

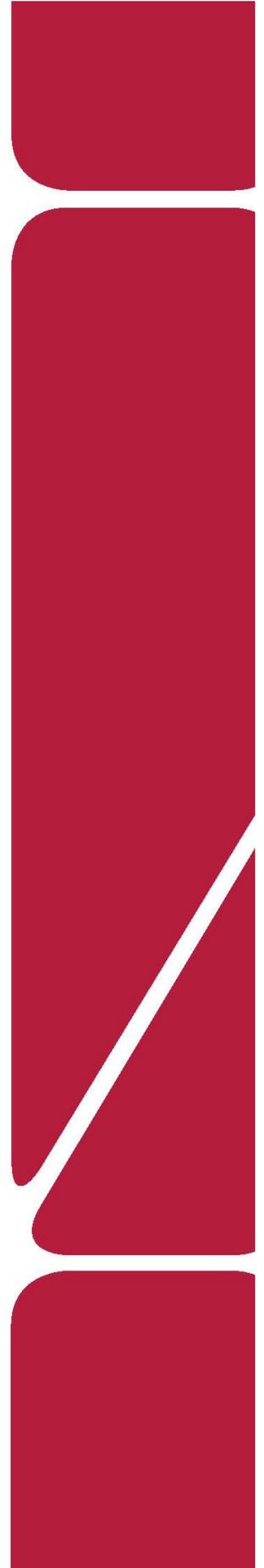


Traffic Impact Study

Mile High Greyhound Park
(MHGP)
Commerce City, Colorado

Prepared for:
REGen LLC.

Kimley»»Horn



Mile High Greyhound Park (MHGP) Redevelopment Project Traffic Impact Study

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1.0 EXECUTIVE SUMMARY

A new redevelopment project, the Mile High Greyhound Park (MHGP) Redevelopment Project is proposed on the northwest corner of the 62nd Avenue and Holly Street intersection in Commerce City, Colorado. The project is anticipated to redevelop the existing Mile High Greyhound Park, which contained a race track venue and parking lots. The project is anticipated to redevelop with approximately 675 apartments, 95 townhomes, 72 single family homes, 150 room hotel, 78,500 square feet of retail, 18,000 square feet of institutional uses, and a 26,000 square foot recreational community center. The recreation center has already been built but was not included in the counts, therefore it is included in the evaluation.

The purpose of this study is to identify project traffic generation characteristics, to identify potential project traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts. The following intersections were incorporated into this traffic study in accordance with Commerce City standards and requirements:

- 60th Avenue and Vasquez Boulevard (US-6/85 & SH-2)
- 62nd Avenue and State Highway 2 (SH-2)
- 62nd Avenue and Parkway Drive
- 62nd Avenue and Holly Street
- 63rd Avenue and State Highway 2 (SH-2)
- 64th Avenue and State Highway 2 (SH-2)
- 64th Avenue and Glencoe Street
- 64th Avenue and Holly Street

In addition, an existing condition analysis was conducted at the 66th Way and Glencoe Street intersection due to public concern about the surrounding street network connectivity.

It is expected that the residential portion of the project will be completed within the next few years and the remainder of the project will be completed by 2025. Analysis was therefore completed for the 2020 short term residential buildout, 2025 mid-term full project buildout, and 2035 long term horizons per Commerce City and Colorado Department of Transportation (CDOT) requirements.

Regional access to the site will continue to be provided by Interstate 25, Interstate 70, Interstate 76, and Interstate 270. Primary access to the site will continue to be provided by 60th Avenue, 62nd Avenue, 64th Avenue, Parkway Drive, Holly Street, and Vasquez Boulevard (US-6/85 & SH-2). Direct access to the proposed MHGP is to be provided from 62nd Avenue, 64th Avenue, SH-2, and Holly Street.

By 2020, buildout of the proposed residential portion of the development is expected to generate approximately 4,594 daily weekday trips. Of these, 438 trips are expected to occur during the morning peak hour, while 427 trips are expected during the afternoon peak hour. By 2025, it is anticipated that full buildout of the project will be complete. Since a mix of uses, residential, hotel, and retail is proposed within the same development, it is anticipated that traffic will be shared between the uses. This internal trip generation, or capture, is most specifically expected to occur between the residential, hotel, and shopping center (retail) uses. Therefore, the ITE internal capture procedure was used to determine the amount of traffic that may be shared between uses, which thereby determines the number of external

trips. Internal capture rates of 18 percent for daily traffic, 2.7 percent for morning peak hour traffic, and 19.8 percent for afternoon peak hour traffic were used, as identified directly from the ITE procedure. Based on this, full buildout of the proposed development is expected to generate approximately 11,513 daily weekday driveway trips. Of these, 740 driveway trips are expected to occur during the morning peak hour, while 1,019 driveway trips are expected during the afternoon peak hour.

