0.8
LnGrp Delay(d),s/veh	96.2	0.0	54.3	89.5	0.0	70.7	89.2	35.0	35.5	67.7	0.8	1.4
LnGrp LOS	F		D	F		E	F	D	D	E	A	A
Approach Vol, veh/h		167			166			1032			1802	
Approach Delay, s/veh		80.4			74.8			37.4			5.2	
Approach LOS		F			E			D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	92.0	16.4	20.5	17.8	85.4	10.2	26.7				
Change Period (Y+Rc), s	6.8	6.8	6.4	* 7.1	6.8	6.8	6.4	* 7.1				
Max Green Setting (Gmax), s	10.2	64.2	10.6	* 28	23.2	51.2	10.6	* 28				
Max Q Clear Time (g_c+I1), s	5.3	2.0	10.2	12.5	10.9	25.4	4.9	6.5				
Green Ext Time (p_c), s	0.0	34.6	0.0	0.9	0.2	19.5	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			23.3									
HCM 2010 LOS			C									
Notes												
























* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 methodology does not support exclusive ped or hold phases.

HCM 2010 Signalized Intersection Summary






















5: 34th Street & 26th Avenue

07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	75	35	85	100	260	30	1040	100	195	1590	30
Future Volume (veh/h)	15	75	35	85	100	260	30	1040	100	195	1590	30
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	16	78	36	89	104	271	31	1083	104	203	1656	31
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	173	205	95	195	316	269	108	2277	218	341	3170	59
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.12	0.97	0.97	0.13	0.42	0.42
Sat Flow, veh/h	994	1196	552	1261	1845	1568	1757	4674	448	1757	5090	95
Grp Volume(v), veh/h	16	0	114	89	104	271	31	778	409	203	1092	595
Grp Sat Flow(s),veh/h/ln	994	0	1747	1261	1845	1568	1757	1679	1766	1757	1679	1828
Q Serve(g_s), s	2.0	0.0	8.1	9.4	6.9	24.0	2.2	1.6	1.6	15.3	33.9	33.9
Cycle Q Clear(g_c), s	8.9	0.0	8.1	17.5	6.9	24.0	2.2	1.6	1.6	15.3	33.9	33.9
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.25	1.00		0.05
Lane Grp Cap(c), veh/h	173	0	300	195	316	269	108	1635	860	341	2091	1138
V/C Ratio(X)	0.09	0.00	0.38	0.46	0.33	1.01	0.29	0.48	0.48	0.59	0.52	0.52
Avail Cap(c_a), veh/h	173	0	300	195	316	269	108	1635	860	341	2091	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	0.41	0.41	0.41
Uniform Delay (d), s/veh	54.9	0.0	51.4	59.2	50.9	58.0	58.6	0.9	0.9	55.7	25.3	25.3
Incr Delay (d2), s/veh	0.2	0.0	0.8	1.7	0.6	57.0	6.2	0.9	1.8	3.1	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	7.2	6.1	6.4	26.3	2.3	1.2	1.6	10.6	20.1	21.8
LnGrp Delay(d),s/veh	55.1	0.0	52.2	60.8	51.5	115.0	64.8	1.9	2.7	58.8	25.7	26.0
LnGrp LOS	E		D	E	D	F	E	A	A	E	C	C
Approach Vol, veh/h		130			464			1218			1890	
Approach Delay, s/veh		52.6			90.4			3.8			29.3	
Approach LOS		D			F			A			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	94.0		31.0	34.0	75.0		31.0				
Change Period (Y+Rc), s	6.4	6.8		7.0	6.8	6.8		7.0				
Max Green Setting (Gmax), s	8.6	87.2		24.0	27.2	68.2		24.0				
Max Q Clear Time (g_c+I1), s	4.2	35.9		26.0	17.3	3.6		10.9				
Green Ext Time (p_c), s	0.0	34.8		0.0	0.4	40.3		2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			29.4									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
6: 34th Street & 22nd Avenue

























07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	550	110	290	650	200	215	680	295	125	1055	80
Future Volume (veh/h)	85	550	110	290	650	200	215	680	295	125	1055	80
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1660	1660	1710	1660	1660	1710	1660	1660	1710	1660	1660	1710
Adj Flow Rate, veh/h	89	573	115	302	677	208	224	708	307	130	1099	83
Adj No. of Lanes	1	2	0	2	2	0	1	3	0	1	3	0
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
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	107	640	128	345	687	211	199	1097	470	150	1398	106
Arrive On Green	0.07	0.24	0.24	0.11	0.29	0.29	0.04	0.12	0.12	0.09	0.33	0.33
Sat Flow, veh/h	1581	2620	524	3067	2378	730	1581	3114	1333	1581	4300	324
Grp Volume(v), veh/h	89	344	344	302	449	436	224	687	328	130	772	410
Grp Sat Flow(s),veh/h/ln	1581	1577	1568	1534	1577	1531	1581	1511	1425	1581	1511	1603
Q Serve(g_s), s	7.8	29.5	29.7	13.6	39.6	39.6	17.6	30.4	30.8	11.4	32.4	32.5
Cycle Q Clear(g_c), s	7.8	29.5	29.7	13.6	39.6	39.6	17.6	30.4	30.8	11.4	32.4	32.5
Prop In Lane	1.00		0.33	1.00		0.48	1.00		0.94	1.00		0.20
Lane Grp Cap(c), veh/h	107	385	383	345	456	443	199	1065	502	150	983	521
V/C Ratio(X)	0.83	0.89	0.90	0.87	0.98	0.99	1.13	0.64	0.65	0.87	0.79	0.79
Avail Cap(c_a), veh/h	139	398	395	379	456	443	199	1065	502	159	983	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	51.1	51.2	61.1	49.5	49.5	67.1	53.5	53.7	62.5	42.8	42.8
Incr Delay (d2), s/veh	26.3	21.3	22.1	18.6	38.1	38.9	97.2	2.6	5.5	35.0	6.3	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.6	21.6	21.6	10.9	29.7	29.1	23.5	18.6	18.4	10.6	20.6	22.6
LnGrp Delay(d),s/veh	90.8	72.5	73.3	79.8	87.6	88.3	164.3	56.1	59.2	97.5	49.1	54.2
LnGrp LOS	F	E	E	E	F	F	F	E	E	F	D	D
Approach Vol, veh/h		777			1187			1239			1312	
Approach Delay, s/veh		75.0			85.9			76.5			55.5	
Approach LOS		E			F			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	52.6	16.2	47.2	20.2	56.4	22.5	40.9				
Change Period (Y+Rc), s	6.4	* 7.1	6.7	6.7	6.9	* 7.1	6.7	6.7				
Max Green Setting (Gmax), s	17.6	* 43	12.3	40.3	14.1	* 46	17.3	35.3				
Max Q Clear Time (g_c+I1), s	19.6	34.5	9.8	41.6	13.4	32.8	15.6	31.7				
Green Ext Time (p_c), s	0.0	6.9	0.0	0.0	0.0	10.0	0.2	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			72.6									
HCM 2010 LOS			E									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/06/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	170	100	35	275	445	125	155	30	340	95	210
Future Volume (vph)	210	170	100	35	275	445	125	155	30	340	95	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		220	150		145	150		150	290		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			120			120			45		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950	0.969	
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	3505	1568	1595	3253	1568
Flt Permitted	0.950			0.950			0.950			0.950	0.969	
Satd. Flow (perm)	1752	3505	1568	1752	3505	1568	1752	3505	1568	1595	3253	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209			489			153			231
Link Speed (mph)		40			40			45				45
Link Distance (ft)		434			1398			368				2679
Travel Time (s)		7.4			23.8			5.6				40.6
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 (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	231	187	110	38	302	489	137	170	33	374	104	231
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	231	187	110	38	302	489	137	170	33	187	291	231
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Free	Prot	NA	Perm	Split	NA	Perm	Split	NA	Free
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			Free			2			8			Free
Detector Phase	1	6		5	2	2	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	11.8	13.4		11.9	13.4	13.4	22.1	22.1	22.1	32.9	32.9	
Total Split (s)	21.0	55.0		15.0	49.0	49.0	27.0	27.0	27.0	33.0	33.0	
Total Split (%)	16.2%	42.3%		11.5%	37.7%	37.7%	20.8%	20.8%	20.8%	25.4%	25.4%	
Maximum Green (s)	14.2	47.6		8.1	41.6	41.6	20.3	20.3	20.3	26.1	26.1	
Yellow Time (s)	4.8	4.8		4.4	4.8	4.8	4.0	4.0	4.0	4.8	4.8	
All-Red Time (s)	2.0	2.6		2.5	2.6	2.6	2.7	2.7	2.7	2.1	2.1	
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)	6.8	7.4		6.9	7.4	7.4	6.7	6.7	6.7	6.9	6.9	
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	Max		None	C-Max	C-Max	None	None	None	None	None	

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/06/2018

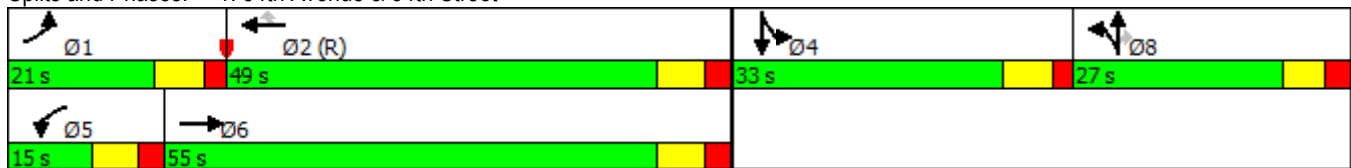


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	23.3	59.6	130.0	7.6	41.6	41.6	16.7	16.7	16.7	20.6	20.6	130.0
Actuated g/C Ratio	0.18	0.46	1.00	0.06	0.32	0.32	0.13	0.13	0.13	0.16	0.16	1.00
v/c Ratio	0.74	0.12	0.07	0.37	0.27	0.59	0.61	0.38	0.10	0.74	0.56	0.15
Control Delay	66.2	23.0	0.1	68.8	33.7	5.9	65.4	54.0	0.6	95.7	80.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.2	23.0	0.1	68.8	33.7	5.9	65.4	54.0	0.6	95.7	80.0	0.5
LOS	E	C	A	E	C	A	E	D	A	F	E	A
Approach Delay		37.1			18.9			53.4			58.2	
Approach LOS		D			B			D			E	
Queue Length 50th (ft)	183	47	0	31	99	0	112	71	0	178	136	0
Queue Length 95th (ft)	#405	83	0	69	138	82	176	104	0	269	186	14
Internal Link Dist (ft)		354			1318			288			2599	
Turn Bay Length (ft)	230		220	150		145	150		150	290		
Base Capacity (vph)	313	1607	1568	113	1121	834	273	547	373	320	653	1568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.12	0.07	0.34	0.27	0.59	0.50	0.31	0.09	0.58	0.45	0.15

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 71 (55%), Referenced to phase 2:WBT, Start of Green
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 39.4 Intersection LOS: D
 Intersection Capacity Utilization 69.1% 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: 1: 54th Avenue & 34th Street



Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↕↕		↕	↕↕↕	
Traffic Volume (vph)	50	5	25	15	10	5	65	485	25	40	640	20
Future Volume (vph)	50	5	25	15	10	5	65	485	25	40	640	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			130			35		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.958					0.850		0.993			0.995
Flt Protected		0.969			0.971		0.950			0.950		
Satd. Flow (prot)	0	1712	0	0	1791	1568	1752	5001	0	1752	5011	0
Flt Permitted		0.792			0.822		0.365			0.432		
Satd. Flow (perm)	0	1400	0	0	1516	1568	673	5001	0	797	5011	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				32		12			7	
Link Speed (mph)		30			25			45			45	
Link Distance (ft)		700			776			2679			2655	
Travel Time (s)		15.9			21.2			40.6			40.2	
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 (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	55	5	27	16	11	5	71	533	27	44	703	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	27	5	71	560	0	44	725	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
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Detector Phase	8	8		4	4	4	6	6		2	2	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	12.8	12.8		12.8	12.8	
Total Split (s)	40.0	40.0		40.0	40.0	40.0	90.0	90.0		90.0	90.0	
Total Split (%)	30.8%	30.8%		30.8%	30.8%	30.8%	69.2%	69.2%		69.2%	69.2%	
Maximum Green (s)	33.0	33.0		33.0	33.0	33.0	83.2	83.2		83.2	83.2	
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.8	4.8		4.8	4.8	
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		7.0			7.0	7.0	6.8	6.8		6.8	6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	

Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		15.7			15.7	15.7	100.5	100.5		100.5	100.5	
Actuated g/C Ratio		0.12			0.12	0.12	0.77	0.77		0.77	0.77	
v/c Ratio		0.47			0.15	0.02	0.14	0.14		0.07	0.19	
Control Delay		51.4			52.6	0.2	7.8	6.7		12.1	11.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		51.4			52.6	0.2	7.8	6.7		12.1	11.8	
LOS		D			D	A	A	A		B	B	
Approach Delay		51.4			44.4			6.8			11.8	
Approach LOS		D			D			A			B	
Queue Length 50th (ft)		56			21	0	24	68		18	135	
Queue Length 95th (ft)		109			50	0	m43	87		64	220	
Internal Link Dist (ft)		620			696			2599			2575	
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		368			384	421	519	3867		615	3873	
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			0.07	0.01	0.14	0.14		0.07	0.19	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 127 (98%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.47
 Intersection Signal Delay: 12.7
 Intersection LOS: B
 Intersection Capacity Utilization 52.3%
 ICU Level of Service A
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 34th Street & 46th Avenue



Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	50	20	60	35	95	15	800	25	60	645	50
Future Volume (vph)	55	50	20	60	35	95	15	800	25	60	645	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	120		0	45		0	180		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	55			70			65			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.957			0.890			0.996			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1765	0	1752	1642	0	1752	5016	0	1752	4981	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	1765	0	1752	1642	0	1752	5016	0	1752	4981	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			97			4			11	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		813			748			2655			1274	
Travel Time (s)		18.5			17.0			40.2			19.3	
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 (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	60	55	22	66	38	104	16	879	27	66	709	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	77	0	66	142	0	16	906	0	66	764	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
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.4	17.1		11.4	17.1		11.8	12.8		11.8	12.8	
Total Split (s)	19.0	36.0		19.0	36.0		16.0	58.0		17.0	59.0	
Total Split (%)	14.6%	27.7%		14.6%	27.7%		12.3%	44.6%		13.1%	45.4%	
Maximum Green (s)	12.6	28.9		12.6	28.9		9.2	51.2		10.2	52.2	
Yellow Time (s)	3.4	3.4		3.4	3.4		4.8	4.8		4.8	4.8	
All-Red Time (s)	3.0	3.7		3.0	3.7		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	7.1		6.4	7.1		6.8	6.8		6.8	6.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/06/2018

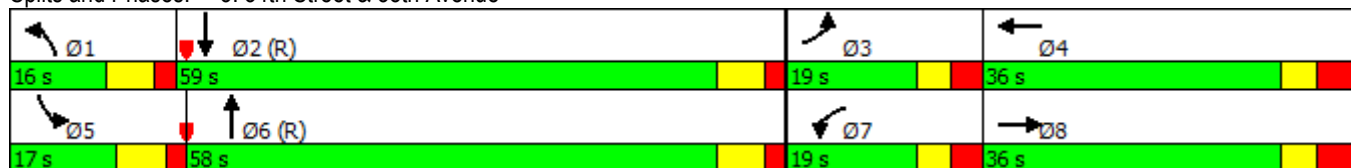


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	9.6	11.5		9.9	11.8		6.8	76.4		10.2	84.9	
Actuated g/C Ratio	0.07	0.09		0.08	0.09		0.05	0.59		0.08	0.65	
v/c Ratio	0.47	0.46		0.50	0.60		0.18	0.31		0.48	0.23	
Control Delay	68.8	54.3		69.9	31.1		76.1	19.7		93.2	1.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	68.8	54.3		69.9	31.1		76.1	19.7		93.2	1.5	
LOS	E	D		E	C		E	B		F	A	
Approach Delay		60.6			43.4			20.7			8.8	
Approach LOS		E			D			C			A	
Queue Length 50th (ft)	49	52		54	37		14	198		60	5	
Queue Length 95th (ft)	94	101		101	103		41	269		110	16	
Internal Link Dist (ft)		733			668			2575			1194	
Turn Bay Length (ft)	65			120			45			180		
Base Capacity (vph)	169	403		169	440		123	2950		152	3256	
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	0.36	0.19		0.39	0.32		0.13	0.31		0.43	0.23	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 44 (34%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 20.8
 Intersection Capacity Utilization 55.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 3: 34th Street & 38th Avenue



Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/06/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Lane Configurations	↖↖	↗	↖	↑↑↑	↘	↑↑↑	↗	
Traffic Volume (vph)	120	35	80	900	0	1205	120	
Future Volume (vph)	120	35	80	900	0	1205	120	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	240	175	395		80		450	
Storage Lanes	1	1	1		1		1	
Taper Length (ft)	25		50		60			
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	1.00	
Frt		0.850					0.850	
Flt Protected	0.950		0.950					
Satd. Flow (prot)	3400	1568	1752	5036	1845	5036	1568	
Flt Permitted	0.950		0.950					
Satd. Flow (perm)	3400	1568	1752	5036	1845	5036	1568	
Right Turn on Red		Yes					Yes	
Satd. Flow (RTOR)		38					132	
Link Speed (mph)	25			45		45		
Link Distance (ft)	796			1274		2715		
Travel Time (s)	21.7			19.3		41.1		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	
Adj. Flow (vph)	132	38	88	989	0	1324	132	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	132	38	88	989	0	1324	132	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	R NA	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	1.00	
Turning Speed (mph)	15	9	15		9		9	
Turn Type	Prot	Prot	Prot	NA	Prot	NA	Perm	
Protected Phases	3	3	1	6	5	2		4
Permitted Phases								2
Detector Phase	3	3	1	6	5	2		2
Switch Phase								
Minimum Initial (s)	10.0	10.0	5.0	6.0	5.0	6.0	6.0	38.0
Minimum Split (s)	17.4	17.4	11.8	13.3	11.8	13.3	13.3	43.4
Total Split (s)	22.0	22.0	22.0	58.0	15.0	51.0	51.0	35.0
Total Split (%)	16.9%	16.9%	16.9%	44.6%	11.5%	39.2%	39.2%	27%
Maximum Green (s)	14.6	14.6	15.2	50.7	8.2	43.7	43.7	29.6
Yellow Time (s)	3.4	3.4	4.8	4.8	4.8	4.8	4.8	3.4
All-Red Time (s)	4.0	4.0	2.0	2.5	2.0	2.5	2.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.4	7.4	6.8	7.3	6.8	7.3	7.3	
Lead/Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	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
Recall Mode	None	None	None	C-Max	None	C-Max	C-Max	None

Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/06/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Walk Time (s)								7.0
Flash Dont Walk (s)								31.0
Pedestrian Calls (#/hr)								0
Act Effct Green (s)	11.1	11.1	11.8	104.2		85.6	85.6	
Actuated g/C Ratio	0.09	0.09	0.09	0.80		0.66	0.66	
v/c Ratio	0.46	0.23	0.55	0.24		0.40	0.12	
Control Delay	61.7	19.5	75.7	2.1		17.8	9.3	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	61.7	19.5	75.7	2.1		17.8	9.3	
LOS	E	B	E	A		B	A	
Approach Delay	52.2			8.1		17.0		
Approach LOS	D			A		B		
Queue Length 50th (ft)	55	0	79	28		242	38	
Queue Length 95th (ft)	87	35	133	36		298	86	
Internal Link Dist (ft)	716			1194		2635		
Turn Bay Length (ft)	240	175	395				450	
Base Capacity (vph)	381	209	207	4038		3316	1077	
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	0.35	0.18	0.43	0.24		0.40	0.12	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 57 (44%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay: 15.7
 Intersection Capacity Utilization 54.0%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 4: 34th Street & 34th Avenue



Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	85	25	90	115	325	50	740	65	250	1100	15
Future Volume (vph)	25	85	25	90	115	325	50	740	65	250	1100	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		0	180		0	290		0	280		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			80			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.966				0.850		0.988			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1782	0	1752	1845	1568	1752	4975	0	1752	5026	0
Flt Permitted	0.620			0.640			0.950			0.950		
Satd. Flow (perm)	1144	1782	0	1181	1845	1568	1752	4975	0	1752	5026	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				291		15			2	
Link Speed (mph)		30			30			45			40	
Link Distance (ft)		770			780			2715			1330	
Travel Time (s)		17.5			17.7			41.1			22.7	
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 (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	27	93	27	99	126	357	55	813	71	275	1209	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	120	0	99	126	357	55	884	0	275	1225	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
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4						
Detector Phase	8	8		4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	5.0	6.0		5.0	6.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	11.4	12.8		11.8	12.8	
Total Split (s)	35.0	35.0		35.0	35.0	35.0	15.0	68.0		27.0	80.0	
Total Split (%)	26.9%	26.9%		26.9%	26.9%	26.9%	11.5%	52.3%		20.8%	61.5%	
Maximum Green (s)	28.0	28.0		28.0	28.0	28.0	8.6	61.2		20.2	73.2	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.4	4.8		4.8	4.8	
All-Red Time (s)	3.3	3.3		3.3	3.3	3.3	2.0	2.0		2.0	2.0	
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)	7.0	7.0		7.0	7.0	7.0	6.4	6.8		6.8	6.8	
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	
Recall Mode	None	None		None	None	None	Max	C-Max		Max	C-Max	

Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/06/2018

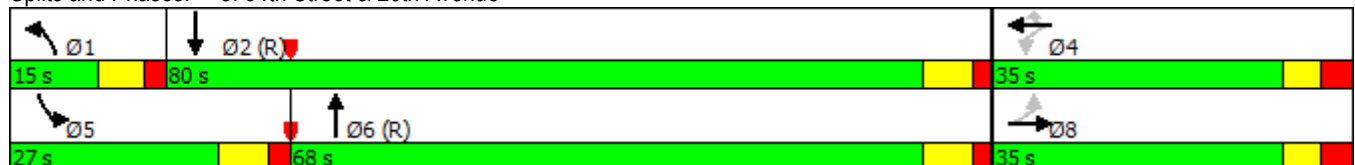


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	17.6	17.6		17.6	17.6	17.6	19.0	61.2		30.6	73.2	
Actuated g/C Ratio	0.14	0.14		0.14	0.14	0.14	0.15	0.47		0.24	0.56	
v/c Ratio	0.18	0.48		0.62	0.51	0.77	0.21	0.38		0.67	0.43	
Control Delay	49.2	52.5		68.6	57.9	22.6	65.1	19.6		41.7	26.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	49.2	52.5		68.6	57.9	22.6	65.1	19.6		41.7	26.1	
LOS	D	D		E	E	C	E	B		D	C	
Approach Delay		51.9			38.1			22.3			29.0	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	21	88		81	101	51	48	168		237	240	
Queue Length 95th (ft)	46	138		131	152	154	95	99		m#341	m297	
Internal Link Dist (ft)		690			700			2635			1250	
Turn Bay Length (ft)	220			180			290			280		
Base Capacity (vph)	246	391		254	397	566	256	2350		412	2830	
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	0.11	0.31		0.39	0.32	0.63	0.21	0.38		0.67	0.43	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 85 (65%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 29.7 Intersection LOS: C
 Intersection Capacity Utilization 61.5% 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: 34th Street & 26th Avenue



Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	565	85	305	540	170	225	700	155	155	990	60
Future Volume (vph)	60	565	85	305	540	170	225	700	155	155	990	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	160		0	105		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	45			80			130			50		
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.980			0.964			0.973			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1577	3091	0	3060	3041	0	1577	4410	0	1577	4492	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1577	3091	0	3060	3041	0	1577	4410	0	1577	4492	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			33			40			8	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		829			810			1330			1056	
Travel Time (s)		16.1			15.8			22.7			18.0	
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 (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	66	621	93	335	593	187	247	769	170	170	1088	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	714	0	335	780	0	247	939	0	170	1154	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	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.7	22.5		11.7	22.5		11.4	22.5		11.9	22.5	
Total Split (s)	15.0	38.0		22.0	45.0		21.0	49.0		21.0	49.0	
Total Split (%)	11.5%	29.2%		16.9%	34.6%		16.2%	37.7%		16.2%	37.7%	
Maximum Green (s)	8.3	31.3		15.3	38.3		14.6	41.9		14.1	41.9	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.4	4.9		4.9	4.9	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.2		2.0	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.7	6.7		6.7	6.7		6.4	7.1		6.9	7.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/06/2018

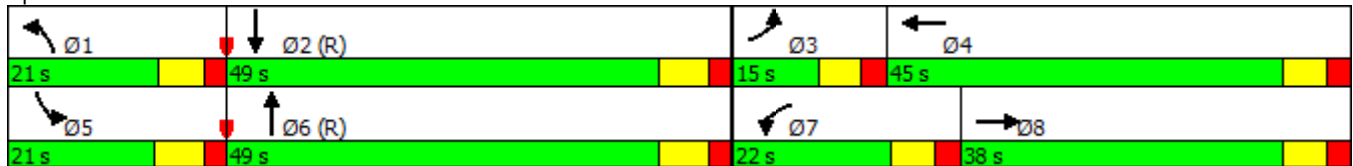


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	8.0	31.2		15.3	41.2		14.7	41.9		14.2	41.9	
Actuated g/C Ratio	0.06	0.24		0.12	0.32		0.11	0.32		0.11	0.32	
v/c Ratio	0.69	0.95		0.93	0.79		1.39	0.65		0.99	0.79	
Control Delay	92.9	70.9		89.5	46.5		256.5	21.8		122.6	44.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	92.9	70.9		89.5	46.5		256.5	21.8		122.6	44.7	
LOS	F	E		F	D		F	C		F	D	
Approach Delay		72.8			59.4			70.7			54.7	
Approach LOS		E			E			E			D	
Queue Length 50th (ft)	55	308		146	313		~285	118		146	321	
Queue Length 95th (ft)	#125	#434		#238	#397		#461	194		#297	380	
Internal Link Dist (ft)		749			730			1250			976	
Turn Bay Length (ft)	150			160			105			190		
Base Capacity (vph)	100	753		360	986		178	1448		172	1453	
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	0.66	0.95		0.93	0.79		1.39	0.65		0.99	0.79	

Intersection Summary

























Area Type: CBD
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 106 (82%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.39
 Intersection Signal Delay: 63.4 Intersection LOS: E
 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: 6: 34th Street & 22nd Avenue



Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/06/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	280	290	230	200	300	540	270	240	70	845	295	285
Future Volume (vph)	280	290	230	200	300	540	270	240	70	845	295	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		220	150		145	150		150	290		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			120			120			45		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950	0.971	
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	3505	1568	1595	3260	1568
Flt Permitted	0.950			0.950			0.950			0.950	0.971	
Satd. Flow (perm)	1752	3505	1568	1752	3505	1568	1752	3505	1568	1595	3260	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			240			563			142			205
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		434			1398			368			2679	
Travel Time (s)		7.4			23.8			5.6			40.6	
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%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	292	302	240	208	313	563	281	250	73	880	307	297
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	292	302	240	208	313	563	281	250	73	440	747	297
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Free	Prot	NA	Perm	Split	NA	Perm	Split	NA	Free
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			Free			2			8			Free
Detector Phase	1	6		5	2	2	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	11.8	13.4		11.9	13.4	13.4	22.1	22.1	22.1	32.9	32.9	
Total Split (s)	21.0	55.0		15.0	49.0	49.0	27.0	27.0	27.0	43.0	43.0	
Total Split (%)	15.0%	39.3%		10.7%	35.0%	35.0%	19.3%	19.3%	19.3%	30.7%	30.7%	
Maximum Green (s)	14.2	47.6		8.1	41.6	41.6	20.3	20.3	20.3	36.1	36.1	
Yellow Time (s)	4.8	4.8		4.4	4.8	4.8	4.0	4.0	4.0	4.8	4.8	
All-Red Time (s)	2.0	2.6		2.5	2.6	2.6	2.7	2.7	2.7	2.1	2.1	
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)	6.8	7.4		6.9	7.4	7.4	6.7	6.7	6.7	6.9	6.9	
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	Max		None	C-Max	C-Max	None	None	None	None	None	

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

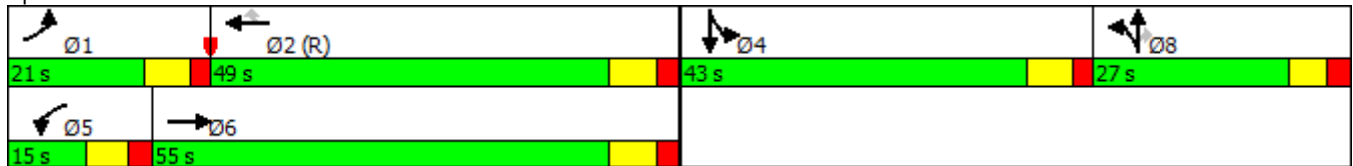
07/06/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	14.2	47.6	140.0	8.1	41.6	41.6	20.3	20.3	20.3	36.1	36.1	140.0
Actuated g/C Ratio	0.10	0.34	1.00	0.06	0.30	0.30	0.14	0.14	0.14	0.26	0.26	1.00
v/c Ratio	1.65	0.25	0.15	2.06	0.30	0.65	1.11	0.49	0.21	1.07	1.03dl	0.19
Control Delay	353.7	34.1	0.2	539.7	38.9	6.9	141.6	58.8	1.4	106.6	56.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	353.7	34.1	0.2	539.7	38.9	6.9	141.6	58.8	1.4	106.6	56.5	0.3
LOS	F	C	A	F	D	A	F	E	A	F	E	A
Approach Delay		136.2			118.4			90.4			60.1	
Approach LOS		F			F			F			E	
Queue Length 50th (ft)	~384	104	0	~297	116	0	~291	111	0	~501	396	0
Queue Length 95th (ft)	#573	143	0	#462	158	97	#476	158	0	#742	#488	0
Internal Link Dist (ft)		354			1318			288			2599	
Turn Bay Length (ft)	230		220	150		145	150		150	290		
Base Capacity (vph)	177	1191	1568	101	1041	861	254	508	348	411	840	1568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.65	0.25	0.15	2.06	0.30	0.65	1.11	0.49	0.21	1.07	0.89	0.19

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 12 (9%), Referenced to phase 2:WBT, Start of Green
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.06
 Intersection Signal Delay: 96.3 Intersection LOS: F
 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.
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 1: 54th Avenue & 34th Street



Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↑↑↑		↖	↑↑↑	
Traffic Volume (vph)	75	5	40	15	5	10	70	790	10	25	1420	25
Future Volume (vph)	75	5	40	15	5	10	70	790	10	25	1420	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			130			35		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.955					0.850		0.998		0.997	
Flt Protected		0.970			0.963		0.950			0.950		
Satd. Flow (prot)	0	1709	0	0	1776	1568	1752	5026	0	1752	5021	0
Flt Permitted		0.798			0.755		0.150			0.326		
Satd. Flow (perm)	0	1406	0	0	1393	1568	277	5026	0	601	5021	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				30		3			4	
Link Speed (mph)		30			25			45			45	
Link Distance (ft)		700			776			2679			2655	
Travel Time (s)		15.9			21.2			40.6			40.2	
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%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	78	5	42	16	5	10	73	823	10	26	1479	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	125	0	0	21	10	73	833	0	26	1505	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
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Detector Phase	8	8		4	4	4	6	6		2	2	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	12.8	12.8		12.8	12.8	
Total Split (s)	35.0	35.0		35.0	35.0	35.0	105.0	105.0		105.0	105.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%	25.0%	75.0%	75.0%		75.0%	75.0%	
Maximum Green (s)	28.0	28.0		28.0	28.0	28.0	98.2	98.2		98.2	98.2	
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.8	4.8		4.8	4.8	
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		7.0			7.0	7.0	6.8	6.8		6.8	6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	

Lanes, Volumes, Timings 2: 34th Street & 46th Avenue

07/06/2018

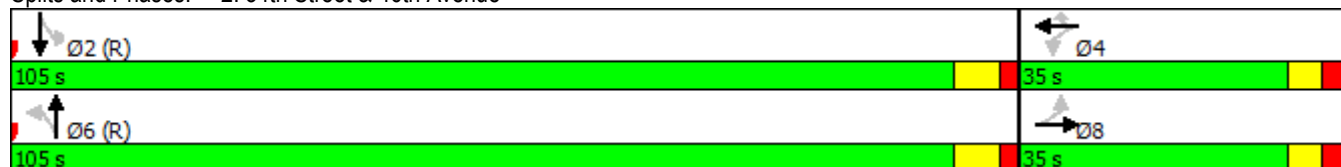


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		18.3			18.3	18.3	107.9	107.9		107.9	107.9	
Actuated g/C Ratio		0.13			0.13	0.13	0.77	0.77		0.77	0.77	
v/c Ratio		0.63			0.12	0.04	0.34	0.22		0.06	0.39	
Control Delay		64.1			53.1	1.1	5.0	2.1		4.7	5.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		64.1			53.1	1.1	5.0	2.1		4.7	5.2	
LOS		E			D	A	A	A		A	A	
Approach Delay		64.1			36.4			2.3			5.2	
Approach LOS		E			D			A			A	
Queue Length 50th (ft)		96			17	0	7	29		4	80	
Queue Length 95th (ft)		159			42	2	m12	m33		m14	246	
Internal Link Dist (ft)		620			696			2599			2575	
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		294			278	337	213	3872		463	3869	
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			0.08	0.03	0.34	0.22		0.06	0.39	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 120 (86%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 7.4
 Intersection Capacity Utilization 63.7%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 34th Street & 46th Avenue



Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	40	20	35	65	60	40	900	50	110	1545	75
Future Volume (vph)	100	40	20	35	65	60	40	900	50	110	1545	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	120		0	45		0	180		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	55			70			65			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.950			0.928			0.992			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1752	0	1752	1712	0	1752	4996	0	1752	5001	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	1752	0	1752	1712	0	1752	4996	0	1752	5001	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			30			7			7	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		813			748			2655			1274	
Travel Time (s)		18.5			17.0			40.2			19.3	
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%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	104	42	21	36	68	63	42	938	52	115	1609	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	63	0	36	131	0	42	990	0	115	1687	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
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.4	17.1		11.4	17.1		11.8	12.8		11.8	12.8	
Total Split (s)	17.0	35.0		17.0	35.0		17.0	58.0		30.0	71.0	
Total Split (%)	12.1%	25.0%		12.1%	25.0%		12.1%	41.4%		21.4%	50.7%	
Maximum Green (s)	10.6	27.9		10.6	27.9		10.2	51.2		23.2	64.2	
Yellow Time (s)	3.4	3.4		3.4	3.4		4.8	4.8		4.8	4.8	
All-Red Time (s)	3.0	3.7		3.0	3.7		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	7.1		6.4	7.1		6.8	6.8		6.8	6.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/06/2018

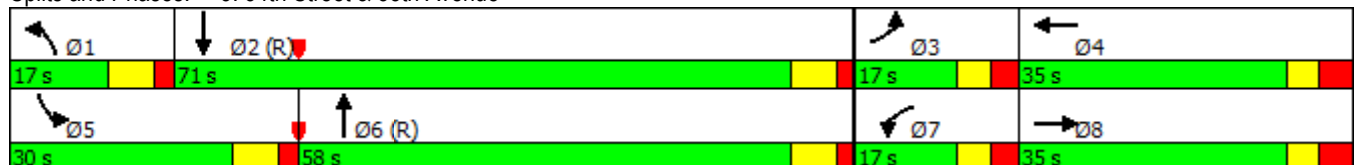


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	10.4	18.8		8.2	14.2		8.7	73.8		14.5	82.1	
Actuated g/C Ratio	0.07	0.13		0.06	0.10		0.06	0.53		0.10	0.59	
v/c Ratio	0.81	0.25		0.35	0.66		0.39	0.38		0.64	0.57	
Control Delay	103.4	44.8		72.2	61.3		87.0	16.2		80.6	11.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	103.4	44.8		72.2	61.3		87.0	16.2		80.6	11.7	
LOS	F	D		E	E		F	B		F	B	
Approach Delay		81.3			63.7			19.1			16.1	
Approach LOS		F			E			B			B	
Queue Length 50th (ft)	95	40		32	90		38	189		112	90	
Queue Length 95th (ft)	#196	84		69	154		81	228		m176	208	
Internal Link Dist (ft)		733			668			2575			1194	
Turn Bay Length (ft)	65			120			45			180		
Base Capacity (vph)	132	361		132	365		132	2638		290	2934	
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	0.79	0.17		0.27	0.36		0.32	0.38		0.40	0.57	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 72 (51%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 23.0 Intersection LOS: C
 Intersection Capacity Utilization 72.1% 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: 34th Street & 38th Avenue



Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/06/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Lane Configurations								
Traffic Volume (vph)	280	75	200	890	0	1740	295	
Future Volume (vph)	280	75	200	890	0	1740	295	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	240	175	395		80		450	
Storage Lanes	1	1	1		1		1	
Taper Length (ft)	25		50		60			
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	1.00	
Fr _t		0.850					0.850	
Fl _t Protected	0.950		0.950					
Satd. Flow (prot)	3400	1568	1752	5036	1845	5036	1568	
Fl _t Permitted	0.950		0.950					
Satd. Flow (perm)	3400	1568	1752	5036	1845	5036	1568	
Right Turn on Red		Yes					Yes	
Satd. Flow (RTOR)		78					307	
Link Speed (mph)	25			45		45		
Link Distance (ft)	796			1274		2715		
Travel Time (s)	21.7			19.3		41.1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	
Adj. Flow (vph)	292	78	208	927	0	1813	307	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	292	78	208	927	0	1813	307	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	R NA	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	1.00	
Turning Speed (mph)	15	9	15		9		9	
Turn Type	Prot	Prot	Prot	NA	custom	NA	Perm	
Protected Phases	3	3	1	6		2		4
Permitted Phases					5		2	
Detector Phase	3	3	1	6	5	2	2	
Switch Phase								
Minimum Initial (s)	10.0	10.0	5.0	6.0	5.0	6.0	6.0	38.0
Minimum Split (s)	17.4	17.4	11.8	13.3	11.8	13.3	13.3	43.4
Total Split (s)	25.0	25.0	26.0	62.0	15.0	51.0	51.0	38.0
Total Split (%)	17.9%	17.9%	18.6%	44.3%	10.7%	36.4%	36.4%	27%
Maximum Green (s)	17.6	17.6	19.2	54.7	8.2	43.7	43.7	32.6
Yellow Time (s)	3.4	3.4	4.8	4.8	4.8	4.8	4.8	3.4
All-Red Time (s)	4.0	4.0	2.0	2.5	2.0	2.5	2.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.4	7.4	6.8	7.3	6.8	7.3	7.3	
Lead/Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	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
Recall Mode	None	None	None	C-Max	None	C-Max	C-Max	None

Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/06/2018

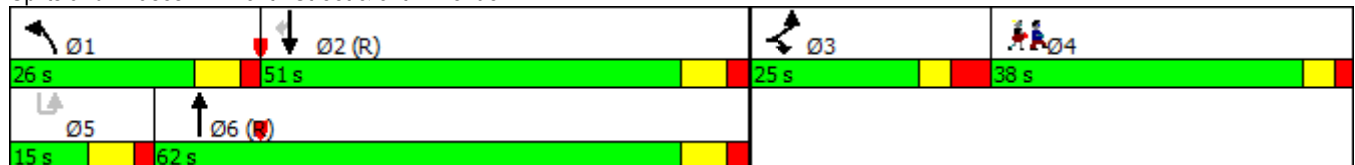


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Act Effect Green (s)	16.1	16.1	22.9	109.2		79.4	79.4	
Actuated g/C Ratio	0.12	0.12	0.16	0.78		0.57	0.57	
v/c Ratio	0.75	0.31	0.72	0.24		0.63	0.30	
Control Delay	72.2	14.7	88.6	2.0		22.1	8.3	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	72.2	14.7	88.6	2.0		22.1	8.3	
LOS	E	B	F	A		C	A	
Approach Delay	60.1			17.9		20.1		
Approach LOS	E			B		C		
Queue Length 50th (ft)	133	0	202	36		360	81	
Queue Length 95th (ft)	184	50	m283	41		620	138	
Internal Link Dist (ft)	716			1194		2635		
Turn Bay Length (ft)	240	175	395				450	
Base Capacity (vph)	427	265	294	3927		2857	1022	
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	0.29	0.71	0.24		0.63	0.30	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 92 (66%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 23.5 Intersection LOS: C
 Intersection Capacity Utilization 70.9% ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: 34th Street & 34th Avenue



Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	75	35	85	100	260	30	1040	100	195	1590	30
Future Volume (vph)	15	75	35	85	100	260	30	1040	100	195	1590	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		0	180		0	290		0	280		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			80			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.953				0.850		0.987			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1758	0	1752	1845	1568	1752	4970	0	1752	5021	0
Flt Permitted	0.665			0.626			0.950			0.950		
Satd. Flow (perm)	1227	1758	0	1155	1845	1568	1752	4970	0	1752	5021	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				271		16			4	
Link Speed (mph)		30			30			45			40	
Link Distance (ft)		770			780			2715			1330	
Travel Time (s)		17.5			17.7			41.1			22.7	
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%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	16	78	36	89	104	271	31	1083	104	203	1656	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	114	0	89	104	271	31	1187	0	203	1687	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
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4						
Detector Phase	8	8		4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	5.0	6.0		5.0	6.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	11.4	12.8		11.8	12.8	
Total Split (s)	31.0	31.0		31.0	31.0	31.0	15.0	75.0		34.0	94.0	
Total Split (%)	22.1%	22.1%		22.1%	22.1%	22.1%	10.7%	53.6%		24.3%	67.1%	
Maximum Green (s)	24.0	24.0		24.0	24.0	24.0	8.6	68.2		27.2	87.2	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.4	4.8		4.8	4.8	
All-Red Time (s)	3.3	3.3		3.3	3.3	3.3	2.0	2.0		2.0	2.0	
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)	7.0	7.0		7.0	7.0	7.0	6.4	6.8		6.8	6.8	
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	
Recall Mode	None	None		None	None	None	Max	C-Max		Max	C-Max	

Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	16.3	16.3		16.3	16.3	16.3	16.3	68.2		34.9	87.2	
Actuated g/C Ratio	0.12	0.12		0.12	0.12	0.12	0.12	0.49		0.25	0.62	
v/c Ratio	0.11	0.53		0.66	0.49	0.64	0.15	0.49		0.47	0.54	
Control Delay	54.0	58.5		81.3	64.3	13.3	81.6	22.1		42.3	20.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	54.0	58.5		81.3	64.3	13.3	81.6	22.1		42.3	20.6	
LOS	D	E		F	E	B	F	C		D	C	
Approach Delay		58.0			37.7			23.6			23.0	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)	13	87		79	91	0	28	294		179	305	
Queue Length 95th (ft)	35	143		133	143	81	m61	318		m232	373	
Internal Link Dist (ft)		690			700			2635			1250	
Turn Bay Length (ft)	220			180			290			280		
Base Capacity (vph)	210	312		198	316	493	204	2429		436	3128	
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	0.08	0.37		0.45	0.33	0.55	0.15	0.49		0.47	0.54	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 138 (99%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 26.3
 Intersection LOS: C
 Intersection Capacity Utilization 64.1%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: 34th Street & 26th Avenue



Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	550	110	290	650	200	215	680	295	125	1055	80
Future Volume (vph)	85	550	110	290	650	200	215	680	295	125	1055	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	160		0	105		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	45			80			130			50		
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.975			0.965			0.955			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1577	3076	0	3060	3044	0	1577	4328	0	1577	4482	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1577	3076	0	3060	3044	0	1577	4328	0	1577	4482	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			29			83			9	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		829			810			1330			1056	
Travel Time (s)		16.1			15.8			22.7			18.0	
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%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	89	573	115	302	677	208	224	708	307	130	1099	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	688	0	302	885	0	224	1015	0	130	1182	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	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.7	22.5		11.7	22.5		11.4	22.5		11.9	22.5	
Total Split (s)	19.0	42.0		24.0	47.0		24.0	53.0		21.0	50.0	
Total Split (%)	13.6%	30.0%		17.1%	33.6%		17.1%	37.9%		15.0%	35.7%	
Maximum Green (s)	12.3	35.3		17.3	40.3		17.6	45.9		14.1	42.9	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.4	4.9		4.9	4.9	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.2		2.0	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.7	6.7		6.7	6.7		6.4	7.1		6.9	7.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/06/2018

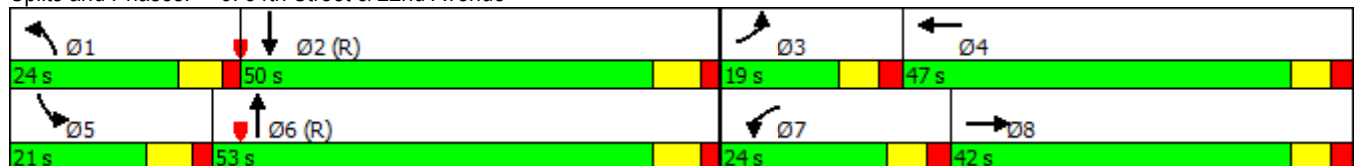


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	11.3	35.8		16.7	41.2		17.7	46.5		13.6	42.9	
Actuated g/C Ratio	0.08	0.26		0.12	0.29		0.13	0.33		0.10	0.31	
v/c Ratio	0.70	0.86		0.83	0.97		1.13	0.68		0.85	0.86	
Control Delay	90.5	60.8		79.1	69.6		173.6	27.5		103.6	52.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	90.5	60.8		79.1	69.6		173.6	27.5		103.6	52.7	
LOS	F	E		E	E		F	C		F	D	
Approach Delay		64.2			72.1			53.9			57.7	
Approach LOS		E			E			D			E	
Queue Length 50th (ft)	80	312		140	412		~241	105		118	369	
Queue Length 95th (ft)	#154	#414		#207	#559		#418	206		#234	431	
Internal Link Dist (ft)		749			730			1250			976	
Turn Bay Length (ft)	150			160			105			190		
Base Capacity (vph)	138	798		378	916		199	1492		158	1379	
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	0.64	0.86		0.80	0.97		1.13	0.68		0.82	0.86	

Intersection Summary

Area Type: CBD
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 20 (14%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 61.6
 Intersection LOS: E
 Intersection Capacity Utilization 92.6%
 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: 6: 34th Street & 22nd Avenue