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns and volumes, anticipated surrounding development areas, and the proposed access system for the project. Assignment of project traffic was based upon the trip generation described previously and the distributions developed.

Based on the analysis presented in this report, Kimley-Horn believes the proposed Mile High Greyhound Park Redevelopment Project (MHGP) will be successfully incorporated into the existing roadway network. The proposed project development resulted in the following recommendations and conclusions:

- Roadway improvements may be needed at the existing 60th Avenue/Vasquez Boulevard (US-6/85)/State Highway 2 (SH-2)/Parkway Drive signalized intersection. It has been previously discussed that Parkway Drive may be realigned and removed from this intersection to connect with the existing signalized intersection along 60th Avenue, located approximately 500 feet (measured edge to edge) east of Vasquez Boulevard. Although this now seems less likely with the recent developments constructed north of 60th Avenue, it is still an option to improve traffic conditions at this intersection. Another possible improvement could be to consider converting either Parkway Drive or 60th Avenue to one-way traffic movements away from the intersection, eastbound 60th Avenue or northeastbound Parkway Drive. This would improve traffic conditions at this intersection by removing the entering phase of this one approach. It is understood that The Colorado Department of Transportation (CDOT) is currently conducting a study to improve safety conditions at this intersection. Existing issues are present at the intersection today, which will continue to be more of an issue in the future as traffic volumes increase, so the City of Commerce City and CDOT should consider possible improvements to implement within the next few years.
- Since State Highway 2 (SH-2) is a State Highway, it is believed that CDOT Access Permits will be required for the existing SH-2 intersections with 62nd Avenue, 63rd Avenue, and 64th Avenue with development of the project. This is due to traffic volumes increasing by more than 20 percent over existing with the redevelopment project.
- At the State Highway 2 (SH-2) and 64th Avenue intersection, it is recommended that the southbound left turn lane be lengthened to 275 feet plus 160-foot taper based on CDOT State Highway Access Code (SHAC) standards. It is believed that adequate pavement width exists today in the form of a striped median that could be restriped to accommodate this modification.
- As the parcels are being developed within the project, site specific recommendations will be provided as it relates to the traffic analysis and access.
- Although no lane specific turn lane improvements were found to be needed at the surrounding key intersections, traffic signal upgrades of equipment will likely be required due to the increase in traffic volumes.

- As the northeast portion of the site is planned for specific development, the drop-off and pick-up timeframes of Central Elementary School should be evaluated to determine potential project impacts or if any mitigation measures would be recommended. This shall occur during the Development Permit process of that future development.
- All on-site improvements should be incorporated into the Civil Drawings, and conform to standards of Commerce City, CDOT, Institute of Transportation Engineers (ITE), and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has prepared this report to document the results of a Traffic Impact Study of future traffic conditions associated with The Mile High Greyhound Park (MHGP) Redevelopment Project proposed on the northwest corner of the 62nd Avenue and Holly Street intersection in Commerce City, Colorado. The vicinity map illustrating the project site location is shown in **Figure 1**.