Design Year (2040) 6-Lane Configuration (No Build Alternative) Analysis

HCM 2010 Signalized Intersection Summary
 1: 54th Avenue & 34th Street

07/06/2018






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	190	110	40	305	495	140	170	35	375	105	235
Future Volume (veh/h)	235	190	110	40	305	495	140	170	35	375	105	235
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	247	200	0	42	321	521	147	179	37	395	111	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	2	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	1771	792	54	1333	596	205	408	183	494	259	220
Arrive On Green	0.15	0.50	0.00	0.03	0.38	0.38	0.12	0.12	0.12	0.05	0.05	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	3548	1863	1583
Grp Volume(v), veh/h	247	200	0	42	321	521	147	179	37	395	111	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	17.8	3.9	0.0	3.1	8.1	39.7	10.4	6.1	2.8	14.3	7.5	0.0
Cycle Q Clear(g_c), s	17.8	3.9	0.0	3.1	8.1	39.7	10.4	6.1	2.8	14.3	7.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	1771	792	54	1333	596	205	408	183	494	259	220
V/C Ratio(X)	0.90	0.11	0.00	0.78	0.24	0.87	0.72	0.44	0.20	0.80	0.43	0.00
Avail Cap(c_a), veh/h	358	1771	792	111	1333	596	304	607	272	903	474	403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.00
Uniform Delay (d), s/veh	53.9	17.2	0.0	62.6	27.8	37.6	55.5	53.6	52.1	60.2	57.0	0.0
Incr Delay (d2), s/veh	20.6	0.1	0.0	20.9	0.4	16.2	4.7	0.7	0.5	3.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.5	3.5	0.0	3.3	7.3	27.4	9.2	5.5	2.2	11.7	7.2	0.0
LnGrp Delay(d),s/veh	74.6	17.3	0.0	83.4	28.2	53.8	60.1	54.3	52.6	63.2	58.1	0.0
LnGrp LOS	E	B		F	C	D	E	D	D	E	E	
Approach Vol, veh/h		447			884			363			506	
Approach Delay, s/veh		49.0			45.9			56.5			62.1	
Approach LOS		D			D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.9	56.4		25.0	10.9	72.5		21.7				
Change Period (Y+Rc), s	6.8	7.4		6.9	6.9	7.4		6.7				
Max Green Setting (Gmax), s	26.2	20.6		33.1	8.1	38.6		22.3				
Max Q Clear Time (g_c+I1), s	19.8	41.7		16.3	5.1	5.9		12.4				
Green Ext Time (p_c), s	0.4	0.0		1.8	0.0	5.7		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			52.0									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: 34th Street & 46th Avenue






















07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	5	30	20	15	5	70	540	30	45	710	20
Future Volume (veh/h)	55	5	30	20	15	5	70	540	30	45	710	20
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	58	5	32	21	16	0	74	568	32	47	747	21
Adj No. of Lanes	0	1	0	0	1	1	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	20	59	135	92	181	519	3841	215	691	3964	111
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	1.00	1.00	1.00	0.26	0.26	0.26
Sat Flow, veh/h	838	172	513	800	800	1583	697	4928	276	815	5085	143
Grp Volume(v), veh/h	95	0	0	37	0	0	74	390	210	47	498	270
Grp Sat Flow(s),veh/h/ln	1523	0	0	1600	0	1583	697	1695	1814	815	1695	1838
Q Serve(g_s), s	4.9	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	5.7	14.9	14.9
Cycle Q Clear(g_c), s	7.4	0.0	0.0	2.5	0.0	0.0	17.3	0.0	0.0	5.7	14.9	14.9
Prop In Lane	0.61		0.34	0.57		1.00	1.00		0.15	1.00		0.08
Lane Grp Cap(c), veh/h	219	0	0	226	0	181	519	2642	1414	691	2642	1432
V/C Ratio(X)	0.43	0.00	0.00	0.16	0.00	0.00	0.14	0.15	0.15	0.07	0.19	0.19
Avail Cap(c_a), veh/h	492	0	0	513	0	475	519	2642	1414	691	2642	1432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.75	0.75	0.75	0.97	0.97	0.97
Uniform Delay (d), s/veh	54.1	0.0	0.0	52.0	0.0	0.0	1.3	0.0	0.0	12.8	16.2	16.2
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.5	0.0	0.0	0.4	0.1	0.2	0.2	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	0.0	0.0	2.2	0.0	0.0	0.9	0.1	0.1	2.4	11.4	12.2
LnGrp Delay(d),s/veh	56.0	0.0	0.0	52.5	0.0	0.0	1.7	0.1	0.2	12.9	16.3	16.5
LnGrp LOS	E			D			A	A	A	B	B	B
Approach Vol, veh/h		95			37			674			815	
Approach Delay, s/veh		56.0			52.5			0.3			16.2	
Approach LOS		E			D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		108.1		21.9		108.1		21.9				
Change Period (Y+Rc), s		6.8		7.0		6.8		7.0				
Max Green Setting (Gmax), s		77.2		39.0		77.2		39.0				
Max Q Clear Time (g_c+I1), s		16.9		4.5		19.3		9.4				
Green Ext Time (p_c), s		12.5		1.1		12.4		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				12.7								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

3: 34th Street & 38th Avenue

07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	55	20	65	40	105	15	890	30	65	715	55
Future Volume (veh/h)	60	55	20	65	40	105	15	890	30	65	715	55
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	63	58	21	68	42	111	16	937	32	68	753	58
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	143	52	87	51	136	30	2948	101	87	2966	227
Arrive On Green	0.05	0.11	0.11	0.05	0.11	0.11	0.01	0.19	0.19	0.10	1.00	1.00
Sat Flow, veh/h	1774	1306	473	1774	453	1198	1774	5050	172	1774	4818	369
Grp Volume(v), veh/h	63	0	79	68	0	153	16	629	340	68	529	282
Grp Sat Flow(s),veh/h/ln	1774	0	1779	1774	0	1651	1774	1695	1832	1774	1695	1798
Q Serve(g_s), s	4.6	0.0	5.4	4.9	0.0	11.8	1.2	20.7	20.8	4.9	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	5.4	4.9	0.0	11.8	1.2	20.7	20.8	4.9	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.73	1.00		0.09	1.00		0.21
Lane Grp Cap(c), veh/h	81	0	195	87	0	187	30	1979	1070	87	2087	1107
V/C Ratio(X)	0.78	0.00	0.40	0.78	0.00	0.82	0.53	0.32	0.32	0.79	0.25	0.26
Avail Cap(c_a), veh/h	199	0	327	213	0	316	126	1979	1070	221	2087	1107
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.99	0.99	0.99	0.91	0.91	0.91
Uniform Delay (d), s/veh	61.4	0.0	53.9	61.1	0.0	56.3	64.1	30.2	30.2	58.0	0.0	0.0
Incr Delay (d2), s/veh	14.5	0.0	1.3	13.8	0.0	8.5	13.9	0.4	0.8	13.2	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	0.0	4.9	5.0	0.0	9.7	1.2	15.0	16.2	4.9	0.1	0.3
LnGrp Delay(d),s/veh	75.9	0.0	55.2	74.9	0.0	64.8	78.0	30.6	31.0	71.1	0.3	0.5
LnGrp LOS	E		E	E		E	E	C	C	E	A	A
Approach Vol, veh/h		142			221			985			879	
Approach Delay, s/veh		64.4			67.9			31.5			5.8	
Approach LOS		E			E			C			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	86.8	12.3	21.8	13.1	82.7	12.8	21.4				
Change Period (Y+Rc), s	6.8	6.8	6.4	* 7.1	6.8	6.8	6.4	* 7.1				
Max Green Setting (Gmax), s	9.2	54.2	14.6	* 25	16.2	47.2	15.6	* 24				
Max Q Clear Time (g_c+I1), s	3.2	2.0	6.6	13.8	6.9	22.8	6.9	7.4				
Green Ext Time (p_c), s	0.0	16.0	0.1	1.0	0.1	12.2	0.1	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			27.1									
HCM 2010 LOS			C									
Notes												
























* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 methodology does not support exclusive ped or hold phases.

HCM 2010 Signalized Intersection Summary



























5: 34th Street & 26th Avenue

07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	95	30	100	130	360	55	820	70	280	1220	15
Future Volume (veh/h)	30	95	30	100	130	360	55	820	70	280	1220	15
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	32	100	32	105	137	379	58	863	74	295	1284	16
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	359	115	315	495	421	158	1347	115	521	2536	32
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.18	0.56	0.56	0.10	0.16	0.16
Sat Flow, veh/h	881	1353	433	1253	1863	1583	1774	4773	408	1774	5177	65
Grp Volume(v), veh/h	32	0	132	105	137	379	58	612	325	295	841	459
Grp Sat Flow(s),veh/h/ln	881	0	1786	1253	1863	1583	1774	1695	1791	1774	1695	1851
Q Serve(g_s), s	3.9	0.0	7.6	9.4	7.6	30.0	3.7	16.0	16.1	20.7	29.4	29.4
Cycle Q Clear(g_c), s	11.5	0.0	7.6	17.0	7.6	30.0	3.7	16.0	16.1	20.7	29.4	29.4
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.23	1.00		0.03
Lane Grp Cap(c), veh/h	238	0	474	315	495	421	158	956	505	521	1660	907
V/C Ratio(X)	0.13	0.00	0.28	0.33	0.28	0.90	0.37	0.64	0.64	0.57	0.51	0.51
Avail Cap(c_a), veh/h	282	0	563	377	587	499	158	956	505	521	1660	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97	0.11	0.11	0.11
Uniform Delay (d), s/veh	42.4	0.0	37.9	44.6	37.8	46.1	50.2	23.8	23.9	50.8	40.1	40.1
Incr Delay (d2), s/veh	0.3	0.0	0.3	0.6	0.3	17.5	6.2	3.2	6.0	0.5	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	0.0	6.9	6.0	7.1	21.5	3.8	12.2	13.3	12.0	15.9	17.3
LnGrp Delay(d),s/veh	42.6	0.0	38.2	45.2	38.1	63.5	56.4	27.0	29.8	51.3	40.3	40.4
LnGrp LOS	D		D	D	D	E	E	C	C	D	D	D
Approach Vol, veh/h		164			621			995			1595	
Approach Delay, s/veh		39.0			54.8			29.6			42.3	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	70.5		41.5	45.0	43.5		41.5				
Change Period (Y+Rc), s	6.4	6.8		7.0	6.8	6.8		7.0				
Max Green Setting (Gmax), s	11.6	57.2		41.0	38.2	30.2		41.0				
Max Q Clear Time (g_c+I1), s	5.7	31.4		32.0	22.7	18.1		13.5				
Green Ext Time (p_c), s	0.0	16.5		2.5	0.7	9.4		3.7				
Intersection Summary												
HCM 2010 Ctrl Delay			40.7									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary
 6: 34th Street & 22nd Avenue

























07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 			 			 	
Traffic Volume (veh/h)	65	625	95	340	600	190	250	775	170	170	1100	65
Future Volume (veh/h)	65	625	95	340	600	190	250	775	170	170	1100	65
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	68	658	100	358	632	200	263	816	179	179	1158	68
Adj No. of Lanes	1	2	0	2	2	0	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	647	98	376	720	228	271	1160	253	202	1187	70
Arrive On Green	0.05	0.23	0.23	0.12	0.30	0.30	0.06	0.10	0.10	0.13	0.27	0.27
Sat Flow, veh/h	1597	2774	421	3097	2383	753	1597	3763	820	1597	4422	260
Grp Volume(v), veh/h	68	377	381	358	422	410	263	660	335	179	799	427
Grp Sat Flow(s),veh/h/ln	1597	1593	1602	1549	1593	1544	1597	1526	1532	1597	1526	1631
Q Serve(g_s), s	5.5	30.3	30.3	14.9	32.7	32.8	21.4	27.2	27.5	14.3	33.7	33.8
Cycle Q Clear(g_c), s	5.5	30.3	30.3	14.9	32.7	32.8	21.4	27.2	27.5	14.3	33.7	33.8
Prop In Lane	1.00		0.26	1.00		0.49	1.00		0.54	1.00		0.16
Lane Grp Cap(c), veh/h	84	371	373	376	481	467	271	940	472	202	819	438
V/C Ratio(X)	0.81	1.02	1.02	0.95	0.88	0.88	0.97	0.70	0.71	0.89	0.98	0.98
Avail Cap(c_a), veh/h	84	371	373	376	481	467	271	940	472	237	819	438
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.57	0.57	0.57	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.0	49.8	49.9	56.7	43.1	43.1	61.0	52.6	52.7	55.9	47.1	47.1
Incr Delay (d2), s/veh	43.9	51.0	51.5	33.8	16.5	17.2	33.2	2.5	5.1	27.8	26.0	37.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	33.4	33.7	12.8	23.3	22.8	16.3	16.1	16.7	12.5	23.9	27.0
LnGrp Delay(d),s/veh	104.9	100.9	101.4	90.5	59.6	60.2	94.2	55.2	57.8	83.7	73.1	84.5
LnGrp LOS	F	F	F	F	E	E	F	E	E	F	E	F
Approach Vol, veh/h		826			1190			1258			1405	
Approach Delay, s/veh		101.5			69.1			64.0			77.9	
Approach LOS		F			E			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.5	42.0	13.5	46.0	23.3	47.2	22.5	37.0				
Change Period (Y+Rc), s	6.4	* 7.1	6.7	6.7	6.9	* 7.1	6.7	6.7				
Max Green Setting (Gmax), s	22.1	* 35	6.8	39.3	19.3	* 37	15.8	30.3				
Max Q Clear Time (g_c+I1), s	23.4	35.8	7.5	34.8	16.3	29.5	16.9	32.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.3	0.1	6.4	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				76.1								
HCM 2010 LOS				E								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 1: 54th Avenue & 34th Street

07/06/2018




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	320	255	220	335	600	300	265	80	940	325	315
Future Volume (veh/h)	310	320	255	220	335	600	300	265	80	940	325	315
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	323	333	0	229	349	625	312	276	83	979	339	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	2	1	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	682	305	253	557	249	308	614	275	1035	544	462
Arrive On Green	0.18	0.19	0.00	0.14	0.16	0.16	0.17	0.17	0.17	0.10	0.10	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	3548	1863	1583
Grp Volume(v), veh/h	323	333	0	229	349	625	312	276	83	979	339	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	25.0	11.7	0.0	17.8	12.9	22.0	24.3	9.8	6.4	38.4	24.5	0.0
Cycle Q Clear(g_c), s	25.0	11.7	0.0	17.8	12.9	22.0	24.3	9.8	6.4	38.4	24.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	682	305	253	557	249	308	614	275	1035	544	462
V/C Ratio(X)	1.02	0.49	0.00	0.90	0.63	2.51	1.01	0.45	0.30	0.95	0.62	0.00
Avail Cap(c_a), veh/h	317	682	305	289	557	249	308	614	275	1042	547	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.00
Uniform Delay (d), s/veh	57.5	50.4	0.0	59.1	55.1	59.0	57.8	51.9	50.5	62.2	55.9	0.0
Incr Delay (d2), s/veh	55.7	2.5	0.0	27.7	5.2	689.7	54.7	0.5	0.6	15.2	2.0	0.0
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	30.8	10.0	0.0	16.0	11.0	103.3	29.8	8.4	5.1	28.2	18.6	0.0
LnGrp Delay(d),s/veh	113.2	52.9	0.0	86.8	60.4	748.7	112.6	52.4	51.1	77.4	57.8	0.0
LnGrp LOS	F	D		F	E	F	F	D	D	E	E	
Approach Vol, veh/h		656			1203			671			1318	
Approach Delay, s/veh		82.6			423.0			80.2			72.4	
Approach LOS		F			F			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.8	29.4		47.8	26.9	34.4		31.0				
Change Period (Y+Rc), s	6.8	7.4		6.9	6.9	7.4		6.7				
Max Green Setting (Gmax), s	25.0	21.8		41.1	22.8	23.9		24.3				
Max Q Clear Time (g_c+I1), s	27.0	24.0		40.4	19.8	13.7		26.3				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.2	4.8		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			185.1									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: 34th Street & 46th Avenue






















07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	5	45	15	5	10	80	875	10	30	1575	30
Future Volume (veh/h)	85	5	45	15	5	10	80	875	10	30	1575	30
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	89	5	47	16	5	0	83	911	10	31	1641	31
Adj No. of Lanes	0	1	0	0	1	1	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	10	58	160	44	183	283	4076	45	443	4039	76
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.00	0.26	0.26	0.26	1.00	1.00	1.00
Sat Flow, veh/h	919	86	503	991	382	1583	295	5186	57	604	5139	97
Grp Volume(v), veh/h	141	0	0	21	0	0	83	595	326	31	1083	589
Grp Sat Flow(s),veh/h/ln	1508	0	0	1373	0	1583	295	1695	1853	604	1695	1846
Q Serve(g_s), s	11.0	0.0	0.0	0.0	0.0	0.0	32.1	19.3	19.3	1.4	0.0	0.0
Cycle Q Clear(g_c), s	12.7	0.0	0.0	1.7	0.0	0.0	32.1	19.3	19.3	20.7	0.0	0.0
Prop In Lane	0.63		0.33	0.76		1.00	1.00		0.03	1.00		0.05
Lane Grp Cap(c), veh/h	216	0	0	204	0	183	283	2665	1456	443	2665	1451
V/C Ratio(X)	0.65	0.00	0.00	0.10	0.00	0.00	0.29	0.22	0.22	0.07	0.41	0.41
Avail Cap(c_a), veh/h	709	0	0	686	0	712	283	2665	1456	443	2665	1451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.48	0.48	0.48	0.69	0.69	0.69
Uniform Delay (d), s/veh	60.2	0.0	0.0	55.5	0.0	0.0	23.0	18.3	18.3	1.8	0.0	0.0
Incr Delay (d2), s/veh	4.7	0.0	0.0	0.3	0.0	0.0	1.3	0.1	0.2	0.2	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.5	0.0	0.0	1.3	0.0	0.0	4.6	12.6	13.6	0.4	0.2	0.4
LnGrp Delay(d),s/veh	64.9	0.0	0.0	55.8	0.0	0.0	24.3	18.3	18.4	2.0	0.3	0.6
LnGrp LOS	E			E			C	B	B	A	A	A
Approach Vol, veh/h		141			21			1004			1703	
Approach Delay, s/veh		64.9			55.8			18.9			0.4	
Approach LOS		E			E			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		116.8		23.2		116.8		23.2				
Change Period (Y+Rc), s		6.8		7.0		6.8		7.0				
Max Green Setting (Gmax), s		63.2		63.0		63.2		63.0				
Max Q Clear Time (g_c+I1), s		22.7		3.7		34.1		14.7				
Green Ext Time (p_c), s		29.0		1.5		22.6		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				10.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

3: 34th Street & 38th Avenue

07/06/2018






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	45	20	40	70	65	45	1000	55	120	1715	85
Future Volume (veh/h)	110	45	20	40	70	65	45	1000	55	120	1715	85
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	115	47	21	42	73	68	47	1042	57	125	1786	89
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	179	80	55	88	82	61	2693	147	147	2950	147
Arrive On Green	0.08	0.15	0.15	0.03	0.10	0.10	0.01	0.18	0.18	0.17	1.00	1.00
Sat Flow, veh/h	1774	1221	546	1774	889	828	1774	4936	270	1774	4962	247
Grp Volume(v), veh/h	115	0	68	42	0	141	47	715	384	125	1219	656
Grp Sat Flow(s),veh/h/ln	1774	0	1766	1774	0	1717	1774	1695	1815	1774	1695	1819
Q Serve(g_s), s	8.9	0.0	4.8	3.3	0.0	11.3	3.7	26.0	26.1	9.6	0.0	0.0
Cycle Q Clear(g_c), s	8.9	0.0	4.8	3.3	0.0	11.3	3.7	26.0	26.1	9.6	0.0	0.0
Prop In Lane	1.00		0.31	1.00		0.48	1.00		0.15	1.00		0.14
Lane Grp Cap(c), veh/h	140	0	259	55	0	169	61	1850	991	147	2016	1082
V/C Ratio(X)	0.82	0.00	0.26	0.77	0.00	0.83	0.77	0.39	0.39	0.85	0.60	0.61
Avail Cap(c_a), veh/h	375	0	339	274	0	232	117	1850	991	243	2016	1082
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.98	0.98	0.98	0.54	0.54	0.54
Uniform Delay (d), s/veh	63.5	0.0	53.0	67.4	0.0	62.0	68.7	36.7	36.8	57.5	0.0	0.0
Incr Delay (d2), s/veh	11.1	0.0	0.5	20.0	0.0	16.8	18.1	0.6	1.1	7.9	0.7	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	0.0	4.3	3.4	0.0	10.2	3.8	18.1	19.4	7.7	0.4	0.7
LnGrp Delay(d),s/veh	74.6	0.0	53.5	87.4	0.0	78.7	86.8	37.3	37.9	65.4	0.7	1.4
LnGrp LOS	E		D	F		E	F	D	D	E	A	A
Approach Vol, veh/h		183			183			1146			2000	
Approach Delay, s/veh		66.8			80.7			39.6			5.0	
Approach LOS		E			F			D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	90.0	17.5	20.9	18.4	83.2	10.7	27.7				
Change Period (Y+Rc), s	6.8	6.8	6.4	* 7.1	6.8	6.8	6.4	* 7.1				
Max Green Setting (Gmax), s	9.2	55.2	29.6	* 19	19.2	45.2	21.6	* 27				
Max Q Clear Time (g_c+I1), s	5.7	2.0	10.9	13.3	11.6	28.1	5.3	6.8				
Green Ext Time (p_c), s	0.0	36.7	0.3	0.5	0.2	14.9	0.1	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 methodology does not support exclusive ped or hold phases.






















HCM 2010 Signalized Intersection Summary
 5: 34th Street & 26th Avenue

07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	85	40	95	110	290	35	1155	110	215	1765	35
Future Volume (veh/h)	15	85	40	95	110	290	35	1155	110	215	1765	35
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	89	42	99	115	302	36	1203	115	224	1839	36
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	262	124	247	408	347	109	1840	176	433	2954	58
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.12	0.78	0.78	0.08	0.19	0.19
Sat Flow, veh/h	965	1198	565	1254	1863	1583	1774	4722	451	1774	5135	100
Grp Volume(v), veh/h	16	0	131	99	115	302	36	864	454	224	1214	661
Grp Sat Flow(s),veh/h/ln	965	0	1763	1254	1863	1583	1774	1695	1783	1774	1695	1845
Q Serve(g_s), s	2.0	0.0	8.8	10.1	7.2	25.8	2.6	16.0	16.1	17.0	46.1	46.1
Cycle Q Clear(g_c), s	9.2	0.0	8.8	18.9	7.2	25.8	2.6	16.0	16.1	17.0	46.1	46.1
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.25	1.00		0.05
Lane Grp Cap(c), veh/h	213	0	386	247	408	347	109	1321	695	433	1951	1062
V/C Ratio(X)	0.08	0.00	0.34	0.40	0.28	0.87	0.33	0.65	0.65	0.52	0.62	0.62
Avail Cap(c_a), veh/h	333	0	604	403	639	543	109	1321	695	433	1951	1062
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	0.09	0.09	0.09
Uniform Delay (d), s/veh	49.3	0.0	46.1	54.1	45.5	52.8	58.8	11.2	11.2	56.4	42.7	42.7
Incr Delay (d2), s/veh	0.1	0.0	0.5	1.0	0.4	9.2	7.4	2.4	4.5	0.4	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	7.8	6.5	6.7	17.9	2.7	12.0	13.0	9.8	24.0	26.1
LnGrp Delay(d),s/veh	49.5	0.0	46.7	55.2	45.9	62.0	66.2	13.6	15.7	56.8	42.9	43.0
LnGrp LOS	D		D	E	D	E	E	B	B	E	D	D
Approach Vol, veh/h		147			516			1354			2099	
Approach Delay, s/veh		47.0			57.1			15.7			44.4	
Approach LOS		D			E			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	87.4		37.6	41.0	61.4		37.6				
Change Period (Y+Rc), s	6.4	6.8		7.0	6.8	6.8		7.0				
Max Green Setting (Gmax), s	8.6	63.2		48.0	34.2	37.2		48.0				
Max Q Clear Time (g_c+I1), s	4.6	48.1		27.8	19.0	18.1		11.2				
Green Ext Time (p_c), s	0.0	13.8		2.9	0.5	17.1		3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			36.6									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary
6: 34th Street & 22nd Avenue

























07/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	690	120	320	800	220	240	755	325	140	1170	90
Future Volume (veh/h)	95	690	120	320	800	220	240	755	325	140	1170	90
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	99	719	125	333	833	229	250	786	339	146	1219	94
Adj No. of Lanes	1	2	0	2	2	0	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	713	124	350	764	210	247	1018	436	167	1201	93
Arrive On Green	0.07	0.26	0.26	0.11	0.31	0.31	0.05	0.11	0.11	0.10	0.28	0.28
Sat Flow, veh/h	1597	2714	472	3097	2470	679	1597	3144	1346	1597	4335	334
Grp Volume(v), veh/h	99	422	422	333	537	525	250	763	362	146	858	455
Grp Sat Flow(s),veh/h/ln	1597	1593	1593	1549	1593	1557	1597	1526	1439	1597	1526	1618
Q Serve(g_s), s	8.6	36.8	36.8	15.0	43.3	43.3	21.7	34.1	34.3	12.6	38.8	38.8
Cycle Q Clear(g_c), s	8.6	36.8	36.8	15.0	43.3	43.3	21.7	34.1	34.3	12.6	38.8	38.8
Prop In Lane	1.00		0.30	1.00		0.44	1.00		0.94	1.00		0.21
Lane Grp Cap(c), veh/h	106	419	419	350	493	481	247	988	466	167	846	448
V/C Ratio(X)	0.93	1.01	1.01	0.95	1.09	1.09	1.01	0.77	0.78	0.87	1.01	1.02
Avail Cap(c_a), veh/h	106	419	419	350	493	481	247	988	466	200	846	448
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.29	0.29	0.29	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.0	51.6	51.6	61.7	48.3	48.4	66.4	57.5	57.6	61.8	50.6	50.6
Incr Delay (d2), s/veh	66.3	45.8	46.1	35.8	67.2	67.8	33.1	1.7	3.7	28.6	34.6	46.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.7	38.7	38.8	12.9	50.8	49.8	21.4	18.0	17.5	11.2	36.7	41.5
LnGrp Delay(d),s/veh	131.4	97.5	97.7	97.5	115.5	116.2	99.6	59.2	61.3	90.4	85.2	97.0
LnGrp LOS	F	F	F	F	F	F	F	E	E	F	F	F
Approach Vol, veh/h		943			1395			1375			1459	
Approach Delay, s/veh		101.1			111.5			67.1			89.4	
Approach LOS		F			F			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.1	45.9	16.0	50.0	21.6	52.4	22.5	43.5				
Change Period (Y+Rc), s	6.4	* 7.1	6.7	6.7	6.9	* 7.1	6.7	6.7				
Max Green Setting (Gmax), s	21.7	* 39	9.3	43.3	17.5	* 43	15.8	36.8				
Max Q Clear Time (g_c+I1), s	23.7	40.8	10.6	45.3	14.6	36.3	17.0	38.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	5.4	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				91.6								
HCM 2010 LOS				F								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/06/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	190	110	40	305	495	140	170	35	375	105	235
Future Volume (vph)	235	190	110	40	305	495	140	170	35	375	105	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		220	150		145	150		150	290		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			120			120			45		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950	0.969	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1610	3285	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.969	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1610	3285	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			266			521			210			266
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		434			1398			368			2679	
Travel Time (s)		7.4			23.8			5.6			40.6	
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
Adj. Flow (vph)	247	200	116	42	321	521	147	179	37	395	111	247
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	247	200	116	42	321	521	147	179	37	197	309	247
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Free	Prot	NA	Perm	Split	NA	Perm	Split	NA	Free
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			Free			2			8			Free
Detector Phase	1	6		5	2	2	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	11.8	13.4		11.9	13.4	13.4	22.1	22.1	22.1	32.9	32.9	
Total Split (s)	33.0	46.0		15.0	28.0	28.0	29.0	29.0	29.0	40.0	40.0	
Total Split (%)	25.4%	35.4%		11.5%	21.5%	21.5%	22.3%	22.3%	22.3%	30.8%	30.8%	
Maximum Green (s)	26.2	38.6		8.1	20.6	20.6	22.3	22.3	22.3	33.1	33.1	
Yellow Time (s)	4.8	4.8		4.4	4.8	4.8	4.0	4.0	4.0	4.8	4.8	
All-Red Time (s)	2.0	2.6		2.5	2.6	2.6	2.7	2.7	2.7	2.1	2.1	
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)	6.8	7.4		6.9	7.4	7.4	6.7	6.7	6.7	6.9	6.9	
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	Max		None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	22.9	56.9	130.0	8.4	40.0	40.0	17.5	17.5	17.5	21.8	21.8	130.0

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/06/2018

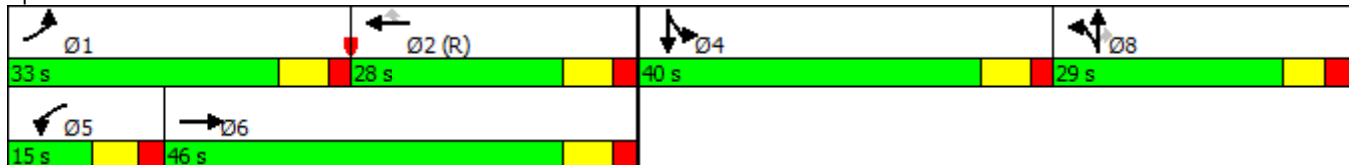


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.18	0.44	1.00	0.06	0.31	0.31	0.13	0.13	0.13	0.17	0.17	1.00
v/c Ratio	0.79	0.13	0.07	0.37	0.30	0.62	0.62	0.38	0.09	0.73	0.56	0.16
Control Delay	68.9	25.5	0.1	66.4	38.6	7.5	64.4	53.1	0.5	90.2	76.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.9	25.5	0.1	66.4	38.6	7.5	64.4	53.1	0.5	90.2	76.2	0.5
LOS	E	C	A	E	D	A	E	D	A	F	E	A
Approach Delay	39.3			21.6			52.3			55.0		
Approach LOS	D			C			D			D		
Queue Length 50th (ft)	201	52	0	35	106	0	120	74	0	195	153	0
Queue Length 95th (ft)	282	98	0	73	184	117	183	106	0	272	186	14
Internal Link Dist (ft)	354			1318			288			2599		
Turn Bay Length (ft)	230		220	150		145	150		150	290		
Base Capacity (vph)	365	1548	1583	124	1088	847	304	610	446	409	836	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.13	0.07	0.34	0.30	0.62	0.48	0.29	0.08	0.48	0.37	0.16

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 71 (55%), Referenced to phase 2:WBT, Start of Green
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 39.6
 Intersection LOS: D
 Intersection Capacity Utilization 73.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: 54th Avenue & 34th Street



Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↑↑↑		↔	↑↑↑	
Traffic Volume (vph)	55	5	30	20	15	5	70	540	30	45	710	20
Future Volume (vph)	55	5	30	20	15	5	70	540	30	45	710	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			130			35		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.955				0.850		0.992			0.996	
Flt Protected		0.970			0.972		0.950			0.950		
Satd. Flow (prot)	0	1726	0	0	1811	1583	1770	5045	0	1770	5065	0
Flt Permitted		0.792			0.801		0.349			0.414		
Satd. Flow (perm)	0	1409	0	0	1492	1583	650	5045	0	771	5065	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20				32		12			6	
Link Speed (mph)		30			25			45			45	
Link Distance (ft)		700			776			2679			2655	
Travel Time (s)		15.9			21.2			40.6			40.2	
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
Adj. Flow (vph)	58	5	32	21	16	5	74	568	32	47	747	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	37	5	74	600	0	47	768	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
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Detector Phase	8	8		4	4	4	6	6		2	2	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	12.8	12.8		12.8	12.8	
Total Split (s)	46.0	46.0		46.0	46.0	46.0	84.0	84.0		84.0	84.0	
Total Split (%)	35.4%	35.4%		35.4%	35.4%	35.4%	64.6%	64.6%		64.6%	64.6%	
Maximum Green (s)	39.0	39.0		39.0	39.0	39.0	77.2	77.2		77.2	77.2	
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.8	4.8		4.8	4.8	
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		7.0			7.0	7.0	6.8	6.8		6.8	6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		16.0			16.0	16.0	100.2	100.2		100.2	100.2	

Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/06/2018

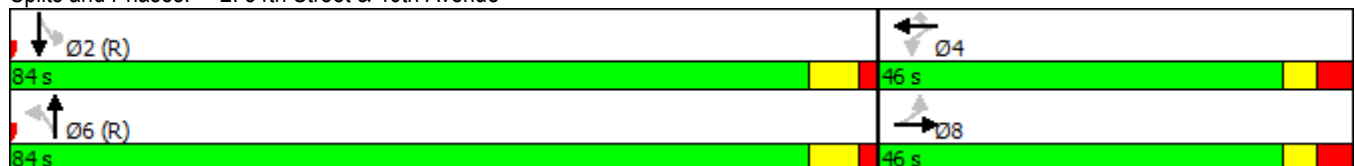


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.12			0.12	0.12	0.77	0.77		0.77	0.77	
v/c Ratio		0.50			0.20	0.02	0.15	0.15		0.08	0.20	
Control Delay		51.1			53.6	0.2	6.5	4.9		10.9	14.4	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		51.1			53.6	0.2	6.5	4.9		10.9	14.4	
LOS		D			D	A	A	A		B	B	
Approach Delay		51.1			47.2			5.0			14.2	
Approach LOS		D			D			A			B	
Queue Length 50th (ft)		60			29	0	11	33		0	206	
Queue Length 95th (ft)		115			62	0	m41	89		50	225	
Internal Link Dist (ft)		620			696			2599			2575	
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		436			447	497	501	3892		594	3906	
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			0.08	0.01	0.15	0.15		0.08	0.20	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 127 (98%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.50
 Intersection Signal Delay: 13.4
 Intersection LOS: B
 Intersection Capacity Utilization 53.4%
 ICU Level of Service A
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 34th Street & 46th Avenue



Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	55	20	65	40	105	15	890	30	65	715	55
Future Volume (vph)	60	55	20	65	40	105	15	890	30	65	715	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	120		0	45		0	180		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	55			70			65			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.960			0.891			0.995			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1788	0	1770	1660	0	1770	5060	0	1770	5029	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1788	0	1770	1660	0	1770	5060	0	1770	5029	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			91			4			12	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		813			748			2655			1274	
Travel Time (s)		18.5			17.0			40.2			19.3	
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
Adj. Flow (vph)	63	58	21	68	42	111	16	937	32	68	753	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	79	0	68	153	0	16	969	0	68	811	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
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.4	17.1		11.4	17.1		11.8	12.8		11.8	12.8	
Total Split (s)	21.0	31.0		22.0	32.0		16.0	54.0		23.0	61.0	
Total Split (%)	16.2%	23.8%		16.9%	24.6%		12.3%	41.5%		17.7%	46.9%	
Maximum Green (s)	14.6	23.9		15.6	24.9		9.2	47.2		16.2	54.2	
Yellow Time (s)	3.4	3.4		3.4	3.4		4.8	4.8		4.8	4.8	
All-Red Time (s)	3.0	3.7		3.0	3.7		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	7.1		6.4	7.1		6.8	6.8		6.8	6.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	10.0	12.0		10.3	12.3		6.8	75.4		10.3	84.0	

Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/06/2018

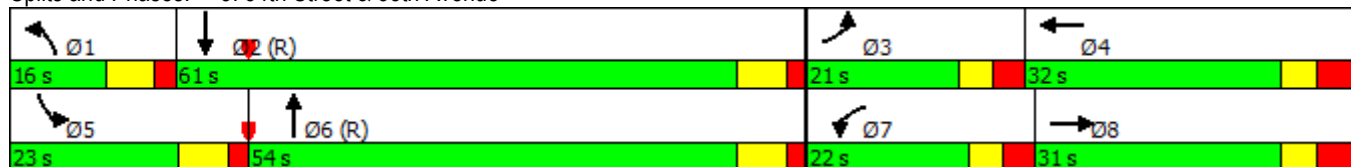


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.08	0.09		0.08	0.09		0.05	0.58		0.08	0.65	
v/c Ratio	0.46	0.45		0.49	0.64		0.18	0.33		0.49	0.25	
Control Delay	67.6	54.9		68.0	36.4		69.1	18.5		90.4	1.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	67.6	54.9		68.0	36.4		69.1	18.5		90.4	1.8	
LOS	E	D		E	D		E	B		F	A	
Approach Delay		60.5			46.1			19.3			8.7	
Approach LOS		E			D			B			A	
Queue Length 50th (ft)	52	55		56	51		14	175		61	16	
Queue Length 95th (ft)	98	103		102	119		36	273		113	21	
Internal Link Dist (ft)		733			668			2575			1194	
Turn Bay Length (ft)	65			120			45			180		
Base Capacity (vph)	198	338		212	391		125	2935		220	3253	
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	0.32	0.23		0.32	0.39		0.13	0.33		0.31	0.25	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 44 (34%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 20.4
 Intersection Capacity Utilization 57.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 3: 34th Street & 38th Avenue



Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/06/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Lane Configurations	↖↗	↗	↖	↑↑↑	↘	↑↑↑	↗	
Traffic Volume (vph)	135	40	90	1000	0	1340	135	
Future Volume (vph)	135	40	90	1000	0	1340	135	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	240	175	395		80		450	
Storage Lanes	1	1	1		1		1	
Taper Length (ft)	25		50		60			
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	1.00	
Frt		0.850					0.850	
Flt Protected	0.950		0.950					
Satd. Flow (prot)	3433	1583	1770	5085	1863	5085	1583	
Flt Permitted	0.950		0.950					
Satd. Flow (perm)	3433	1583	1770	5085	1863	5085	1583	
Right Turn on Red		Yes					Yes	
Satd. Flow (RTOR)		42					142	
Link Speed (mph)	25			45		45		
Link Distance (ft)	796			1274		2715		
Travel Time (s)	21.7			19.3		41.1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	142	42	95	1053	0	1411	142	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	142	42	95	1053	0	1411	142	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	R NA	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	1.00	
Turning Speed (mph)	15	9	15		9		9	
Turn Type	Prot	Prot	Prot	NA	Prot	NA	Perm	
Protected Phases	3	3	1	6	5	2		4
Permitted Phases								2
Detector Phase	3	3	1	6	5	2		2
Switch Phase								
Minimum Initial (s)	10.0	10.0	5.0	6.0	5.0	6.0	6.0	38.0
Minimum Split (s)	17.4	17.4	11.8	13.3	11.8	13.3	13.3	43.4
Total Split (s)	21.0	21.0	18.0	57.0	12.0	51.0	51.0	40.0
Total Split (%)	16.2%	16.2%	13.8%	43.8%	9.2%	39.2%	39.2%	31%
Maximum Green (s)	13.6	13.6	11.2	49.7	5.2	43.7	43.7	34.6
Yellow Time (s)	3.4	3.4	4.8	4.8	4.8	4.8	4.8	3.4
All-Red Time (s)	4.0	4.0	2.0	2.5	2.0	2.5	2.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.4	7.4	6.8	7.3	6.8	7.3	7.3	
Lead/Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	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
Recall Mode	None	None	None	C-Max	None	C-Max	C-Max	None
Walk Time (s)								7.0

Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/06/2018

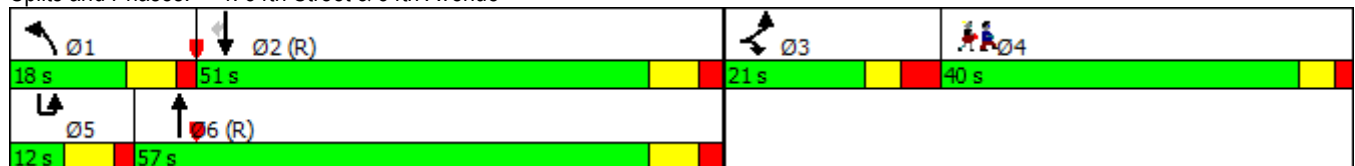


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Flash Dont Walk (s)								31.0
Pedestrian Calls (#/hr)								0
Act Effct Green (s)	11.2	11.2	12.4	104.1		84.9	84.9	
Actuated g/C Ratio	0.09	0.09	0.10	0.80		0.65	0.65	
v/c Ratio	0.48	0.24	0.57	0.26		0.42	0.13	
Control Delay	61.9	18.9	73.0	2.9		37.7	18.7	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	61.9	18.9	73.0	2.9		37.7	18.7	
LOS	E	B	E	A		D	B	
Approach Delay	52.1			8.7		36.0		
Approach LOS	D			A		D		
Queue Length 50th (ft)	60	0	81	53		419	72	
Queue Length 95th (ft)	93	36	138	60		481	127	
Internal Link Dist (ft)	716			1194		2635		
Turn Bay Length (ft)	240	175	395				450	
Base Capacity (vph)	359	203	180	4070		3320	1082	
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	0.21	0.53	0.26		0.42	0.13	

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	57 (44%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.57
Intersection Signal Delay:	26.1
Intersection LOS:	C
Intersection Capacity Utilization:	57.1%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 4: 34th Street & 34th Avenue



Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	95	30	100	130	360	55	820	70	280	1220	15
Future Volume (vph)	30	95	30	100	130	360	55	820	70	280	1220	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		0	180		0	290		0	280		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			80			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.964				0.850		0.988			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1796	0	1770	1863	1583	1770	5024	0	1770	5075	0
Flt Permitted	0.586			0.602			0.950			0.950		
Satd. Flow (perm)	1092	1796	0	1121	1863	1583	1770	5024	0	1770	5075	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				379		10			2	
Link Speed (mph)		30			30			45			40	
Link Distance (ft)		770			780			2715			1330	
Travel Time (s)		17.5			17.7			41.1			22.7	
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
Adj. Flow (vph)	32	100	32	105	137	379	58	863	74	295	1284	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	132	0	105	137	379	58	937	0	295	1300	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
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4						
Detector Phase	8	8		4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	5.0	6.0		5.0	6.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	11.4	12.8		11.8	12.8	
Total Split (s)	48.0	48.0		48.0	48.0	48.0	18.0	37.0		45.0	64.0	
Total Split (%)	36.9%	36.9%		36.9%	36.9%	36.9%	13.8%	28.5%		34.6%	49.2%	
Maximum Green (s)	41.0	41.0		41.0	41.0	41.0	11.6	30.2		38.2	57.2	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.4	4.8		4.8	4.8	
All-Red Time (s)	3.3	3.3		3.3	3.3	3.3	2.0	2.0		2.0	2.0	
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)	7.0	7.0		7.0	7.0	7.0	6.4	6.8		6.8	6.8	
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	
Recall Mode	None	None		None	None	None	Max	C-Max		Max	C-Max	
Act Effct Green (s)	17.9	17.9		17.9	17.9	17.9	34.7	30.2		61.3	57.2	

Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/06/2018

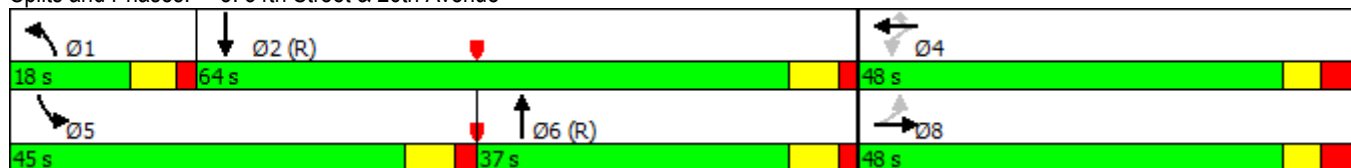


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.14		0.14	0.14	0.14	0.27	0.23		0.47	0.44	
v/c Ratio	0.21	0.51		0.68	0.54	0.70	0.12	0.80		0.35	0.58	
Control Delay	50.2	52.3		73.8	58.6	11.7	37.1	43.7		11.2	48.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	50.2	52.3		73.8	58.6	11.7	37.1	43.7		11.2	48.6	
LOS	D	D		E	E	B	D	D		B	D	
Approach Delay		51.9			32.6			43.3				41.7
Approach LOS		D			C			D				D
Queue Length 50th (ft)	24	95		86	110	0	37	289		128	421	
Queue Length 95th (ft)	53	148		140	163	89	85	173		m201	m425	
Internal Link Dist (ft)		690			700			2635				1250
Turn Bay Length (ft)	220			180			290			280		
Base Capacity (vph)	344	575		353	587	758	472	1174		835	2234	
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	0.09	0.23		0.30	0.23	0.50	0.12	0.80		0.35	0.58	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 85 (65%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 41.0
 Intersection LOS: D
 Intersection Capacity Utilization 72.6%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: 34th Street & 26th Avenue



Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

























07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	625	95	340	600	190	250	775	170	170	1100	65
Future Volume (vph)	65	625	95	340	600	190	250	775	170	170	1100	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	160		0	105		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	45			80			130			50		
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.980			0.964			0.973			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3122	0	3090	3071	0	1593	4453	0	1593	4540	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1593	3122	0	3090	3071	0	1593	4453	0	1593	4540	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			33			38			7	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		829			810			1330			1056	
Travel Time (s)		16.1			15.8			22.7			18.0	
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
Adj. Flow (vph)	68	658	100	358	632	200	263	816	179	179	1158	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	758	0	358	832	0	263	995	0	179	1226	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	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.7	22.5		11.7	22.5		11.4	22.5		11.9	22.5	
Total Split (s)	13.5	37.0		22.5	46.0		28.5	44.3		26.2	42.0	
Total Split (%)	10.4%	28.5%		17.3%	35.4%		21.9%	34.1%		20.2%	32.3%	
Maximum Green (s)	6.8	30.3		15.8	39.3		22.1	37.2		19.3	34.9	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.4	4.9		4.9	4.9	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.2		2.0	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.7	6.7		6.7	6.7		6.4	7.1		6.9	7.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	6.8	30.3		15.8	39.3		22.1	38.8		17.7	34.9	

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/06/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	320	255	220	335	600	300	265	80	940	325	315
Future Volume (vph)	310	320	255	220	335	600	300	265	80	940	325	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		220	150		145	150		150	290		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			120			120			45		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950	0.971	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1610	3292	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.971	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1610	3292	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			266			571			142			204
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		434			1398			368			2679	
Travel Time (s)		7.4			23.8			5.6			40.6	
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
Adj. Flow (vph)	323	333	266	229	349	625	313	276	83	979	339	328
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	323	333	266	229	349	625	313	276	83	489	829	328
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Free	Prot	NA	Perm	Split	NA	Perm	Split	NA	Free
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			Free			2			8			Free
Detector Phase	1	6		5	2	2	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	11.8	13.4		11.9	13.4	13.4	22.1	22.1	22.1	32.9	32.9	
Total Split (s)	31.8	31.3		29.7	29.2	29.2	31.0	31.0	31.0	48.0	48.0	
Total Split (%)	22.7%	22.4%		21.2%	20.9%	20.9%	22.1%	22.1%	22.1%	34.3%	34.3%	
Maximum Green (s)	25.0	23.9		22.8	21.8	21.8	24.3	24.3	24.3	41.1	41.1	
Yellow Time (s)	4.8	4.8		4.4	4.8	4.8	4.0	4.0	4.0	4.8	4.8	
All-Red Time (s)	2.0	2.6		2.5	2.6	2.6	2.7	2.7	2.7	2.1	2.1	
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)	6.8	7.4		6.9	7.4	7.4	6.7	6.7	6.7	6.9	6.9	
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	Max		None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	25.0	25.6	140.0	21.1	21.8	21.8	24.3	24.3	24.3	41.1	41.1	140.0

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/06/2018

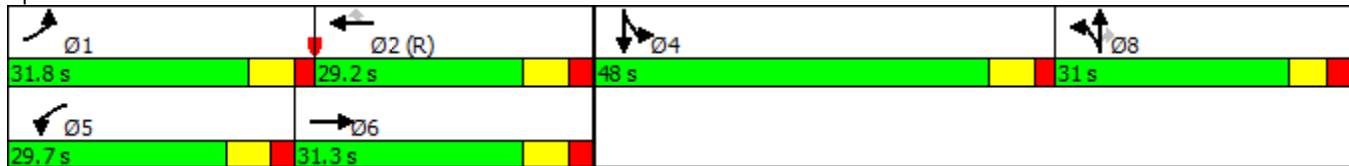


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.18	0.18	1.00	0.15	0.16	0.16	0.17	0.17	0.17	0.29	0.29	1.00
v/c Ratio	1.02	0.52	0.17	0.86	0.63	0.86	1.02	0.45	0.21	1.04	0.99dl	0.21
Control Delay	112.2	55.4	0.2	85.9	61.2	19.8	112.6	54.5	1.2	86.3	43.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.2	55.4	0.2	85.9	61.2	19.8	112.6	54.5	1.2	86.3	43.6	0.3
LOS	F	E	A	F	E	B	F	D	A	F	D	A
Approach Delay	59.4			44.4			75.0			47.7		
Approach LOS	E			D			E			D		
Queue Length 50th (ft)	~312	147	0	203	158	44	~301	120	0	~539	440	0
Queue Length 95th (ft)	#506	200	0	#332	214	#263	#494	167	1	#793	513	0
Internal Link Dist (ft)	354			1318			288			2599		
Turn Bay Length (ft)	230		220	150		145	150		150	290		
Base Capacity (vph)	316	646	1583	288	551	728	307	614	392	472	966	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.52	0.17	0.80	0.63	0.86	1.02	0.45	0.21	1.04	0.86	0.21

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 12 (9%), Referenced to phase 2:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 53.3 Intersection LOS: D
 Intersection Capacity Utilization 92.3% 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.
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 1: 54th Avenue & 34th Street



Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↑↑↑		↖	↑↑↑	
Traffic Volume (vph)	85	5	45	15	5	10	80	875	10	30	1575	30
Future Volume (vph)	85	5	45	15	5	10	80	875	10	30	1575	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			130			35		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.955				0.850		0.998			0.997	
Flt Protected		0.969			0.963		0.950			0.950		
Satd. Flow (prot)	0	1724	0	0	1794	1583	1770	5075	0	1770	5070	0
Flt Permitted		0.796			0.760		0.121			0.295		
Satd. Flow (perm)	0	1416	0	0	1416	1583	225	5075	0	550	5070	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				30		1			3	
Link Speed (mph)		30			25			45			45	
Link Distance (ft)		700			776			2679			2655	
Travel Time (s)		15.9			21.2			40.6			40.2	
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
Adj. Flow (vph)	89	5	47	16	5	10	83	911	10	31	1641	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	141	0	0	21	10	83	921	0	31	1672	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
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Detector Phase	8	8		4	4	4	6	6		2	2	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	12.8	12.8		12.8	12.8	
Total Split (s)	70.0	70.0		70.0	70.0	70.0	70.0	70.0		70.0	70.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	63.0	63.0		63.0	63.0	63.0	63.2	63.2		63.2	63.2	
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.8	4.8		4.8	4.8	
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		7.0			7.0	7.0	6.8	6.8		6.8	6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		20.3			20.3	20.3	105.9	105.9		105.9	105.9	

Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/06/2018

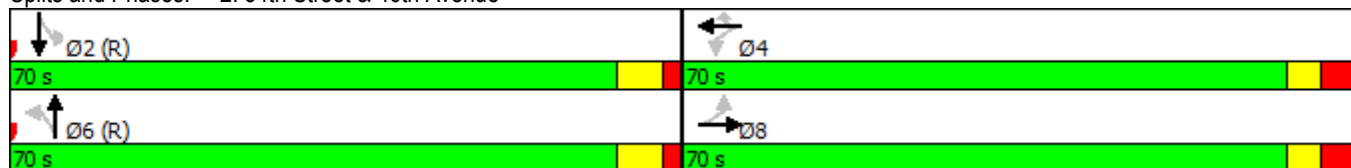


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.14			0.14	0.14	0.76	0.76		0.76	0.76	
v/c Ratio		0.67			0.10	0.04	0.49	0.24		0.07	0.44	
Control Delay		68.5			50.4	1.0	14.1	4.4		0.5	0.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		68.5			50.4	1.0	14.1	4.4		0.5	0.8	
LOS		E			D	A	B	A		A	A	
Approach Delay		68.5			34.4			5.2				0.8
Approach LOS		E			C			A				A
Queue Length 50th (ft)		118			17	0	16	58		0	1	
Queue Length 95th (ft)		182			41	2	m29	m93		m1	6	
Internal Link Dist (ft)		620			696			2599				2575
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		641			637	728	170	3837		415	3834	
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			0.03	0.01	0.49	0.24		0.07	0.44	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 120 (86%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 6.0 Intersection LOS: A
 Intersection Capacity Utilization 67.7% ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 34th Street & 46th Avenue



Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	45	20	40	70	65	45	1000	55	120	1715	85
Future Volume (vph)	110	45	20	40	70	65	45	1000	55	120	1715	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	120		0	45		0	180		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	55			70			65			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.954			0.928			0.992			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1777	0	1770	1729	0	1770	5045	0	1770	5050	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1777	0	1770	1729	0	1770	5045	0	1770	5050	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			28			6			6	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		813			748			2655			1274	
Travel Time (s)		18.5			17.0			40.2			19.3	
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
Adj. Flow (vph)	115	47	21	42	73	68	47	1042	57	125	1786	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	68	0	42	141	0	47	1099	0	125	1875	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
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.4	17.1		11.4	17.1		11.8	12.8		11.8	12.8	
Total Split (s)	36.0	34.0		28.0	26.0		16.0	52.0		26.0	62.0	
Total Split (%)	25.7%	24.3%		20.0%	18.6%		11.4%	37.1%		18.6%	44.3%	
Maximum Green (s)	29.6	26.9		21.6	18.9		9.2	45.2		19.2	55.2	
Yellow Time (s)	3.4	3.4		3.4	3.4		4.8	4.8		4.8	4.8	
All-Red Time (s)	3.0	3.7		3.0	3.7		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	7.1		6.4	7.1		6.8	6.8		6.8	6.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	14.4	23.0		8.7	14.9		9.1	68.4		15.2	77.0	

Lanes, Volumes, Timings

3: 34th Street & 38th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.10	0.16		0.06	0.11		0.06	0.49		0.11	0.55	
v/c Ratio	0.63	0.22		0.38	0.68		0.41	0.45		0.65	0.67	
Control Delay	75.0	41.5		72.1	63.7		74.1	27.3		78.7	20.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	75.0	41.5		72.1	63.7		74.1	27.3		78.7	20.1	
LOS	E	D		E	E		E	C		E	C	
Approach Delay	62.5			65.6			29.2			23.8		
Approach LOS	E			E			C			C		
Queue Length 50th (ft)	102	44		37	101		39	241		121	169	
Queue Length 95th (ft)	163	85		77	168		81	396		m154	324	
Internal Link Dist (ft)	733			668			2575			1194		
Turn Bay Length (ft)	65			120			45			180		
Base Capacity (vph)	374	356		273	261		128	2469		246	2779	
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	0.31	0.19		0.15	0.54		0.37	0.45		0.51	0.67	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 72 (51%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 29.8

Intersection LOS: C

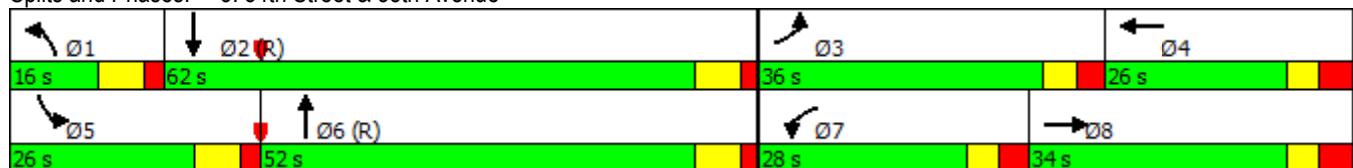
Intersection Capacity Utilization 76.2%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 3: 34th Street & 38th Avenue



Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/06/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Lane Configurations	↖↗	↗	↖	↑↑↑	↘	↑↑↑	↗	
Traffic Volume (vph)	310	85	220	990	0	1930	325	
Future Volume (vph)	310	85	220	990	0	1930	325	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	240	175	395		80		450	
Storage Lanes	1	1	1		1		1	
Taper Length (ft)	25		50		60			
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	1.00	
Frt		0.850					0.850	
Flt Protected	0.950		0.950					
Satd. Flow (prot)	3433	1583	1770	5085	1863	5085	1583	
Flt Permitted	0.950		0.950					
Satd. Flow (perm)	3433	1583	1770	5085	1863	5085	1583	
Right Turn on Red		Yes					Yes	
Satd. Flow (RTOR)		89					302	
Link Speed (mph)	25			45		45		
Link Distance (ft)	796			1274		2715		
Travel Time (s)	21.7			19.3		41.1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	323	89	229	1031	0	2010	339	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	323	89	229	1031	0	2010	339	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	R NA	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	1.00	
Turning Speed (mph)	15	9	15		9		9	
Turn Type	Prot	Prot	Prot	NA	custom	NA	Perm	
Protected Phases	3	3	1	6		2		4
Permitted Phases					5		2	
Detector Phase	3	3	1	6	5	2	2	
Switch Phase								
Minimum Initial (s)	10.0	10.0	5.0	6.0	5.0	6.0	6.0	38.0
Minimum Split (s)	17.4	17.4	11.8	13.3	11.8	13.3	13.3	43.4
Total Split (s)	35.0	35.0	22.0	53.0	12.0	43.0	43.0	40.0
Total Split (%)	25.0%	25.0%	15.7%	37.9%	8.6%	30.7%	30.7%	29%
Maximum Green (s)	27.6	27.6	15.2	45.7	5.2	35.7	35.7	34.6
Yellow Time (s)	3.4	3.4	4.8	4.8	4.8	4.8	4.8	3.4
All-Red Time (s)	4.0	4.0	2.0	2.5	2.0	2.5	2.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.4	7.4	6.8	7.3	6.8	7.3	7.3	
Lead/Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	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
Recall Mode	None	None	None	C-Max	None	C-Max	C-Max	None
Act Effct Green (s)	18.4	18.4	30.3	106.9		69.8	69.8	

Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/06/2018

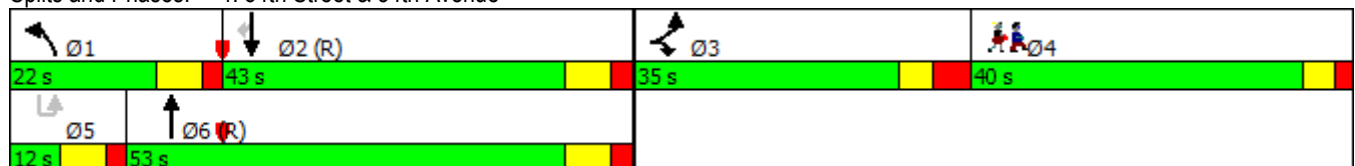


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Actuated g/C Ratio	0.13	0.13	0.22	0.76		0.50	0.50	
v/c Ratio	0.72	0.31	0.60	0.27		0.79	0.36	
Control Delay	67.2	12.7	76.1	2.8		43.0	15.5	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	67.2	12.7	76.1	2.8		43.0	15.5	
LOS	E	B	E	A		D	B	
Approach Delay	55.4			16.1		39.1		
Approach LOS	E			B		D		
Queue Length 50th (ft)	147	0	221	42		696	184	
Queue Length 95th (ft)	193	50	310	47		752	m248	
Internal Link Dist (ft)	716			1194		2635		
Turn Bay Length (ft)	240	175	395				450	
Base Capacity (vph)	676	383	383	3882		2533	940	
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	0.23	0.60	0.27		0.79	0.36	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 92 (66%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 33.6
 Intersection LOS: C
 Intersection Capacity Utilization 76.2%
 ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: 34th Street & 34th Avenue



Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	85	40	95	110	290	35	1155	110	215	1765	35
Future Volume (vph)	15	85	40	95	110	290	35	1155	110	215	1765	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		0	180		0	290		0	280		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			80			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.952				0.850		0.987			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1773	0	1770	1863	1583	1770	5019	0	1770	5070	0
Flt Permitted	0.629			0.572			0.950			0.950		
Satd. Flow (perm)	1172	1773	0	1065	1863	1583	1770	5019	0	1770	5070	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				302		11			3	
Link Speed (mph)		30			30			45			40	
Link Distance (ft)		770			780			2715			1330	
Travel Time (s)		17.5			17.7			41.1			22.7	
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
Adj. Flow (vph)	16	89	42	99	115	302	36	1203	115	224	1839	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	131	0	99	115	302	36	1318	0	224	1875	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
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4						
Detector Phase	8	8		4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	5.0	6.0		5.0	6.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	11.4	12.8		11.8	12.8	
Total Split (s)	55.0	55.0		55.0	55.0	55.0	15.0	44.0		41.0	70.0	
Total Split (%)	39.3%	39.3%		39.3%	39.3%	39.3%	10.7%	31.4%		29.3%	50.0%	
Maximum Green (s)	48.0	48.0		48.0	48.0	48.0	8.6	37.2		34.2	63.2	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.4	4.8		4.8	4.8	
All-Red Time (s)	3.3	3.3		3.3	3.3	3.3	2.0	2.0		2.0	2.0	
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)	7.0	7.0		7.0	7.0	7.0	6.4	6.8		6.8	6.8	
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	
Recall Mode	None	None		None	None	None	Max	C-Max		Max	C-Max	
Act Effct Green (s)	17.4	17.4		17.4	17.4	17.4	39.2	37.2		64.8	63.2	

Lanes, Volumes, Timings

5: 34th Street & 26th Avenue

07/06/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.12	0.12		0.12	0.12	0.12	0.28	0.27		0.46	0.45	
v/c Ratio	0.11	0.56		0.75	0.50	0.66	0.07	0.98		0.27	0.82	
Control Delay	52.6	57.3		89.5	63.2	12.5	55.5	76.4		15.7	60.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	52.6	57.3		89.5	63.2	12.5	55.5	76.4		15.7	60.3	
LOS	D	E		F	E	B	E	E		B	E	
Approach Delay		56.8			38.6			75.9			55.5	
Approach LOS		E			D			E			E	
Queue Length 50th (ft)	13	98		88	99	0	31	466		121	649	
Queue Length 95th (ft)	34	156		146	154	84	m72	#558		m171	m647	
Internal Link Dist (ft)		690			700			2635			1250	
Turn Bay Length (ft)	220			180			290			280		
Base Capacity (vph)	401	619		365	638	741	495	1341		818	2290	
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	0.04	0.21		0.27	0.18	0.41	0.07	0.98		0.27	0.82	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 138 (99%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 60.1
 Intersection LOS: E
 Intersection Capacity Utilization 78.4%
 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: 34th Street & 26th Avenue



Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	690	120	320	800	220	240	755	325	140	1170	90
Future Volume (vph)	95	690	120	320	800	220	240	755	325	140	1170	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	160		0	105		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	45			80			130			50		
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.978			0.968			0.955			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3115	0	3090	3083	0	1593	4371	0	1593	4526	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1593	3115	0	3090	3083	0	1593	4371	0	1593	4526	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			26			80			9	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		829			810			1330			1056	
Travel Time (s)		16.1			15.8			22.7			18.0	
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
Adj. Flow (vph)	99	719	125	333	833	229	250	786	339	146	1219	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	844	0	333	1062	0	250	1125	0	146	1313	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	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.7	22.5		11.7	22.5		11.4	22.5		11.9	22.5	
Total Split (s)	16.0	43.5		22.5	50.0		28.1	49.6		24.4	45.9	
Total Split (%)	11.4%	31.1%		16.1%	35.7%		20.1%	35.4%		17.4%	32.8%	
Maximum Green (s)	9.3	36.8		15.8	43.3		21.7	42.5		17.5	38.8	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.4	4.9		4.9	4.9	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.2		2.0	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.7	6.7		6.7	6.7		6.4	7.1		6.9	7.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	9.3	36.8		15.8	43.3		21.7	44.0		16.0	38.8	

Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/06/2018

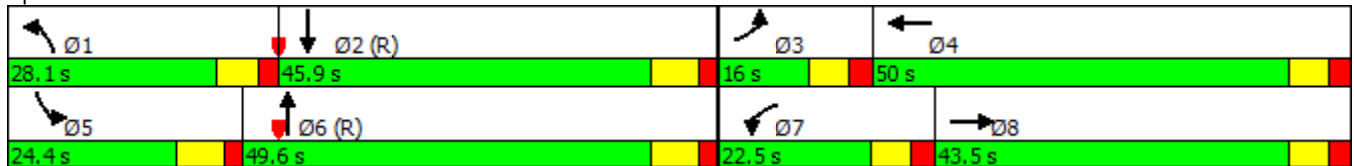


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.07	0.26		0.11	0.31		0.16	0.31		0.11	0.28	
v/c Ratio	0.94	1.02		0.96	1.09		1.02	0.79		0.80	1.04	
Control Delay	137.4	85.5		99.7	101.8		132.7	8.9		90.2	85.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	137.4	85.5		99.7	101.8		132.7	8.9		90.2	85.4	
LOS	F	F		F	F		F	A		F	F	
Approach Delay		91.0			101.3			31.4			85.8	
Approach LOS		F			F			C			F	
Queue Length 50th (ft)	91	~422		158	~565		~246	40		130	~470	
Queue Length 95th (ft)	#210	#556		#255	#705		m#291	m50		#231	#569	
Internal Link Dist (ft)		749			730			1250			976	
Turn Bay Length (ft)	150			160			105			190		
Base Capacity (vph)	105	829		348	971		246	1427		199	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	0.94	1.02		0.96	1.09		1.02	0.79		0.73	1.04	

Intersection Summary

Area Type: CBD
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 20 (14%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 76.5
 Intersection LOS: E
 Intersection Capacity Utilization 102.8%
 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: 34th Street & 22nd Avenue



























Design Year (2040) 4-Lane Configuration (Build Alternative) Analysis

HCM 2010 Signalized Intersection Summary

1: 54th Avenue & 34th Street

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	190	110	40	305	495	140	170	35	375	105	235
Future Volume (veh/h)	235	190	110	40	305	495	140	170	35	375	105	235
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	247	200	0	42	321	521	147	179	37	253	310	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	586	1597	714	54	523	532	205	408	231	334	351	298
Arrive On Green	0.33	0.45	0.00	0.03	0.15	0.15	0.12	0.12	0.12	0.31	0.31	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	247	200	0	42	321	521	147	179	37	253	310	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	14.1	4.3	0.0	3.1	11.1	19.2	10.4	6.1	2.7	16.7	20.5	0.0
Cycle Q Clear(g_c), s	14.1	4.3	0.0	3.1	11.1	19.2	10.4	6.1	2.7	16.7	20.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	586	1597	714	54	523	532	205	408	231	334	351	298
V/C Ratio(X)	0.42	0.13	0.00	0.78	0.61	0.98	0.72	0.44	0.16	0.76	0.88	0.00
Avail Cap(c_a), veh/h	586	1597	714	117	523	532	258	515	278	479	503	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	33.9	20.8	0.0	62.6	51.9	35.0	55.5	53.6	48.6	41.9	43.2	0.0
Incr Delay (d2), s/veh	0.5	0.2	0.0	20.8	5.3	34.2	6.9	0.7	0.3	4.1	12.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.4	3.8	0.0	3.3	9.7	31.7	9.3	5.5	2.1	13.2	17.2	0.0
LnGrp Delay(d),s/veh	34.4	20.9	0.0	83.4	57.2	69.2	62.4	54.3	48.9	46.0	55.4	0.0
LnGrp LOS	C	C		F	E	E	E	D	D	D	E	
Approach Vol, veh/h		447			884			363			563	
Approach Delay, s/veh		28.3			65.5			57.0			51.2	
Approach LOS		C			E			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	50.3	26.6		31.4	10.9	66.1		21.7				
Change Period (Y+Rc), s	7.4	* 7.4		6.9	6.9	7.4		6.7				
Max Green Setting (Gmax), s	29.0	* 19		35.1	8.6	39.5		18.9				
Max Q Clear Time (g_c+I1), s	16.1	21.2		22.5	5.1	6.3		12.4				
Green Ext Time (p_c), s	1.5	0.0		2.0	0.0	1.9		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				53.2								
HCM 2010 LOS				D								
Notes												





















User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary























2: 34th Street & 46th Avenue

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	5	30	20	15	5	70	540	30	45	710	20
Future Volume (veh/h)	55	5	30	20	15	5	70	540	30	45	710	20
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	58	5	32	21	16	0	74	568	32	47	747	21
Adj No. of Lanes	0	1	0	0	1	1	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	20	59	135	92	181	517	2759	1234	691	2759	1234
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	1.00	1.00	1.00	0.52	0.52	0.52
Sat Flow, veh/h	838	172	513	800	800	1583	697	3539	1583	815	3539	1583
Grp Volume(v), veh/h	95	0	0	37	0	0	74	568	32	47	747	21
Grp Sat Flow(s),veh/h/ln	1523	0	0	1600	0	1583	697	1770	1583	815	1770	1583
Q Serve(g_s), s	4.9	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	3.7	15.3	0.8
Cycle Q Clear(g_c), s	7.4	0.0	0.0	2.5	0.0	0.0	17.7	0.0	0.0	3.7	15.3	0.8
Prop In Lane	0.61		0.34	0.57		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	0	0	226	0	181	517	2759	1234	691	2759	1234
V/C Ratio(X)	0.43	0.00	0.00	0.16	0.00	0.00	0.14	0.21	0.03	0.07	0.27	0.02
Avail Cap(c_a), veh/h	458	0	0	477	0	438	517	2759	1234	691	2759	1234
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.78	0.78	0.78	0.95	0.95	0.95
Uniform Delay (d), s/veh	54.1	0.0	0.0	52.0	0.0	0.0	1.3	0.0	0.0	7.7	10.5	7.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.5	0.0	0.0	0.5	0.1	0.0	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	0.0	0.0	2.2	0.0	0.0	0.9	0.1	0.0	1.6	11.9	0.7
LnGrp Delay(d),s/veh	56.0	0.0	0.0	52.5	0.0	0.0	1.8	0.1	0.0	7.9	10.7	7.1
LnGrp LOS	E			D			A	A	A	A	B	A
Approach Vol, veh/h		95			37			674			815	
Approach Delay, s/veh		56.0			52.5			0.3			10.5	
Approach LOS		E			D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		108.1		21.9		108.1		21.9				
Change Period (Y+Rc), s		6.8		7.0		6.8		7.0				
Max Green Setting (Gmax), s		80.2		36.0		80.2		36.0				
Max Q Clear Time (g_c+I1), s		17.3		4.5		19.7		9.4				
Green Ext Time (p_c), s		13.3		1.1		13.3		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			9.9									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary
 3: 34th Street & 38th Avenue

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	55	20	65	40	105	15	890	30	65	715	55
Future Volume (veh/h)	60	55	20	65	40	105	15	890	30	65	715	55
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	63	58	21	68	42	111	16	937	32	68	753	58
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	100	36	139	49	131	30	1557	821	348	2191	1054
Arrive On Green	0.05	0.08	0.08	0.08	0.11	0.11	0.01	0.15	0.15	0.39	1.00	1.00
Sat Flow, veh/h	1774	1306	473	1774	453	1198	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	63	0	79	68	0	153	16	937	32	68	753	58
Grp Sat Flow(s),veh/h/ln	1774	0	1779	1774	0	1651	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	4.6	0.0	5.6	4.8	0.0	11.8	1.2	32.2	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	5.6	4.8	0.0	11.8	1.2	32.2	0.0	3.3	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.73	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	0	137	139	0	180	30	1557	821	348	2191	1054
V/C Ratio(X)	0.77	0.00	0.58	0.49	0.00	0.85	0.53	0.60	0.04	0.20	0.34	0.06
Avail Cap(c_a), veh/h	172	0	272	172	0	253	98	1557	821	348	2191	1054
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.99	0.99	0.99	0.80	0.80	0.80
Uniform Delay (d), s/veh	61.3	0.0	58.0	57.4	0.0	56.8	64.1	44.9	23.7	32.8	0.0	0.0
Incr Delay (d2), s/veh	13.8	0.0	3.8	2.6	0.0	17.0	13.8	1.7	0.1	0.2	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	0.0	5.2	4.4	0.0	10.4	1.2	22.7	1.6	2.9	0.2	0.0
LnGrp Delay(d),s/veh	75.1	0.0	61.8	60.0	0.0	73.9	77.9	46.6	23.8	33.0	0.3	0.1
LnGrp LOS	E		E	E		E	E	D	C	C	A	A
Approach Vol, veh/h		142			221			985			879	
Approach Delay, s/veh		67.7			69.6			46.4			2.9	
Approach LOS		E			E			D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	87.3	12.4	21.3	32.3	64.0	16.6	17.1				
Change Period (Y+Rc), s	6.8	6.8	* 6.4	7.1	6.8	6.8	* 6.4	7.1				
Max Green Setting (Gmax), s	7.2	63.2	* 13	19.9	13.2	57.2	* 13	19.9				
Max Q Clear Time (g_c+I1), s	3.2	2.0	6.6	13.8	5.3	34.2	6.8	7.6				
Green Ext Time (p_c), s	0.0	5.9	0.1	0.4	3.1	6.5	0.1	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.9									
HCM 2010 LOS			C									
Notes												
























* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 methodology does not support exclusive ped or hold phases.

HCM 2010 Signalized Intersection Summary

5: 34th Street & 26th Avenue

07/09/2018























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	95	30	100	130	360	55	820	70	280	1220	15
Future Volume (veh/h)	30	95	30	100	130	360	55	820	70	280	1220	15
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	32	100	32	105	137	379	58	863	74	295	1284	16
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	341	109	296	470	399	221	1258	563	494	1802	806
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.08	0.24	0.24	0.56	1.00	1.00
Sat Flow, veh/h	881	1353	433	1253	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	32	0	132	105	137	379	58	863	74	295	1284	16
Grp Sat Flow(s),veh/h/ln	881	0	1786	1253	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	4.0	0.0	7.8	9.6	7.7	30.6	4.0	28.9	4.8	14.3	0.0	0.0
Cycle Q Clear(g_c), s	11.7	0.0	7.8	17.4	7.7	30.6	4.0	28.9	4.8	14.3	0.0	0.0
Prop In Lane	1.00		0.24	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	0	450	296	470	399	221	1258	563	494	1802	806
V/C Ratio(X)	0.14	0.00	0.29	0.35	0.29	0.95	0.26	0.69	0.13	0.60	0.71	0.02
Avail Cap(c_a), veh/h	227	0	453	299	473	402	221	1258	563	494	1802	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.09	0.09	0.09
Uniform Delay (d), s/veh	44.0	0.0	39.3	46.3	39.2	47.8	54.0	42.9	33.7	23.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.7	0.3	32.0	2.7	2.9	0.4	0.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	0.0	6.9	6.1	7.2	23.7	3.8	20.7	3.9	8.2	0.1	0.0
LnGrp Delay(d),s/veh	44.2	0.0	39.6	47.0	39.6	79.8	56.6	45.8	34.2	24.4	0.2	0.0
LnGrp LOS	D		D	D	D	E	E	D	C	C	A	A
Approach Vol, veh/h		164			621			995			1595	
Approach Delay, s/veh		40.5			65.4			45.5			4.7	
Approach LOS		D			E			D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.2	73.0		39.8	43.2	53.0		39.8				
Change Period (Y+Rc), s	6.8	* 6.8		7.0	6.8	6.8		7.0				
Max Green Setting (Gmax), s	10.6	* 66		33.0	30.2	46.2		33.0				
Max Q Clear Time (g_c+I1), s	6.0	2.0		32.6	16.3	30.9		13.7				
Green Ext Time (p_c), s	0.5	12.9		0.2	0.9	5.1		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			29.6									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

6: 34th Street & 22nd Avenue

























07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	625	95	340	600	190	250	775	170	170	1100	65
Future Volume (veh/h)	65	625	95	340	600	190	250	775	170	170	1100	65
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	68	658	100	358	632	200	263	816	179	179	1158	68
Adj No. of Lanes	1	2	0	2	2	0	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	582	88	317	629	199	404	1483	809	202	1076	550
Arrive On Green	0.05	0.21	0.21	0.10	0.26	0.26	0.51	0.93	0.93	0.13	0.34	0.34
Sat Flow, veh/h	1597	2774	421	3097	2383	753	1597	3185	1425	1597	3185	1425
Grp Volume(v), veh/h	68	377	381	358	422	410	263	816	179	179	1158	68
Grp Sat Flow(s),veh/h/ln	1597	1593	1602	1549	1593	1544	1597	1593	1425	1597	1593	1425
Q Serve(g_s), s	5.5	27.3	27.3	13.3	34.3	34.3	15.8	4.7	0.5	14.3	43.9	2.1
Cycle Q Clear(g_c), s	5.5	27.3	27.3	13.3	34.3	34.3	15.8	4.7	0.5	14.3	43.9	2.1
Prop In Lane	1.00		0.26	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	334	336	317	420	407	404	1483	809	202	1076	550
V/C Ratio(X)	0.88	1.13	1.13	1.13	1.00	1.01	0.65	0.55	0.22	0.89	1.08	0.12
Avail Cap(c_a), veh/h	77	334	336	317	420	407	404	1483	809	235	1076	550
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.5	51.3	51.4	58.4	47.8	47.9	27.9	2.5	0.9	55.9	43.1	13.2
Incr Delay (d2), s/veh	63.3	88.7	89.4	90.3	45.1	46.2	3.0	1.2	0.5	28.3	50.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.8	36.4	36.7	17.4	36.6	35.7	11.1	3.7	0.6	12.5	48.3	1.6
LnGrp Delay(d),s/veh	124.7	140.0	140.8	148.7	92.9	94.1	30.9	3.7	1.4	84.1	93.6	13.7
LnGrp LOS	F	F	F	F	F	F	C	A	A	F	F	B
Approach Vol, veh/h		826			1190			1258			1405	
Approach Delay, s/veh		139.1			110.1			9.1			88.5	
Approach LOS		F			F			A			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	40.0	51.0	13.0	41.0	23.3	67.6	20.0	34.0				
Change Period (Y+Rc), s	* 7.1	* 7.1	6.7	6.7	6.9	* 7.1	6.7	6.7				
Max Green Setting (Gmax), s	* 19	* 44	6.3	34.3	19.1	* 43	13.3	27.3				
Max Q Clear Time (g_c+I1), s	17.8	45.9	7.5	36.3	16.3	6.7	15.3	29.3				
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0	0.1	8.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			81.6									
HCM 2010 LOS			F									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 1: 54th Avenue & 34th Street

07/09/2018






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	320	255	220	335	600	300	265	80	940	325	315
Future Volume (veh/h)	310	320	255	220	335	600	300	265	80	940	325	315
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	326	337	0	232	353	632	316	279	84	666	795	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	307	473	211	356	586	833	298	594	583	640	672	571
Arrive On Green	0.17	0.13	0.00	0.20	0.17	0.17	0.17	0.17	0.17	0.12	0.12	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	326	337	0	232	353	632	316	279	84	666	795	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	24.2	12.8	0.0	16.8	12.9	23.2	23.5	10.0	0.0	50.5	50.5	0.0
Cycle Q Clear(g_c), s	24.2	12.8	0.0	16.8	12.9	23.2	23.5	10.0	0.0	50.5	50.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	307	473	211	356	586	833	298	594	583	640	672	571
V/C Ratio(X)	1.06	0.71	0.00	0.65	0.60	0.76	1.06	0.47	0.14	1.04	1.18	0.00
Avail Cap(c_a), veh/h	307	473	211	356	586	833	298	594	583	640	672	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.76	0.00
Uniform Delay (d), s/veh	57.9	58.1	0.0	51.5	54.1	21.2	58.2	52.6	29.5	61.7	61.7	0.0
Incr Delay (d2), s/veh	69.1	8.8	0.0	4.2	4.5	6.4	69.2	0.6	0.1	42.1	94.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	31.9	11.1	0.0	13.5	10.9	34.2	31.0	8.6	3.9	58.2	78.5	0.0
LnGrp Delay(d),s/veh	127.0	66.9	0.0	55.7	58.7	27.6	127.5	53.2	29.6	103.8	155.6	0.0
LnGrp LOS	F	E		E	E	C	F	D	C	F	F	
Approach Vol, veh/h		663			1217			679			1461	
Approach Delay, s/veh		96.4			42.0			84.8			132.0	
Approach LOS		F			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.0	30.6		57.4	35.5	26.1		30.2				
Change Period (Y+Rc), s	6.8	7.4		6.9	7.4	* 7.4		6.7				
Max Green Setting (Gmax), s	24.2	14.0		50.5	19.4	* 19		23.5				
Max Q Clear Time (g_c+I1), s	26.2	25.2		52.5	18.8	14.8		25.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	0.7		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			90.9									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 2: 34th Street & 46th Avenue























07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	5	45	15	5	10	80	875	10	30	1575	30
Future Volume (veh/h)	85	5	45	15	5	10	80	875	10	30	1575	30
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	89	5	47	16	5	0	84	921	11	32	1658	32
Adj No. of Lanes	0	1	0	0	1	1	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	9	55	153	42	173	281	2804	1255	482	2804	1255
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	0.79	0.79	0.79	1.00	1.00	1.00
Sat Flow, veh/h	929	78	503	984	384	1583	290	3539	1583	598	3539	1583
Grp Volume(v), veh/h	141	0	0	21	0	0	84	921	11	32	1658	32
Grp Sat Flow(s),veh/h/ln	1510	0	0	1368	0	1583	290	1770	1583	598	1770	1583
Q Serve(g_s), s	11.0	0.0	0.0	0.0	0.0	0.0	11.9	10.2	0.2	0.7	0.0	0.0
Cycle Q Clear(g_c), s	12.8	0.0	0.0	1.7	0.0	0.0	11.9	10.2	0.2	11.0	0.0	0.0
Prop In Lane	0.63		0.33	0.76		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	0	0	195	0	173	281	2804	1255	482	2804	1255
V/C Ratio(X)	0.68	0.00	0.00	0.11	0.00	0.00	0.30	0.33	0.01	0.07	0.59	0.03
Avail Cap(c_a), veh/h	267	0	0	254	0	237	281	2804	1255	482	2804	1255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.56	0.56	0.56	0.44	0.44	0.44
Uniform Delay (d), s/veh	61.1	0.0	0.0	56.3	0.0	0.0	4.2	4.1	3.0	0.5	0.0	0.0
Incr Delay (d2), s/veh	6.2	0.0	0.0	0.3	0.0	0.0	1.5	0.2	0.0	0.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.6	0.0	0.0	1.4	0.0	0.0	1.9	7.7	0.2	0.2	0.3	0.0
LnGrp Delay(d),s/veh	67.3	0.0	0.0	56.6	0.0	0.0	5.8	4.3	3.0	0.6	0.4	0.0
LnGrp LOS	E			E			A	A	A	A	A	A
Approach Vol, veh/h		141			21			1016			1722	
Approach Delay, s/veh		67.3			56.6			4.4			0.4	
Approach LOS		E			E			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		117.7		22.3		117.7		22.3				
Change Period (Y+Rc), s		6.8		7.0		6.8		7.0				
Max Green Setting (Gmax), s		105.2		21.0		105.2		21.0				
Max Q Clear Time (g_c+I1), s		13.0		3.7		13.9		14.8				
Green Ext Time (p_c), s		54.1		1.1		53.8		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			5.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

3: 34th Street & 38th Avenue

07/09/2018
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	45	20	40	70	65	45	1000	55	120	1715	85
Future Volume (veh/h)	110	45	20	40	70	65	45	1000	55	120	1715	85
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	116	47	21	42	74	68	47	1053	58	126	1805	89
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	87	39	182	86	79	111	1724	934	258	2017	1026
Arrive On Green	0.08	0.07	0.07	0.10	0.10	0.10	0.12	0.97	0.97	0.29	1.00	1.00
Sat Flow, veh/h	1774	1221	546	1774	895	823	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	116	0	68	42	0	142	47	1053	58	126	1805	89
Grp Sat Flow(s),veh/h/ln	1774	0	1766	1774	0	1718	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.0	0.0	5.2	3.0	0.0	11.4	3.4	2.6	0.0	8.2	0.0	0.0
Cycle Q Clear(g_c), s	9.0	0.0	5.2	3.0	0.0	11.4	3.4	2.6	0.0	8.2	0.0	0.0
Prop In Lane	1.00		0.31	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	0	126	182	0	165	111	1724	934	258	2017	1026
V/C Ratio(X)	0.84	0.00	0.54	0.23	0.00	0.86	0.43	0.61	0.06	0.49	0.89	0.09
Avail Cap(c_a), veh/h	165	0	222	182	0	166	111	1724	934	258	2017	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.95	0.95	0.95	0.30	0.30	0.30
Uniform Delay (d), s/veh	63.6	0.0	62.8	57.7	0.0	62.4	59.0	1.0	0.6	45.4	0.0	0.0
Incr Delay (d2), s/veh	26.1	0.0	3.5	0.6	0.0	34.3	2.5	1.5	0.1	0.4	2.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	0.0	4.8	2.7	0.0	11.3	3.1	1.7	0.1	5.8	1.1	0.0
LnGrp Delay(d),s/veh	89.7	0.0	66.3	58.4	0.0	96.7	61.4	2.5	0.7	45.8	2.2	0.1
LnGrp LOS	F		E	E		F	E	A	A	D	A	A
Approach Vol, veh/h		184			184			1158			2020	
Approach Delay, s/veh		81.0			88.0			4.8			4.8	
Approach LOS		F			F			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	86.6	17.4	20.5	27.1	75.0	20.8	17.1				
Change Period (Y+Rc), s	6.8	6.8	* 6.4	7.1	6.8	6.8	* 6.4	7.1				
Max Green Setting (Gmax), s	6.6	79.8	* 13	13.5	18.2	68.2	* 8.9	17.6				
Max Q Clear Time (g_c+I1), s	5.4	2.0	11.0	13.4	10.2	4.6	5.0	7.2				
Green Ext Time (p_c), s	0.0	25.6	0.1	0.0	0.3	9.1	0.1	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			13.1									
HCM 2010 LOS			B									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 methodology does not support exclusive ped or hold phases.

HCM 2010 Signalized Intersection Summary
 5: 34th Street & 26th Avenue























07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	85	40	95	110	290	35	1155	110	215	1765	35
Future Volume (veh/h)	15	85	40	95	110	290	35	1155	110	215	1765	35
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	89	42	100	116	305	37	1216	116	226	1858	37
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	197	93	173	306	260	259	1714	767	535	2265	1013
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.48	0.48	0.60	1.00	1.00
Sat Flow, veh/h	962	1198	565	1254	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	16	0	131	100	116	305	37	1216	116	226	1858	37
Grp Sat Flow(s),veh/h/ln	962	0	1763	1254	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.1	0.0	9.4	11.0	7.8	23.0	2.5	37.8	5.7	9.5	0.0	0.0
Cycle Q Clear(g_c), s	9.9	0.0	9.4	20.3	7.8	23.0	2.5	37.8	5.7	9.5	0.0	0.0
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	0	290	173	306	260	259	1714	767	535	2265	1013
V/C Ratio(X)	0.10	0.00	0.45	0.58	0.38	1.17	0.14	0.71	0.15	0.42	0.82	0.04
Avail Cap(c_a), veh/h	156	0	290	173	306	260	259	1714	767	535	2265	1013
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88	0.09	0.09	0.09
Uniform Delay (d), s/veh	56.5	0.0	52.8	62.0	52.1	58.5	52.2	28.4	20.1	21.3	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	1.1	4.7	0.8	110.6	1.0	2.2	0.4	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	8.2	7.3	7.3	32.5	2.4	25.7	4.6	5.6	0.2	0.0
LnGrp Delay(d),s/veh	56.8	0.0	53.9	66.7	52.9	169.1	53.2	30.6	20.5	21.5	0.3	0.0
LnGrp LOS	E		D	E	D	F	D	C	C	C	A	A
Approach Vol, veh/h		147			521			1369			2121	
Approach Delay, s/veh		54.2			123.6			30.3			2.6	
Approach LOS		D			F			C			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.6	96.4		30.0	49.4	74.6		30.0				
Change Period (Y+Rc), s	6.8	* 6.8		7.0	6.8	6.8		7.0				
Max Green Setting (Gmax), s	7.2	* 90		23.0	28.6	67.8		23.0				
Max Q Clear Time (g_c+I1), s	4.5	2.0		25.0	11.5	39.8		11.9				
Green Ext Time (p_c), s	0.2	29.0		0.0	0.7	10.0		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			28.7									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
6: 34th Street & 22nd Avenue

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	690	120	320	800	220	240	755	325	140	1170	90
Future Volume (veh/h)	95	690	120	320	800	220	240	755	325	140	1170	90
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	100	726	126	337	842	232	253	795	342	147	1232	95
Adj No. of Lanes	1	2	0	2	2	0	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	758	132	294	739	204	343	1420	771	168	1067	584
Arrive On Green	0.07	0.28	0.28	0.10	0.30	0.30	0.43	0.89	0.89	0.11	0.34	0.34
Sat Flow, veh/h	1597	2715	471	3097	2469	680	1597	3185	1425	1597	3185	1425
Grp Volume(v), veh/h	100	426	426	337	543	531	253	795	342	147	1232	95
Grp Sat Flow(s),veh/h/ln	1597	1593	1593	1549	1593	1556	1597	1593	1425	1597	1593	1425
Q Serve(g_s), s	8.7	36.8	36.9	13.3	41.9	41.9	18.5	7.6	2.0	12.7	46.9	3.5
Cycle Q Clear(g_c), s	8.7	36.8	36.9	13.3	41.9	41.9	18.5	7.6	2.0	12.7	46.9	3.5
Prop In Lane	1.00		0.30	1.00		0.44	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	445	445	294	477	466	343	1420	771	168	1067	584
V/C Ratio(X)	0.84	0.96	0.96	1.15	1.14	1.14	0.74	0.56	0.44	0.87	1.15	0.16
Avail Cap(c_a), veh/h	152	447	447	294	477	466	343	1420	771	200	1067	584
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.71	0.71	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.9	49.6	49.6	63.3	49.0	49.0	36.7	4.6	1.9	61.7	46.5	14.3
Incr Delay (d2), s/veh	26.4	31.7	31.8	97.6	85.1	85.8	5.9	1.1	1.3	28.9	80.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.3	27.5	27.5	17.4	53.4	52.4	12.8	5.8	2.1	11.3	58.5	2.6
LnGrp Delay(d),s/veh	90.3	81.3	81.5	161.0	134.1	134.9	42.6	5.8	3.2	90.6	127.0	14.9
LnGrp LOS	F	F	F	F	F	F	D	A	A	F	F	B
Approach Vol, veh/h		952			1411			1390			1474	
Approach Delay, s/veh		82.3			140.8			11.8			116.1	
Approach LOS		F			F			B			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.7	54.0	17.2	48.6	21.6	70.0	20.0	45.8				
Change Period (Y+Rc), s	* 7.1	* 7.1	6.7	6.7	6.9	* 7.1	6.7	6.7				
Max Green Setting (Gmax), s	* 14	* 47	13.3	39.3	17.5	* 43	13.3	39.3				
Max Q Clear Time (g_c+I1), s	20.5	48.9	10.7	43.9	14.7	9.6	15.3	38.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	8.5	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			88.9									
HCM 2010 LOS			F									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	190	110	40	305	495	140	170	35	375	105	235
Future Volume (vph)	235	190	110	40	305	495	140	170	35	375	105	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		220	150		145	150		150	290		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			120			120			45		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950	0.972	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1681	1720	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.972	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1681	1720	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			271			241			157			271
Link Speed (mph)		40			40			45				45
Link Distance (ft)		434			1398			368				2679
Travel Time (s)		7.4			23.8			5.6				40.6
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
Adj. Flow (vph)	247	200	116	42	321	521	147	179	37	395	111	247
Shared Lane Traffic (%)										37%		
Lane Group Flow (vph)	247	200	116	42	321	521	147	179	37	249	257	247
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Free	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Free
Protected Phases	1	6		5	2	4	8	8	5	4	4	
Permitted Phases			Free			2			8			Free
Detector Phase	1	6		5	2	4	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	15.0	15.0	15.0	5.0	15.0	15.0	
Minimum Split (s)	11.8	13.4		11.9	13.4	32.9	22.1	22.1	11.9	32.9	32.9	
Total Split (s)	35.8	46.9		15.5	26.6	42.0	25.6	25.6	15.5	42.0	42.0	
Total Split (%)	27.5%	36.1%		11.9%	20.5%	32.3%	19.7%	19.7%	11.9%	32.3%	32.3%	
Maximum Green (s)	29.0	39.5		8.6	19.2	35.1	18.9	18.9	8.6	35.1	35.1	
Yellow Time (s)	4.8	4.8		4.4	4.8	4.8	4.0	4.0	4.4	4.8	4.8	
All-Red Time (s)	2.0	2.6		2.5	2.6	2.1	2.7	2.7	2.5	2.1	2.1	
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)	6.8	7.4		6.9	7.4	6.9	6.7	6.7	6.9	6.9	6.9	
Lead/Lag	Lag	Lag		Lead	Lead				Lead			
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	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effct Green (s)	29.0	53.2	130.0	7.9	29.7	57.0	16.7	16.7	31.3	26.8	26.8	130.0

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/09/2018

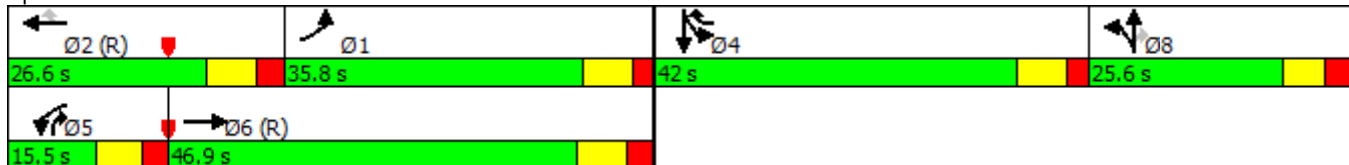


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.22	0.41	1.00	0.06	0.23	0.44	0.13	0.13	0.24	0.21	0.21	1.00
v/c Ratio	0.63	0.14	0.07	0.39	0.40	0.63	0.65	0.40	0.07	0.72	0.73	0.16
Control Delay	53.7	27.7	0.1	69.0	46.4	11.2	67.6	54.4	0.3	40.2	40.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.7	27.7	0.1	69.0	46.4	11.2	67.6	54.4	0.3	40.2	40.3	0.2
LOS	D	C	A	E	D	B	E	D	A	D	D	A
Approach Delay	33.4			26.7			54.2			27.1		
Approach LOS	C			C			D			C		
Queue Length 50th (ft)	189	56	0	35	121	92	120	74	0	123	129	0
Queue Length 95th (ft)	283	97	0	74	186	158	190	110	0	115	118	0
Internal Link Dist (ft)	354			1318			288			2599		
Turn Bay Length (ft)	230		220	150		145	150		150	290		
Base Capacity (vph)	394	1447	1583	120	808	915	257	514	510	453	464	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.14	0.07	0.35	0.40	0.57	0.57	0.35	0.07	0.55	0.55	0.16

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 64 (49%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 32.2
 Intersection LOS: C
 Intersection Capacity Utilization 73.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: 54th Avenue & 34th Street



Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↕	↕	↕	↕↕	↕
Traffic Volume (vph)	55	5	30	20	15	5	70	540	30	45	710	20
Future Volume (vph)	55	5	30	20	15	5	70	540	30	45	710	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		200	150		200
Storage Lanes	0		0	0		1	1		1	1		1
Taper Length (ft)	25			25			130			35		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.955				0.850			0.850			0.850
Flt Protected		0.970			0.972		0.950			0.950		
Satd. Flow (prot)	0	1726	0	0	1811	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.792			0.801		0.362			0.439		
Satd. Flow (perm)	0	1409	0	0	1492	1583	674	3539	1583	818	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				32			34			34
Link Speed (mph)		30			25			45				45
Link Distance (ft)		700			776			2679				2655
Travel Time (s)		15.9			21.2			40.6				40.2
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
Adj. Flow (vph)	58	5	32	21	16	5	74	568	32	47	747	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	37	5	74	568	32	47	747	21
Enter Blocked Intersection	No	No	No	No	No	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
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8			4			6				2
Permitted Phases	8			4		4	6		6	2		2
Detector Phase	8	8		4	4	4	6	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	12.8	12.8	12.8	12.8	12.8	12.8
Total Split (s)	43.0	43.0		43.0	43.0	43.0	87.0	87.0	87.0	87.0	87.0	87.0
Total Split (%)	33.1%	33.1%		33.1%	33.1%	33.1%	66.9%	66.9%	66.9%	66.9%	66.9%	66.9%
Maximum Green (s)	36.0	36.0		36.0	36.0	36.0	80.2	80.2	80.2	80.2	80.2	80.2
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	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	0.0	0.0	0.0
Total Lost Time (s)		7.0			7.0	7.0	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		16.0			16.0	16.0	100.2	100.2	100.2	100.2	100.2	100.2

Lanes, Volumes, Timings
 2: 34th Street & 46th Avenue

07/09/2018

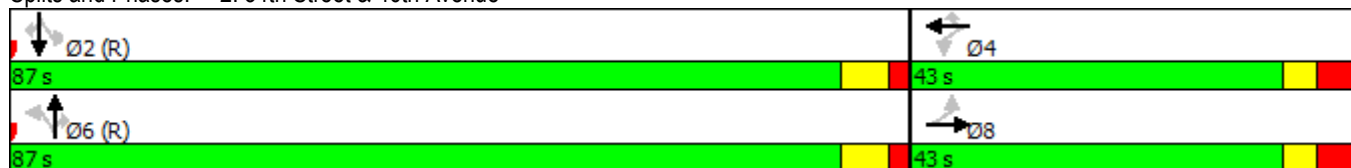


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.12			0.12	0.12	0.77	0.77	0.77	0.77	0.77	0.77
v/c Ratio		0.50			0.20	0.02	0.14	0.21	0.03	0.07	0.27	0.02
Control Delay		51.7			53.5	0.2	4.5	4.7	1.3	1.8	2.4	0.1
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		51.7			53.5	0.2	4.5	4.7	1.3	1.8	2.4	0.1
LOS		D			D	A	A	A	A	A	A	A
Approach Delay		51.7			47.1			4.5				2.3
Approach LOS		D			D			A				A
Queue Length 50th (ft)		61			29	0	17	69	0	7	61	1
Queue Length 95th (ft)		116			62	0	m31	90	m3	4	18	1
Internal Link Dist (ft)		620			696			2599			2575	
Turn Bay Length (ft)							100		200	150		200
Base Capacity (vph)		403			413	461	519	2726	1227	630	2726	1227
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			0.09	0.01	0.14	0.21	0.03	0.07	0.27	0.02

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 92 (71%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.50
 Intersection Signal Delay: 7.3
 Intersection LOS: A
 Intersection Capacity Utilization 57.3%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 34th Street & 46th Avenue



Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	55	20	65	40	105	15	890	30	65	715	55
Future Volume (vph)	60	55	20	65	40	105	15	890	30	65	715	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	120		0	45		200	180		200
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	55			70			65			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.960			0.891				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1788	0	1770	1660	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1788	0	1770	1660	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			86				91			91
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		813			748			2655			1274	
Travel Time (s)		18.5			17.0			40.2			19.3	
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
Adj. Flow (vph)	63	58	21	68	42	111	16	937	32	68	753	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	79	0	68	153	0	16	937	32	68	753	58
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0	5.0	5.0	6.0	5.0
Minimum Split (s)	11.4	17.1		11.4	17.1		11.8	12.8	11.4	11.8	12.8	11.4
Total Split (s)	19.0	27.0		19.0	27.0		14.0	64.0	19.0	20.0	70.0	19.0
Total Split (%)	14.6%	20.8%		14.6%	20.8%		10.8%	49.2%	14.6%	15.4%	53.8%	14.6%
Maximum Green (s)	12.6	19.9		12.6	19.9		7.2	57.2	12.6	13.2	63.2	12.6
Yellow Time (s)	3.4	3.4		3.4	3.4		4.8	4.8	3.4	4.8	4.8	3.4
All-Red Time (s)	3.0	3.7		3.0	3.7		2.0	2.0	3.0	2.0	2.0	3.0
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)	6.4	7.1		6.4	7.1		6.8	6.8	6.4	6.8	6.8	6.4
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lead	Lag	Lag	Lag	Lag
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	C-Max	None	None	C-Max	None
Act Effct Green (s)	10.0	11.4		11.1	12.4		6.7	73.7	91.6	11.8	83.9	95.7

Lanes, Volumes, Timings

3: 34th Street & 38th Avenue

07/09/2018

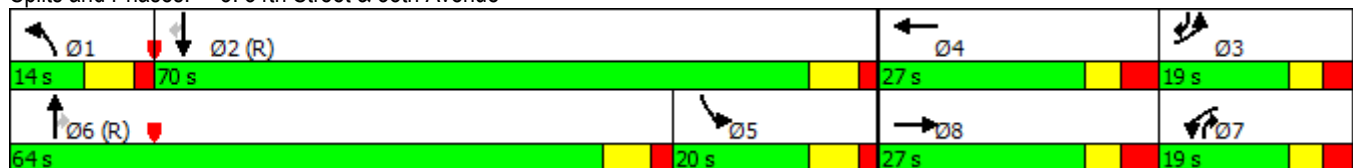


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.08	0.09		0.09	0.10		0.05	0.57	0.70	0.09	0.65	0.74
v/c Ratio	0.46	0.47		0.45	0.65		0.18	0.47	0.03	0.42	0.33	0.05
Control Delay	67.5	56.9		64.8	38.3		64.3	19.6	0.6	38.8	2.5	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.5	56.9		64.8	38.3		64.3	19.6	0.6	38.8	2.5	0.4
LOS	E	E		E	D		E	B	A	D	A	A
Approach Delay		61.6			46.5			19.7			5.2	
Approach LOS		E			D			B			A	
Queue Length 50th (ft)	52	55		56	55		14	242	0	49	2	0
Queue Length 95th (ft)	98	105		100	123		39	382	2	m91	103	m1
Internal Link Dist (ft)		733			668			2575			1194	
Turn Bay Length (ft)	65			120			45		200	180		200
Base Capacity (vph)	174	283		184	326		101	2007	1141	179	2283	1176
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	0.36	0.28		0.37	0.47		0.16	0.47	0.03	0.38	0.33	0.05

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 36 (28%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 19.3 Intersection LOS: B
 Intersection Capacity Utilization 64.1% ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: 34th Street & 38th Avenue



Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/09/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Lane Configurations								
Traffic Volume (vph)	135	40	90	1000	0	1340	135	
Future Volume (vph)	135	40	90	1000	0	1340	135	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	240	175	395		80		450	
Storage Lanes	1	1	1		1		1	
Taper Length (ft)	25		50		60			
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00	
Frt		0.850					0.850	
Flt Protected	0.950		0.950					
Satd. Flow (prot)	3433	1583	1770	3539	1863	3539	1583	
Flt Permitted	0.950		0.950					
Satd. Flow (perm)	3433	1583	1770	3539	1863	3539	1583	
Right Turn on Red		Yes					Yes	
Satd. Flow (RTOR)		42					142	
Link Speed (mph)	25			45		45		
Link Distance (ft)	796			1274		2715		
Travel Time (s)	21.7			19.3		41.1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	142	42	95	1053	0	1411	142	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	142	42	95	1053	0	1411	142	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	R NA	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	1.00	
Turning Speed (mph)	15	9	15		9		9	
Turn Type	Prot	Prot	Prot	NA	Prot	NA	pm+ov	
Protected Phases	3	3	1	6	5	2	3	4
Permitted Phases							2	
Detector Phase	3	3	1	6	5	2	3	
Switch Phase								
Minimum Initial (s)	10.0	10.0	5.0	6.0	5.0	6.0	10.0	38.0
Minimum Split (s)	17.4	17.4	11.8	13.3	11.8	13.3	17.4	43.4
Total Split (s)	21.0	21.0	14.0	57.0	12.0	55.0	21.0	40.0
Total Split (%)	16.2%	16.2%	10.8%	43.8%	9.2%	42.3%	16.2%	31%
Maximum Green (s)	13.6	13.6	7.2	49.7	5.2	47.7	13.6	34.6
Yellow Time (s)	3.4	3.4	4.8	4.8	4.8	4.8	3.4	3.4
All-Red Time (s)	4.0	4.0	2.0	2.5	2.0	2.5	4.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.4	7.4	6.8	7.3	6.8	7.3	7.4	
Lead/Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	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
Recall Mode	None	None	None	C-Max	None	C-Max	None	None
Walk Time (s)								7.0

Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	95	30	100	130	360	55	820	70	280	1220	15
Future Volume (vph)	30	95	30	100	130	360	55	820	70	280	1220	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		0	180		0	290		200	280		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			80			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.964				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1796	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.587			0.603			0.950			0.950		
Satd. Flow (perm)	1093	1796	0	1123	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				379			148			91
Link Speed (mph)		30			30			45			40	
Link Distance (ft)		770			780			2715			1330	
Travel Time (s)		17.5			17.7			41.1			22.7	
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
Adj. Flow (vph)	32	100	32	105	137	379	58	863	74	295	1284	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	132	0	105	137	379	58	863	74	295	1284	16
Enter Blocked Intersection	No	No	No	No	No	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	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4			6			2
Detector Phase	8	8		4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	11.4	12.8	12.8	11.8	12.8	12.8
Total Split (s)	40.0	40.0		40.0	40.0	40.0	17.0	53.0	53.0	37.0	73.0	73.0
Total Split (%)	30.8%	30.8%		30.8%	30.8%	30.8%	13.1%	40.8%	40.8%	28.5%	56.2%	56.2%
Maximum Green (s)	33.0	33.0		33.0	33.0	33.0	10.6	46.2	46.2	30.2	66.2	66.2
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.4	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.3	3.3		3.3	3.3	3.3	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0	7.0	6.4	6.8	6.8	6.8	6.8	6.8
Lead/Lag							Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?							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	3.0
Recall Mode	None	None		None	None	None	Max	C-Max	C-Max	Max	C-Max	C-Max
Act Effct Green (s)	18.0	18.0		18.0	18.0	18.0	10.6	61.2	61.2	30.2	81.2	81.2

Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/09/2018

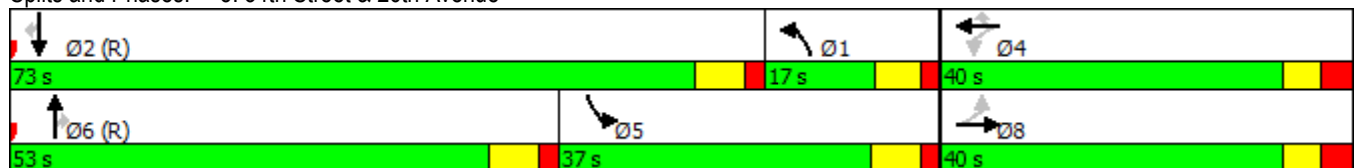


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.14		0.14	0.14	0.14	0.08	0.47	0.47	0.23	0.62	0.62
v/c Ratio	0.21	0.51		0.68	0.53	0.70	0.40	0.52	0.09	0.72	0.58	0.02
Control Delay	50.0	52.6		73.0	58.3	11.7	77.4	18.3	1.1	33.0	0.8	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	52.6		73.0	58.3	11.7	77.4	18.3	1.1	33.0	0.8	0.0
LOS	D	D		E	E	B	E	B	A	C	A	A
Approach Delay		52.1			32.3			20.4			6.7	
Approach LOS		D			C			C			A	
Queue Length 50th (ft)	24	95		86	109	0	51	291	4	266	19	0
Queue Length 95th (ft)	53	149		140	163	89	100	393	10	m244	m31	m0
Internal Link Dist (ft)		690			700			2635			1250	
Turn Bay Length (ft)	220			180			290		200	280		200
Base Capacity (vph)	277	464		285	472	684	144	1666	823	411	2210	1022
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.28		0.37	0.29	0.55	0.40	0.52	0.09	0.72	0.58	0.02

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 102 (78%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 17.7
 Intersection LOS: B
 Intersection Capacity Utilization 77.8%
 ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: 34th Street & 26th Avenue



Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	625	95	340	600	190	250	775	170	170	1100	65
Future Volume (vph)	65	625	95	340	600	190	250	775	170	170	1100	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	160		0	105		200	190		200
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			80			130			50		
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.980			0.964				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3122	0	3090	3071	0	1593	3185	1425	1593	3185	1425
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1593	3122	0	3090	3071	0	1593	3185	1425	1593	3185	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			32				145			147
Link Speed (mph)		35			35			40				40
Link Distance (ft)		829			810			1330				1056
Travel Time (s)		16.1			15.8			22.7				18.0
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
Adj. Flow (vph)	68	658	100	358	632	200	263	816	179	179	1158	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	758	0	358	832	0	263	816	179	179	1158	68
Enter Blocked Intersection	No	No	No	No	No	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	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	6.0	5.0	5.0	6.0	5.0
Minimum Split (s)	11.7	22.5		11.7	22.5		11.4	22.5	11.7	11.9	22.5	11.7
Total Split (s)	13.0	34.0		20.0	41.0		25.0	50.0	20.0	26.0	51.0	13.0
Total Split (%)	10.0%	26.2%		15.4%	31.5%		19.2%	38.5%	15.4%	20.0%	39.2%	10.0%
Maximum Green (s)	6.3	27.3		13.3	34.3		18.6	42.9	13.3	19.1	43.9	6.3
Yellow Time (s)	4.2	4.2		4.2	4.2		4.4	4.9	4.2	4.9	4.9	4.2
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.2	2.5	2.0	2.2	2.5
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)	6.7	6.7		6.7	6.7		6.4	7.1	6.7	6.9	7.1	6.7
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	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	C-Max	None	None	C-Max	None
Act Effct Green (s)	6.3	27.3		13.3	34.3		18.6	44.4	58.1	17.6	43.9	50.6

Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/09/2018

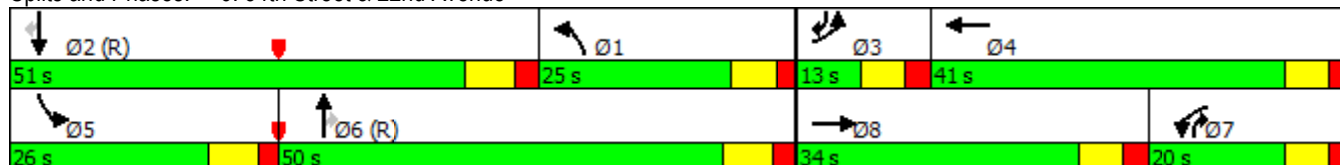


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.05	0.21		0.10	0.26		0.14	0.34	0.45	0.14	0.34	0.39
v/c Ratio	0.88	1.14		1.13	1.00		1.16	0.75	0.25	0.83	1.08	0.11
Control Delay	134.8	125.4		143.0	76.8		143.0	26.7	3.8	84.1	91.8	0.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	134.8	125.4		143.0	76.8		143.0	26.7	3.8	84.1	91.8	0.3
LOS	F	F		F	E		F	C	A	F	F	A
Approach Delay		126.2			96.7			47.7			86.4	
Approach LOS		F			F			D			F	
Queue Length 50th (ft)	58	~388		~180	358		~259	328	51	147	~571	0
Queue Length 95th (ft)	#151	#517		#281	#504		#437	417	19	#261	#709	0
Internal Link Dist (ft)		749			730			1250			976	
Turn Bay Length (ft)	150			160			105		200	190		200
Base Capacity (vph)	77	665		316	833		227	1087	717	234	1075	644
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	0.88	1.14		1.13	1.00		1.16	0.75	0.25	0.76	1.08	0.11

Intersection Summary

























Area Type: CBD
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 128 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 85.7 Intersection LOS: F
 Intersection Capacity Utilization 104.9% 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: 6: 34th Street & 22nd Avenue



Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/09/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	320	255	220	335	600	300	265	80	940	325	315
Future Volume (vph)	310	320	255	220	335	600	300	265	80	940	325	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		220	150		145	150		150	290		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			120			120			45		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950	0.976	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1681	1727	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.976	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1681	1727	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			268			107			88			198
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		434			1398			368			2679	
Travel Time (s)		7.4			23.8			5.6			40.6	
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
Adj. Flow (vph)	326	337	268	232	353	632	316	279	84	989	342	332
Shared Lane Traffic (%)										34%		
Lane Group Flow (vph)	326	337	268	232	353	632	316	279	84	653	678	332
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Free	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Free
Protected Phases	1	6		5	2	4	8	8	5	4	4	
Permitted Phases			Free			2			8			Free
Detector Phase	1	6		5	2	4	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	15.0	15.0	15.0	5.0	15.0	15.0	
Minimum Split (s)	11.8	13.4		11.9	13.4	32.9	22.1	22.1	11.9	32.9	32.9	
Total Split (s)	31.0	26.1		26.3	21.4	57.4	30.2	30.2	26.3	57.4	57.4	
Total Split (%)	22.1%	18.6%		18.8%	15.3%	41.0%	21.6%	21.6%	18.8%	41.0%	41.0%	
Maximum Green (s)	24.2	18.7		19.4	14.0	50.5	23.5	23.5	19.4	50.5	50.5	
Yellow Time (s)	4.8	4.8		4.4	4.8	4.8	4.0	4.0	4.4	4.8	4.8	
All-Red Time (s)	2.0	2.6		2.5	2.6	2.1	2.7	2.7	2.5	2.1	2.1	
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)	6.8	7.4		6.9	7.4	6.9	6.7	6.7	6.9	6.9	6.9	
Lead/Lag	Lead	Lead		Lag	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	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effct Green (s)	24.2	18.7	140.0	19.4	14.0	71.9	23.5	23.5	42.7	50.5	50.5	140.0

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

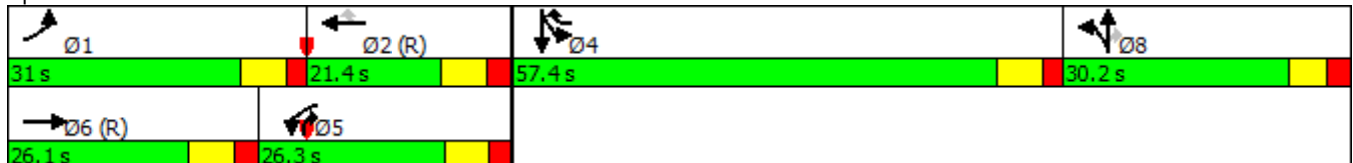
07/09/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.17	0.13	1.00	0.14	0.10	0.51	0.17	0.17	0.30	0.36	0.36	1.00
v/c Ratio	1.07	0.71	0.17	0.95	1.00	0.73	1.06	0.47	0.15	1.08	1.09	0.21
Control Delay	124.8	67.4	0.2	104.6	110.1	27.6	124.5	55.6	4.1	79.2	83.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.8	67.4	0.2	104.6	110.1	27.6	124.5	55.6	4.1	79.2	83.1	0.2
LOS	F	E	A	F	F	C	F	E	A	E	F	A
Approach Delay	68.1			66.2			81.3			65.0		
Approach LOS	E			E			F			E		
Queue Length 50th (ft)	~327	156	0	212	172	370	~316	122	0	~714	~748	0
Queue Length 95th (ft)	#522	212	0	#379	#280	530	#509	170	24	#935	#975	0
Internal Link Dist (ft)	354			1318			288			2599		
Turn Bay Length (ft)	230		220	150		145	150		150	290		
Base Capacity (vph)	305	472	1583	245	353	865	297	594	543	606	622	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.71	0.17	0.95	1.00	0.73	1.06	0.47	0.15	1.08	1.09	0.21

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 98 (70%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 68.5 Intersection LOS: E
 Intersection Capacity Utilization 100.8% 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: 1: 54th Avenue & 34th Street



Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	85	5	45	15	5	10	80	875	10	30	1575	30
Future Volume (vph)	85	5	45	15	5	10	80	875	10	30	1575	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		200	150		200
Storage Lanes	0		0	0		1	1		1	1		1
Taper Length (ft)	25			25			130			35		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.955				0.850			0.850			0.850
Flt Protected		0.969			0.963		0.950			0.950		
Satd. Flow (prot)	0	1724	0	0	1794	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.796			0.745		0.116			0.296		
Satd. Flow (perm)	0	1416	0	0	1388	1583	216	3539	1583	551	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				30			31			32
Link Speed (mph)		30			25			45				45
Link Distance (ft)		700			776			2679				2655
Travel Time (s)		15.9			21.2			40.6				40.2
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
Adj. Flow (vph)	89	5	47	16	5	11	84	921	11	32	1658	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	141	0	0	21	11	84	921	11	32	1658	32
Enter Blocked Intersection	No	No	No	No	No	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
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8			4			6				2
Permitted Phases	8			4		4	6		6	2		2
Detector Phase	8	8		4	4	4	6	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	12.8	12.8	12.8	12.8	12.8	12.8
Total Split (s)	28.0	28.0		28.0	28.0	28.0	112.0	112.0	112.0	112.0	112.0	112.0
Total Split (%)	20.0%	20.0%		20.0%	20.0%	20.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%
Maximum Green (s)	21.0	21.0		21.0	21.0	21.0	105.2	105.2	105.2	105.2	105.2	105.2
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	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	0.0	0.0	0.0
Total Lost Time (s)		7.0			7.0	7.0	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		18.3			18.3	18.3	107.9	107.9	107.9	107.9	107.9	107.9

Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/09/2018

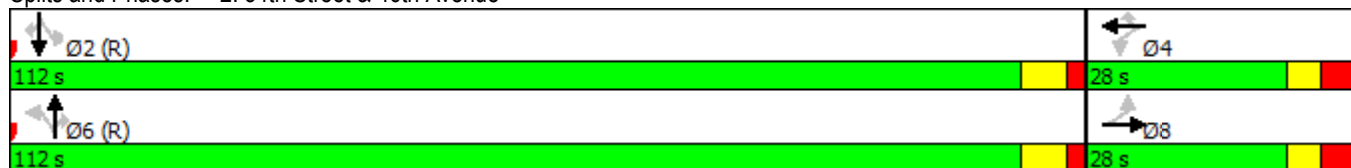


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.13			0.13	0.13	0.77	0.77	0.77	0.77	0.77	0.77
v/c Ratio		0.71			0.12	0.05	0.51	0.34	0.01	0.08	0.61	0.03
Control Delay		71.7			54.0	2.7	15.1	4.9	0.1	1.2	1.2	0.2
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		71.7			54.0	2.7	15.1	4.9	0.1	1.2	1.2	0.2
LOS		E			D	A	B	A	A	A	A	A
Approach Delay		71.7			36.4			5.7			1.2	
Approach LOS		E			D			A			A	
Queue Length 50th (ft)		111			17	0	31	135	0	0	5	0
Queue Length 95th (ft)		185			43	4	m40	m126	m0	m2	61	m0
Internal Link Dist (ft)		620			696			2599			2575	
Turn Bay Length (ft)							100		200	150		200
Base Capacity (vph)		225			208	262	166	2728	1227	425	2728	1227
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		0.63			0.10	0.04	0.51	0.34	0.01	0.08	0.61	0.03

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 24 (17%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 6.5
 Intersection LOS: A
 Intersection Capacity Utilization 80.1%
 ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 34th Street & 46th Avenue



Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	45	20	40	70	65	45	1000	55	120	1715	85
Future Volume (vph)	110	45	20	40	70	65	45	1000	55	120	1715	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	120		0	45		200	180		200
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	55			70			65			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.954			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1777	0	1770	1729	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1777	0	1770	1729	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			26				138			85
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		813			748			2655			1274	
Travel Time (s)		18.5			17.0			40.2			19.3	
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
Adj. Flow (vph)	116	47	21	42	74	68	47	1053	58	126	1805	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	68	0	42	142	0	47	1053	58	126	1805	89
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0	5.0	5.0	6.0	5.0
Minimum Split (s)	11.4	17.1		11.4	17.1		11.8	12.8	11.4	11.8	12.8	11.4
Total Split (s)	19.4	24.7		15.3	20.6		13.4	75.0	15.3	25.0	86.6	19.4
Total Split (%)	13.9%	17.6%		10.9%	14.7%		9.6%	53.6%	10.9%	17.9%	61.9%	13.9%
Maximum Green (s)	13.0	17.6		8.9	13.5		6.6	68.2	8.9	18.2	79.8	13.0
Yellow Time (s)	3.4	3.4		3.4	3.4		4.8	4.8	3.4	4.8	4.8	3.4
All-Red Time (s)	3.0	3.7		3.0	3.7		2.0	2.0	3.0	2.0	2.0	3.0
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)	6.4	7.1		6.4	7.1		6.8	6.8	6.4	6.8	6.8	6.4
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lag
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	C-Max	None	None	C-Max	None
Act Effct Green (s)	12.2	14.2		13.0	12.7		6.4	71.6	90.1	16.5	84.1	103.1

Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/09/2018

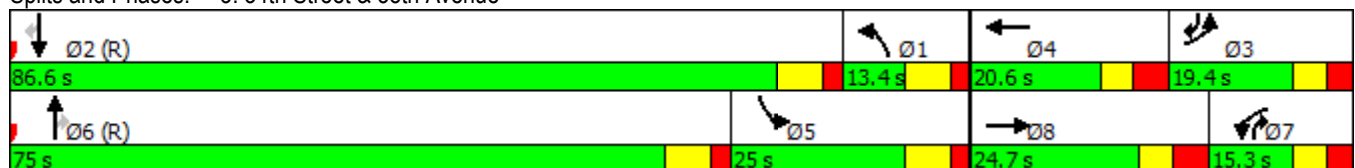


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.09	0.10		0.09	0.09		0.05	0.51	0.64	0.12	0.60	0.74
v/c Ratio	0.75	0.35		0.26	0.79		0.58	0.58	0.05	0.61	0.85	0.07
Control Delay	90.9	54.6		62.1	79.6		91.6	20.1	0.4	58.8	10.6	0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.9	54.6		62.1	79.6		91.6	20.1	0.4	58.8	10.6	0.0
LOS	F	D		E	E		F	C	A	E	B	A
Approach Delay		77.5			75.6			22.1			13.2	
Approach LOS		E			E			C			B	
Queue Length 50th (ft)	104	49		35	105		44	305	0	122	566	0
Queue Length 95th (ft)	#194	98		76	#208		m#98	372	m4	m134	m953	m0
Internal Link Dist (ft)		733			668			2575			1194	
Turn Bay Length (ft)	65			120			45		200	180		200
Base Capacity (vph)	164	255		173	190		83	1808	1074	230	2126	1169
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	0.71	0.27		0.24	0.75		0.57	0.58	0.05	0.55	0.85	0.08

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 14 (10%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 22.6 Intersection LOS: C
 Intersection Capacity Utilization 88.6% 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: 34th Street & 38th Avenue



Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/09/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Lane Configurations	↖↖	↖	↖	↑↑	↘	↑↑	↖	
Traffic Volume (vph)	310	85	220	990	0	1930	325	
Future Volume (vph)	310	85	220	990	0	1930	325	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	240	175	395		80		450	
Storage Lanes	1	1	1		1		1	
Taper Length (ft)	25		50		60			
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00	
Fr _t		0.850					0.850	
Fl _t Protected	0.950		0.950					
Satd. Flow (prot)	3433	1583	1770	3539	1863	3539	1583	
Fl _t Permitted	0.950		0.950					
Satd. Flow (perm)	3433	1583	1770	3539	1863	3539	1583	
Right Turn on Red		Yes					Yes	
Satd. Flow (RTOR)		89					293	
Link Speed (mph)	25			45		45		
Link Distance (ft)	796			1274		2715		
Travel Time (s)	21.7			19.3		41.1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	326	89	232	1042	0	2032	342	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	326	89	232	1042	0	2032	342	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	R NA	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	1.00	
Turning Speed (mph)	15	9	15		9		9	
Turn Type	Prot	Prot	Prot	NA	Prot	NA	pm+ov	
Protected Phases	3	3	1	6	5	2	3	4
Permitted Phases							2	
Detector Phase	3	3	1	6	5	2	3	
Switch Phase								
Minimum Initial (s)	10.0	10.0	5.0	6.0	5.0	6.0	10.0	38.0
Minimum Split (s)	17.4	17.4	11.8	13.3	11.8	13.3	17.4	43.4
Total Split (s)	31.0	31.0	20.0	57.0	12.0	49.0	31.0	40.0
Total Split (%)	22.1%	22.1%	14.3%	40.7%	8.6%	35.0%	22.1%	29%
Maximum Green (s)	23.6	23.6	13.2	49.7	5.2	41.7	23.6	34.6
Yellow Time (s)	3.4	3.4	4.8	4.8	4.8	4.8	3.4	3.4
All-Red Time (s)	4.0	4.0	2.0	2.5	2.0	2.5	4.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.4	7.4	6.8	7.3	6.8	7.3	7.4	
Lead/Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	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
Recall Mode	None	None	None	C-Max	None	C-Max	None	None
Walk Time (s)								7.0

Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/09/2018

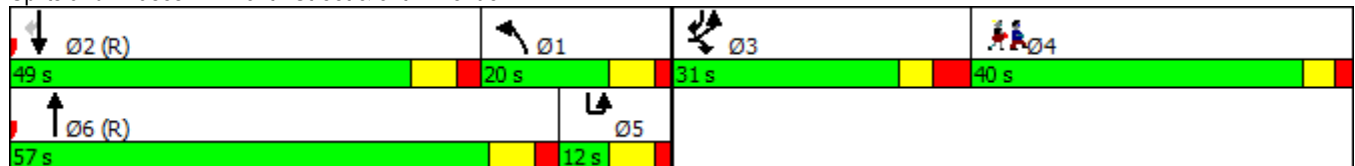


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Flash Dont Walk (s)								31.0
Pedestrian Calls (#/hr)								0
Act Effct Green (s)	18.9	18.9	13.2	106.4		86.4	112.6	
Actuated g/C Ratio	0.14	0.14	0.09	0.76		0.62	0.80	
v/c Ratio	0.70	0.31	1.40	0.39		0.93	0.26	
Control Delay	66.0	12.5	244.0	6.2		20.5	1.4	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	66.0	12.5	244.0	6.2		20.5	1.4	
LOS	E	B	F	A		C	A	
Approach Delay	54.5			49.5		17.7		
Approach LOS	D			D		B		
Queue Length 50th (ft)	147	0	~273	108		262	8	
Queue Length 95th (ft)	193	50	m#449	132		#1115	m37	
Internal Link Dist (ft)	716			1194		2635		
Turn Bay Length (ft)	240	175	395				450	
Base Capacity (vph)	578	340	166	2688		2183	1314	
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	0.26	1.40	0.39		0.93	0.26	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 24 (17%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.40
 Intersection Signal Delay: 31.4 Intersection LOS: C
 Intersection Capacity Utilization 92.3% 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: 34th Street & 34th Avenue



Lanes, Volumes, Timings
5: 34th Street & 26th Avenue













07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	85	40	95	110	290	35	1155	110	215	1765	35
Future Volume (vph)	15	85	40	95	110	290	35	1155	110	215	1765	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		0	180		0	290		200	280		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			80			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.952				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1773	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.626			0.573			0.950			0.950		
Satd. Flow (perm)	1166	1773	0	1067	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				293			137			84
Link Speed (mph)		30			30			45				40
Link Distance (ft)		770			780			2715				1330
Travel Time (s)		17.5			17.7			41.1				22.7
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
Adj. Flow (vph)	16	89	42	100	116	305	37	1216	116	226	1858	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	131	0	100	116	305	37	1216	116	226	1858	37
Enter Blocked Intersection	No	No	No	No	No	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	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5		2
Permitted Phases	8			4		4			6			2
Detector Phase	8	8		4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	11.4	12.8	12.8	11.8	12.8	12.8
Total Split (s)	30.0	30.0		30.0	30.0	30.0	13.6	74.6	74.6	35.4	96.4	96.4
Total Split (%)	21.4%	21.4%		21.4%	21.4%	21.4%	9.7%	53.3%	53.3%	25.3%	68.9%	68.9%
Maximum Green (s)	23.0	23.0		23.0	23.0	23.0	7.2	67.8	67.8	28.6	89.6	89.6
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.4	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.3	3.3		3.3	3.3	3.3	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0	7.0	6.4	6.8	6.8	6.8	6.8	6.8
Lead/Lag							Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?							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	3.0
Recall Mode	None	None		None	None	None	Max	C-Max	C-Max	Max	C-Max	C-Max
Act Effct Green (s)	17.5	17.5		17.5	17.5	17.5	7.2	73.3	73.3	28.6	95.1	95.1

Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

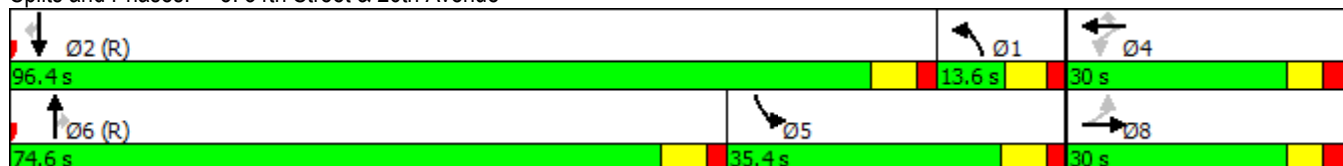
07/09/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.12	0.12		0.12	0.12	0.12	0.05	0.52	0.52	0.20	0.68	0.68
v/c Ratio	0.11	0.56		0.75	0.50	0.67	0.41	0.66	0.13	0.63	0.77	0.03
Control Delay	53.2	59.1		90.4	63.4	14.6	85.1	24.7	3.3	49.7	5.2	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.2	59.1		90.4	63.4	14.6	85.1	24.7	3.3	49.7	5.2	0.0
LOS	D	E		F	E	B	F	C	A	D	A	A
Approach Delay		58.5			40.0			24.5			9.9	
Approach LOS		E			D			C			A	
Queue Length 50th (ft)	13	100		89	99	10	34	373	11	214	121	0
Queue Length 95th (ft)	35	163		151	158	101	m71	521	29	m211	m118	m0
Internal Link Dist (ft)		690			700			2635			1250	
Turn Bay Length (ft)	220			180			290		200	280		200
Base Capacity (vph)	191	303		175	306	504	91	1852	894	361	2403	1102
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.43		0.57	0.38	0.61	0.41	0.66	0.13	0.63	0.77	0.03

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 98 (70%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 20.2 Intersection LOS: C
 Intersection Capacity Utilization 92.3% ICU Level of Service F
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: 34th Street & 26th Avenue



Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	690	120	320	800	220	240	755	325	140	1170	90
Future Volume (vph)	95	690	120	320	800	220	240	755	325	140	1170	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	160		0	105		200	190		200
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			80			130			50		
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.978			0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3115	0	3090	3083	0	1593	3185	1425	1593	3185	1425
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1593	3115	0	3090	3083	0	1593	3185	1425	1593	3185	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			25				135			136
Link Speed (mph)		35			35			40				40
Link Distance (ft)		829			810			1330				1056
Travel Time (s)		16.1			15.8			22.7				18.0
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
Adj. Flow (vph)	100	726	126	337	842	232	253	795	342	147	1232	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	852	0	337	1074	0	253	795	342	147	1232	95
Enter Blocked Intersection	No	No	No	No	No	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	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	6.0	5.0	5.0	6.0	5.0
Minimum Split (s)	11.7	22.5		11.7	22.5		11.4	22.5	11.7	11.9	22.5	11.7
Total Split (s)	20.0	46.0		20.0	46.0		20.0	49.6	20.0	24.4	54.0	20.0
Total Split (%)	14.3%	32.9%		14.3%	32.9%		14.3%	35.4%	14.3%	17.4%	38.6%	14.3%
Maximum Green (s)	13.3	39.3		13.3	39.3		13.6	42.5	13.3	17.5	46.9	13.3
Yellow Time (s)	4.2	4.2		4.2	4.2		4.4	4.9	4.2	4.9	4.9	4.2
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.2	2.5	2.0	2.2	2.5
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)	6.7	6.7		6.7	6.7		6.4	7.1	6.7	6.9	7.1	6.7
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	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	C-Max	None	None	C-Max	None
Act Effct Green (s)	12.1	39.2		13.4	40.5		13.6	43.9	57.7	16.1	46.9	59.4

Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/09/2018

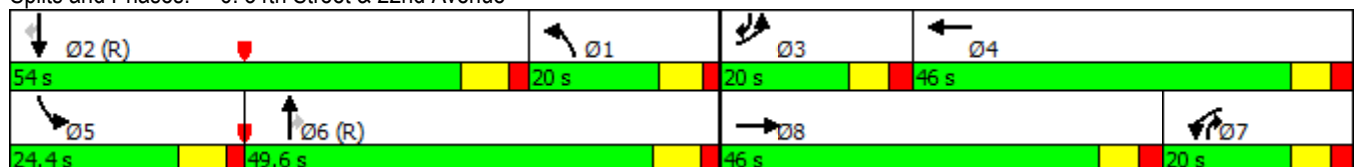


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.09	0.28		0.10	0.29		0.10	0.31	0.41	0.12	0.34	0.42
v/c Ratio	0.72	0.97		1.14	1.18		1.64	0.80	0.51	0.81	1.16	0.14
Control Delay	90.3	71.9		150.9	135.7		339.6	26.5	5.8	90.6	122.7	1.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.3	71.9		150.9	135.7		339.6	26.5	5.8	90.6	122.7	1.0
LOS	F	E		F	F		F	C	A	F	F	A
Approach Delay		73.8			139.3			78.4			111.6	
Approach LOS		E			F			E			F	
Queue Length 50th (ft)	89	398		~185	~622		~332	322	59	131	~694	0
Queue Length 95th (ft)	#169	#536		#286	#761		#506	336	33	#233	#834	7
Internal Link Dist (ft)		749			730			1250			976	
Turn Bay Length (ft)	150			160			105		200	190		200
Base Capacity (vph)	151	884		295	908		154	999	666	199	1066	693
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	0.66	0.96		1.14	1.18		1.64	0.80	0.51	0.74	1.16	0.14

Intersection Summary

Area Type: CBD
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 128 (91%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.64
 Intersection Signal Delay: 103.4 Intersection LOS: F
 Intersection Capacity Utilization 111.3% ICU Level of Service H
 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: 6: 34th Street & 22nd Avenue






















Opening Year (2020) 6-Lane Configuration (No Build Alternative) Analysis

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: 34th Street & 46th Avenue





















07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	5	25	15	10	5	65	490	25	40	645	20
Future Volume (veh/h)	50	5	25	15	10	5	65	490	25	40	645	20
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	53	5	26	16	11	0	68	516	26	42	679	21
Adj No. of Lanes	0	1	0	0	1	1	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	20	53	141	86	179	583	3872	194	727	3957	122
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	1.00	1.00	1.00	0.52	0.52	0.52
Sat Flow, veh/h	864	178	467	851	759	1583	743	4961	248	860	5069	156
Grp Volume(v), veh/h	84	0	0	27	0	0	68	352	190	42	454	246
Grp Sat Flow(s),veh/h/ln	1509	0	0	1610	0	1583	743	1695	1819	860	1695	1835
Q Serve(g_s), s	4.9	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	3.1	9.1	9.2
Cycle Q Clear(g_c), s	6.6	0.0	0.0	1.7	0.0	0.0	10.4	0.0	0.0	3.1	9.1	9.2
Prop In Lane	0.63		0.31	0.59		1.00	1.00		0.14	1.00		0.09
Lane Grp Cap(c), veh/h	216	0	0	226	0	179	583	2646	1420	727	2646	1432
V/C Ratio(X)	0.39	0.00	0.00	0.12	0.00	0.00	0.12	0.13	0.13	0.06	0.17	0.17
Avail Cap(c_a), veh/h	423	0	0	443	0	402	583	2646	1420	727	2646	1432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.81	0.81	0.81	0.98	0.98	0.98
Uniform Delay (d), s/veh	53.9	0.0	0.0	51.9	0.0	0.0	0.5	0.0	0.0	7.6	9.0	9.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.3	0.0	0.0	0.3	0.1	0.2	0.1	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	0.0	0.0	1.6	0.0	0.0	0.5	0.1	0.1	1.4	7.7	8.3
LnGrp Delay(d),s/veh	55.5	0.0	0.0	52.2	0.0	0.0	0.8	0.1	0.2	7.7	9.1	9.2
LnGrp LOS	E			D			A	A	A	A	A	A
Approach Vol, veh/h		84			27			610			742	
Approach Delay, s/veh		55.5			52.2			0.2			9.1	
Approach LOS		E			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		108.3		21.7		108.3		21.7				
Change Period (Y+Rc), s		6.8		7.0		6.8		7.0				
Max Green Setting (Gmax), s		83.2		33.0		83.2		33.0				
Max Q Clear Time (g_c+I1), s		11.2		3.7		12.4		8.6				
Green Ext Time (p_c), s		10.7		0.8		10.7		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

3: 34th Street & 38th Avenue

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	50	20	60	35	95	15	810	25	60	650	50
Future Volume (veh/h)	55	50	20	60	35	95	15	810	25	60	650	50
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	58	53	21	63	37	100	16	853	26	63	684	53
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	128	51	81	47	126	30	3041	93	80	3025	233
Arrive On Green	0.04	0.10	0.10	0.05	0.10	0.10	0.01	0.20	0.20	0.09	1.00	1.00
Sat Flow, veh/h	1774	1271	503	1774	446	1205	1774	5071	154	1774	4817	371
Grp Volume(v), veh/h	58	0	74	63	0	137	16	570	309	63	480	257
Grp Sat Flow(s),veh/h/ln	1774	0	1774	1774	0	1650	1774	1695	1836	1774	1695	1797
Q Serve(g_s), s	4.2	0.0	5.1	4.6	0.0	10.5	1.2	18.6	18.6	4.5	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	5.1	4.6	0.0	10.5	1.2	18.6	18.6	4.5	0.0	0.0
Prop In Lane	1.00		0.28	1.00		0.73	1.00		0.08	1.00		0.21
Lane Grp Cap(c), veh/h	75	0	179	81	0	172	30	2033	1101	80	2129	1129
V/C Ratio(X)	0.78	0.00	0.41	0.78	0.00	0.79	0.53	0.28	0.28	0.79	0.23	0.23
Avail Cap(c_a), veh/h	172	0	394	172	0	367	126	2033	1101	139	2129	1129
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	61.6	0.0	54.8	61.4	0.0	56.8	64.1	28.3	28.3	58.5	0.0	0.0
Incr Delay (d2), s/veh	15.5	0.0	1.5	14.7	0.0	8.0	13.9	0.3	0.6	14.4	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.3	0.0	4.6	4.6	0.0	8.9	1.2	13.7	14.8	4.5	0.1	0.2
LnGrp Delay(d),s/veh	77.2	0.0	56.3	76.0	0.0	64.9	78.0	28.7	29.0	72.9	0.2	0.4
LnGrp LOS	E		E	E		E	E	C	C	E	A	A
Approach Vol, veh/h		132			200			895			800	
Approach Delay, s/veh		65.5			68.4			29.6			6.0	
Approach LOS		E			E			C			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	88.4	11.9	20.7	12.7	84.8	12.3	20.2				
Change Period (Y+Rc), s	6.8	6.8	6.4	* 7.1	6.8	6.8	6.4	* 7.1				
Max Green Setting (Gmax), s	9.2	52.2	12.6	* 29	10.2	51.2	12.6	* 29				
Max Q Clear Time (g_c+I1), s	3.2	2.0	6.2	12.5	6.5	20.6	6.6	7.1				
Green Ext Time (p_c), s	0.0	13.6	0.0	1.0	0.0	11.9	0.0	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			26.5									
HCM 2010 LOS			C									
Notes												























* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 methodology does not support exclusive ped or hold phases.

HCM 2010 Signalized Intersection Summary






















5: 34th Street & 26th Avenue

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	85	25	95	115	330	50	745	65	255	1110	15
Future Volume (veh/h)	25	85	25	95	115	330	50	745	65	255	1110	15
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	26	89	26	100	121	347	53	784	68	268	1168	16
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	299	87	261	401	341	117	2245	194	276	2911	40
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.13	0.94	0.94	0.31	1.00	1.00
Sat Flow, veh/h	921	1386	405	1272	1863	1583	1774	4769	412	1774	5170	71
Grp Volume(v), veh/h	26	0	115	100	121	347	53	556	296	268	766	418
Grp Sat Flow(s),veh/h/ln	921	0	1791	1272	1863	1583	1774	1695	1790	1774	1695	1850
Q Serve(g_s), s	3.2	0.0	7.0	9.3	7.1	28.0	3.6	1.9	1.9	19.4	0.0	0.0
Cycle Q Clear(g_c), s	10.3	0.0	7.0	16.3	7.1	28.0	3.6	1.9	1.9	19.4	0.0	0.0
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.23	1.00		0.04
Lane Grp Cap(c), veh/h	204	0	386	261	401	341	117	1596	843	276	1909	1042
V/C Ratio(X)	0.13	0.00	0.30	0.38	0.30	1.02	0.45	0.35	0.35	0.97	0.40	0.40
Avail Cap(c_a), veh/h	204	0	386	261	401	341	117	1596	843	276	1909	1042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98	0.52	0.52	0.52
Uniform Delay (d), s/veh	47.1	0.0	42.8	49.6	42.8	51.0	54.2	2.1	2.1	44.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.9	0.4	53.3	11.8	0.6	1.1	32.7	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	0.0	6.3	6.0	6.7	31.1	3.8	1.6	2.0	16.0	0.2	0.3
LnGrp Delay(d),s/veh	47.4	0.0	43.2	50.5	43.2	104.3	66.0	2.7	3.2	77.2	0.3	0.6
LnGrp LOS	D		D	D	D	F	E	A	A	E	A	A
Approach Vol, veh/h		141			568			905			1452	
Approach Delay, s/veh		44.0			81.8			6.5			14.6	
Approach LOS		D			F			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	80.0		35.0	27.0	68.0		35.0				
Change Period (Y+Rc), s	6.4	6.8		7.0	6.8	6.8		7.0				
Max Green Setting (Gmax), s	8.6	73.2		28.0	20.2	61.2		28.0				
Max Q Clear Time (g_c+I1), s	5.6	2.0		30.0	21.4	3.9		12.3				
Green Ext Time (p_c), s	0.0	22.4		0.0	0.0	21.3		2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			26.0									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
6: 34th Street & 22nd Avenue

























07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	570	85	305	545	175	225	705	160	155	1000	60
Future Volume (veh/h)	60	570	85	305	545	175	225	705	160	155	1000	60
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	63	600	89	321	574	184	237	742	168	163	1053	63
Adj No. of Lanes	1	2	0	2	2	0	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	646	96	364	714	228	179	1240	278	173	1464	87
Arrive On Green	0.05	0.23	0.23	0.12	0.30	0.30	0.15	0.44	0.44	0.11	0.33	0.33
Sat Flow, veh/h	1597	2784	412	3097	2376	760	1597	3741	838	1597	4417	264
Grp Volume(v), veh/h	63	343	346	321	384	374	237	604	306	163	727	389
Grp Sat Flow(s),veh/h/ln	1597	1593	1604	1549	1593	1542	1597	1526	1529	1597	1526	1630
Q Serve(g_s), s	5.1	27.4	27.5	13.3	28.9	29.1	14.6	19.5	19.9	13.2	27.2	27.2
Cycle Q Clear(g_c), s	5.1	27.4	27.5	13.3	28.9	29.1	14.6	19.5	19.9	13.2	27.2	27.2
Prop In Lane	1.00		0.26	1.00		0.49	1.00		0.55	1.00		0.16
Lane Grp Cap(c), veh/h	78	369	372	364	478	463	179	1011	507	173	1011	540
V/C Ratio(X)	0.81	0.93	0.93	0.88	0.80	0.81	1.32	0.60	0.60	0.94	0.72	0.72
Avail Cap(c_a), veh/h	102	383	386	365	478	463	179	1011	507	173	1011	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.2	48.9	48.9	56.5	41.9	42.0	55.3	29.8	29.9	57.5	38.1	38.2
Incr Delay (d2), s/veh	28.9	28.0	28.6	21.5	9.6	10.1	174.9	2.3	4.7	51.4	4.4	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	21.3	21.6	11.0	20.1	19.7	27.2	13.0	13.6	13.0	17.7	19.4
LnGrp Delay(d),s/veh	90.1	76.9	77.5	77.9	51.5	52.1	230.2	32.1	34.5	108.9	42.5	46.2
LnGrp LOS	F	E	E	E	D	D	F	C	C	F	D	D
Approach Vol, veh/h		752			1079			1147			1279	
Approach Delay, s/veh		78.3			59.6			73.7			52.1	
Approach LOS		E			E			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	50.2	13.1	45.8	21.0	50.2	22.0	36.8				
Change Period (Y+Rc), s	6.4	* 7.1	6.7	6.7	6.9	* 7.1	6.7	6.7				
Max Green Setting (Gmax), s	14.6	* 42	8.3	38.3	14.1	* 42	15.3	31.3				
Max Q Clear Time (g_c+I1), s	16.6	29.2	7.1	31.1	15.2	21.9	15.3	29.5				
Green Ext Time (p_c), s	0.0	9.2	0.0	4.6	0.0	12.9	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			64.4									
HCM 2010 LOS			E									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 1: 54th Avenue & 34th Street




















07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	285	290	235	200	305	545	275	240	70	850	300	290
Future Volume (veh/h)	285	290	235	200	305	545	275	240	70	850	300	290
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	300	305	0	211	321	574	289	253	74	895	316	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	2	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	1203	538	103	1052	470	257	513	230	915	480	408
Arrive On Green	0.10	0.34	0.00	0.06	0.30	0.30	0.14	0.14	0.14	0.09	0.09	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	3548	1863	1583
Grp Volume(v), veh/h	300	305	0	211	321	574	289	253	74	895	316	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	14.2	8.7	0.0	8.1	9.8	41.6	20.3	9.2	5.9	35.2	23.0	0.0
Cycle Q Clear(g_c), s	14.2	8.7	0.0	8.1	9.8	41.6	20.3	9.2	5.9	35.2	23.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	1203	538	103	1052	470	257	513	230	915	480	408
V/C Ratio(X)	1.67	0.25	0.00	2.06	0.31	1.22	1.12	0.49	0.32	0.98	0.66	0.00
Avail Cap(c_a), veh/h	180	1203	538	103	1052	470	257	513	230	915	480	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.00
Uniform Delay (d), s/veh	62.9	33.4	0.0	65.9	38.0	49.2	59.8	55.1	53.7	63.7	58.1	0.0
Incr Delay (d2), s/veh	323.5	0.5	0.0	507.1	0.8	117.0	93.4	0.7	0.8	23.4	3.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	41.6	7.8	0.0	33.2	8.6	60.2	29.9	8.0	4.7	27.4	17.8	0.0
LnGrp Delay(d),s/veh	386.4	33.9	0.0	573.0	38.8	166.2	153.3	55.8	54.5	87.0	61.1	0.0
LnGrp LOS	F	C		F	D	F	F	E	D	F	E	
Approach Vol, veh/h		605			1106			616			1211	
Approach Delay, s/veh		208.7			206.8			101.4			80.3	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.0	49.0		43.0	15.0	55.0		27.0				
Change Period (Y+Rc), s	6.8	7.4		6.9	6.9	7.4		6.7				
Max Green Setting (Gmax), s	14.2	41.6		36.1	8.1	47.6		20.3				
Max Q Clear Time (g_c+I1), s	16.2	43.6		37.2	10.1	10.7		22.3				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	7.1		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			145.5									
HCM 2010 LOS			F									
Notes												

User approved volume balancing among the lanes for turning movement.























HCM 2010 Signalized Intersection Summary
 2: 34th Street & 46th Avenue

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	5	40	15	5	10	70	800	10	25	1430	25
Future Volume (veh/h)	75	5	40	15	5	10	70	800	10	25	1430	25
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	79	5	42	16	5	0	74	842	11	26	1505	26
Adj No. of Lanes	0	1	0	0	1	1	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	11	54	152	42	169	320	4111	54	563	4091	71
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	902	106	504	1000	390	1583	338	5173	68	644	5148	89
Grp Volume(v), veh/h	126	0	0	21	0	0	74	552	301	26	991	540
Grp Sat Flow(s),veh/h/ln	1512	0	0	1390	0	1583	338	1695	1851	644	1695	1847
Q Serve(g_s), s	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.63		0.33	0.76		1.00	1.00		0.04	1.00		0.05
Lane Grp Cap(c), veh/h	203	0	0	194	0	169	320	2694	1471	563	2694	1468
V/C Ratio(X)	0.62	0.00	0.00	0.11	0.00	0.00	0.23	0.20	0.20	0.05	0.37	0.37
Avail Cap(c_a), veh/h	341	0	0	329	0	317	320	2694	1471	563	2694	1468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.33	0.33	0.33	0.79	0.79	0.79
Uniform Delay (d), s/veh	60.7	0.0	0.0	56.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	0.0	0.3	0.0	0.0	0.6	0.1	0.1	0.1	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.7	0.0	0.0	1.4	0.0	0.0	0.1	0.0	0.1	0.0	0.2	0.4
LnGrp Delay(d),s/veh	65.1	0.0	0.0	56.9	0.0	0.0	0.6	0.1	0.1	0.1	0.3	0.6
LnGrp LOS	E			E			A	A	A	A	A	A
Approach Vol, veh/h		126			21			927			1557	
Approach Delay, s/veh		65.1			56.9			0.1			0.4	
Approach LOS		E			E			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		118.0		22.0		118.0		22.0				
Change Period (Y+Rc), s		6.8		7.0		6.8		7.0				
Max Green Setting (Gmax), s		98.2		28.0		98.2		28.0				
Max Q Clear Time (g_c+I1), s		2.0		3.7		2.0		13.3				
Green Ext Time (p_c), s		38.9		1.1		38.9		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			3.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary
 3: 34th Street & 38th Avenue

07/09/2018
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	40	20	35	65	60	40	910	50	115	1560	75
Future Volume (veh/h)	100	40	20	35	65	60	40	910	50	115	1560	75
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	105	42	21	37	68	63	42	958	53	121	1642	79
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	164	82	48	85	79	54	2754	152	144	3027	146
Arrive On Green	0.07	0.14	0.14	0.03	0.10	0.10	0.01	0.18	0.18	0.16	1.00	1.00
Sat Flow, veh/h	1774	1173	586	1774	891	826	1774	4932	272	1774	4972	239
Grp Volume(v), veh/h	105	0	63	37	0	131	42	658	353	121	1119	602
Grp Sat Flow(s),veh/h/ln	1774	0	1759	1774	0	1717	1774	1695	1815	1774	1695	1821
Q Serve(g_s), s	8.2	0.0	4.5	2.9	0.0	10.5	3.3	23.7	23.7	9.3	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	4.5	2.9	0.0	10.5	3.3	23.7	23.7	9.3	0.0	0.0
Prop In Lane	1.00		0.33	1.00		0.48	1.00		0.15	1.00		0.13
Lane Grp Cap(c), veh/h	127	0	246	48	0	164	54	1893	1013	144	2064	1108
V/C Ratio(X)	0.83	0.00	0.26	0.77	0.00	0.80	0.77	0.35	0.35	0.84	0.54	0.54
Avail Cap(c_a), veh/h	134	0	351	134	0	342	129	1893	1013	294	2064	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	0.99	0.99	0.99	0.74	0.74	0.74
Uniform Delay (d), s/veh	64.1	0.0	53.7	67.6	0.0	62.0	68.8	34.9	34.9	57.8	0.0	0.0
Incr Delay (d2), s/veh	31.7	0.0	0.5	21.8	0.0	8.6	20.1	0.5	0.9	9.3	0.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.9	0.0	4.0	3.1	0.0	9.2	3.5	16.7	17.9	8.0	0.4	0.8
LnGrp Delay(d),s/veh	95.9	0.0	54.3	89.4	0.0	70.6	88.9	35.4	35.8	67.0	0.8	1.4
LnGrp LOS	F		D	F		E	F	D	D	E	A	A
Approach Vol, veh/h		168			168			1053			1842	
Approach Delay, s/veh		80.3			74.8			37.7			5.3	
Approach LOS		F			E			D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	92.0	16.4	20.5	18.2	85.0	10.2	26.7				
Change Period (Y+Rc), s	6.8	6.8	6.4	* 7.1	6.8	6.8	6.4	* 7.1				
Max Green Setting (Gmax), s	10.2	64.2	10.6	* 28	23.2	51.2	10.6	* 28				
Max Q Clear Time (g_c+I1), s	5.3	2.0	10.2	12.5	11.3	25.7	4.9	6.5				
Green Ext Time (p_c), s	0.0	35.7	0.0	0.9	0.2	19.6	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 methodology does not support exclusive ped or hold phases.






















HCM 2010 Signalized Intersection Summary
5: 34th Street & 26th Avenue

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	75	35	85	100	265	30	1050	100	200	1605	30
Future Volume (veh/h)	15	75	35	85	100	265	30	1050	100	200	1605	30
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	79	37	89	105	279	32	1105	105	211	1689	32
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	206	96	195	319	271	109	2302	219	345	3201	61
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.12	0.97	0.97	0.13	0.42	0.42
Sat Flow, veh/h	995	1201	562	1271	1863	1583	1774	4725	449	1774	5138	97
Grp Volume(v), veh/h	16	0	116	89	105	279	32	793	417	211	1114	607
Grp Sat Flow(s),veh/h/ln	995	0	1763	1271	1863	1583	1774	1695	1784	1774	1695	1846
Q Serve(g_s), s	2.0	0.0	8.2	9.3	6.9	24.0	2.3	1.6	1.6	15.7	34.4	34.4
Cycle Q Clear(g_c), s	8.9	0.0	8.2	17.5	6.9	24.0	2.3	1.6	1.6	15.7	34.4	34.4
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.25	1.00		0.05
Lane Grp Cap(c), veh/h	173	0	302	195	319	271	109	1652	869	345	2112	1150
V/C Ratio(X)	0.09	0.00	0.38	0.46	0.33	1.03	0.29	0.48	0.48	0.61	0.53	0.53
Avail Cap(c_a), veh/h	173	0	302	195	319	271	109	1652	869	345	2112	1150
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	0.39	0.39	0.39
Uniform Delay (d), s/veh	54.9	0.0	51.4	59.2	50.9	58.0	58.6	0.9	0.9	55.9	25.4	25.4
Incr Delay (d2), s/veh	0.2	0.0	0.8	1.7	0.6	62.0	6.3	0.9	1.8	3.2	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	7.3	6.1	6.5	27.3	2.4	1.2	1.6	11.0	20.4	22.2
LnGrp Delay(d),s/veh	55.1	0.0	52.2	60.9	51.5	120.0	65.0	1.9	2.7	59.1	25.8	26.1
LnGrp LOS	E		D	E	D	F	E	A	A	E	C	C
Approach Vol, veh/h		132			473			1242			1932	
Approach Delay, s/veh		52.6			93.7			3.8			29.5	
Approach LOS		D			F			A			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	94.0		31.0	34.0	75.0		31.0				
Change Period (Y+Rc), s	6.4	6.8		7.0	6.8	6.8		7.0				
Max Green Setting (Gmax), s	8.6	87.2		24.0	27.2	68.2		24.0				
Max Q Clear Time (g_c+I1), s	4.3	36.4		26.0	17.7	3.6		10.9				
Green Ext Time (p_c), s	0.0	35.4		0.0	0.4	41.4		2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			29.9									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
6: 34th Street & 22nd Avenue

























07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	560	110	295	665	200	215	685	300	130	1065	80
Future Volume (veh/h)	90	560	110	295	665	200	215	685	300	130	1065	80
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	95	589	116	311	700	211	226	721	316	137	1121	84
Adj No. of Lanes	1	2	0	2	2	0	1	3	0	1	3	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	653	128	354	697	210	201	1082	469	157	1399	105
Arrive On Green	0.07	0.25	0.25	0.11	0.29	0.29	0.04	0.11	0.11	0.10	0.32	0.32
Sat Flow, veh/h	1597	2655	522	3097	2413	727	1597	3132	1357	1597	4345	325
Grp Volume(v), veh/h	95	353	352	311	462	449	226	702	335	137	787	418
Grp Sat Flow(s),veh/h/ln	1597	1593	1584	1549	1593	1548	1597	1526	1437	1597	1526	1619
Q Serve(g_s), s	8.2	30.0	30.2	13.8	40.4	40.4	17.6	30.9	31.3	11.8	33.0	33.0
Cycle Q Clear(g_c), s	8.2	30.0	30.2	13.8	40.4	40.4	17.6	30.9	31.3	11.8	33.0	33.0
Prop In Lane	1.00		0.33	1.00		0.47	1.00		0.94	1.00		0.20
Lane Grp Cap(c), veh/h	114	392	390	354	460	447	201	1054	497	157	982	521
V/C Ratio(X)	0.83	0.90	0.90	0.88	1.00	1.00	1.13	0.67	0.67	0.87	0.80	0.80
Avail Cap(c_a), veh/h	140	402	399	383	460	447	201	1054	497	161	982	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.2	51.1	51.2	61.0	49.8	49.8	67.1	54.3	54.5	62.2	43.4	43.4
Incr Delay (d2), s/veh	28.2	22.4	23.1	19.1	43.0	43.7	96.4	2.8	6.1	36.5	6.9	12.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	22.2	22.2	11.2	41.9	40.8	23.7	19.0	18.8	11.1	21.1	23.2
LnGrp Delay(d),s/veh	92.4	73.6	74.3	80.2	92.8	93.5	163.5	57.1	60.5	98.7	50.2	55.7
LnGrp LOS	F	E	E	F	F	F	F	E	E	F	D	E
Approach Vol, veh/h		800			1222			1263			1342	
Approach Delay, s/veh		76.1			89.8			77.1			56.9	
Approach LOS		E			F			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	52.2	16.7	47.1	20.7	55.5	22.7	41.1				
Change Period (Y+Rc), s	6.4	* 7.1	6.7	6.7	6.9	* 7.1	6.7	6.7				
Max Green Setting (Gmax), s	17.6	* 43	12.3	40.3	14.1	* 46	17.3	35.3				
Max Q Clear Time (g_c+I1), s	19.6	35.0	10.2	42.4	13.8	33.3	15.8	32.2				
Green Ext Time (p_c), s	0.0	6.6	0.0	0.0	0.0	9.9	0.2	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay				74.4								
HCM 2010 LOS				E								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/09/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	170	100	35	280	450	125	155	30	340	95	210
Future Volume (vph)	210	170	100	35	280	450	125	155	30	340	95	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		220	150		145	150		150	290		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			120			120			45		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950	0.969	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1610	3285	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.969	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1610	3285	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209			474			153			221
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		434			1398			368			2679	
Travel Time (s)		7.4			23.8			5.6			40.6	
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
Adj. Flow (vph)	221	179	105	37	295	474	132	163	32	358	100	221
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	221	179	105	37	295	474	132	163	32	179	279	221
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Free	Prot	NA	Perm	Split	NA	Perm	Split	NA	Free
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			Free			2			8			Free
Detector Phase	1	6		5	2	2	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	11.8	13.4		11.9	13.4	13.4	22.1	22.1	22.1	32.9	32.9	
Total Split (s)	21.0	55.0		15.0	49.0	49.0	27.0	27.0	27.0	33.0	33.0	
Total Split (%)	16.2%	42.3%		11.5%	37.7%	37.7%	20.8%	20.8%	20.8%	25.4%	25.4%	
Maximum Green (s)	14.2	47.6		8.1	41.6	41.6	20.3	20.3	20.3	26.1	26.1	
Yellow Time (s)	4.8	4.8		4.4	4.8	4.8	4.0	4.0	4.0	4.8	4.8	
All-Red Time (s)	2.0	2.6		2.5	2.6	2.6	2.7	2.7	2.7	2.1	2.1	
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)	6.8	7.4		6.9	7.4	7.4	6.7	6.7	6.7	6.9	6.9	
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	Max		None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	23.4	63.2	130.0	7.6	42.3	42.3	16.5	16.5	16.5	20.0	20.0	130.0

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

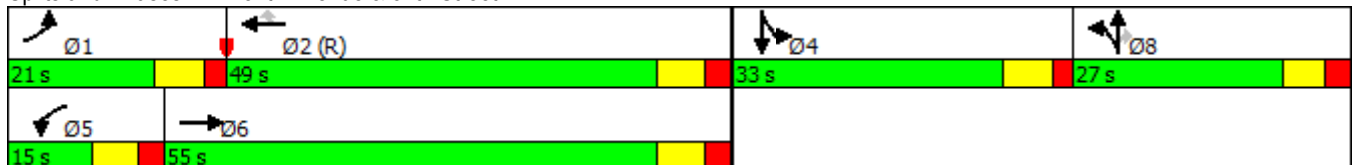
07/09/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.18	0.49	1.00	0.06	0.33	0.33	0.13	0.13	0.13	0.15	0.15	1.00
v/c Ratio	0.69	0.10	0.07	0.36	0.26	0.57	0.59	0.36	0.10	0.72	0.55	0.14
Control Delay	63.3	21.3	0.1	68.4	33.2	5.8	64.3	53.9	0.6	93.8	78.7	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	21.3	0.1	68.4	33.2	5.8	64.3	53.9	0.6	93.8	78.7	0.4
LOS	E	C	A	E	C	A	E	D	A	F	E	A
Approach Delay	35.3			18.7			52.9			57.2		
Approach LOS	D			B			D			E		
Queue Length 50th (ft)	172	44	0	30	96	0	108	67	0	168	131	0
Queue Length 95th (ft)	#382	80	0	68	135	80	170	100	0	260	180	12
Internal Link Dist (ft)	354			1318			288			2599		
Turn Bay Length (ft)	230		220	150		145	150		150	290		
Base Capacity (vph)	318	1721	1583	113	1150	834	276	552	376	323	659	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.10	0.07	0.33	0.26	0.57	0.48	0.30	0.09	0.55	0.42	0.14

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 71 (55%), Referenced to phase 2:WBT, Start of Green
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 38.4 Intersection LOS: D
 Intersection Capacity Utilization 69.4% 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: 1: 54th Avenue & 34th Street



Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↕↕		↕	↕↕↕	
Traffic Volume (vph)	50	5	25	15	10	5	65	490	25	40	645	20
Future Volume (vph)	50	5	25	15	10	5	65	490	25	40	645	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			130			35		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.958				0.850		0.993			0.995	
Flt Protected		0.969			0.971		0.950			0.950		
Satd. Flow (prot)	0	1729	0	0	1809	1583	1770	5050	0	1770	5060	0
Flt Permitted		0.792			0.824		0.374			0.440		
Satd. Flow (perm)	0	1413	0	0	1535	1583	697	5050	0	820	5060	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				32		12			7	
Link Speed (mph)		30			25			45			45	
Link Distance (ft)		700			776			2679			2655	
Travel Time (s)		15.9			21.2			40.6			40.2	
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
Adj. Flow (vph)	53	5	26	16	11	5	68	516	26	42	679	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	84	0	0	27	5	68	542	0	42	700	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
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Detector Phase	8	8		4	4	4	6	6		2	2	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	12.8	12.8		12.8	12.8	
Total Split (s)	40.0	40.0		40.0	40.0	40.0	90.0	90.0		90.0	90.0	
Total Split (%)	30.8%	30.8%		30.8%	30.8%	30.8%	69.2%	69.2%		69.2%	69.2%	
Maximum Green (s)	33.0	33.0		33.0	33.0	33.0	83.2	83.2		83.2	83.2	
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.8	4.8		4.8	4.8	
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		7.0			7.0	7.0	6.8	6.8		6.8	6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		15.6			15.6	15.6	100.6	100.6		100.6	100.6	

Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.12			0.12	0.12	0.77	0.77		0.77	0.77	
v/c Ratio		0.45			0.15	0.02	0.13	0.14		0.07	0.18	
Control Delay		50.5			52.8	0.2	7.5	6.5		11.9	11.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		50.5			52.8	0.2	7.5	6.5		11.9	11.1	
LOS		D			D	A	A	A		B	B	
Approach Delay		50.5			44.6			6.6			11.2	
Approach LOS		D			D			A			B	
Queue Length 50th (ft)		53			21	0	22	62		15	118	
Queue Length 95th (ft)		106			50	0	m41	82		0	213	
Internal Link Dist (ft)		620			696			2599			2575	
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		371			389	425	539	3909		634	3916	
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			0.07	0.01	0.13	0.14		0.07	0.18	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 127 (98%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.45
 Intersection Signal Delay: 12.3
 Intersection LOS: B
 Intersection Capacity Utilization 52.4%
 ICU Level of Service A
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 34th Street & 46th Avenue



Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	50	20	60	35	95	15	810	25	60	650	50
Future Volume (vph)	55	50	20	60	35	95	15	810	25	60	650	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	120		0	45		0	180		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	55			70			65			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.957			0.891			0.996			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1783	0	1770	1660	0	1770	5065	0	1770	5029	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1783	0	1770	1660	0	1770	5065	0	1770	5029	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			96			4			11	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		813			748			2655			1274	
Travel Time (s)		18.5			17.0			40.2			19.3	
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
Adj. Flow (vph)	58	53	21	63	37	100	16	853	26	63	684	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	74	0	63	137	0	16	879	0	63	737	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
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.4	17.1		11.4	17.1		11.8	12.8		11.8	12.8	
Total Split (s)	19.0	36.0		19.0	36.0		16.0	58.0		17.0	59.0	
Total Split (%)	14.6%	27.7%		14.6%	27.7%		12.3%	44.6%		13.1%	45.4%	
Maximum Green (s)	12.6	28.9		12.6	28.9		9.2	51.2		10.2	52.2	
Yellow Time (s)	3.4	3.4		3.4	3.4		4.8	4.8		4.8	4.8	
All-Red Time (s)	3.0	3.7		3.0	3.7		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	7.1		6.4	7.1		6.8	6.8		6.8	6.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	9.5	11.4		9.7	11.6		6.8	76.9		10.0	85.2	

Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/09/2018

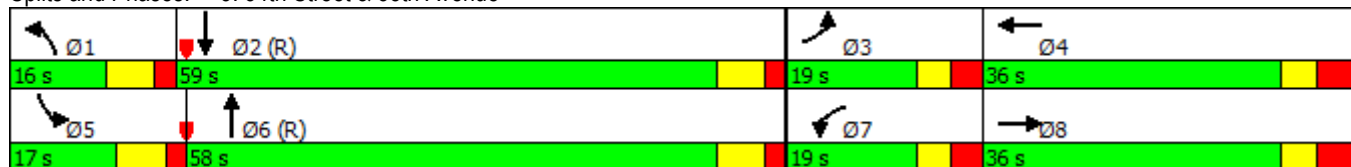


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.07	0.09		0.07	0.09		0.05	0.59		0.08	0.66	
v/c Ratio	0.45	0.44		0.48	0.58		0.18	0.29		0.47	0.22	
Control Delay	68.1	53.4		68.9	29.8		76.2	19.1		93.1	1.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	68.1	53.4		68.9	29.8		76.2	19.1		93.1	1.4	
LOS	E	D		E	C		E	B		F	A	
Approach Delay		59.8			42.1			20.1				8.7
Approach LOS		E			D			C				A
Queue Length 50th (ft)	48	49		52	33		0	190		57	5	
Queue Length 95th (ft)	93	96		99	98		40	258		108	16	
Internal Link Dist (ft)		733			668			2575			1194	
Turn Bay Length (ft)	65			120			45			180		
Base Capacity (vph)	171	407		171	443		125	2998		151	3299	
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	0.34	0.18		0.37	0.31		0.13	0.29		0.42	0.22	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 44 (34%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.58
 Intersection Signal Delay: 20.3
 Intersection Capacity Utilization 55.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 3: 34th Street & 38th Avenue



Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/09/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Lane Configurations	↖↗	↖	↗	↑↑↑	↘	↑↑↑	↖	
Traffic Volume (vph)	120	35	80	910	0	1215	120	
Future Volume (vph)	120	35	80	910	0	1215	120	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	240	175	395		80		450	
Storage Lanes	1	1	1		1		1	
Taper Length (ft)	25		50		60			
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	1.00	
Frt		0.850					0.850	
Flt Protected	0.950		0.950					
Satd. Flow (prot)	3433	1583	1770	5085	1863	5085	1583	
Flt Permitted	0.950		0.950					
Satd. Flow (perm)	3433	1583	1770	5085	1863	5085	1583	
Right Turn on Red		Yes					Yes	
Satd. Flow (RTOR)		37					126	
Link Speed (mph)	25			45		45		
Link Distance (ft)	796			1274		2715		
Travel Time (s)	21.7			19.3		41.1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	126	37	84	958	0	1279	126	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	126	37	84	958	0	1279	126	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	R NA	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	1.00	
Turning Speed (mph)	15	9	15		9		9	
Turn Type	Prot	Prot	Prot	NA	Prot	NA	Perm	
Protected Phases	3	3	1	6	5	2		4
Permitted Phases								2
Detector Phase	3	3	1	6	5	2		2
Switch Phase								
Minimum Initial (s)	10.0	10.0	5.0	6.0	5.0	6.0	6.0	38.0
Minimum Split (s)	17.4	17.4	11.8	13.3	11.8	13.3	13.3	43.4
Total Split (s)	22.0	22.0	22.0	58.0	15.0	51.0	51.0	35.0
Total Split (%)	16.9%	16.9%	16.9%	44.6%	11.5%	39.2%	39.2%	27%
Maximum Green (s)	14.6	14.6	15.2	50.7	8.2	43.7	43.7	29.6
Yellow Time (s)	3.4	3.4	4.8	4.8	4.8	4.8	4.8	3.4
All-Red Time (s)	4.0	4.0	2.0	2.5	2.0	2.5	2.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.4	7.4	6.8	7.3	6.8	7.3	7.3	
Lead/Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	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
Recall Mode	None	None	None	C-Max	None	C-Max	C-Max	None
Walk Time (s)								7.0

Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/09/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Flash Dont Walk (s)								31.0
Pedestrian Calls (#/hr)								0
Act Effct Green (s)	10.9	10.9	11.5	104.4		86.2	86.2	
Actuated g/C Ratio	0.08	0.08	0.09	0.80		0.66	0.66	
v/c Ratio	0.44	0.22	0.54	0.23		0.38	0.12	
Control Delay	61.5	19.8	75.5	2.1		16.8	9.1	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	61.5	19.8	75.5	2.1		16.8	9.1	
LOS	E	B	E	A		B	A	
Approach Delay	52.0			8.0		16.1		
Approach LOS	D			A		B		
Queue Length 50th (ft)	53	0	76	24		226	35	
Queue Length 95th (ft)	85	35	128	33		283	82	
Internal Link Dist (ft)	716			1194		2635		
Turn Bay Length (ft)	240	175	395				450	
Base Capacity (vph)	385	210	208	4085		3370	1091	
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	0.40	0.23		0.38	0.12	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 57 (44%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 15.1
 Intersection LOS: B
 Intersection Capacity Utilization 54.2%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 4: 34th Street & 34th Avenue



Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	85	25	95	115	330	50	745	65	255	1110	15
Future Volume (vph)	25	85	25	95	115	330	50	745	65	255	1110	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		0	180		0	290		0	280		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			80			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.966				0.850		0.988			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1799	0	1770	1863	1583	1770	5024	0	1770	5075	0
Flt Permitted	0.633			0.654			0.950			0.950		
Satd. Flow (perm)	1179	1799	0	1218	1863	1583	1770	5024	0	1770	5075	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				299		15			2	
Link Speed (mph)		30			30			45			40	
Link Distance (ft)		770			780			2715			1330	
Travel Time (s)		17.5			17.7			41.1			22.7	
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
Adj. Flow (vph)	26	89	26	100	121	347	53	784	68	268	1168	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	115	0	100	121	347	53	852	0	268	1184	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
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4						
Detector Phase	8	8		4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	5.0	6.0		5.0	6.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	11.4	12.8		11.8	12.8	
Total Split (s)	35.0	35.0		35.0	35.0	35.0	15.0	68.0		27.0	80.0	
Total Split (%)	26.9%	26.9%		26.9%	26.9%	26.9%	11.5%	52.3%		20.8%	61.5%	
Maximum Green (s)	28.0	28.0		28.0	28.0	28.0	8.6	61.2		20.2	73.2	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.4	4.8		4.8	4.8	
All-Red Time (s)	3.3	3.3		3.3	3.3	3.3	2.0	2.0		2.0	2.0	
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)	7.0	7.0		7.0	7.0	7.0	6.4	6.8		6.8	6.8	
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	
Recall Mode	None	None		None	None	None	Max	C-Max		Max	C-Max	
Act Effct Green (s)	16.9	16.9		16.9	16.9	16.9	19.7	61.2		31.3	73.2	

Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.13	0.13		0.13	0.13	0.13	0.15	0.47		0.24	0.56	
v/c Ratio	0.17	0.48		0.63	0.50	0.75	0.20	0.36		0.63	0.41	
Control Delay	49.8	52.8		70.1	58.4	19.6	63.9	19.6		40.6	24.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	49.8	52.8		70.1	58.4	19.6	63.9	19.6		40.6	24.9	
LOS	D	D		E	E	B	E	B		D	C	
Approach Delay		52.3			36.7			22.2			27.8	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	20	83		81	97	37	46	165		229	224	
Queue Length 95th (ft)	46	135		134	148	135	91	95		m#328	m285	
Internal Link Dist (ft)		690			700			2635			1250	
Turn Bay Length (ft)	220			180			290			280		
Base Capacity (vph)	253	395		262	401	575	268	2373		426	2858	
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	0.10	0.29		0.38	0.30	0.60	0.20	0.36		0.63	0.41	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 85 (65%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 28.9 Intersection LOS: C
 Intersection Capacity Utilization 61.9% 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: 34th Street & 26th Avenue



Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	570	85	305	545	175	225	705	160	155	1000	60
Future Volume (vph)	60	570	85	305	545	175	225	705	160	155	1000	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	160		0	105		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	45			80			130			50		
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.981			0.964			0.972			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3125	0	3090	3071	0	1593	4449	0	1593	4540	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1593	3125	0	3090	3071	0	1593	4449	0	1593	4540	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			34			42			7	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		829			810			1330			1056	
Travel Time (s)		16.1			15.8			22.7			18.0	
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
Adj. Flow (vph)	63	600	89	321	574	184	237	742	168	163	1053	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	689	0	321	758	0	237	910	0	163	1116	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	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.7	22.5		11.7	22.5		11.4	22.5		11.9	22.5	
Total Split (s)	15.0	38.0		22.0	45.0		21.0	49.0		21.0	49.0	
Total Split (%)	11.5%	29.2%		16.9%	34.6%		16.2%	37.7%		16.2%	37.7%	
Maximum Green (s)	8.3	31.3		15.3	38.3		14.6	41.9		14.1	41.9	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.4	4.9		4.9	4.9	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.2		2.0	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.7	6.7		6.7	6.7		6.4	7.1		6.9	7.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	7.9	30.7		15.2	40.6		15.3	42.3		14.4	41.9	

Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/09/2018

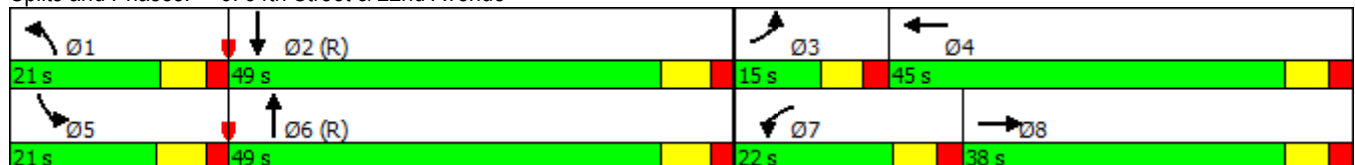


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.06	0.24		0.12	0.31		0.12	0.33		0.11	0.32	
v/c Ratio	0.65	0.92		0.89	0.77		1.27	0.62		0.93	0.76	
Control Delay	89.3	66.4		82.7	45.6		215.3	20.9		108.1	43.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	89.3	66.4		82.7	45.6		215.3	20.9		108.1	43.3	
LOS	F	E		F	D		F	C		F	D	
Approach Delay		68.4			56.6			61.1			51.6	
Approach LOS		E			E			E			D	
Queue Length 50th (ft)	53	294		139	300		~265	86		139	307	
Queue Length 95th (ft)	#119	#405		#222	380		#438	186		#281	364	
Internal Link Dist (ft)		749			730			1250			976	
Turn Bay Length (ft)	150			160			105			190		
Base Capacity (vph)	101	761		363	982		186	1474		176	1468	
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	0.62	0.91		0.88	0.77		1.27	0.62		0.93	0.76	

Intersection Summary

























Area Type: CBD
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 106 (82%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.27
 Intersection Signal Delay: 58.4
 Intersection LOS: E
 Intersection Capacity Utilization 89.4%
 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: 6: 34th Street & 22nd Avenue



Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/09/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	290	235	200	305	545	275	240	70	850	300	290
Future Volume (vph)	285	290	235	200	305	545	275	240	70	850	300	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		220	150		145	150		150	290		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			120			120			45		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950	0.972	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1610	3295	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.972	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1610	3295	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			247			574			142			205
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		434			1398			368			2679	
Travel Time (s)		7.4			23.8			5.6			40.6	
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
Adj. Flow (vph)	300	305	247	211	321	574	289	253	74	895	316	305
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	300	305	247	211	321	574	289	253	74	447	764	305
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Free	Prot	NA	Perm	Split	NA	Perm	Split	NA	Free
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			Free			2			8			Free
Detector Phase	1	6		5	2	2	8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	6.0	15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	11.8	13.4		11.9	13.4	13.4	22.1	22.1	22.1	32.9	32.9	
Total Split (s)	21.0	55.0		15.0	49.0	49.0	27.0	27.0	27.0	43.0	43.0	
Total Split (%)	15.0%	39.3%		10.7%	35.0%	35.0%	19.3%	19.3%	19.3%	30.7%	30.7%	
Maximum Green (s)	14.2	47.6		8.1	41.6	41.6	20.3	20.3	20.3	36.1	36.1	
Yellow Time (s)	4.8	4.8		4.4	4.8	4.8	4.0	4.0	4.0	4.8	4.8	
All-Red Time (s)	2.0	2.6		2.5	2.6	2.6	2.7	2.7	2.7	2.1	2.1	
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)	6.8	7.4		6.9	7.4	7.4	6.7	6.7	6.7	6.9	6.9	
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	Max		None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	14.2	47.6	140.0	8.1	41.6	41.6	20.3	20.3	20.3	36.1	36.1	140.0

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/09/2018

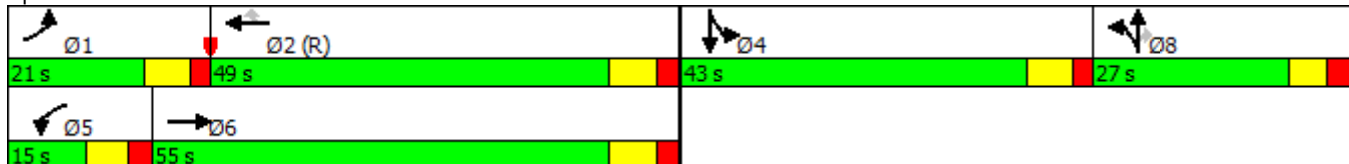


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.10	0.34	1.00	0.06	0.30	0.30	0.14	0.14	0.14	0.26	0.26	1.00
v/c Ratio	1.68	0.25	0.16	2.07	0.31	0.66	1.13	0.49	0.21	1.08	1.03dl	0.19
Control Delay	364.2	34.1	0.2	543.3	39.0	6.9	148.1	58.8	1.4	108.1	57.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	364.2	34.1	0.2	543.3	39.0	6.9	148.1	58.8	1.4	108.1	57.4	0.3
LOS	F	C	A	F	D	A	F	E	A	F	E	A
Approach Delay	140.5			118.6			93.8			60.8		
Approach LOS	F			F			F			E		
Queue Length 50th (ft)	~397	105	0	~302	119	0	~304	113	0	~512	406	0
Queue Length 95th (ft)	#586	144	0	#468	162	98	#491	160	0	#753	#502	0
Internal Link Dist (ft)	354			1318			288			2599		
Turn Bay Length (ft)	230		220	150		145	150		150	290		
Base Capacity (vph)	179	1203	1583	102	1051	873	256	513	350	415	849	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.68	0.25	0.16	2.07	0.31	0.66	1.13	0.49	0.21	1.08	0.90	0.19

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 12 (9%), Referenced to phase 2:WBT, Start of Green
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.07
 Intersection Signal Delay: 98.0
 Intersection LOS: F
 Intersection Capacity Utilization 86.2%
 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.
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 1: 54th Avenue & 34th Street



Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↗	↖	↖	↗	↖
Traffic Volume (vph)	75	5	40	15	5	10	70	800	10	25	1430	25
Future Volume (vph)	75	5	40	15	5	10	70	800	10	25	1430	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	150		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			130			35		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.955					0.850		0.998			0.997
Flt Protected		0.970			0.963		0.950			0.950		
Satd. Flow (prot)	0	1726	0	0	1794	1583	1770	5075	0	1770	5070	0
Flt Permitted		0.797			0.755		0.146			0.319		
Satd. Flow (perm)	0	1418	0	0	1406	1583	272	5075	0	594	5070	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				30		3			4	
Link Speed (mph)		30			25			45			45	
Link Distance (ft)		700			776			2679			2655	
Travel Time (s)		15.9			21.2			40.6			40.2	
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
Adj. Flow (vph)	79	5	42	16	5	11	74	842	11	26	1505	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	0	0	21	11	74	853	0	26	1531	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
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Detector Phase	8	8		4	4	4	6	6		2	2	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	12.8	12.8		12.8	12.8	
Total Split (s)	35.0	35.0		35.0	35.0	35.0	105.0	105.0		105.0	105.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%	25.0%	75.0%	75.0%		75.0%	75.0%	
Maximum Green (s)	28.0	28.0		28.0	28.0	28.0	98.2	98.2		98.2	98.2	
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.8	4.8		4.8	4.8	
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		7.0			7.0	7.0	6.8	6.8		6.8	6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Act Effct Green (s)		18.3			18.3	18.3	107.9	107.9		107.9	107.9	

Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.13			0.13	0.13	0.77	0.77		0.77	0.77	
v/c Ratio		0.63			0.11	0.05	0.35	0.22		0.06	0.39	
Control Delay		64.0			53.1	2.6	5.1	2.1		4.8	5.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		64.0			53.1	2.6	5.1	2.1		4.8	5.3	
LOS		E			D	A	A	A		A	A	
Approach Delay		64.0			35.8			2.3			5.3	
Approach LOS		E			D			A			A	
Queue Length 50th (ft)		97			17	0	8	30		4	82	
Queue Length 95th (ft)		160			42	4	m12	m34		m14	266	
Internal Link Dist (ft)		620			696			2599			2575	
Turn Bay Length (ft)							100			150		
Base Capacity (vph)		296			281	340	209	3911		457	3907	
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			0.07	0.03	0.35	0.22		0.06	0.39	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 120 (86%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 7.4
 Intersection LOS: A
 Intersection Capacity Utilization 63.9%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 34th Street & 46th Avenue



Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	40	20	35	65	60	40	910	50	115	1560	75
Future Volume (vph)	100	40	20	35	65	60	40	910	50	115	1560	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	120		0	45		0	180		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	55			70			65			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.950			0.928			0.992			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	0	1770	1729	0	1770	5045	0	1770	5050	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	0	1770	1729	0	1770	5045	0	1770	5050	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			30			7			7	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		813			748			2655			1274	
Travel Time (s)		18.5			17.0			40.2			19.3	
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
Adj. Flow (vph)	105	42	21	37	68	63	42	958	53	121	1642	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	105	63	0	37	131	0	42	1011	0	121	1721	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
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.4	17.1		11.4	17.1		11.8	12.8		11.8	12.8	
Total Split (s)	17.0	35.0		17.0	35.0		17.0	58.0		30.0	71.0	
Total Split (%)	12.1%	25.0%		12.1%	25.0%		12.1%	41.4%		21.4%	50.7%	
Maximum Green (s)	10.6	27.9		10.6	27.9		10.2	51.2		23.2	64.2	
Yellow Time (s)	3.4	3.4		3.4	3.4		4.8	4.8		4.8	4.8	
All-Red Time (s)	3.0	3.7		3.0	3.7		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	7.1		6.4	7.1		6.8	6.8		6.8	6.8	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effect Green (s)	10.3	18.6		8.2	14.1		8.7	73.6		14.9	82.2	

Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.07	0.13		0.06	0.10		0.06	0.53		0.11	0.59	
v/c Ratio	0.80	0.25		0.36	0.65		0.38	0.38		0.65	0.58	
Control Delay	102.8	44.9		72.2	61.1		86.8	16.4		80.3	11.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	102.8	44.9		72.2	61.1		86.8	16.4		80.3	11.9	
LOS	F	D		E	E		F	B		F	B	
Approach Delay		81.0			63.5			19.2			16.4	
Approach LOS		F			E			B			B	
Queue Length 50th (ft)	96	40		33	90		38	193		117	91	
Queue Length 95th (ft)	#197	84		71	154		80	239		m182	216	
Internal Link Dist (ft)		733			668			2575			1194	
Turn Bay Length (ft)	65			120			45			180		
Base Capacity (vph)	134	365		134	368		133	2654		293	2966	
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	0.78	0.17		0.28	0.36		0.32	0.38		0.41	0.58	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 72 (51%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 23.1 Intersection LOS: C
 Intersection Capacity Utilization 72.4% 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: 34th Street & 38th Avenue



Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/09/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Lane Configurations	↖↗	↗	↖	↑↑↑	↘	↑↑↑	↗	
Traffic Volume (vph)	285	75	200	900	0	1760	300	
Future Volume (vph)	285	75	200	900	0	1760	300	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	240	175	395		80		450	
Storage Lanes	1	1	1		1		1	
Taper Length (ft)	25		50		60			
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	1.00	
Frt		0.850					0.850	
Flt Protected	0.950		0.950					
Satd. Flow (prot)	3433	1583	1770	5085	1863	5085	1583	
Flt Permitted	0.950		0.950					
Satd. Flow (perm)	3433	1583	1770	5085	1863	5085	1583	
Right Turn on Red		Yes					Yes	
Satd. Flow (RTOR)		79					316	
Link Speed (mph)	25			45		45		
Link Distance (ft)	796			1274		2715		
Travel Time (s)	21.7			19.3		41.1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	300	79	211	947	0	1853	316	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	300	79	211	947	0	1853	316	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	R NA	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	1.00	
Turning Speed (mph)	15	9	15		9		9	
Turn Type	Prot	Prot	Prot	NA	custom	NA	Perm	
Protected Phases	3	3	1	6		2		4
Permitted Phases					5		2	
Detector Phase	3	3	1	6	5	2	2	
Switch Phase								
Minimum Initial (s)	10.0	10.0	5.0	6.0	5.0	6.0	6.0	38.0
Minimum Split (s)	17.4	17.4	11.8	13.3	11.8	13.3	13.3	43.4
Total Split (s)	25.0	25.0	26.0	62.0	15.0	51.0	51.0	38.0
Total Split (%)	17.9%	17.9%	18.6%	44.3%	10.7%	36.4%	36.4%	27%
Maximum Green (s)	17.6	17.6	19.2	54.7	8.2	43.7	43.7	32.6
Yellow Time (s)	3.4	3.4	4.8	4.8	4.8	4.8	4.8	3.4
All-Red Time (s)	4.0	4.0	2.0	2.5	2.0	2.5	2.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.4	7.4	6.8	7.3	6.8	7.3	7.3	
Lead/Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	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
Recall Mode	None	None	None	C-Max	None	C-Max	C-Max	None
Act Effct Green (s)	16.2	16.2	23.0	109.1		79.3	79.3	

Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/09/2018

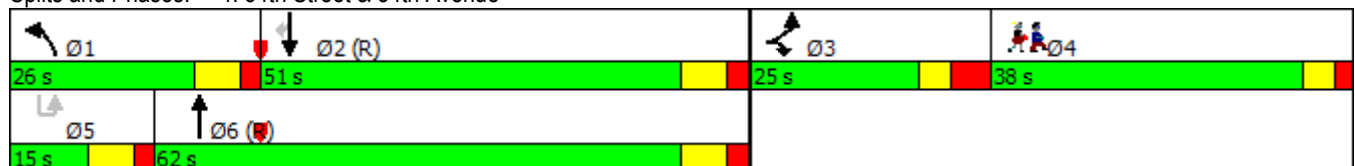


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Actuated g/C Ratio	0.12	0.12	0.16	0.78		0.57	0.57	
v/c Ratio	0.76	0.31	0.73	0.24		0.64	0.31	
Control Delay	72.5	14.7	88.4	2.0		22.5	8.3	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	72.5	14.7	88.4	2.0		22.5	8.3	
LOS	E	B	F	A		C	A	
Approach Delay	60.4			17.8		20.4		
Approach LOS	E			B		C		
Queue Length 50th (ft)	137	0	205	37		372	84	
Queue Length 95th (ft)	188	50	m285	42		645	140	
Internal Link Dist (ft)	716			1194		2635		
Turn Bay Length (ft)	240	175	395				450	
Base Capacity (vph)	431	268	298	3961		2878	1033	
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	0.29	0.71	0.24		0.64	0.31	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 92 (66%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 23.7
 Intersection LOS: C
 Intersection Capacity Utilization 71.3%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: 34th Street & 34th Avenue



Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	75	35	85	100	265	30	1050	100	200	1605	30
Future Volume (vph)	15	75	35	85	100	265	30	1050	100	200	1605	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		0	180		0	290		0	280		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			80			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.952				0.850		0.987			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1773	0	1770	1863	1583	1770	5019	0	1770	5070	0
Flt Permitted	0.662			0.620			0.950			0.950		
Satd. Flow (perm)	1233	1773	0	1155	1863	1583	1770	5019	0	1770	5070	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				279		16			4	
Link Speed (mph)		30			30			45			40	
Link Distance (ft)		770			780			2715			1330	
Travel Time (s)		17.5			17.7			41.1			22.7	
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
Adj. Flow (vph)	16	79	37	89	105	279	32	1105	105	211	1689	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	116	0	89	105	279	32	1210	0	211	1721	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
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4						
Detector Phase	8	8		4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	5.0	6.0		5.0	6.0	
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	11.4	12.8		11.8	12.8	
Total Split (s)	31.0	31.0		31.0	31.0	31.0	15.0	75.0		34.0	94.0	
Total Split (%)	22.1%	22.1%		22.1%	22.1%	22.1%	10.7%	53.6%		24.3%	67.1%	
Maximum Green (s)	24.0	24.0		24.0	24.0	24.0	8.6	68.2		27.2	87.2	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.4	4.8		4.8	4.8	
All-Red Time (s)	3.3	3.3		3.3	3.3	3.3	2.0	2.0		2.0	2.0	
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)	7.0	7.0		7.0	7.0	7.0	6.4	6.8		6.8	6.8	
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	
Recall Mode	None	None		None	None	None	Max	C-Max		Max	C-Max	
Act Effct Green (s)	16.5	16.5		16.5	16.5	16.5	16.1	68.2		34.7	87.2	

Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	560	110	295	665	200	215	685	300	130	1065	80
Future Volume (vph)	90	560	110	295	665	200	215	685	300	130	1065	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	160		0	105		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	45			80			130			50		
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.975			0.965			0.954			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3106	0	3090	3074	0	1593	4366	0	1593	4531	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1593	3106	0	3090	3074	0	1593	4366	0	1593	4531	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			28			84			9	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		829			810			1330			1056	
Travel Time (s)		16.1			15.8			22.7			18.0	
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
Adj. Flow (vph)	95	589	116	311	700	211	226	721	316	137	1121	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	705	0	311	911	0	226	1037	0	137	1205	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	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	11.7	22.5		11.7	22.5		11.4	22.5		11.9	22.5	
Total Split (s)	19.0	42.0		24.0	47.0		24.0	53.0		21.0	50.0	
Total Split (%)	13.6%	30.0%		17.1%	33.6%		17.1%	37.9%		15.0%	35.7%	
Maximum Green (s)	12.3	35.3		17.3	40.3		17.6	45.9		14.1	42.9	
Yellow Time (s)	4.2	4.2		4.2	4.2		4.4	4.9		4.9	4.9	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.2		2.0	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.7	6.7		6.7	6.7		6.4	7.1		6.9	7.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	11.5	35.8		16.8	41.1		17.6	46.2		13.8	42.9	

Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/09/2018

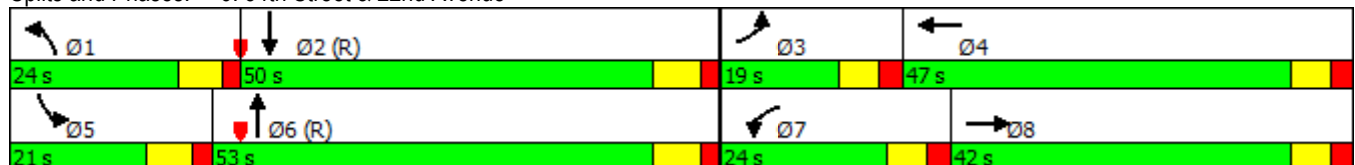


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.08	0.26		0.12	0.29		0.13	0.33		0.10	0.31	
v/c Ratio	0.73	0.87		0.84	0.99		1.13	0.69		0.88	0.86	
Control Delay	93.1	61.8		80.4	74.3		174.4	27.9		106.9	53.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	93.1	61.8		80.4	74.3		174.4	27.9		106.9	53.1	
LOS	F	E		F	E		F	C		F	D	
Approach Delay		65.5			75.8			54.1			58.6	
Approach LOS		E			E			D			E	
Queue Length 50th (ft)	85	321		144	~433		~244	113		125	377	
Queue Length 95th (ft)	#166	#427		#215	#583		#418	218		#249	440	
Internal Link Dist (ft)		749			730			1250			976	
Turn Bay Length (ft)	150			160			105			190		
Base Capacity (vph)	139	806		381	922		200	1497		160	1394	
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	0.68	0.87		0.82	0.99		1.13	0.69		0.86	0.86	

Intersection Summary

Area Type: CBD
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 20 (14%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 63.1
 Intersection LOS: E
 Intersection Capacity Utilization 93.6%
 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: 6: 34th Street & 22nd Avenue



Opening Year (2020) 4-Lane Configuration (Build Alternative) Analysis






















User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

2: 34th Street & 46th Avenue























07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	5	25	15	10	5	65	490	25	40	645	20
Future Volume (veh/h)	50	5	25	15	10	5	65	490	25	40	645	20
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	53	5	26	16	11	0	68	516	26	42	679	21
Adj No. of Lanes	0	1	0	0	1	1	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	20	53	141	86	179	522	2763	1236	727	2763	1236
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	1.00	1.00	1.00	0.26	0.26	0.26
Sat Flow, veh/h	864	178	467	851	759	1583	743	3539	1583	860	3539	1583
Grp Volume(v), veh/h	84	0	0	27	0	0	68	516	26	42	679	21
Grp Sat Flow(s),veh/h/ln	1509	0	0	1610	0	1583	743	1770	1583	860	1770	1583
Q Serve(g_s), s	4.9	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	4.8	19.8	1.3
Cycle Q Clear(g_c), s	6.6	0.0	0.0	1.7	0.0	0.0	22.4	0.0	0.0	4.8	19.8	1.3
Prop In Lane	0.63		0.31	0.59		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	0	0	226	0	179	522	2763	1236	727	2763	1236
V/C Ratio(X)	0.39	0.00	0.00	0.12	0.00	0.00	0.13	0.19	0.02	0.06	0.25	0.02
Avail Cap(c_a), veh/h	457	0	0	478	0	438	522	2763	1236	727	2763	1236
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.84	0.84	0.84	0.96	0.96	0.96
Uniform Delay (d), s/veh	53.9	0.0	0.0	51.9	0.0	0.0	2.2	0.0	0.0	12.4	17.9	11.1
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.3	0.0	0.0	0.4	0.1	0.0	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	0.0	0.0	1.6	0.0	0.0	1.0	0.1	0.0	2.1	14.8	1.0
LnGrp Delay(d),s/veh	55.5	0.0	0.0	52.2	0.0	0.0	2.6	0.1	0.0	12.5	18.1	11.1
LnGrp LOS	E			D			A	A	A	B	B	B
Approach Vol, veh/h		84			27			610			742	
Approach Delay, s/veh		55.5			52.2			0.4			17.6	
Approach LOS		E			D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		108.3		21.7		108.3		21.7				
Change Period (Y+Rc), s		6.8		7.0		6.8		7.0				
Max Green Setting (Gmax), s		80.2		36.0		80.2		36.0				
Max Q Clear Time (g_c+I1), s		21.8		3.7		24.4		8.6				
Green Ext Time (p_c), s		11.2		0.9		11.2		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				13.3								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

3: 34th Street & 38th Avenue

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	50	20	60	35	95	15	810	25	60	650	50
Future Volume (veh/h)	55	50	20	60	35	95	15	810	25	60	650	50
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	58	53	21	63	37	100	16	853	26	63	684	53
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	98	39	117	45	120	30	1476	765	411	2236	1068
Arrive On Green	0.04	0.08	0.08	0.07	0.10	0.10	0.01	0.14	0.14	0.46	1.00	1.00
Sat Flow, veh/h	1774	1271	503	1774	446	1205	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	58	0	74	63	0	137	16	853	26	63	684	53
Grp Sat Flow(s),veh/h/ln	1774	0	1774	1774	0	1650	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	4.2	0.0	5.2	4.5	0.0	10.6	1.2	29.4	0.0	2.7	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	5.2	4.5	0.0	10.6	1.2	29.4	0.0	2.7	0.0	0.0
Prop In Lane	1.00		0.28	1.00		0.73	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	76	0	136	117	0	165	30	1476	765	411	2236	1068
V/C Ratio(X)	0.76	0.00	0.54	0.54	0.00	0.83	0.53	0.58	0.03	0.15	0.31	0.05
Avail Cap(c_a), veh/h	186	0	285	186	0	265	112	1476	765	411	2236	1068
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.99	0.99	0.99	0.85	0.85	0.85
Uniform Delay (d), s/veh	61.6	0.0	57.8	58.8	0.0	57.4	64.1	45.3	26.4	27.5	0.0	0.0
Incr Delay (d2), s/veh	14.5	0.0	3.3	3.8	0.0	11.3	13.8	1.6	0.1	0.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.3	0.0	4.9	4.2	0.0	9.1	1.2	21.0	1.3	2.4	0.2	0.0
LnGrp Delay(d),s/veh	76.0	0.0	61.1	62.6	0.0	68.7	78.0	47.0	26.4	27.6	0.3	0.1
LnGrp LOS	E		E	E		E	E	D	C	C	A	A
Approach Vol, veh/h		132			200			895			800	
Approach Delay, s/veh		67.7			66.8			46.9			2.4	
Approach LOS		E			E			D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	88.9	12.0	20.1	36.9	61.0	15.0	17.1				
Change Period (Y+Rc), s	6.8	6.8	* 6.4	7.1	6.8	6.8	* 6.4	7.1				
Max Green Setting (Gmax), s	8.2	60.2	* 14	20.9	14.2	54.2	* 14	20.9				
Max Q Clear Time (g_c+I1), s	3.2	2.0	6.2	12.6	4.7	31.4	6.5	7.2				
Green Ext Time (p_c), s	0.0	5.2	0.2	0.4	3.2	5.7	0.1	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.7									
HCM 2010 LOS			C									
Notes												
























* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 methodology does not support exclusive ped or hold phases.

HCM 2010 Signalized Intersection Summary

5: 34th Street & 26th Avenue























07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	85	25	95	115	330	50	745	65	255	1110	15
Future Volume (veh/h)	25	85	25	95	115	330	50	745	65	255	1110	15
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	26	89	26	100	121	347	53	784	68	268	1168	16
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	333	97	295	448	381	190	1258	563	436	1748	782
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.04	0.12	0.12	0.49	0.99	0.99
Sat Flow, veh/h	921	1386	405	1272	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	26	0	115	100	121	347	53	784	68	268	1168	16
Grp Sat Flow(s),veh/h/ln	921	0	1791	1272	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	3.1	0.0	6.8	9.0	6.9	27.7	3.8	27.4	5.0	14.3	1.6	0.0
Cycle Q Clear(g_c), s	9.9	0.0	6.8	15.8	6.9	27.7	3.8	27.4	5.0	14.3	1.6	0.0
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	0	431	295	448	381	190	1258	563	436	1748	782
V/C Ratio(X)	0.11	0.00	0.27	0.34	0.27	0.91	0.28	0.62	0.12	0.62	0.67	0.02
Avail Cap(c_a), veh/h	255	0	482	332	502	426	190	1258	563	436	1748	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.10	0.10	0.10
Uniform Delay (d), s/veh	44.1	0.0	40.1	46.5	40.1	48.0	57.8	49.1	39.2	28.6	0.4	0.4
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.7	0.3	22.1	3.4	2.2	0.4	0.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.4	0.0	6.1	5.8	6.4	20.7	3.7	19.8	4.1	8.3	0.7	0.0
LnGrp Delay(d),s/veh	44.3	0.0	40.4	47.1	40.4	70.1	61.2	51.3	39.6	29.2	0.6	0.4
LnGrp LOS	D		D	D	D	E	E	D	D	C	A	A
Approach Vol, veh/h		141			568			905			1452	
Approach Delay, s/veh		41.1			59.7			51.0			5.9	
Approach LOS		D			E			D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.7	71.0		38.3	38.7	53.0		38.3				
Change Period (Y+Rc), s	6.8	* 6.8		7.0	6.8	6.8		7.0				
Max Green Setting (Gmax), s	10.6	* 64		35.0	28.2	46.2		35.0				
Max Q Clear Time (g_c+I1), s	5.8	3.6		29.7	16.3	29.4		11.9				
Green Ext Time (p_c), s	0.4	11.0		1.6	0.7	4.8		3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			30.8									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
6: 34th Street & 22nd Avenue

























07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	570	85	305	545	175	225	705	160	155	1000	60
Future Volume (veh/h)	60	570	85	305	545	175	225	705	160	155	1000	60
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	63	600	89	321	574	184	237	742	168	163	1053	63
Adj No. of Lanes	1	2	0	2	2	0	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	648	96	341	697	223	196	1052	627	186	1027	529
Arrive On Green	0.05	0.23	0.23	0.11	0.29	0.29	0.25	0.66	0.66	0.12	0.32	0.32
Sat Flow, veh/h	1597	2784	412	3097	2376	760	1597	3185	1425	1597	3185	1425
Grp Volume(v), veh/h	63	343	346	321	384	374	237	742	168	163	1053	63
Grp Sat Flow(s),veh/h/ln	1597	1593	1604	1549	1593	1542	1597	1593	1425	1597	1593	1425
Q Serve(g_s), s	5.1	27.3	27.5	13.4	29.2	29.4	16.0	19.3	1.7	13.1	41.9	2.1
Cycle Q Clear(g_c), s	5.1	27.3	27.5	13.4	29.2	29.4	16.0	19.3	1.7	13.1	41.9	2.1
Prop In Lane	1.00		0.26	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	78	371	373	341	468	453	196	1052	627	186	1027	529
V/C Ratio(X)	0.80	0.92	0.93	0.94	0.82	0.83	1.21	0.71	0.27	0.88	1.03	0.12
Avail Cap(c_a), veh/h	151	383	386	341	468	453	196	1052	627	222	1027	529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.2	48.8	48.8	57.4	42.8	42.8	49.0	18.1	3.9	56.5	44.0	10.2
Incr Delay (d2), s/veh	17.0	27.5	28.0	33.9	11.2	11.8	127.6	3.4	0.9	27.0	34.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	21.1	21.5	11.7	20.5	20.1	25.0	13.2	1.9	11.5	42.0	1.6
LnGrp Delay(d),s/veh	78.1	76.2	76.8	91.4	54.0	54.7	176.7	21.5	4.7	83.5	78.9	10.7
LnGrp LOS	E	E	E	F	D	D	F	C	A	F	F	B
Approach Vol, veh/h		752			1079			1147			1279	
Approach Delay, s/veh		76.6			65.4			51.1			76.1	
Approach LOS		E			E			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.1	49.0	13.1	44.9	22.0	50.0	21.0	36.9				
Change Period (Y+Rc), s	* 7.1	* 7.1	6.7	6.7	6.9	* 7.1	6.7	6.7				
Max Green Setting (Gmax), s	* 16	* 42	12.3	33.3	18.1	* 39	14.3	31.3				
Max Q Clear Time (g_c+I1), s	18.0	43.9	7.1	31.4	15.1	21.3	15.4	29.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.1	5.8	0.0	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				66.7								
HCM 2010 LOS				E								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
 1: 54th Avenue & 34th Street

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	285	290	235	200	305	545	275	240	70	850	300	290
Future Volume (veh/h)	285	290	235	200	305	545	275	240	70	850	300	290
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	300	305	0	211	321	574	289	253	74	606	721	0
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	307	445	199	261	369	732	295	589	496	635	667	567
Arrive On Green	0.17	0.13	0.00	0.15	0.10	0.10	0.17	0.17	0.17	0.12	0.12	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	300	305	0	211	321	574	289	253	74	606	721	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	23.6	11.5	0.0	16.1	12.5	14.6	22.7	9.0	0.0	47.5	50.1	0.0
Cycle Q Clear(g_c), s	23.6	11.5	0.0	16.1	12.5	14.6	22.7	9.0	0.0	47.5	50.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	307	445	199	261	369	732	295	589	496	635	667	567
V/C Ratio(X)	0.98	0.69	0.00	0.81	0.87	0.78	0.98	0.43	0.15	0.95	1.08	0.00
Avail Cap(c_a), veh/h	307	445	199	267	369	732	295	589	496	635	667	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.00
Uniform Delay (d), s/veh	57.6	58.6	0.0	57.8	61.8	24.2	58.1	52.4	34.6	60.6	61.7	0.0
Incr Delay (d2), s/veh	45.3	8.3	0.0	16.4	23.3	8.3	46.4	0.5	0.1	21.9	55.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.9	10.2	0.0	14.0	11.7	31.8	21.3	7.9	3.7	35.0	65.2	0.0
LnGrp Delay(d),s/veh	103.0	66.9	0.0	74.2	85.1	32.4	104.5	52.9	34.7	82.5	117.7	0.0
LnGrp LOS	F	E		E	F	C	F	D	C	F	F	
Approach Vol, veh/h		605			1106			616			1327	
Approach Delay, s/veh		84.8			55.7			74.9			101.6	
Approach LOS		F			E			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	31.0	22.0		57.0	28.0	25.0		30.0				
Change Period (Y+Rc), s	6.8	7.4		6.9	7.4	* 7.4		6.7				
Max Green Setting (Gmax), s	24.2	14.6		50.1	21.1	* 18		23.3				
Max Q Clear Time (g_c+I1), s	25.6	16.6		52.1	18.1	13.5		24.7				
Green Ext Time (p_c), s	0.0	0.0		0.0	1.5	0.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			80.4									
HCM 2010 LOS			F									
Notes												






















User approved volume balancing among the lanes for turning movement.

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary























2: 34th Street & 46th Avenue

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	5	40	15	5	10	70	800	10	25	1430	25
Future Volume (veh/h)	75	5	40	15	5	10	70	800	10	25	1430	25
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	79	5	42	16	5	0	74	842	11	26	1505	26
Adj No. of Lanes	0	1	0	0	1	1	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	11	54	152	42	169	320	2812	1258	478	2812	1258
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.00	0.53	0.53	0.53	1.00	1.00	1.00
Sat Flow, veh/h	902	106	504	1000	390	1583	338	3539	1583	644	3539	1583
Grp Volume(v), veh/h	126	0	0	21	0	0	74	842	11	26	1505	26
Grp Sat Flow(s),veh/h/ln	1512	0	0	1390	0	1583	338	1770	1583	644	1770	1583
Q Serve(g_s), s	9.5	0.0	0.0	0.0	0.0	0.0	16.8	18.5	0.5	1.0	0.0	0.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0	1.7	0.0	0.0	16.8	18.5	0.5	19.5	0.0	0.0
Prop In Lane	0.63		0.33	0.76		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	0	0	194	0	169	320	2812	1258	478	2812	1258
V/C Ratio(X)	0.62	0.00	0.00	0.11	0.00	0.00	0.23	0.30	0.01	0.05	0.54	0.02
Avail Cap(c_a), veh/h	267	0	0	256	0	237	320	2812	1258	478	2812	1258
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	2.00	2.00	2.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	0.66	0.66	0.66	0.55	0.55	0.55
Uniform Delay (d), s/veh	60.7	0.0	0.0	56.6	0.0	0.0	10.6	11.1	6.8	1.6	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	0.0	0.3	0.0	0.0	1.1	0.2	0.0	0.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.7	0.0	0.0	1.4	0.0	0.0	3.0	13.2	0.4	0.3	0.3	0.0
LnGrp Delay(d),s/veh	65.1	0.0	0.0	56.9	0.0	0.0	11.8	11.2	6.8	1.7	0.4	0.0
LnGrp LOS	E			E			B	B	A	A	A	A
Approach Vol, veh/h		126			21			927			1557	
Approach Delay, s/veh		65.1			56.9			11.2			0.4	
Approach LOS		E			E			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		118.0		22.0		118.0		22.0				
Change Period (Y+Rc), s		6.8		7.0		6.8		7.0				
Max Green Setting (Gmax), s		105.2		21.0		105.2		21.0				
Max Q Clear Time (g_c+I1), s		21.5		3.7		20.5		13.3				
Green Ext Time (p_c), s		41.8		0.9		42.0		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.8								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 3: 34th Street & 38th Avenue

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	40	20	35	65	60	40	910	50	115	1560	75
Future Volume (veh/h)	100	40	20	35	65	60	40	910	50	115	1560	75
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	105	42	21	37	68	63	42	958	53	121	1642	79
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	84	42	162	81	75	177	1674	893	303	1926	976
Arrive On Green	0.07	0.07	0.07	0.09	0.09	0.09	0.20	0.95	0.95	0.34	1.00	1.00
Sat Flow, veh/h	1774	1173	586	1774	891	826	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	105	0	63	37	0	131	42	958	53	121	1642	79
Grp Sat Flow(s),veh/h/ln	1774	0	1759	1774	0	1717	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	8.2	0.0	4.8	2.7	0.0	10.5	2.8	4.5	0.0	7.3	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	4.8	2.7	0.0	10.5	2.8	4.5	0.0	7.3	0.0	0.0
Prop In Lane	1.00		0.33	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	0	126	162	0	156	177	1674	893	303	1926	976
V/C Ratio(X)	0.82	0.00	0.50	0.23	0.00	0.84	0.24	0.57	0.06	0.40	0.85	0.08
Avail Cap(c_a), veh/h	172	0	275	162	0	195	177	1674	893	303	1926	976
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	0.47	0.47	0.47
Uniform Delay (d), s/veh	64.1	0.0	62.6	59.0	0.0	62.7	51.6	2.1	1.4	40.6	0.0	0.0
Incr Delay (d2), s/veh	20.2	0.0	3.1	0.7	0.0	22.7	0.7	1.4	0.1	0.4	2.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.3	0.0	4.4	2.4	0.0	10.0	2.5	3.9	0.2	5.7	1.2	0.0
LnGrp Delay(d),s/veh	84.3	0.0	65.7	59.8	0.0	85.3	52.3	3.5	1.5	41.0	2.5	0.1
LnGrp LOS	F		E	E		F	D	A	A	D	A	A
Approach Vol, veh/h		168			168			1053			1842	
Approach Delay, s/veh		77.3			79.7			5.3			4.9	
Approach LOS		E			E			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.7	83.0	16.5	19.8	30.7	73.0	19.2	17.1				
Change Period (Y+Rc), s	6.8	6.8	* 6.4	7.1	6.8	6.8	* 6.4	7.1				
Max Green Setting (Gmax), s	7.2	76.2	* 14	15.9	17.2	66.2	* 7.6	21.9				
Max Q Clear Time (g_c+I1), s	4.8	2.0	10.2	12.5	9.3	6.5	4.7	6.8				
Green Ext Time (p_c), s	0.1	20.6	0.1	0.2	0.2	7.9	0.1	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			12.7									
HCM 2010 LOS			B									
Notes												
























* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 methodology does not support exclusive ped or hold phases.

HCM 2010 Signalized Intersection Summary

5: 34th Street & 26th Avenue























07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	75	35	85	100	265	30	1050	100	200	1605	30
Future Volume (veh/h)	15	75	35	85	100	265	30	1050	100	200	1605	30
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	16	79	37	89	105	279	32	1105	105	211	1689	32
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	197	92	185	306	260	259	1714	767	535	2265	1013
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.48	0.48	0.60	1.00	1.00
Sat Flow, veh/h	995	1201	562	1271	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	16	0	116	89	105	279	32	1105	105	211	1689	32
Grp Sat Flow(s),veh/h/ln	995	0	1763	1271	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.0	0.0	8.2	9.4	7.0	23.0	2.2	32.8	5.1	8.7	0.0	0.0
Cycle Q Clear(g_c), s	9.0	0.0	8.2	17.7	7.0	23.0	2.2	32.8	5.1	8.7	0.0	0.0
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	165	0	290	185	306	260	259	1714	767	535	2265	1013
V/C Ratio(X)	0.10	0.00	0.40	0.48	0.34	1.07	0.12	0.64	0.14	0.39	0.75	0.03
Avail Cap(c_a), veh/h	165	0	290	185	306	260	259	1714	767	535	2265	1013
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.09	0.09	0.09
Uniform Delay (d), s/veh	55.8	0.0	52.3	60.2	51.8	58.5	52.0	27.1	19.9	21.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.9	1.9	0.7	76.4	0.9	1.7	0.3	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	7.4	6.1	6.6	28.0	2.1	22.7	4.2	5.3	0.1	0.0
LnGrp Delay(d),s/veh	56.1	0.0	53.2	62.2	52.5	134.9	52.9	28.8	20.3	21.3	0.2	0.0
LnGrp LOS	E		D	E	D	F	D	C	C	C	A	A
Approach Vol, veh/h		132			473			1242			1932	
Approach Delay, s/veh		53.6			102.9			28.7			2.5	
Approach LOS		D			F			C			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.6	96.4		30.0	49.4	74.6		30.0				
Change Period (Y+Rc), s	6.8	* 6.8		7.0	6.8	6.8		7.0				
Max Green Setting (Gmax), s	7.2	* 90		23.0	28.6	67.8		23.0				
Max Q Clear Time (g_c+I1), s	4.2	2.0		25.0	10.7	34.8		11.0				
Green Ext Time (p_c), s	0.2	23.2		0.0	0.6	9.2		2.1				
Intersection Summary												
HCM 2010 Ctrl Delay			25.5									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary
6: 34th Street & 22nd Avenue

07/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	560	110	295	665	200	215	685	300	130	1065	80
Future Volume (veh/h)	90	560	110	295	665	200	215	685	300	130	1065	80
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1676	1676	1676	1676
Adj Flow Rate, veh/h	95	589	116	311	700	211	226	721	316	137	1121	84
Adj No. of Lanes	1	2	0	2	2	0	1	2	1	1	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	592	116	325	643	194	324	1427	788	159	1092	576
Arrive On Green	0.06	0.22	0.22	0.11	0.27	0.27	0.41	0.90	0.90	0.10	0.34	0.34
Sat Flow, veh/h	1597	2655	522	3097	2413	727	1597	3185	1425	1597	3185	1425
Grp Volume(v), veh/h	95	353	352	311	462	449	226	721	316	137	1121	84
Grp Sat Flow(s),veh/h/ln	1597	1593	1584	1549	1593	1548	1597	1593	1425	1597	1593	1425
Q Serve(g_s), s	8.3	30.9	31.1	14.0	37.3	37.3	16.4	6.0	1.6	11.8	48.0	2.8
Cycle Q Clear(g_c), s	8.3	30.9	31.1	14.0	37.3	37.3	16.4	6.0	1.6	11.8	48.0	2.8
Prop In Lane	1.00		0.33	1.00		0.47	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	355	353	325	424	412	324	1427	788	159	1092	576
V/C Ratio(X)	0.97	0.99	1.00	0.96	1.09	1.09	0.70	0.51	0.40	0.86	1.03	0.15
Avail Cap(c_a), veh/h	98	355	353	325	424	412	324	1427	788	239	1092	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.6	54.3	54.4	62.3	51.3	51.4	38.0	4.3	1.3	62.1	46.0	12.1
Incr Delay (d2), s/veh	80.4	46.0	47.3	38.3	69.7	70.4	5.0	1.0	1.2	18.0	34.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.8	25.1	25.2	12.3	44.3	43.2	11.6	4.7	1.6	10.0	47.3	2.1
LnGrp Delay(d),s/veh	146.0	100.3	101.6	100.6	121.0	121.7	43.0	5.3	2.5	80.1	80.2	12.7
LnGrp LOS	F	F	F	F	F	F	D	A	A	F	F	B
Approach Vol, veh/h		800			1222			1263			1342	
Approach Delay, s/veh		106.3			116.1			11.4			75.9	
Approach LOS		F			F			B			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.5	55.1	15.3	44.0	20.8	69.8	21.4	37.9				
Change Period (Y+Rc), s	* 7.1	* 7.1	6.7	6.7	6.9	* 7.1	6.7	6.7				
Max Green Setting (Gmax), s	* 19	* 48	8.6	37.3	21.0	* 46	14.7	31.2				
Max Q Clear Time (g_c+I1), s	18.4	50.0	10.3	39.3	13.8	8.0	16.0	33.1				
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0	0.2	7.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				74.2								
HCM 2010 LOS				E								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	170	100	35	280	450	125	155	30	340	95	210
Future Volume (vph)	210	170	100	35	280	450	125	155	30	340	95	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		220	150		145	150		150	290		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			120			120			45		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950	0.972	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1681	1720	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.972	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1681	1720	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			271			278			157			271
Link Speed (mph)		40			40			45				45
Link Distance (ft)		434			1398			368				2679
Travel Time (s)		7.4			23.8			5.6				40.6
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
Adj. Flow (vph)	221	179	105	37	295	474	132	163	32	358	100	221
Shared Lane Traffic (%)										37%		
Lane Group Flow (vph)	221	179	105	37	295	474	132	163	32	226	232	221
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Free	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Free
Protected Phases	1	6		5	2	4	8	8	5	4	4	
Permitted Phases			Free			2			8			Free
Detector Phase	1	6		5	2	4	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	15.0	15.0	15.0	5.0	15.0	15.0	
Minimum Split (s)	11.8	13.4		11.9	13.4	32.9	22.1	22.1	11.9	32.9	32.9	
Total Split (s)	35.0	49.0		14.0	28.0	41.0	26.0	26.0	14.0	41.0	41.0	
Total Split (%)	26.9%	37.7%		10.8%	21.5%	31.5%	20.0%	20.0%	10.8%	31.5%	31.5%	
Maximum Green (s)	28.2	41.6		7.1	20.6	34.1	19.3	19.3	7.1	34.1	34.1	
Yellow Time (s)	4.8	4.8		4.4	4.8	4.8	4.0	4.0	4.4	4.8	4.8	
All-Red Time (s)	2.0	2.6		2.5	2.6	2.1	2.7	2.7	2.5	2.1	2.1	
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)	6.8	7.4		6.9	7.4	6.9	6.7	6.7	6.9	6.9	6.9	
Lead/Lag	Lag	Lag		Lead	Lead				Lead			
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	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effct Green (s)	28.2	55.6	130.0	7.4	32.4	58.2	16.3	16.3	30.4	25.3	25.3	130.0

Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/09/2018

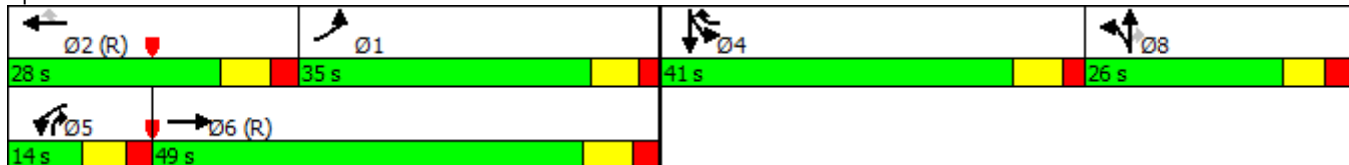


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.22	0.43	1.00	0.06	0.25	0.45	0.13	0.13	0.23	0.19	0.19	1.00
v/c Ratio	0.58	0.12	0.07	0.37	0.33	0.55	0.59	0.37	0.07	0.69	0.69	0.14
Control Delay	52.4	25.9	0.1	69.5	43.4	7.9	65.1	54.3	0.3	39.8	39.6	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.4	25.9	0.1	69.5	43.4	7.9	65.1	54.3	0.3	39.8	39.6	0.2
LOS	D	C	A	E	D	A	E	D	A	D	D	A
Approach Delay	32.1			23.7			53.4			26.9		
Approach LOS	C			C			D			C		
Queue Length 50th (ft)	168	48	0	30	106	56	108	67	0	136	142	0
Queue Length 95th (ft)	255	86	0	69	170	108	171	101	0	117	122	0
Internal Link Dist (ft)	354			1318			288			2599		
Turn Bay Length (ft)	230		220	150		145	150		150	290		
Base Capacity (vph)	383	1514	1583	105	882	950	262	525	494	440	451	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.12	0.07	0.35	0.33	0.50	0.50	0.31	0.06	0.51	0.51	0.14

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 64 (49%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 30.6
 Intersection LOS: C
 Intersection Capacity Utilization 69.0%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: 54th Avenue & 34th Street



Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	50	5	25	15	10	5	65	490	25	40	645	20
Future Volume (vph)	50	5	25	15	10	5	65	490	25	40	645	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		200	150		200
Storage Lanes	0		0	0		1	1		1	1		1
Taper Length (ft)	25			25			130			35		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.958				0.850			0.850			0.850
Flt Protected		0.969			0.971		0.950			0.950		
Satd. Flow (prot)	0	1729	0	0	1809	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.792			0.824		0.392			0.461		
Satd. Flow (perm)	0	1413	0	0	1535	1583	730	3539	1583	859	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				32			34			34
Link Speed (mph)		30			25			45				45
Link Distance (ft)		700			776			2679				2655
Travel Time (s)		15.9			21.2			40.6				40.2
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
Adj. Flow (vph)	53	5	26	16	11	5	68	516	26	42	679	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	84	0	0	27	5	68	516	26	42	679	21
Enter Blocked Intersection	No	No	No	No	No	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
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8			4			6				2
Permitted Phases	8			4		4	6		6	2		2
Detector Phase	8	8		4	4	4	6	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	12.8	12.8	12.8	12.8	12.8	12.8
Total Split (s)	43.0	43.0		43.0	43.0	43.0	87.0	87.0	87.0	87.0	87.0	87.0
Total Split (%)	33.1%	33.1%		33.1%	33.1%	33.1%	66.9%	66.9%	66.9%	66.9%	66.9%	66.9%
Maximum Green (s)	36.0	36.0		36.0	36.0	36.0	80.2	80.2	80.2	80.2	80.2	80.2
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	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	0.0	0.0	0.0
Total Lost Time (s)		7.0			7.0	7.0	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		15.6			15.6	15.6	100.6	100.6	100.6	100.6	100.6	100.6

Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/09/2018

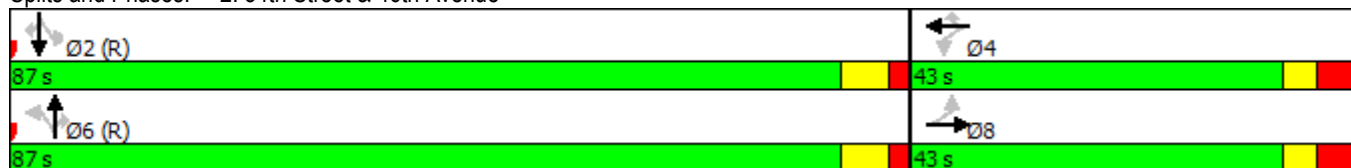


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.12			0.12	0.12	0.77	0.77	0.77	0.77	0.77	0.77
v/c Ratio		0.46			0.15	0.02	0.12	0.19	0.02	0.06	0.25	0.02
Control Delay		50.5			52.9	0.2	4.3	4.6	1.0	1.6	2.6	0.3
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		50.5			52.9	0.2	4.3	4.6	1.0	1.6	2.6	0.3
LOS		D			D	A	A	A	A	A	A	A
Approach Delay		50.5			44.7			4.4			2.5	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)		53			21	0	16	66	0	7	60	1
Queue Length 95th (ft)		106			50	0	m30	83	m2	1	2	0
Internal Link Dist (ft)		620			696			2599			2575	
Turn Bay Length (ft)							100		200	150		200
Base Capacity (vph)		403			425	461	565	2738	1232	664	2738	1232
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		0.21			0.06	0.01	0.12	0.19	0.02	0.06	0.25	0.02

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 92 (71%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay: 6.9
 Intersection LOS: A
 Intersection Capacity Utilization 55.9%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 34th Street & 46th Avenue



Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	50	20	60	35	95	15	810	25	60	650	50
Future Volume (vph)	55	50	20	60	35	95	15	810	25	60	650	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	120		0	45		200	180		200
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	55			70			65			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.957			0.891				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1783	0	1770	1660	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1783	0	1770	1660	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			89				91			91
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		813			748			2655			1274	
Travel Time (s)		18.5			17.0			40.2			19.3	
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
Adj. Flow (vph)	58	53	21	63	37	100	16	853	26	63	684	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	74	0	63	137	0	16	853	26	63	684	53
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0	5.0	5.0	6.0	5.0
Minimum Split (s)	11.4	17.1		11.4	17.1		11.8	12.8	11.4	11.8	12.8	11.4
Total Split (s)	20.0	28.0		20.0	28.0		15.0	61.0	20.0	21.0	67.0	20.0
Total Split (%)	15.4%	21.5%		15.4%	21.5%		11.5%	46.9%	15.4%	16.2%	51.5%	15.4%
Maximum Green (s)	13.6	20.9		13.6	20.9		8.2	54.2	13.6	14.2	60.2	13.6
Yellow Time (s)	3.4	3.4		3.4	3.4		4.8	4.8	3.4	4.8	4.8	3.4
All-Red Time (s)	3.0	3.7		3.0	3.7		2.0	2.0	3.0	2.0	2.0	3.0
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)	6.4	7.1		6.4	7.1		6.8	6.8	6.4	6.8	6.8	6.4
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lead	Lag	Lag	Lag	Lag
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	C-Max	None	None	C-Max	None
Act Effct Green (s)	9.8	11.1		10.2	11.5		6.8	74.0	91.1	12.6	84.9	96.5

Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/09/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Lane Configurations								
Traffic Volume (vph)	120	35	80	910	0	1215	120	
Future Volume (vph)	120	35	80	910	0	1215	120	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	240	175	395		80		450	
Storage Lanes	1	1	1		1		1	
Taper Length (ft)	25		50		60			
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00	
Frt		0.850					0.850	
Flt Protected	0.950		0.950					
Satd. Flow (prot)	3433	1583	1770	3539	1863	3539	1583	
Flt Permitted	0.950		0.950					
Satd. Flow (perm)	3433	1583	1770	3539	1863	3539	1583	
Right Turn on Red		Yes					Yes	
Satd. Flow (RTOR)		37					126	
Link Speed (mph)	25			45		45		
Link Distance (ft)	796			1274		2715		
Travel Time (s)	21.7			19.3		41.1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	126	37	84	958	0	1279	126	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	126	37	84	958	0	1279	126	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	R NA	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	1.00	
Turning Speed (mph)	15	9	15		9		9	
Turn Type	Prot	Prot	Prot	NA	Prot	NA	pm+ov	
Protected Phases	3	3	1	6	5	2	3	4
Permitted Phases							2	
Detector Phase	3	3	1	6	5	2	3	
Switch Phase								
Minimum Initial (s)	10.0	10.0	5.0	6.0	5.0	6.0	10.0	38.0
Minimum Split (s)	17.4	17.4	11.8	13.3	11.8	13.3	17.4	43.4
Total Split (s)	20.0	20.0	15.0	57.0	13.0	55.0	20.0	40.0
Total Split (%)	15.4%	15.4%	11.5%	43.8%	10.0%	42.3%	15.4%	31%
Maximum Green (s)	12.6	12.6	8.2	49.7	6.2	47.7	12.6	34.6
Yellow Time (s)	3.4	3.4	4.8	4.8	4.8	4.8	3.4	3.4
All-Red Time (s)	4.0	4.0	2.0	2.5	2.0	2.5	4.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.4	7.4	6.8	7.3	6.8	7.3	7.4	
Lead/Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	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
Recall Mode	None	None	None	C-Max	None	C-Max	None	None
Walk Time (s)								7.0

Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/09/2018

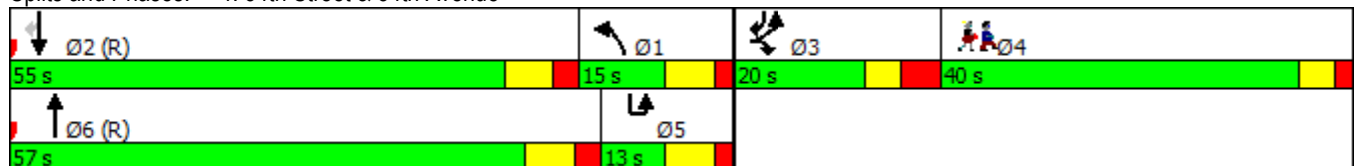


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Flash Dont Walk (s)								31.0
Pedestrian Calls (#/hr)								0
Act Effect Green (s)	10.8	10.8	8.1	104.5		89.6	107.7	
Actuated g/C Ratio	0.08	0.08	0.06	0.80		0.69	0.83	
v/c Ratio	0.44	0.22	0.76	0.34		0.52	0.09	
Control Delay	61.6	19.9	83.8	0.8		2.8	0.1	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	61.6	19.9	83.8	0.8		2.8	0.1	
LOS	E	B	F	A		A	A	
Approach Delay	52.2			7.5		2.6		
Approach LOS	D			A		A		
Queue Length 50th (ft)	53	0	72	6		68	0	
Queue Length 95th (ft)	85	35	#159	6		75	0	
Internal Link Dist (ft)	716			1194		2635		
Turn Bay Length (ft)	240	175	395				450	
Base Capacity (vph)	332	186	111	2844		2438	1286	
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	0.38	0.20	0.76	0.34		0.52	0.10	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 32 (25%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 7.6 Intersection LOS: A
 Intersection Capacity Utilization 64.3% 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: 4: 34th Street & 34th Avenue



Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	85	25	95	115	330	50	745	65	255	1110	15
Future Volume (vph)	25	85	25	95	115	330	50	745	65	255	1110	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		0	180		0	290		200	280		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			80			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.966				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1799	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.633			0.654			0.950			0.950		
Satd. Flow (perm)	1179	1799	0	1218	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				347			148			91
Link Speed (mph)		30			30			45			40	
Link Distance (ft)		770			780			2715			1330	
Travel Time (s)		17.5			17.7			41.1			22.7	
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
Adj. Flow (vph)	26	89	26	100	121	347	53	784	68	268	1168	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	115	0	100	121	347	53	784	68	268	1168	16
Enter Blocked Intersection	No	No	No	No	No	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	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4		4			6			2
Detector Phase	8	8		4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	11.4	12.8	12.8	11.8	12.8	12.8
Total Split (s)	42.0	42.0		42.0	42.0	42.0	17.0	53.0	53.0	35.0	71.0	71.0
Total Split (%)	32.3%	32.3%		32.3%	32.3%	32.3%	13.1%	40.8%	40.8%	26.9%	54.6%	54.6%
Maximum Green (s)	35.0	35.0		35.0	35.0	35.0	10.6	46.2	46.2	28.2	64.2	64.2
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.4	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.3	3.3		3.3	3.3	3.3	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0	7.0	6.4	6.8	6.8	6.8	6.8	6.8
Lead/Lag							Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?							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	3.0
Recall Mode	None	None		None	None	None	Max	C-Max	C-Max	Max	C-Max	C-Max
Act Effct Green (s)	16.9	16.9		16.9	16.9	16.9	10.6	64.3	64.3	28.2	82.3	82.3

Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

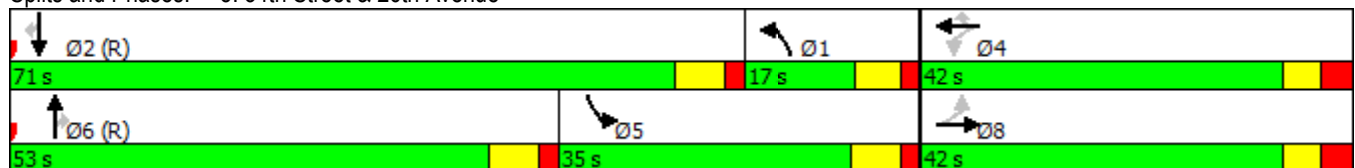
07/09/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.13	0.13		0.13	0.13	0.13	0.08	0.49	0.49	0.22	0.63	0.63
v/c Ratio	0.17	0.48		0.63	0.50	0.68	0.37	0.45	0.08	0.70	0.52	0.02
Control Delay	49.9	52.3		70.2	58.5	12.2	78.1	16.2	1.3	33.9	1.6	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	52.3		70.2	58.5	12.2	78.1	16.2	1.3	33.9	1.6	0.0
LOS	D	D		E	E	B	E	B	A	C	A	A
Approach Delay		51.9			32.2			18.7			7.5	
Approach LOS		D			C			B			A	
Queue Length 50th (ft)	20	82		81	97	0	46	236	5	242	28	0
Queue Length 95th (ft)	46	135		134	149	86	93	351	13	m245	m37	m0
Internal Link Dist (ft)		690			700			2635			1250	
Turn Bay Length (ft)	220			180			290		200	280		200
Base Capacity (vph)	317	492		327	501	679	144	1750	858	383	2240	1035
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.23		0.31	0.24	0.51	0.37	0.45	0.08	0.70	0.52	0.02

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 102 (78%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 17.4 Intersection LOS: B
 Intersection Capacity Utilization 66.7% ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: 34th Street & 26th Avenue



Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	570	85	305	545	175	225	705	160	155	1000	60
Future Volume (vph)	60	570	85	305	545	175	225	705	160	155	1000	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	160		0	105		200	190		200
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			80			130			50		
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.981			0.964				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3125	0	3090	3071	0	1593	3185	1425	1593	3185	1425
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1593	3125	0	3090	3071	0	1593	3185	1425	1593	3185	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			32				145			147
Link Speed (mph)		35			35			40				40
Link Distance (ft)		829			810			1330				1056
Travel Time (s)		16.1			15.8			22.7				18.0
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
Adj. Flow (vph)	63	600	89	321	574	184	237	742	168	163	1053	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	689	0	321	758	0	237	742	168	163	1053	63
Enter Blocked Intersection	No	No	No	No	No	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	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	6.0	5.0	5.0	6.0	5.0
Minimum Split (s)	11.7	22.5		11.7	22.5		11.4	22.5	11.7	11.9	22.5	11.7
Total Split (s)	19.0	38.0		21.0	40.0		22.0	46.0	21.0	25.0	49.0	19.0
Total Split (%)	14.6%	29.2%		16.2%	30.8%		16.9%	35.4%	16.2%	19.2%	37.7%	14.6%
Maximum Green (s)	12.3	31.3		14.3	33.3		15.6	38.9	14.3	18.1	41.9	12.3
Yellow Time (s)	4.2	4.2		4.2	4.2		4.4	4.9	4.2	4.9	4.9	4.2
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.2	2.5	2.0	2.2	2.5
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)	6.7	6.7		6.7	6.7		6.4	7.1	6.7	6.9	7.1	6.7
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	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	C-Max	None	None	C-Max	None
Act Effct Green (s)	10.0	30.7		14.7	38.0		15.6	40.7	55.8	16.5	42.1	52.5

Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/09/2018

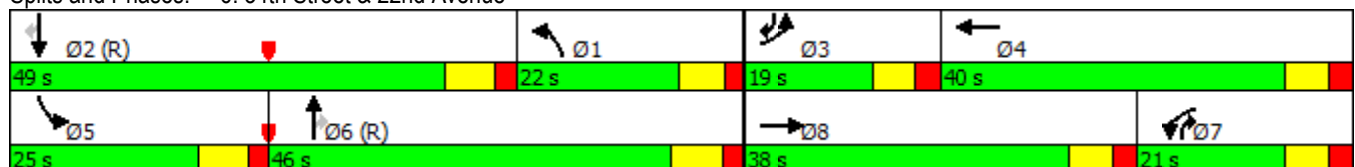


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.08	0.24		0.11	0.29		0.12	0.31	0.43	0.13	0.32	0.40
v/c Ratio	0.52	0.92		0.92	0.82		1.24	0.74	0.24	0.81	1.02	0.10
Control Delay	72.2	66.4		89.4	50.8		181.2	34.5	5.2	83.2	76.6	0.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.2	66.4		89.4	50.8		181.2	34.5	5.2	83.2	76.6	0.3
LOS	E	E		F	D		F	C	A	F	E	A
Approach Delay		66.9			62.3			60.5			73.7	
Approach LOS		E			E			E			E	
Queue Length 50th (ft)	52	294		140	312		~247	319	58	134	~497	0
Queue Length 95th (ft)	100	#405		#232	#442		#421	403	44	#238	#633	0
Internal Link Dist (ft)		749			730			1250			976	
Turn Bay Length (ft)	150			160			105		200	190		200
Base Capacity (vph)	150	761		348	919		191	997	693	221	1032	685
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	0.42	0.91		0.92	0.82		1.24	0.74	0.24	0.74	1.02	0.09

Intersection Summary

























Area Type: CBD
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 128 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.24
 Intersection Signal Delay: 66.1 Intersection LOS: E
 Intersection Capacity Utilization 97.2% 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: 6: 34th Street & 22nd Avenue



Lanes, Volumes, Timings
1: 54th Avenue & 34th Street

07/09/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	290	235	200	305	545	275	240	70	850	300	290
Future Volume (vph)	285	290	235	200	305	545	275	240	70	850	300	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		220	150		145	150		150	290		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			120			120			45		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950	0.976	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1681	1727	1583
Flt Permitted	0.950			0.950			0.950			0.950	0.976	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1681	1727	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			247			131			88			198
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		434			1398			368			2679	
Travel Time (s)		7.4			23.8			5.6			40.6	
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
Adj. Flow (vph)	300	305	247	211	321	574	289	253	74	895	316	305
Shared Lane Traffic (%)										33%		
Lane Group Flow (vph)	300	305	247	211	321	574	289	253	74	600	611	305
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Free	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Free
Protected Phases	1	6		5	2	4	8	8	5	4	4	
Permitted Phases			Free			2			8			Free
Detector Phase	1	6		5	2	4	8	8	5	4	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0	15.0	15.0	15.0	5.0	15.0	15.0	
Minimum Split (s)	11.8	13.4		11.9	13.4	32.9	22.1	22.1	11.9	32.9	32.9	
Total Split (s)	31.0	25.0		28.0	22.0	57.0	30.0	30.0	28.0	57.0	57.0	
Total Split (%)	22.1%	17.9%		20.0%	15.7%	40.7%	21.4%	21.4%	20.0%	40.7%	40.7%	
Maximum Green (s)	24.2	17.6		21.1	14.6	50.1	23.3	23.3	21.1	50.1	50.1	
Yellow Time (s)	4.8	4.8		4.4	4.8	4.8	4.0	4.0	4.4	4.8	4.8	
All-Red Time (s)	2.0	2.6		2.5	2.6	2.1	2.7	2.7	2.5	2.1	2.1	
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)	6.8	7.4		6.9	7.4	6.9	6.7	6.7	6.9	6.9	6.9	
Lead/Lag	Lead	Lead		Lag	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	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effct Green (s)	24.2	17.6	140.0	21.1	14.6	72.1	23.3	23.3	44.2	50.1	50.1	140.0

Lanes, Volumes, Timings
2: 34th Street & 46th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	75	5	40	15	5	10	70	800	10	25	1430	25
Future Volume (vph)	75	5	40	15	5	10	70	800	10	25	1430	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		200	150		200
Storage Lanes	0		0	0		1	1		1	1		1
Taper Length (ft)	25			25			130			35		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.955				0.850			0.850			0.850
Flt Protected		0.970			0.963		0.950			0.950		
Satd. Flow (prot)	0	1726	0	0	1794	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.797			0.749		0.144			0.324		
Satd. Flow (perm)	0	1418	0	0	1395	1583	268	3539	1583	604	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				30			31			31
Link Speed (mph)		30			25			45				45
Link Distance (ft)		700			776			2679				2655
Travel Time (s)		15.9			21.2			40.6				40.2
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
Adj. Flow (vph)	79	5	42	16	5	11	74	842	11	26	1505	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	0	0	21	11	74	842	11	26	1505	26
Enter Blocked Intersection	No	No	No	No	No	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
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8			4			6				2
Permitted Phases	8			4		4	6		6	2		2
Detector Phase	8	8		4	4	4	6	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	12.8	12.8	12.8	12.8	12.8	12.8
Total Split (s)	28.0	28.0		28.0	28.0	28.0	112.0	112.0	112.0	112.0	112.0	112.0
Total Split (%)	20.0%	20.0%		20.0%	20.0%	20.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%
Maximum Green (s)	21.0	21.0		21.0	21.0	21.0	105.2	105.2	105.2	105.2	105.2	105.2
Yellow Time (s)	3.4	3.4		3.4	3.4	3.4	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	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	0.0	0.0	0.0
Total Lost Time (s)		7.0			7.0	7.0	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		17.7			17.7	17.7	108.5	108.5	108.5	108.5	108.5	108.5

Lanes, Volumes, Timings
3: 34th Street & 38th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	40	20	35	65	60	40	910	50	115	1560	75
Future Volume (vph)	100	40	20	35	65	60	40	910	50	115	1560	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	65		0	120		0	45		200	180		200
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	55			70			65			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.950			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	0	1770	1729	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	0	1770	1729	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			27				138			85
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		813			748			2655			1274	
Travel Time (s)		18.5			17.0			40.2			19.3	
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
Adj. Flow (vph)	105	42	21	37	68	63	42	958	53	121	1642	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	105	63	0	37	131	0	42	958	53	121	1642	79
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0	5.0	5.0	6.0	5.0
Minimum Split (s)	11.4	17.1		11.4	17.1		11.8	12.8	11.4	11.8	12.8	11.4
Total Split (s)	20.0	29.0		14.0	23.0		14.0	73.0	14.0	24.0	83.0	20.0
Total Split (%)	14.3%	20.7%		10.0%	16.4%		10.0%	52.1%	10.0%	17.1%	59.3%	14.3%
Maximum Green (s)	13.6	21.9		7.6	15.9		7.2	66.2	7.6	17.2	76.2	13.6
Yellow Time (s)	3.4	3.4		3.4	3.4		4.8	4.8	3.4	4.8	4.8	3.4
All-Red Time (s)	3.0	3.7		3.0	3.7		2.0	2.0	3.0	2.0	2.0	3.0
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)	6.4	7.1		6.4	7.1		6.8	6.8	6.4	6.8	6.8	6.4
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lag
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	C-Max	None	None	C-Max	None
Act Effct Green (s)	12.1	13.8		14.1	13.4		6.9	71.7	91.4	15.6	83.0	101.9

Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/09/2018



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Lane Configurations								
Traffic Volume (vph)	285	75	200	900	0	1760	300	
Future Volume (vph)	285	75	200	900	0	1760	300	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	240	175	395		80		450	
Storage Lanes	1	1	1		1		1	
Taper Length (ft)	25		50		60			
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00	
Frt		0.850					0.850	
Flt Protected	0.950		0.950					
Satd. Flow (prot)	3433	1583	1770	3539	1863	3539	1583	
Flt Permitted	0.950		0.950					
Satd. Flow (perm)	3433	1583	1770	3539	1863	3539	1583	
Right Turn on Red		Yes					Yes	
Satd. Flow (RTOR)		79					296	
Link Speed (mph)	25			45		45		
Link Distance (ft)	796			1274		2715		
Travel Time (s)	21.7			19.3		41.1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	300	79	211	947	0	1853	316	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	300	79	211	947	0	1853	316	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	R NA	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	1.00	
Turning Speed (mph)	15	9	15		9		9	
Turn Type	Prot	Prot	Prot	NA	Prot	NA	pm+ov	
Protected Phases	3	3	1	6	5	2	3	4
Permitted Phases							2	
Detector Phase	3	3	1	6	5	2	3	
Switch Phase								
Minimum Initial (s)	10.0	10.0	5.0	6.0	5.0	6.0	10.0	38.0
Minimum Split (s)	17.4	17.4	11.8	13.3	11.8	13.3	17.4	43.4
Total Split (s)	31.0	31.0	20.0	57.0	12.0	49.0	31.0	40.0
Total Split (%)	22.1%	22.1%	14.3%	40.7%	8.6%	35.0%	22.1%	29%
Maximum Green (s)	23.6	23.6	13.2	49.7	5.2	41.7	23.6	34.6
Yellow Time (s)	3.4	3.4	4.8	4.8	4.8	4.8	3.4	3.4
All-Red Time (s)	4.0	4.0	2.0	2.5	2.0	2.5	4.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.4	7.4	6.8	7.3	6.8	7.3	7.4	
Lead/Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	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
Recall Mode	None	None	None	C-Max	None	C-Max	None	None
Walk Time (s)								7.0

Lanes, Volumes, Timings
4: 34th Street & 34th Avenue

07/09/2018

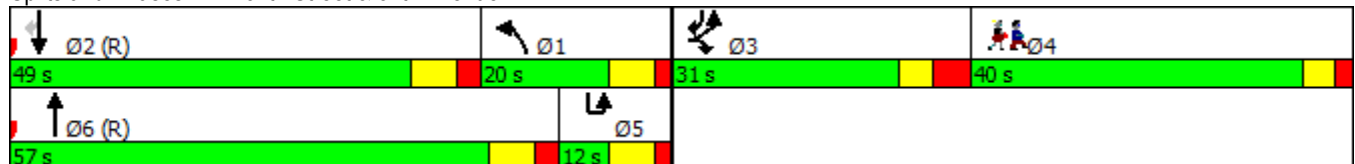


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	Ø4
Flash Dont Walk (s)								31.0
Pedestrian Calls (#/hr)								0
Act Effct Green (s)	17.8	17.8	13.2	107.5		87.5	112.6	
Actuated g/C Ratio	0.13	0.13	0.09	0.77		0.62	0.80	
v/c Ratio	0.69	0.29	1.27	0.35		0.84	0.24	
Control Delay	66.5	13.4	196.9	5.2		11.4	0.7	
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	66.5	13.4	196.9	5.2		11.4	0.7	
LOS	E	B	F	A		B	A	
Approach Delay	55.4			40.1		9.9		
Approach LOS	E			D		A		
Queue Length 50th (ft)	137	0	~231	71		202	1	
Queue Length 95th (ft)	180	47	#403	124		254	11	
Internal Link Dist (ft)	716			1194		2635		
Turn Bay Length (ft)	240	175	395				450	
Base Capacity (vph)	578	332	166	2717		2211	1309	
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	0.52	0.24	1.27	0.35		0.84	0.24	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 24 (17%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.27
 Intersection Signal Delay: 24.0
 Intersection LOS: C
 Intersection Capacity Utilization 86.0%
 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: 4: 34th Street & 34th Avenue



Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	75	35	85	100	265	30	1050	100	200	1605	30
Future Volume (vph)	15	75	35	85	100	265	30	1050	100	200	1605	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		0	180		0	290		200	280		200
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			80			50			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.952				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1773	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.661			0.619			0.950			0.950		
Satd. Flow (perm)	1231	1773	0	1153	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				279			137			84
Link Speed (mph)		30			30			45				40
Link Distance (ft)		770			780			2715				1330
Travel Time (s)		17.5			17.7			41.1				22.7
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
Adj. Flow (vph)	16	79	37	89	105	279	32	1105	105	211	1689	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	116	0	89	105	279	32	1105	105	211	1689	32
Enter Blocked Intersection	No	No	No	No	No	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	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			4		1	6		5		2
Permitted Phases	8			4		4			6			2
Detector Phase	8	8		4	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	17.0	17.0		17.0	17.0	17.0	11.4	12.8	12.8	11.8	12.8	12.8
Total Split (s)	30.0	30.0		30.0	30.0	30.0	13.6	74.6	74.6	35.4	96.4	96.4
Total Split (%)	21.4%	21.4%		21.4%	21.4%	21.4%	9.7%	53.3%	53.3%	25.3%	68.9%	68.9%
Maximum Green (s)	23.0	23.0		23.0	23.0	23.0	7.2	67.8	67.8	28.6	89.6	89.6
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.4	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	3.3	3.3		3.3	3.3	3.3	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0	7.0	6.4	6.8	6.8	6.8	6.8	6.8
Lead/Lag							Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?							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	3.0
Recall Mode	None	None		None	None	None	Max	C-Max	C-Max	Max	C-Max	C-Max
Act Effct Green (s)	16.3	16.3		16.3	16.3	16.3	7.2	74.5	74.5	28.6	96.3	96.3

Lanes, Volumes, Timings
5: 34th Street & 26th Avenue

07/09/2018

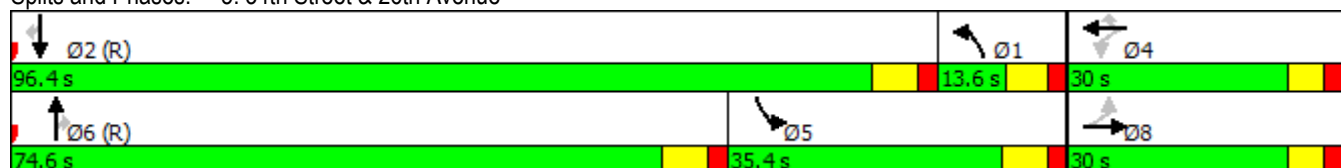


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.12	0.12		0.12	0.12	0.12	0.05	0.53	0.53	0.20	0.69	0.69
v/c Ratio	0.11	0.53		0.66	0.48	0.65	0.35	0.59	0.12	0.58	0.69	0.03
Control Delay	54.2	58.9		81.5	64.3	13.2	84.2	21.2	2.8	52.7	4.3	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	58.9		81.5	64.3	13.2	84.2	21.2	2.8	52.7	4.3	0.0
LOS	D	E		F	E	B	F	C	A	D	A	A
Approach Delay		58.3			37.4			21.2				9.5
Approach LOS		E			D			C				A
Queue Length 50th (ft)	13	89		79	91	0	29	305	10	200	106	0
Queue Length 95th (ft)	35	147		134	145	83	m64	467	27	m214	m117	m0
Internal Link Dist (ft)		690			700			2635			1250	
Turn Bay Length (ft)	220			180			290		200	280		200
Base Capacity (vph)	202	302		189	306	493	91	1883	906	361	2434	1114
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.38		0.47	0.34	0.57	0.35	0.59	0.12	0.58	0.69	0.03

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 98 (70%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 18.6 Intersection LOS: B
 Intersection Capacity Utilization 76.7% ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: 34th Street & 26th Avenue



Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

07/09/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	560	110	295	665	200	215	685	300	130	1065	80
Future Volume (vph)	90	560	110	295	665	200	215	685	300	130	1065	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	160		0	105		200	190		200
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			80			130			50		
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.975			0.965				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1593	3106	0	3090	3074	0	1593	3185	1425	1593	3185	1425
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1593	3106	0	3090	3074	0	1593	3185	1425	1593	3185	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			28				170			136
Link Speed (mph)		35			35			40				40
Link Distance (ft)		829			810			1330				1056
Travel Time (s)		16.1			15.8			22.7				18.0
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
Adj. Flow (vph)	95	589	116	311	700	211	226	721	316	137	1121	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	705	0	311	911	0	226	721	316	137	1121	84
Enter Blocked Intersection	No	No	No	No	No	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	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases									6			2
Detector Phase	3	8		7	4		1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	6.0	5.0	5.0	6.0	5.0
Minimum Split (s)	11.7	22.5		11.7	22.5		11.4	22.5	11.7	11.9	22.5	11.7
Total Split (s)	15.3	37.9		21.4	44.0		25.6	52.8	21.4	27.9	55.1	15.3
Total Split (%)	10.9%	27.1%		15.3%	31.4%		18.3%	37.7%	15.3%	19.9%	39.4%	10.9%
Maximum Green (s)	8.6	31.2		14.7	37.3		19.2	45.7	14.7	21.0	48.0	8.6
Yellow Time (s)	4.2	4.2		4.2	4.2		4.4	4.9	4.2	4.9	4.9	4.2
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.2	2.5	2.0	2.2	2.5
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)	6.7	6.7		6.7	6.7		6.4	7.1	6.7	6.9	7.1	6.7
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag	Lag	Lead	Lead	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	C-Max	None	None	C-Max	None
Act Effct Green (s)	8.6	31.2		14.7	37.3		19.2	50.0	65.1	16.7	48.0	57.0

Lanes, Volumes, Timings
6: 34th Street & 22nd Avenue

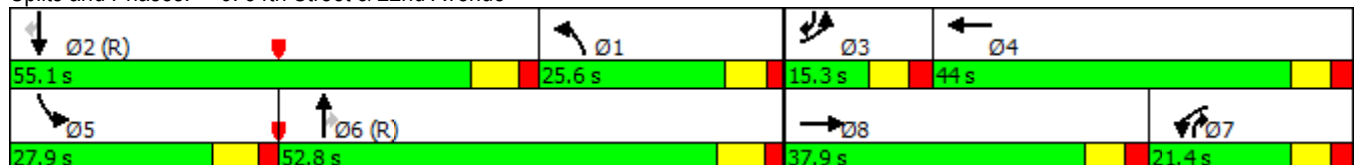
07/09/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.06	0.22		0.10	0.27		0.14	0.36	0.46	0.12	0.34	0.41
v/c Ratio	0.98	1.00		0.96	1.09		1.04	0.63	0.42	0.72	1.03	0.13
Control Delay	150.2	87.3		102.5	103.3		104.6	19.0	3.6	80.1	79.1	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	150.2	87.3		102.5	103.3		104.6	19.0	3.6	80.1	79.1	0.7
LOS	F	F		F	F		F	B	A	F	E	A
Approach Delay		94.8			103.1			30.5			74.3	
Approach LOS		F			F			C			E	
Queue Length 50th (ft)	88	~335		147	~478		~225	253	39	121	~572	0
Queue Length 95th (ft)	#206	#474		#243	#616		#392	226	16	192	#710	3
Internal Link Dist (ft)		749			730			1250			976	
Turn Bay Length (ft)	150			160			105		200	190		200
Base Capacity (vph)	97	703		324	839		218	1137	753	238	1092	660
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	0.98	1.00		0.96	1.09		1.04	0.63	0.42	0.58	1.03	0.13

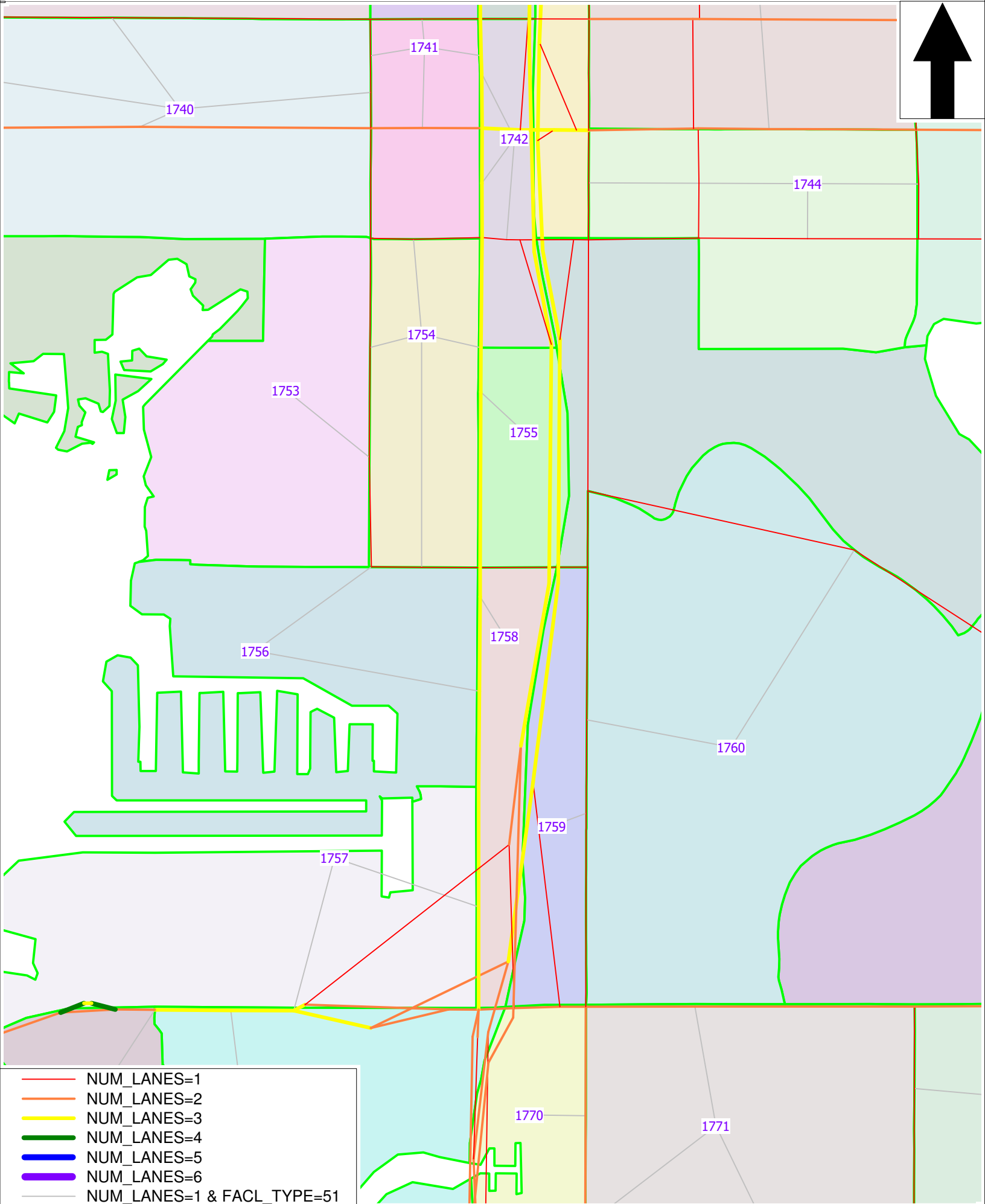
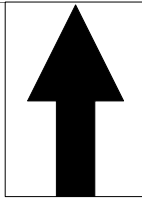
Intersection Summary

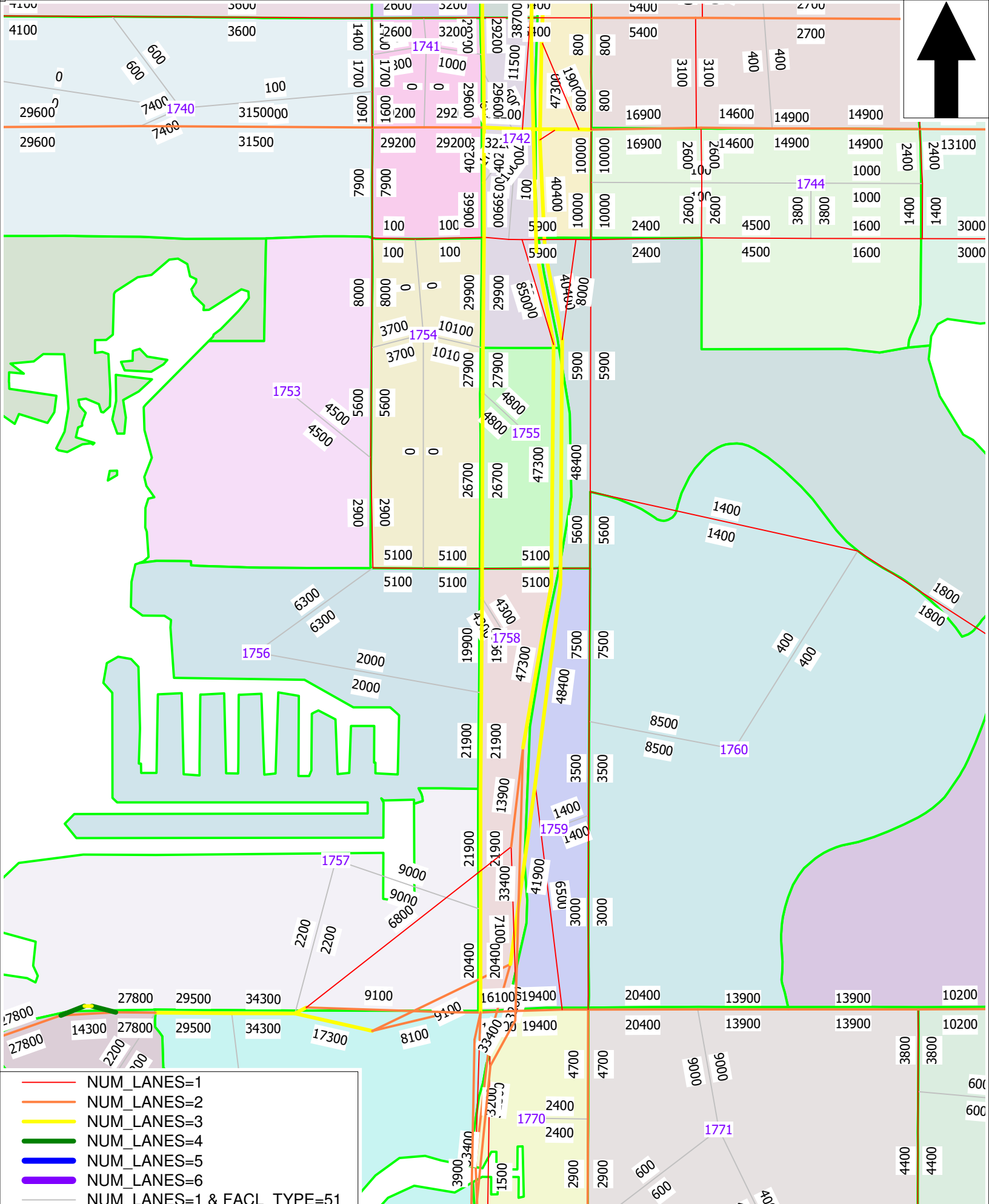
Area Type: CBD
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 128 (91%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 73.5 Intersection LOS: E
 Intersection Capacity Utilization 101.4% 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: 6: 34th Street & 22nd Avenue

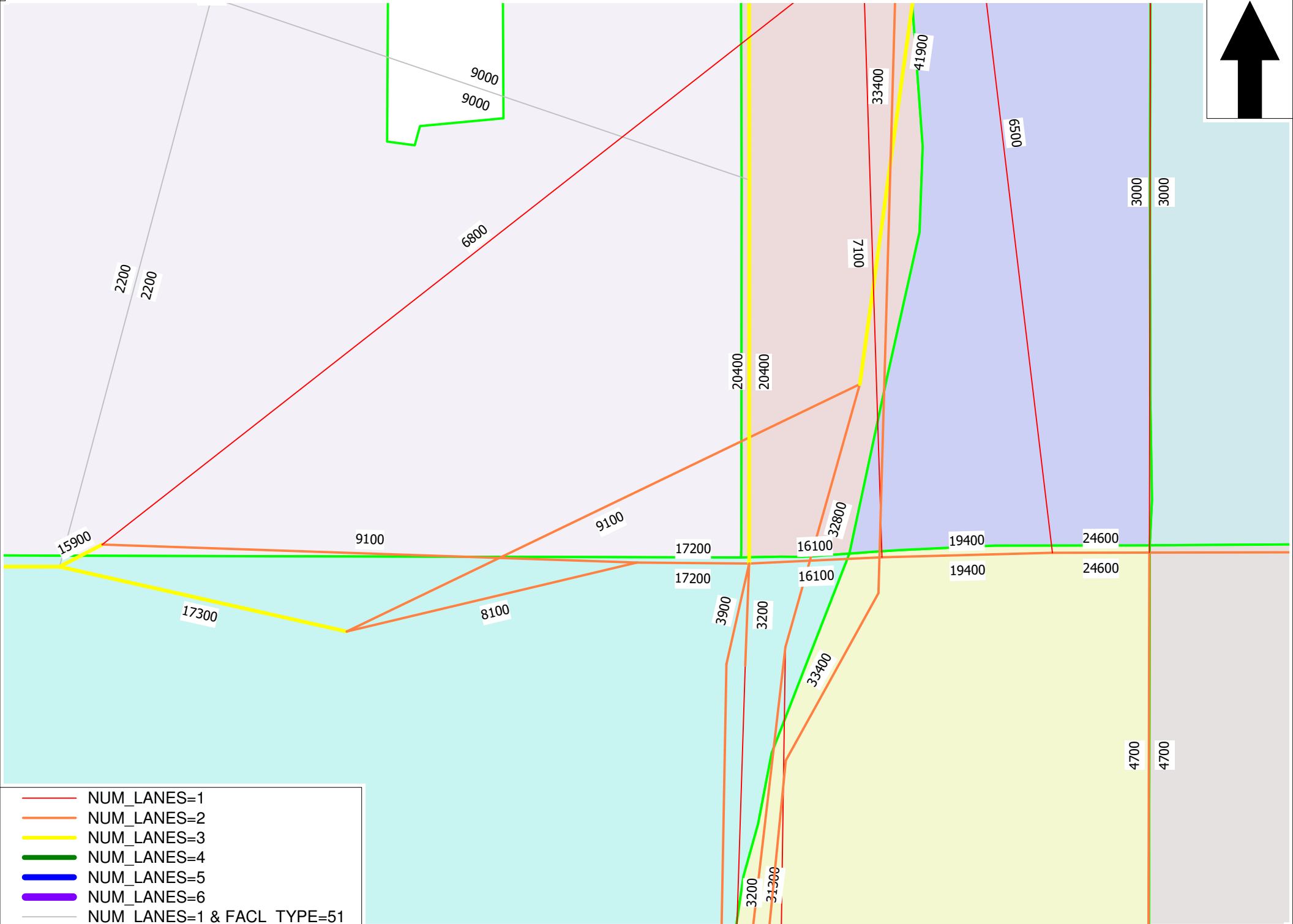


Appendix G
TBRPM Model Plots

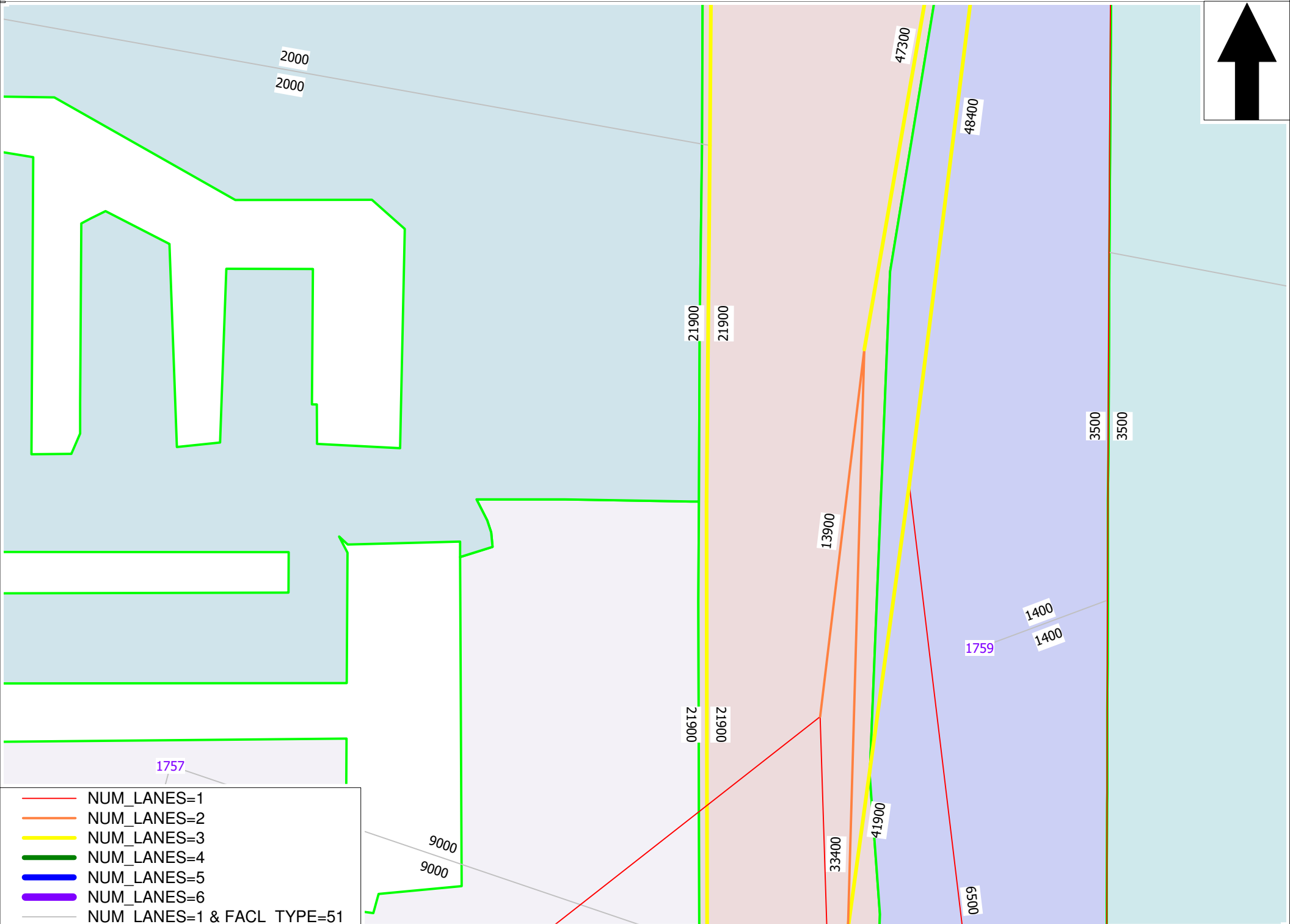
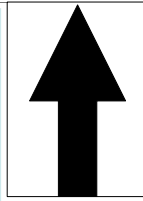




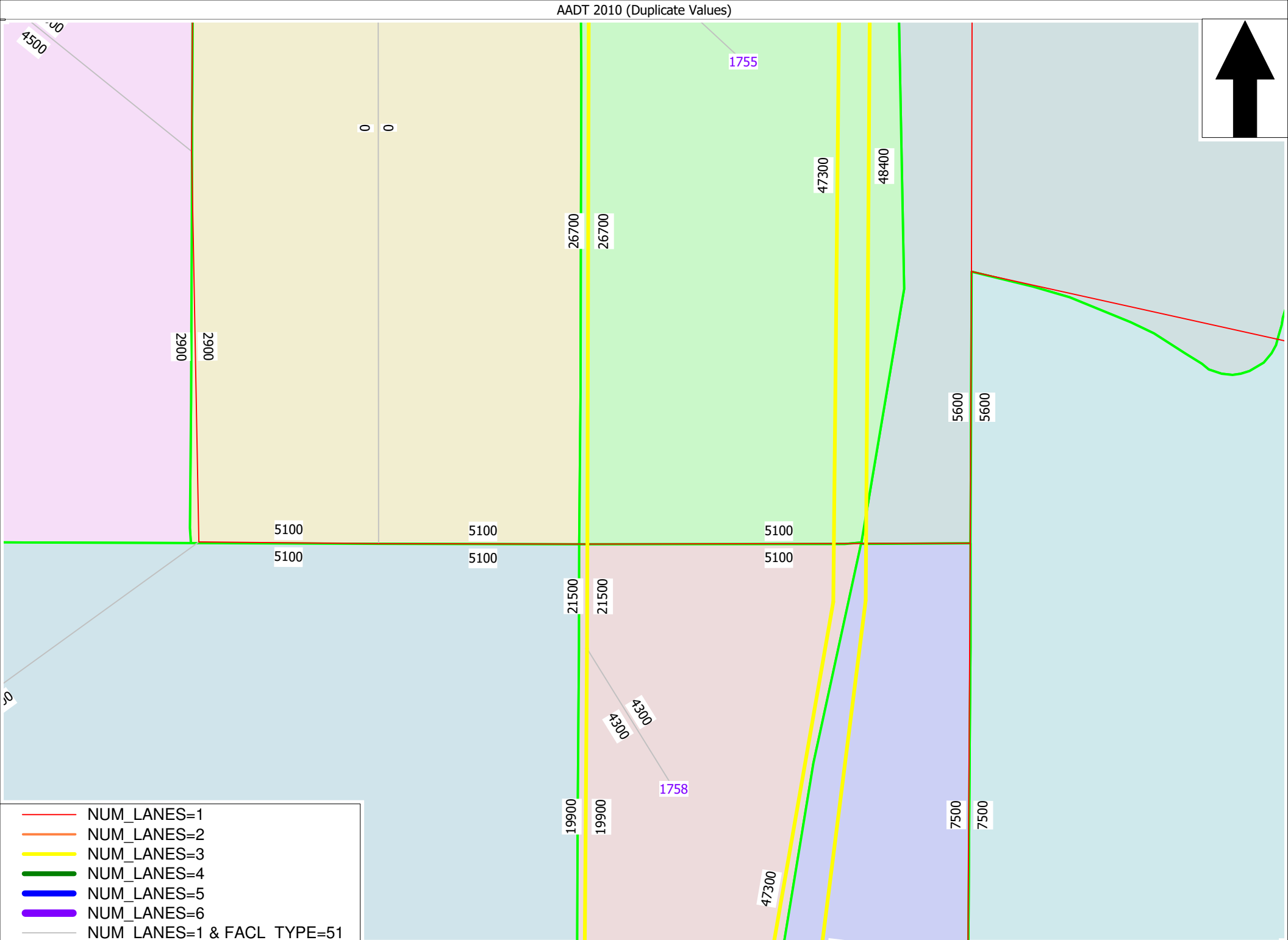
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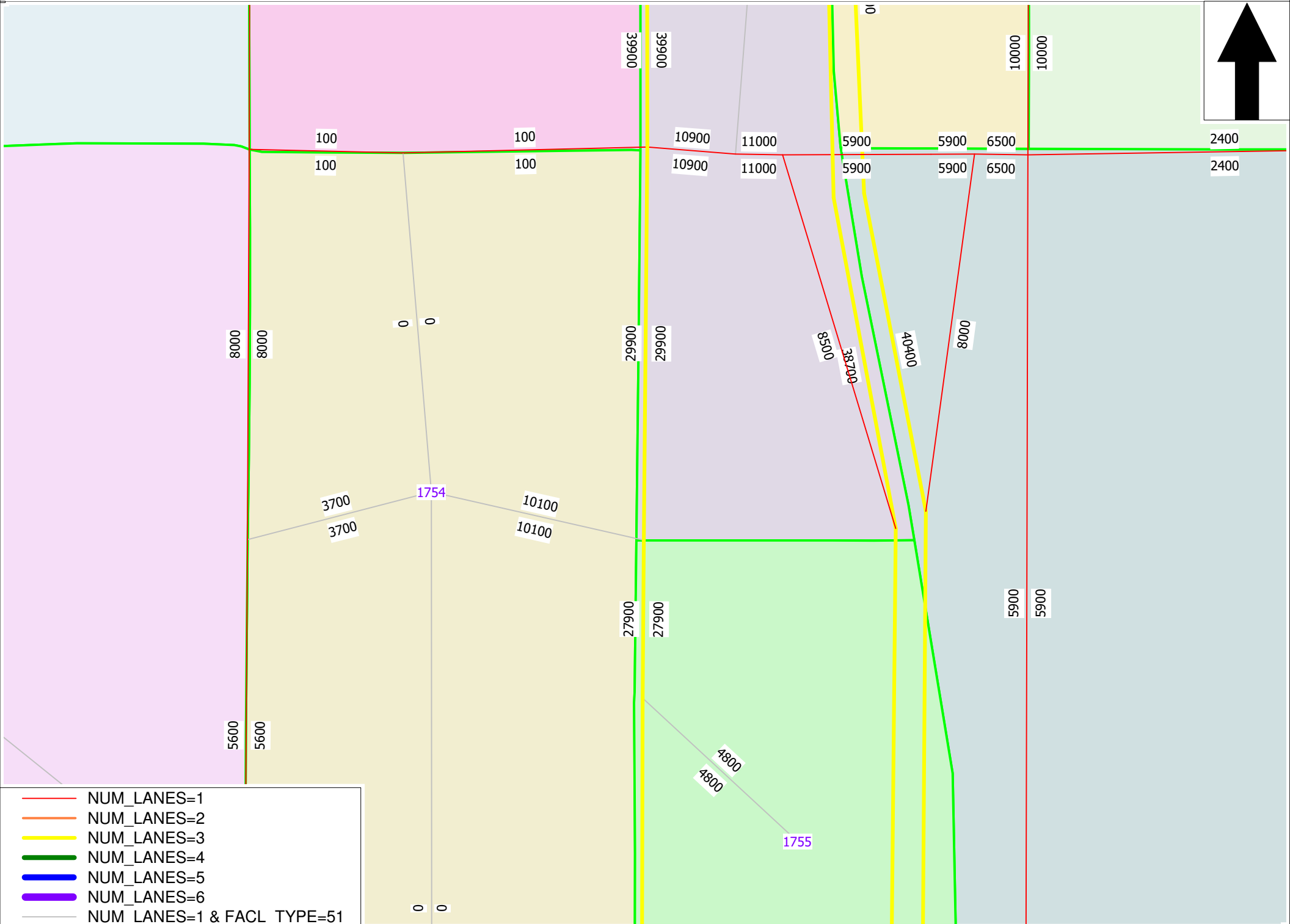
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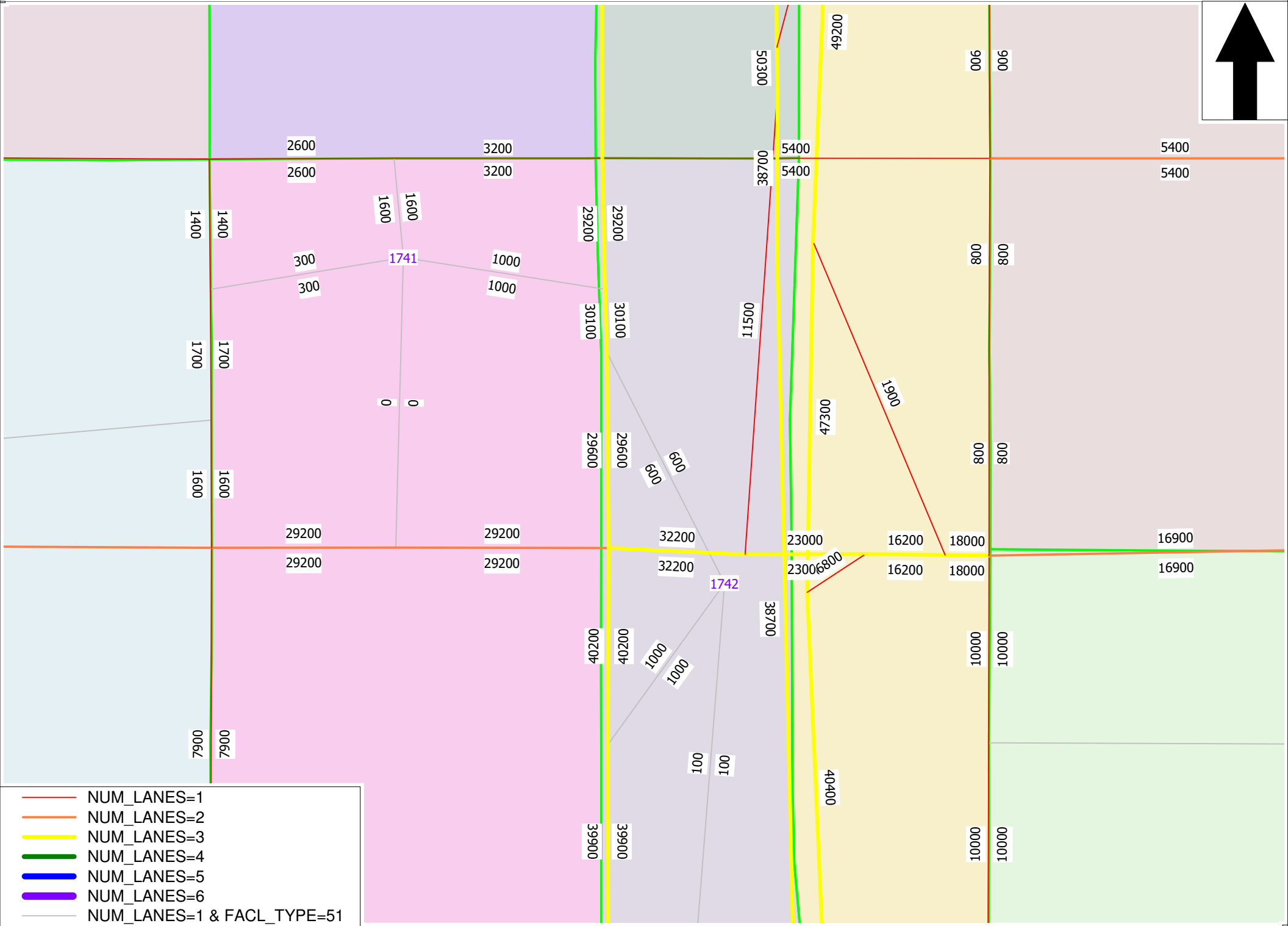


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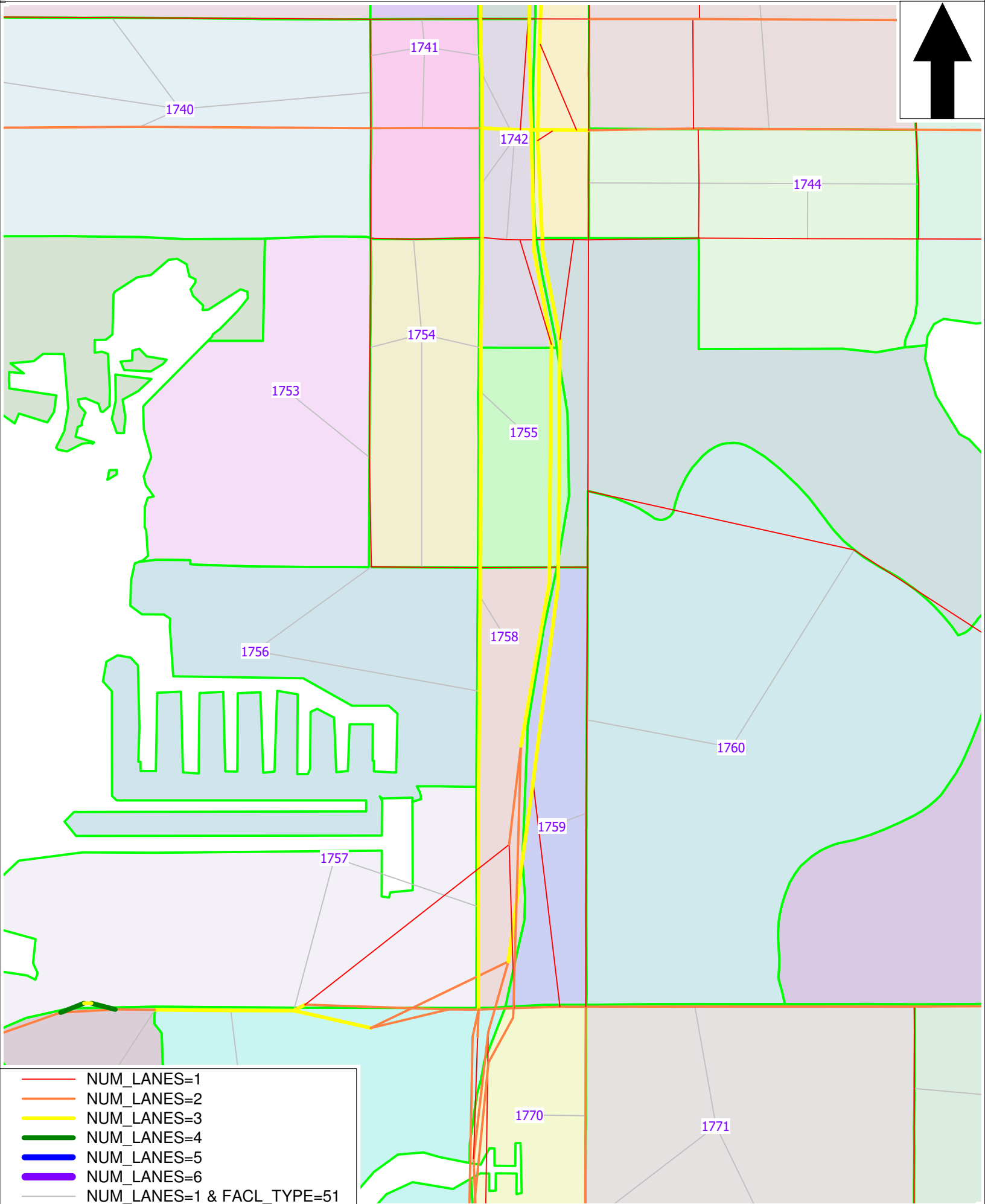
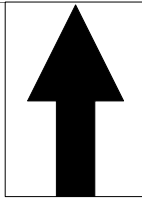


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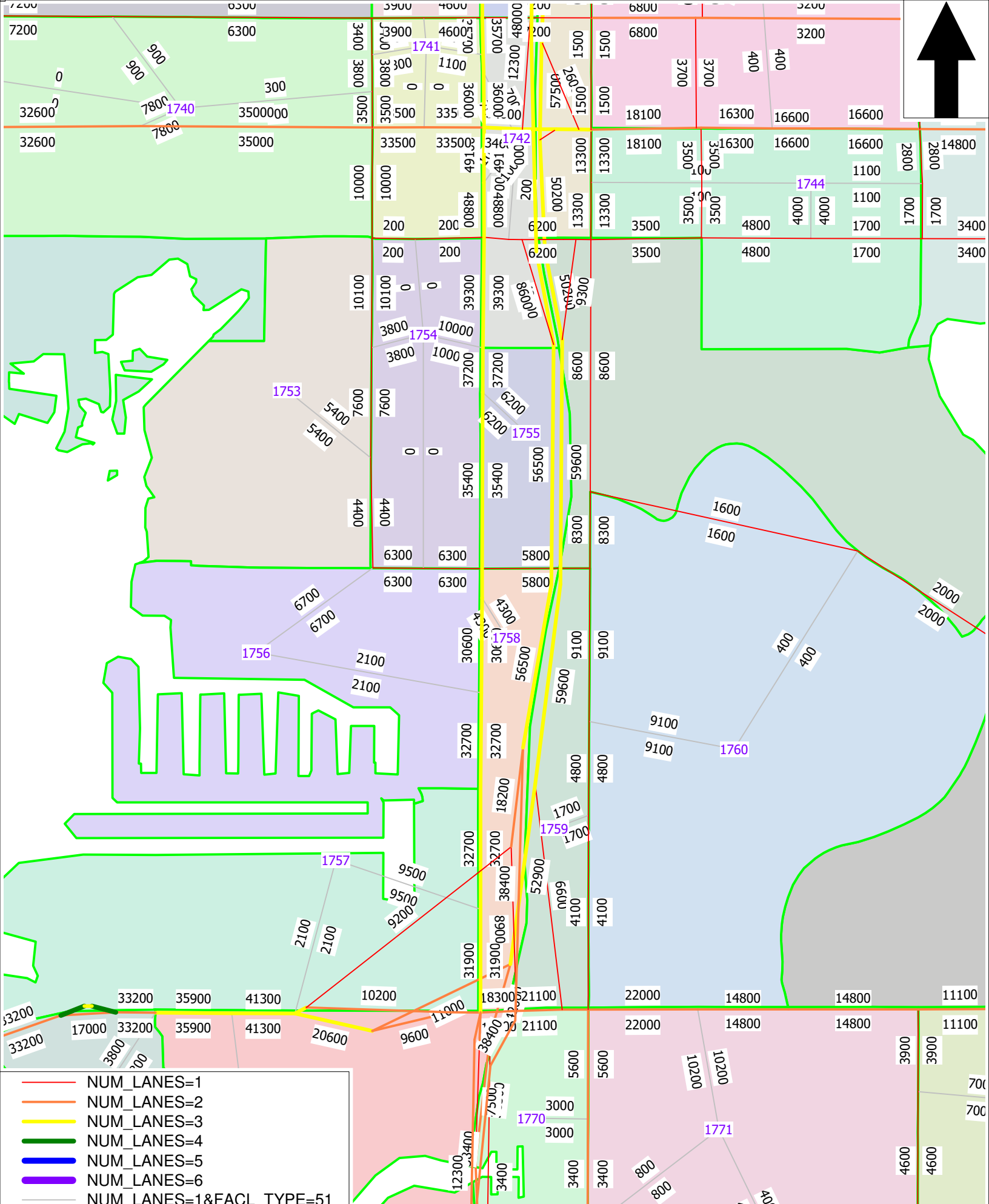




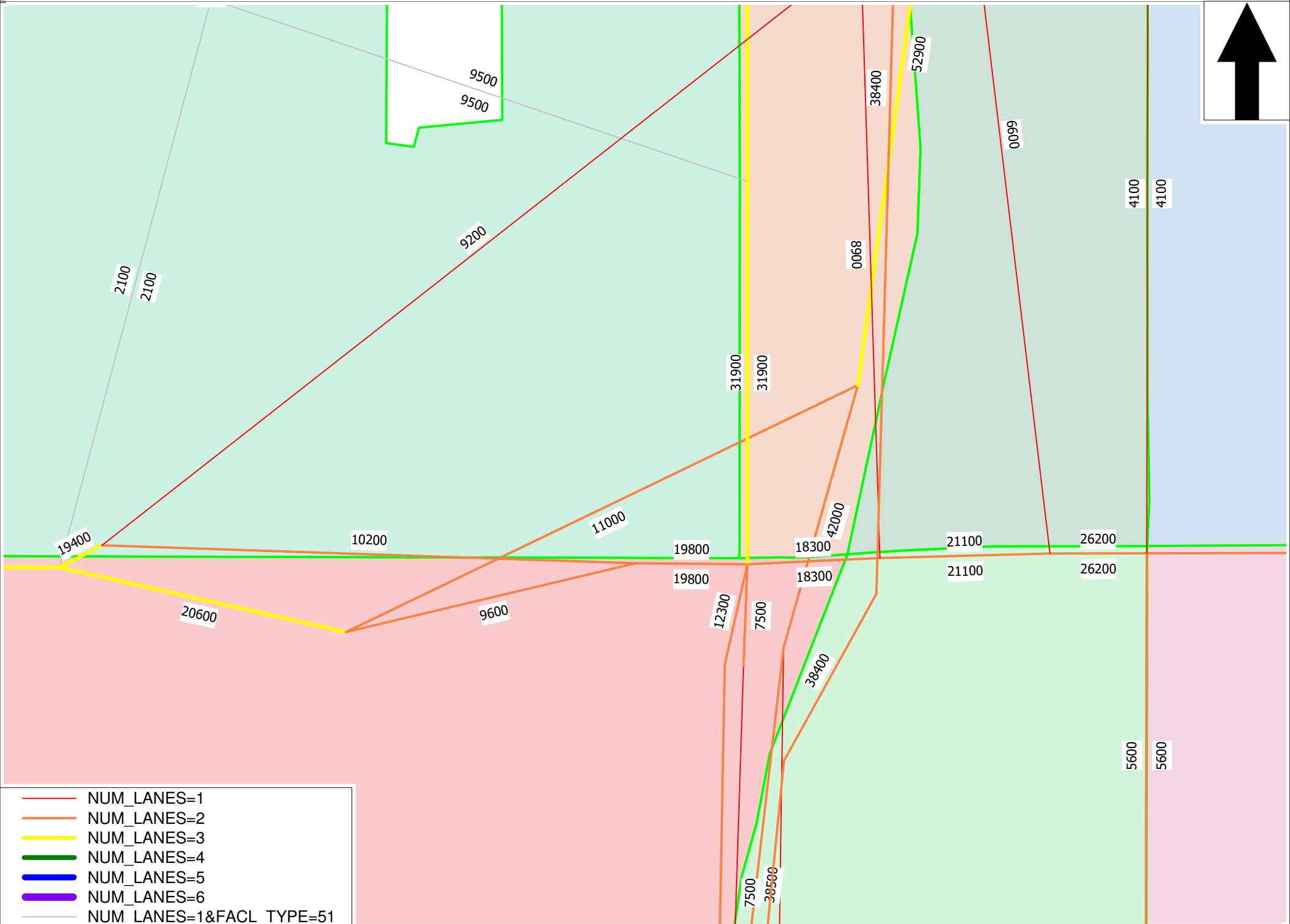
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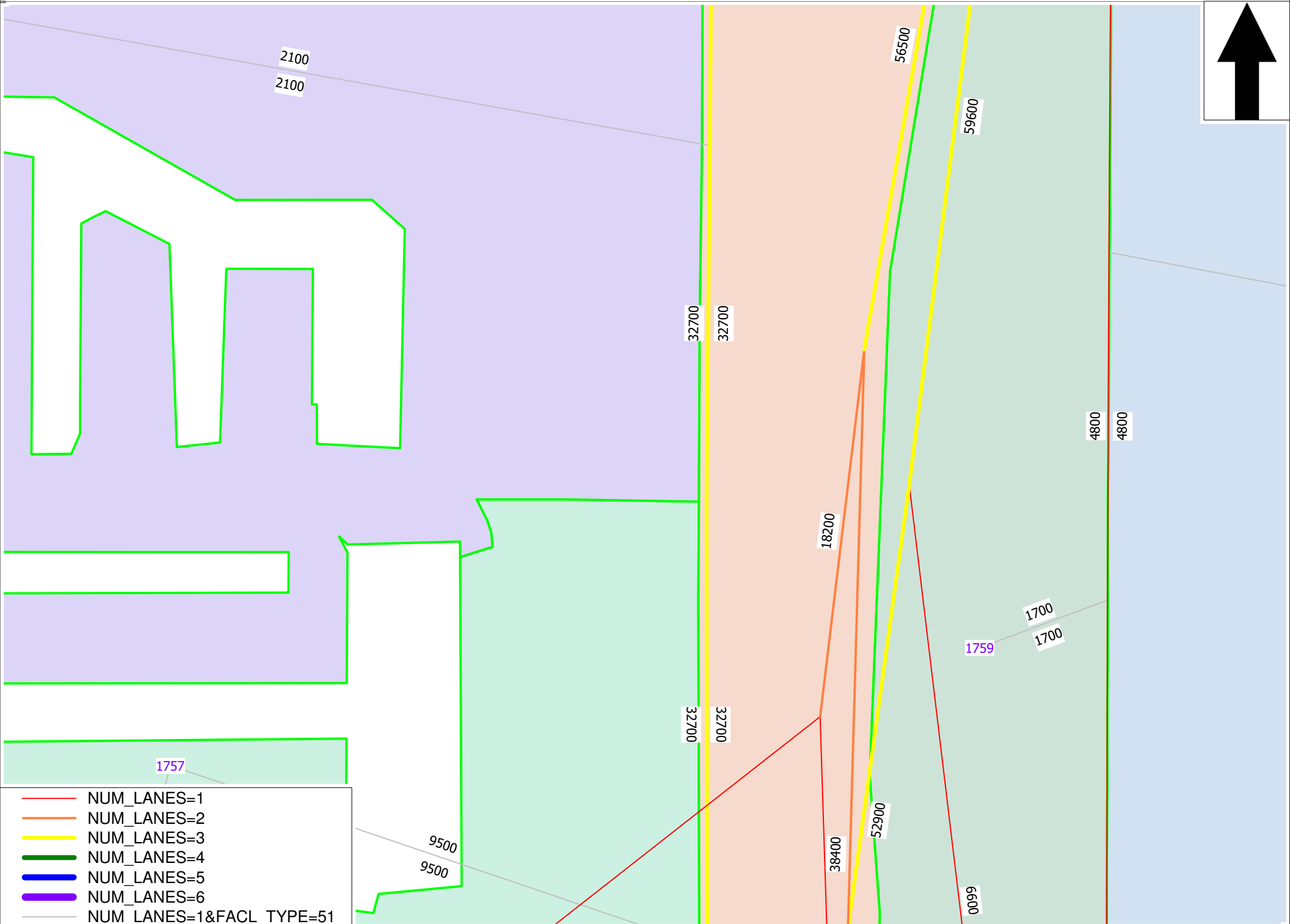


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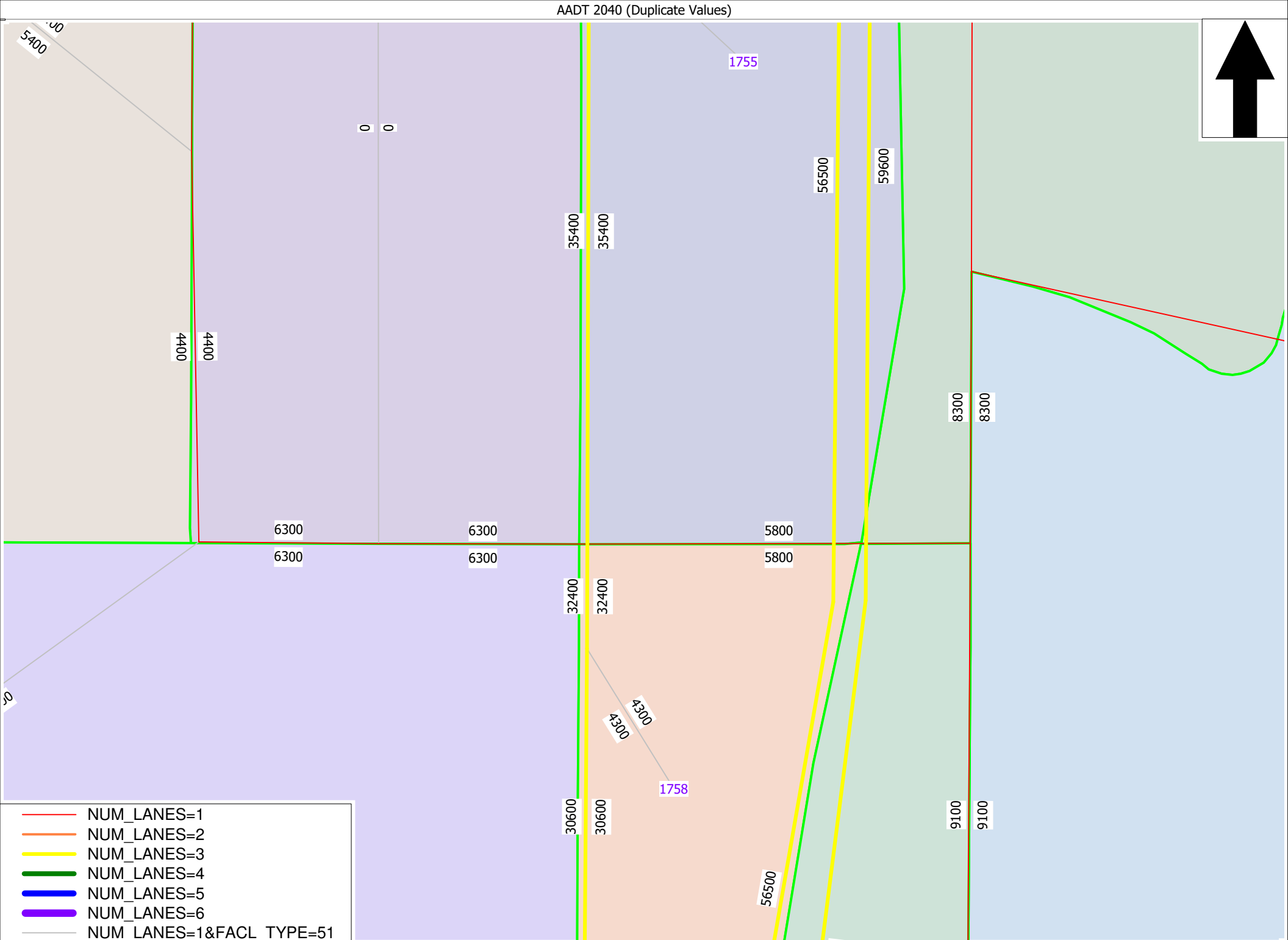
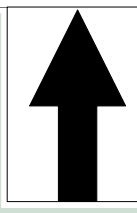


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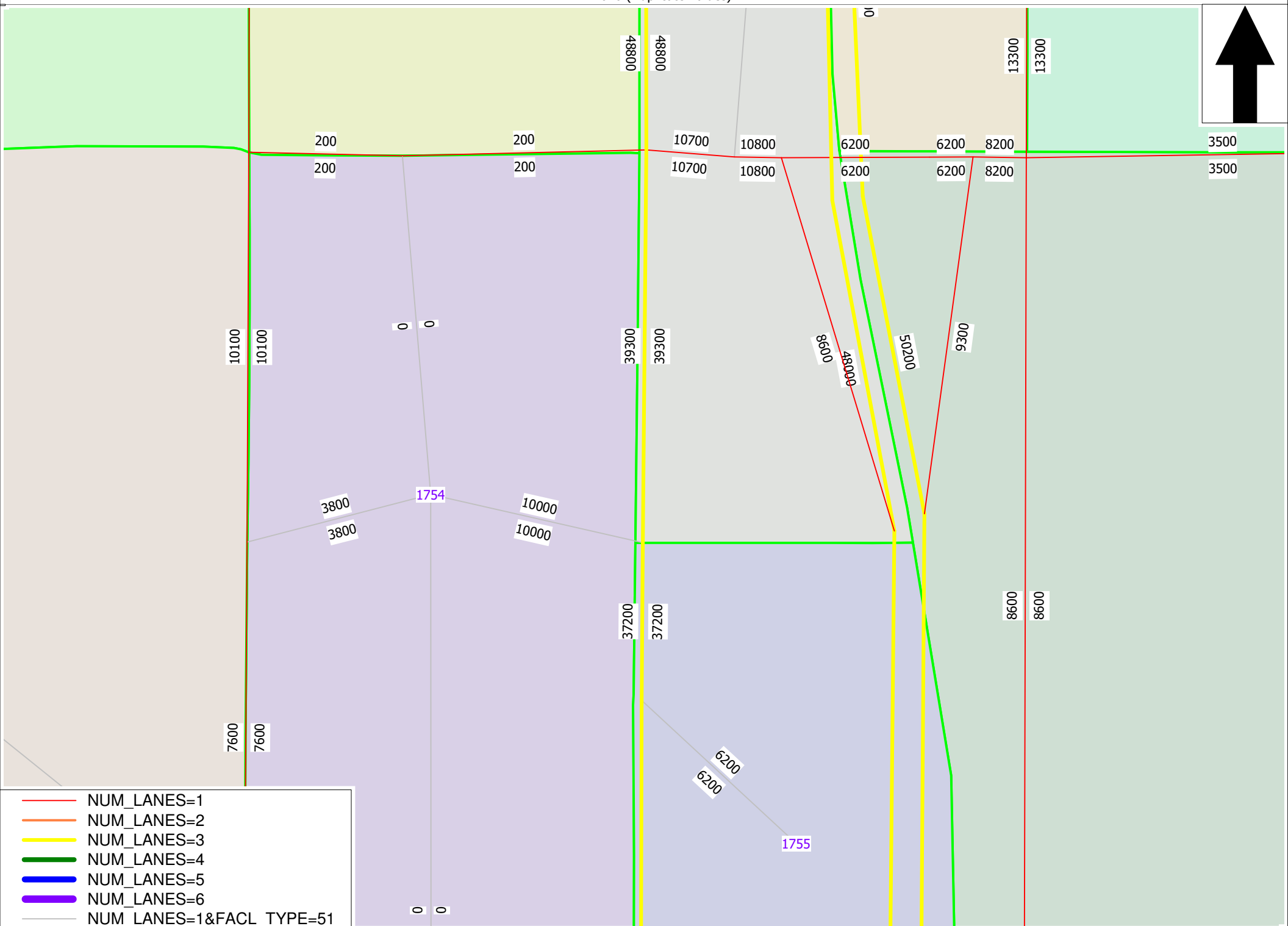
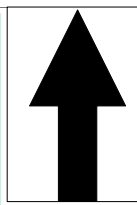


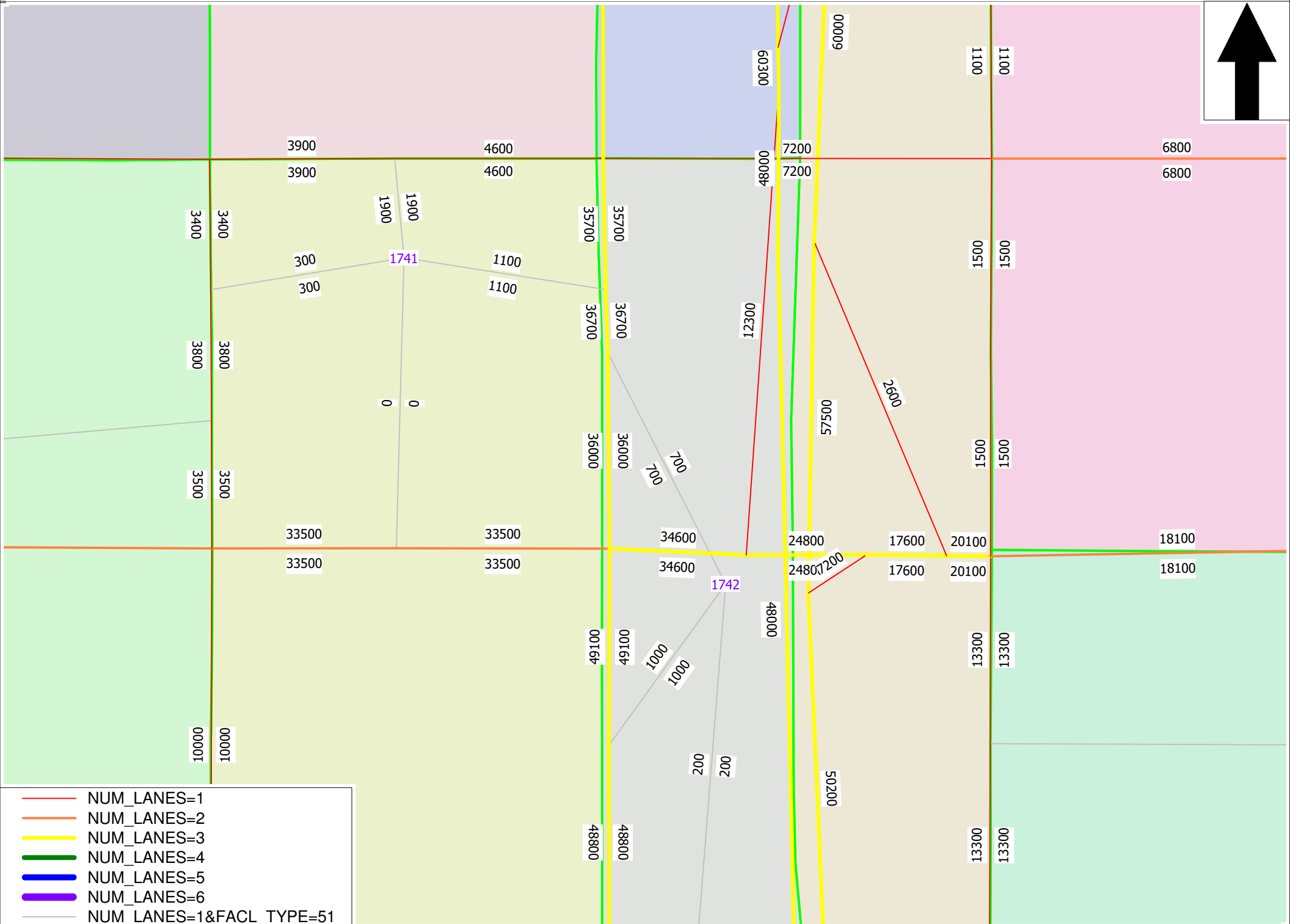


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Appendix H
Cooridorwide Concept Plan



*BAT Lane Striping
Concept Plan*

*SHEET NO.
A-1*

H:\121566 - FDOT DT Complete Streets\07 - Policy and Agency Support\08th Street Concept\08th Street CADD\041 Concept Design - mfc\041 Interchange\February 2020\Entire Comorb\036\RD01 - 34th S Comorb Concept.dwg Feb 13, 2020 - 1:45pm - aboughany Layout Tab A-1

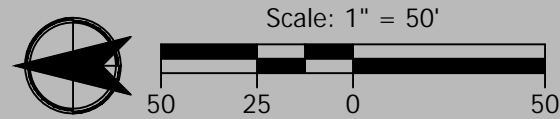


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BAT Lane Striping
Concept Plan

SHEET NO.
A-2



*BAT Lane Striping
Concept Plan*

*SHEET NO.
A-7*

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*BAT Lane Striping
Concept Plan*

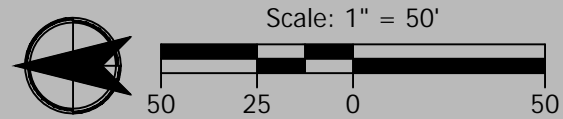
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MATCH LINE
SEE SHEET A-13

MATCH LINE
SEE SHEET A-11



*BAT Lane Striping
Concept Plan*

*SHEET NO.
A-12*

H:\121566 - FDOT DT Complete Stove\07 - Policy and Agency Support\03\01 Street Concepts\04\ Street CADD\04\ Street CADD\04\ Concept Design - mitch_mitchell\February 2020\Entire Comorb\03\SR01 - 34th St Comorb Concept.dwg Feb 13, 2020 - 2:03pm - abougrine Layout Tab A-12

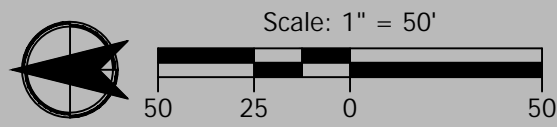


34th Street S

22nd Avenue S

24th Avenue S

MATCH LINE
SEE SHEET A-13



BAT Lane Striping
Concept Plan

SHEET NO.
A-14

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Appendix I
Public Involvement Documents



OFFICE OF THE MAYOR

CITY OF ST. PETERSBURG

RICK KRISEMAN, MAYOR

June 5, 2019

Mr. David Eggers, Chair
Forward Pinellas
310 Court Street
Clearwater, FL 33756

Re: 34th Street South Pending Resurfacing and lane Re-purposing Project

Dear Mr. Eggers:

I would like to thank Forward Pinellas for your leadership and vision as it relates to US 19/34th Street as one of three designated Spotlight Emphasis Areas. The advancement of the Skyway Marina District located along 34th Street has been, and continues to be, one of my top economic development priorities. Our vision for the corridor is clearly aligned - and the realization of our mutual goals is already beginning to come together. The agenda item scheduled for your June 12th Board meeting will be another positive step towards achieving more success.

Just over five years ago today, the City's Skyway Marina District Plan was approved. Two top goals of the Skyway Marina District Plan's Transportation Element are to improve the safety of the overall transportation system and improve the transit system. A Plan strategy to pursue those goals was exploration of a dedicated bus lane. In addition to providing more reliable transit service upon completion of the project, the City aims to continue work with Forward Pinellas, Pinellas County, PSTA, FDOT and other agencies as necessary to improve transit service in South St. Petersburg and particularly on 34th Street. We see tremendous opportunity for 34th Street to serve as a premium transit service corridor for increased efficiency in the immediate term and then hope to see more frequent service as well as Express Bus and BRT to link up with the Central Avenue Corridor BRT and Regional BRT service in the future.

The concept developed as a part of the 34th Street Lane Repurposing analysis to provide a Business Access and Transit Lane along with additional landscaped medians, wider sidewalks, new pedestrian crossings at mid-block locations and pedestrian improvements at signalized intersections is the result of extensive positive coordination between agencies and public engagement. We especially appreciate how receptive and collaborative FDOT has been through this process in being responsive to the desires of the City and community.

The City of St. Petersburg supports Forward Pinellas and the FDOT in moving forward with the concept plan as presented and looks forward to working with all agencies and the community to finalize design.

Thank you, your fellow Board Members, Executive Director Whit Blanton, and agency staff for your leadership, vision, and partnership on this and other improvement projects in St. Petersburg, Pinellas County and the region.

Sincerely,

A handwritten signature in blue ink, appearing to read "Rick Kriseman". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Mayor Rick Kriseman

Cc: Charlie Gerdes, Chair, and Members of City Council
Whit Blanton, FAICP, Forward Pinellas Executive Director



Skyway Marina District

4801 37th St S, St. Petersburg, FL 33711

Phone: (727) 466-7173

director@skywaymarina.com

April 30, 2019

Evan Mory
Director of Transportation & Parking Management
One 4th St. N.
St. Petersburg, FL 33711

Dear Evan:

The Board of Directors of the Skyway Marina District has reviewed the proposed modifications to South 34th Street (Highway 19) in the area from 22nd Avenue South to 54th Avenue South as developed by FDOT, Pinellas Forward and the City of St. Petersburg.

The Board agrees this approach is a positive step forward for the District that:

- Recognizes the volume of traffic (as measured by a Forward Pinellas traffic survey) does not justify 3 lanes for vehicular traffic in each direction,
- Improves public transportation by eliminating an outside vehicular traffic lane in each direction and repurposing these lanes for bus travel and right turn access to businesses,
- Adds wide sidewalks on both sides of the roadway for both people biking and walking thereby eliminating the need for bicycle lanes on the roadway,
- Improves pedestrian safety by adding new mid-block crosswalks strategically placed between existing traffic signals with Rectangular Rapid Flash Beacons and landscaping that provides space for pedestrian refuge,
- Improves safety for people driving vehicles, people walking, and people biking by reducing operating speeds on the corridor,
- Retains the left turn lane median carve outs in the median to store vehicles out of the traffic lane as they wait for an opportunity to turn left.

Notwithstanding the Board's agreement with the current proposal, the Board anticipates the City and Forward Pinellas will, in time, design further modifications to the roadway and right-of-way to encourage a Town Center-type development. This might include narrower lanes and the addition of a 10 to 12-foot median with landscaping and lighting.

The Board looks forward to participating with the City, Forward Pinellas and Florida Department of Transportation in planning the future infrastructure needs for the Skyway Marina District.

Sincerely,
SKYWAY MARINA DISTRICT

Jack Dougherty,
Chairman of the Board of Directors

Cc: Honorable Rick Kriseman, Mayor, City of St. Petersburg
Members of St. Petersburg City Council



ECKERD COLLEGE

OFFICE OF THE PRESIDENT

April 29, 2019

The Honorable Rick Kriseman
Mayor of the City of St. Petersburg
175 5th Street North
St. Petersburg, FL 33701

Dear Mayor Kriseman and Members of the St. Petersburg City Council:

The Eckerd College community has been closely following and supporting the conversation on transforming the 34th Street South corridor in the area from 22nd Avenue South to 54th Avenue South as developed by FDOT, Forward Pinellas and the City of St. Petersburg. As the City continues to experience a period of redevelopment, this area remains a largely blighted corridor where we currently find ourselves celebrating the arrival of a new gas station and fast food chain upgrades. We hear of mixed-used projects on the horizon and eagerly look forward to signs of construction.

Situated minutes from downtown and some of the best beaches in the world, surrounded by excellent neighborhoods, home to one of the State's most unique and protected marinas, we believe this corridor can be one of the great future nodes of urban expansion for the City if there is a concerted effort to bring that into being. With ample right-of-way for bus rapid transit coupled with creative re-shaping of the roadway to become a boulevard that will pull new urban development to the street, we believe this area can provide an answer to the City's chronic shortage of affordable and workforce housing as well as a vibrant shopping and entertainment district.

While we would like for FDOT, Forward Pinellas, the County and City to reach further towards this goal as soon as possible, we are supportive of the current FDOT proposal as a positive step forward for the corridor in that it:

- Recognizes the volume of traffic (as measured by a Forward Pinellas traffic survey) does not justify three lanes for vehicular traffic in each direction
- Improves vehicle and pedestrian safety by reducing the speed limit on the corridor from 45 mph to 35 mph
- Improves public transportation by eliminating an outside vehicular traffic lane in each direction and repurposing these lanes for bus travel and right turn access to businesses
- Adds wide sidewalks on both sides of the roadway to eliminate the need for bicycle lanes on the roadway

- Improves pedestrian safety by adding mid-block crosswalks with Rectangular Rapid Flash Beacons and landscaping that provide space for pedestrian refuge
- Retains the left turn lane median carve outs in the median to store vehicles out of the traffic lane as they wait for an opportunity to turn left

Consistent with the Skyway Marina District, the College is hopeful the City and Forward Pinellas will, in time, invest in further modifications to the roadway and right-of-way to encourage a town center-type development that includes the addition of a 10- to 12-foot median with landscaping and lighting.

The benefits of such an imaginative revitalization of this area that borders our campus will provide enormous quality-of-life to our students, lifelong learners, faculty, and staff and substantial economic benefits to the entire community and the City of St. Petersburg. We are eager to embrace thoughtful, well-studied plans that revitalize and transform this area while considering any adverse impacts to the nearby residential areas, and we look forward to future community conversations about these changes. Please contact me with questions or concerns.

Respectfully,



Donald R. Eastman III
President

cc: Evan Mory, Director of Transportation & Parking Management
David Gwynn, FDOT
Whit Blanton, Forward Pinellas
Karen Williams Seel, Chair, Pinellas County Commission

Notice to Adjacent Properties - Feb 2019



February 22, 2019

Re: Public Open House for the Proposed Lane Elimination/Repurposing on 34th Street South from 54th Avenue South to 22nd Avenue South

The City of St. Petersburg, in conjunction with Forward Pinellas and the Florida Department of Transportation (FDOT) have initiated a study to determine whether a motor vehicle lane on 34th Street South from 54th Avenue South to 22nd Avenue could be repurposed as a semi-dedicated bus lane. A semi-dedicated lane would allow buses and emergency vehicles to use the lane as a through lane while allowing motorists to use the lane to turn at intersections and at business/residential driveways. The study follows on the recommendations in the adopted Skyway Marina District Plan to consider such a designation. It is being considered at this time so that proposed changes for the roadway configuration can be incorporated into FDOT's upcoming project to resurface the roadway and make improvements to the sidewalks along 34th Street South, which is expected to be included in the FDOT Fiscal Year 2021 work program.

We'd like to invite you to a Public Open House on Monday, March 4, 2019 at 6pm at the SPC Allstate Center located at 3200 34th Street South to learn more about the study and proposed changes to the roadway configuration. Representatives from the City, FDOT, Forward Pinellas, and the Pinellas Suncoast Transit Authority will be in attendance to answer any questions and gather feedback about the study and proposed changes.

If you have any questions in advance of the meeting, please feel free to contact Cheryl Stacks, Transportation Manager, at Cheryl.Stacks@stpete.org or 892-5328.

In accordance with the Americans with Disabilities Act and Florida Law, it is the policy of the City of St. Petersburg to offer its public programs, services and meetings in a manner that is readily accessible to everyone, including individuals with disabilities. If you are a person with a disability and need an accommodation, please contact the ADA Coordinator, Lendel Bright at (727) 893-7229, E-mail: lendel.bright@stpete.org, Fax: 727-551-3247, TDD/TTY -727-892-5259, OR Florida Relay Network-711, at least three days in advance of the event.

We hope you'll join us on Monday, March 4 at the Public Open House.

Sincerely,

A handwritten signature in blue ink that reads "Evan Mory".

Evan Mory, Director
Transportation and Parking Management



Project Website: <http://forwardpinellas.org/projects/34th-street-lane-repurposing-study/>

FORWARD PINELLAS

Public Hearings | Document Portal | Agendas | Blog | Calendar | Contact Us

ABOUT US THE WAY YOU MOVE BUILDING YOUR FUTURE GET INVOLVED AGENDAS

34th Street Lane Repurposing Project

As part of its US 19 corridor vision initiative, Forward Pinellas has been working with the [Florida Department of Transportation \(FDOT\)](#), [City of St. Petersburg](#), and the [Skyway Marina District](#) to evaluate the concept of re-purposing the outside lanes of 34th Street from 22nd Avenue South to 54th Avenue South for bus use and business access (i.e., shared bus use and right turns). This would be implemented as part of an FDOT resurfacing project scheduled for construction in 2022.

The resurfacing project would also include the construction of six to 10 foot sidewalks on both sides of the road and pedestrian activated crosswalks. The purpose of these improvements is to improve the safety of the road for pedestrians, bicyclists and transit users as well as motorists. They are also intended to support the vision of the Skyway Marina District to create a safe walkable environment that provides viable alternatives to automobile travel while supporting the development of a vibrant local economy. The corridor traverses the center of the Skyway Marina District.

The lane re-purposing, sidewalk and crosswalk improvements will be incorporated in the design plans for the resurfacing project. Design work is scheduled to begin in fiscal year 2019/20. Following this effort, it is anticipated that a complete streets concept plan will be developed for the section of the corridor within the Skyway Marina District that will focus on additional corridor improvements and land use design.

Reports

- [34th Street Lane Elimination Study](#)

Presentations

- [34th Street Lane Re-purposing Project](#)
- [April 4, 2019 Public Workshop Exhibits](#)

Project Contact

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Facebook notice of the April workshop

The image is a screenshot of a web browser displaying a Facebook event page. The browser's address bar shows the URL <https://www.facebook.com/events/5703>. The Facebook header is visible with the logo and a "Sign Up" button. On the left, the "Events" sidebar includes a calendar icon, the word "Events", and a "+ Create Event" button. The main content area features logos for St. Petersburg, Forward Pinellas, FDOT, and the Sunway project. Below the logos is the title "PUBLIC MEETING AND OPEN HOUSE". The event details section shows the date "APR 4", the title "Public Open House: 34th St. S Lane Repurposing Study", and the location "Public - Hosted by Forward Pinellas and City of St. Petersburg, Florida USA". There is an "Interested" button and a notification that "41 Went · 148 Interested". A "Details" section provides the specific time and location: "APRIL 4, 6 PM ST PETERSBURG COLLEGE ALLSTATE CAMPUS, DESOTO ROOM 3200 34TH STREET SOUTH". The event description explains that the meeting is to discuss proposed road design concepts for repurposing the outside lanes of 34th Street South for bus use and business access, as part of a resurfacing project scheduled for 2022. The resurfacing project will also include the construction of six- to 10-foot wide sidewalks.

Public Open House: 34t

facebook Sign Up

Events

st.petersburg FORWARD PINELLAS FDOT SUNWAY

PUBLIC MEETING AND OPEN HOUSE

APR 4 Public Open House: 34th St. S Lane Repurposing Study

Public - Hosted by Forward Pinellas and City of St. Petersburg, Florida USA

★ Interested

Thursday, April 4, 2019 at 6:00 PM – 8:00 PM EDT

St. Petersburg College Allstate Center

3200 34th St S, Saint Petersburg, Florida 33711

41 Went · 148 Interested

Details

APRIL 4, 6 PM
ST PETERSBURG COLLEGE
ALLSTATE CAMPUS, DESOTO ROOM
3200 34TH STREET SOUTH

You are invited to attend a public meeting and open house to learn about and provide comments on proposed road design concepts to re-purpose the outside lanes of 34th Street South from 22nd Avenue South to 54th Avenue South. The concepts call for the outside lanes to be re-purposed for bus use and business access. This would be implemented as part of a resurfacing project scheduled for construction in 2022.

The resurfacing project would also include the construction of six- to 10-foot

34th Street Lane Re-purposing Workshop, April 4, 2019 - Survey Results

1. What is your home zip code?

33711	29% (Skyway Marina District)
33712	17% (Skyway Marina District)
33705	12%
33713	8%
others	34%

2. Do you work or attend school on 34th Street between 22nd Avenue South and 54th Avenue South?

Yes: 20% No: 80%

3. What do you feel are the most important issues regarding 34th Street?

	VI	I	NI	NO
Safe accommodations for pedestrians and bicyclists	61%	29%	11%	
Traffic congestion/delays	41%	32%	27%	
Motorist behavior (e.g., speeding, red light running, aggressive driving, etc.)	58%	33%	7%	2%
Need for improved transit service (e.g., less time between stops, later hours,	39%	27%	20%	14%
Lack of retail/shopping establishments and restaurants	59%	22%	17%	2%
Need for public gathering places (e.g., parks, outdoor markets)	56%	23%	21%	
Need for landscaping along the corridor	41%	36%	22%	
Need for mixed-use development (e.g., residential/office or	36%	41%	21%	2%

VI = Very Important; I = Important; NI = Not Important; NO = No Opinion

4. Below are improvements proposed to be included in the scheduled resurfacing of 34th Street, 22nd Avenue South to 54th Avenue South.

Check the appropriate box corresponding to your preference for each as follows:

	S	DS	NS
Conversion of outside lanes to shared bus use and right turns (i.e., Business Access and Transit lanes)	54%	36%	10%
Wide sidewalks on both sides of road to accommodate pedestrians and bicyclists	85%	13%	2%
Pedestrian activated crosswalks at multiple locations	80%	18%	2%

S = Support; DS = Don't Support; NS = Not Sure

5. What types of additional improvements/strategies should be considered for 34th Street South in the future?

	VI	I	NI	NO
Adding vehicle lanes	12%	18%	62%	8%
Better enforcement of traffic laws	34%	47%	16%	3%
More frequent/expedited bus service	37%	29%	17%	17%
Bus stop amenities (e.g., covered shelters, bike racks, etc.)	47%	29%	12%	12%
Pedestrian friendly land use design (e.g., parking oriented to side or rear of properties, tree canopy along sidewalks and in parking areas, pedestrian connections between properties and surrounding sidewalk network, etc.)	62%	18%	15%	5%
Access management strategies that include shared driveways and sharing parking areas between neighboring land uses	31%	36%	17%	17%
Encouragement of mixed-use development	49%	34%	12%	5%
Provision of public gathering places (e.g., parks, outdoor markets)	55%	20%	20%	5%
Landscaping along corridor and on adjacent properties	47%	30%	17%	7%

VI = Very Important; I = Important; NI = Not Important; NO = No Opinion

Ques. 3 - Other

Do not take a lane of general purpose vehicle traffic out when traffic is increasing & transit is decreasing, taking a lane of vehicle traffic out will create congestion.

Traffic signals added at key points of entry to 34 th south

The walkways are wide enough, the pinellas trail is accessible. Beatification of CURRENT green space is important.

Anyone who actually lives in this neighborhood knows this area is not going to be a social walking area...that is within the neighborhoods

Allowance for crosswalk to safely cross the highway, on foot or bike, at the Aldi, Ceridian cross street. Is a pedestrian overpass possible?

I live in the Disston Heights neighborhood and use the 34th Street corridor often. My concern for the area is the prostitution and having people trying to “shake me down” for money when I am pumping gas at 5th Ave N and 34th St. I no longer stop in that area because of so many incidents.

Better timing of traffic lights to keep traffic moving more smoothly.

Branded restaurants and stores. Remove the indoor flea market type of shopping centers, or the restaurants and shopping centers that are sitting empty for years. Time to get new, and modern shopping and restaurant choices to keep the money in the Marina District. Right now we leave and eat on 4th street or Seminole but we live in a \$450,000 townhouse in the Suntex Marina. There are many well to do people who live here that want the shopping and restaurants here. More jobs and more money will stay local. Get the Sprouts Market and Olive Garden.

Slower traffic speeds to improve safety

An Express bus service on 34th St. would be great. I'd love to see better, more modern bus shelters.
Safer access into/out of businesses located along 34th St S.
Planning seems to have been complete before public comment was sought.
Traffic lights at 42nd Ave S and 34th St S

Ques. 5 - Other

Those of us that live in the area do not want 34th St. S to turn into 9th St. N where they took out important car lanes & it's impossible to get through the lights (we used to live off 8th St. and 24th Ave.& moved South for more space). Do not make 99% of people traveling miserable. The view of the Flamingo, storage units, fast food, and XTC ...taking lanes away doesn't make it more beautiful. Space is ample currently...add trees and don't waste \$ on shrinking the road. Do YOU drive there during winter visitor season? On Sat or Sun during beach season?

Keep us moving forward in this area of St Petersburg! Thank you!

I avoid this area now because it's dangerous

It's a pretty nice area once you get rid of all the empty restaurant and shopping center buildings and build new nice complexes and restaurants. Please no check cashing or payday loan type stores. People can go down two blocks for those services.

Protected bike lanes

But will the cyclists use the sidewalks? They make making a right turn very scary for a driver when they're on the road!!

Public sessions might have been more positive if public input had been sought earlier.

Traffic lights at 42nd Ave S and 34th St S

Media coverage on the April workshop

St. Pete wants to make i × + ▾

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☰ Tampa Bay Times 🔍

TRANSPORTATION

St. Pete wants to make more room on 34th Street S for buses, sidewalks – less for cars

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A view of 34th Street S looking south at the intersection of 22nd Avenue on Wednesday. The city of St. Petersburg is proposing making each outside lane of 34th Street S into bus lanes, from 22nd Avenue to 54th Avenue. Regular motorists could not travel in those lanes, except to make right turns. [LUIS SANTANA | Times]

By [Caitlin Johnston](#)

Published Apr. 3

ST. PETERSBURG — Another major street in the city could lose regular traffic lanes to better accommodate transit, bicyclists and pedestrians.