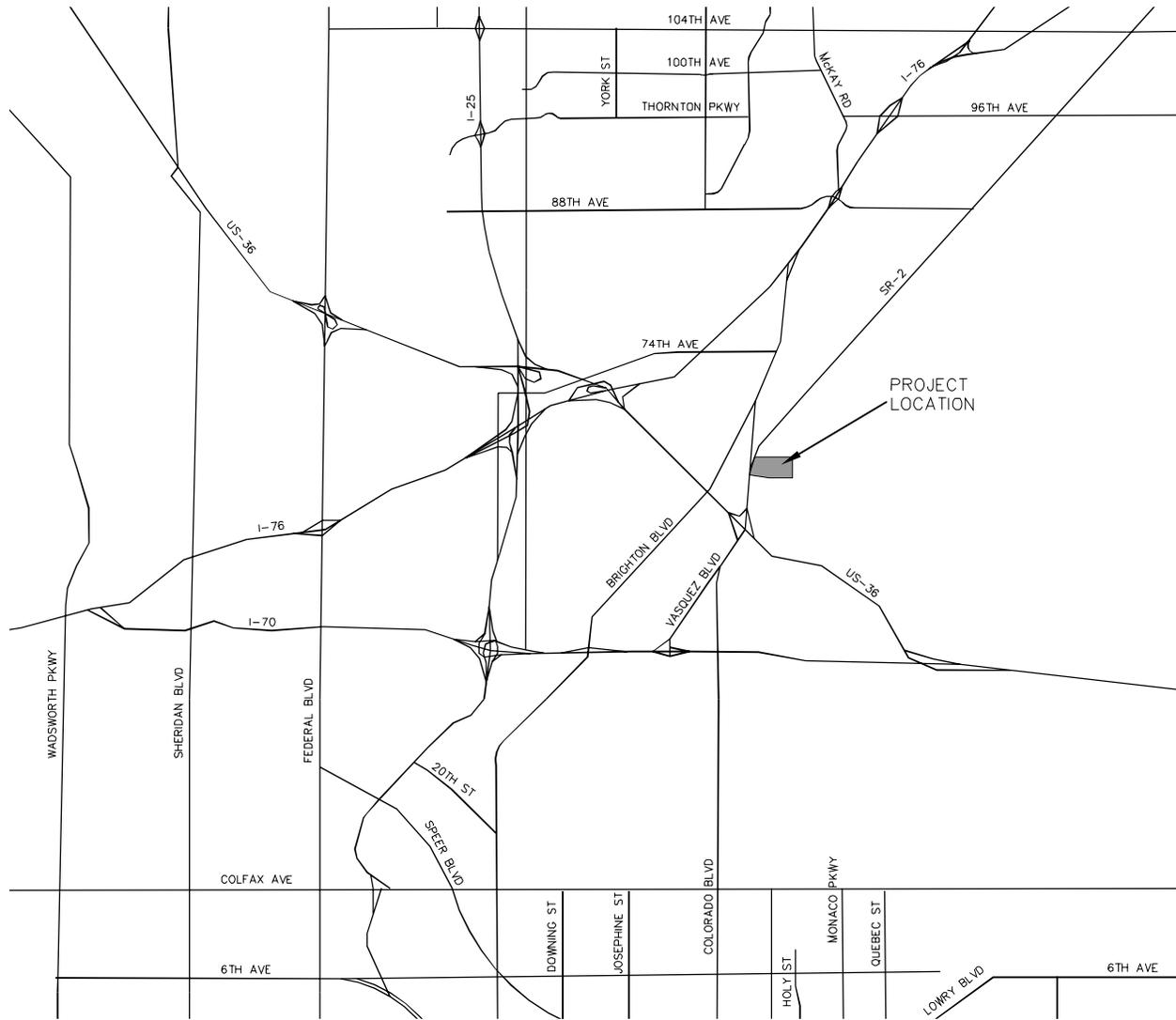
The project is anticipated to redevelop the existing Mile High Greyhound Park, which contained a race track venue and parking lots. The project is anticipated to redevelop with approximately 675 apartments, 95 townhomes, 72 single family homes, 150 room hotel, 78,500 square feet of retail, 18,000 square feet of institutional uses, and a 26,000 square foot recreational community center. The recreation center has already been built but was not included in the counts, therefore it is included in the evaluation. A conceptual site plan illustrating the redevelopment and access locations is shown in **Appendix F**.

It is expected that the residential portion of the project will be completed within the next few years and the remainder of the project will be completed by 2025. Analysis was therefore completed for the 2020 short term residential buildout, 2025 mid-term full project buildout, and 2035 long term horizons per Commerce City and Colorado Department of Transportation (CDOT) requirements.

The purpose of this study is to identify project traffic generation characteristics, to identify potential project traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts. The following intersections were incorporated into this traffic study in accordance with Commerce City standards and requirements:

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- 62nd Avenue and State Highway 2 (SH-2)
- 62nd Avenue and Parkway Drive
- 62nd Avenue and Holly Street
- 63rd Avenue and State Highway 2 (SH-2)
- 64th Avenue and State Highway 2 (SH-2)
- 64th Avenue and Glencoe Street
- 64th Avenue and Holly Street

In addition, an existing condition analysis was conducted at the 66th Way and Glencoe Street intersection due to public concern about the surrounding street network connectivity.



MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 1
VICINITY MAP

3.0 EXISTING AND FUTURE CONDITIONS

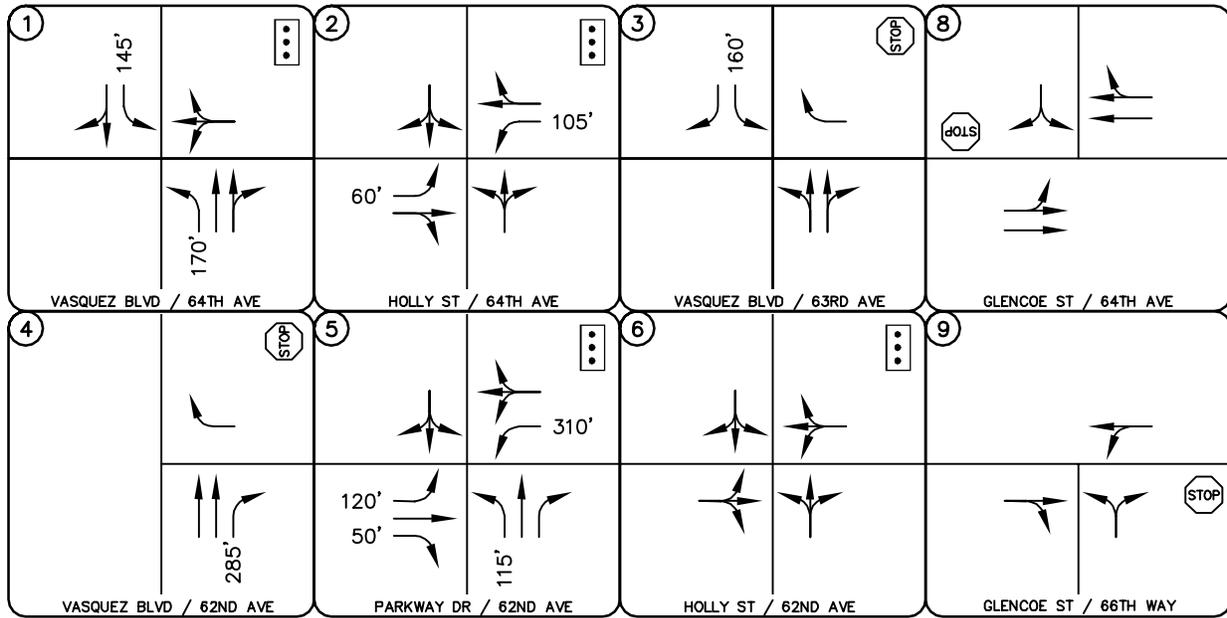
3.1 EXISTING ROADWAY NETWORK

Regional access to the site will continue to be provided by Interstate 25, Interstate 70, Interstate 76, and Interstate 270. Primary access to the site will continue to be provided by 60th Avenue, 62nd Avenue, 64th Avenue, Parkway Drive, Holly Street, and Vasquez Boulevard (US-6/85 & SH-2). Direct access to the proposed MHGP is to be provided from 62nd Avenue, 64th Avenue, SH-2, and Holly Street. Adjacent to the site, 60th Avenue provides one lane of travel each direction, eastbound and westbound, with a posted speed limit of 35 miles per hour. 62nd Avenue provides one lane of travel each direction, eastbound and westbound, with a posted speed limit of 30 miles per hour. 64th Avenue provides one lane of travel each direction, eastbound and westbound, with a posted speed limit of 35 miles per hour. Parkway Drive provides two lanes of travel each direction, northeastbound and southwestbound, with a posted speed limit of 30 miles per hour. Holly Street provides one lane of travel each direction, northbound and southbound, with a posted speed limit of 30 miles per hour. South of the commercial development Vasquez Boulevard (US-6/85) and State Highway 2 (SH-2) share the same alignment and provide four lanes of travel northbound and three lanes of travel southbound. North of the commercial development Vasquez Boulevard (US-6/85) and State Highway 2 (SH-2) split into their own alignments, both providing two lanes of travel in each direction, northbound and southbound. In the site vicinity, Vasquez Boulevard (US-6/85) and State Highway 2 (SH-2) both provide a posted speed limit of 45 miles per hour.

The existing intersection of 64th Avenue and SH-2 is signalized with protected-permissive left turn phasing northbound and southbound. The west leg of the intersection is one way westbound and is the onramp for Vasquez Boulevard (US-6). The westbound approach consist of a single approach lane. The northbound approach consist of a left turn lane and two through lanes while the southbound approach consist of a left turn lane and one through lane. The existing intersection of 64th Avenue and Holly Street is signalized. The eastbound and westbound approach consists of left turn lane and one through lane. The northbound and southbound approach consist of single approach lanes.

The existing intersection of 62nd Avenue and northbound State Highway 2 (SH-2) is an unsignalized “T” intersection with a raised channelized island controlling traffic to and from State Highway 2 (SH-2). The westbound approach consists of a single stop controlled channelized right turn lane. The northbound approach consist of two through lanes and a channelized “free” right turn lane. The existing intersection of 62nd Avenue and Parkway Drive is signalized with protected-permissive left turn phasing northbound with split phase eastbound and westbound. The eastbound approach consists of a left turn lane, one through lane, and a channelized “yield” right turn lane. The westbound approach consists of a left turn lane and a shared left turn/through/right turn lane. The northbound approach consists of separate left turn, through, and right turn lanes. The north leg is currently closed and unmarked but has adequate pavement width to accommodate separate left turn, through, and right turn lanes if desired. Previously the southbound approach included two through lanes with shared turning movements from those through lanes. The existing intersection of 62nd Avenue and Holly Street is signalized. The eastbound approach consists of a one through lane and right turn lane. All other approaches consist of a single approach lane.

The existing full movement intersection of 60th Avenue/Vasquez Boulevard (US-6/85)/State Highway 2 (SH-2)/Parkway Drive is a signalized 5-leg intersection. Movements can be made to and from all roadways. The existing intersection lanes and control for the project study area is shown in **Figures 2 and 3**.



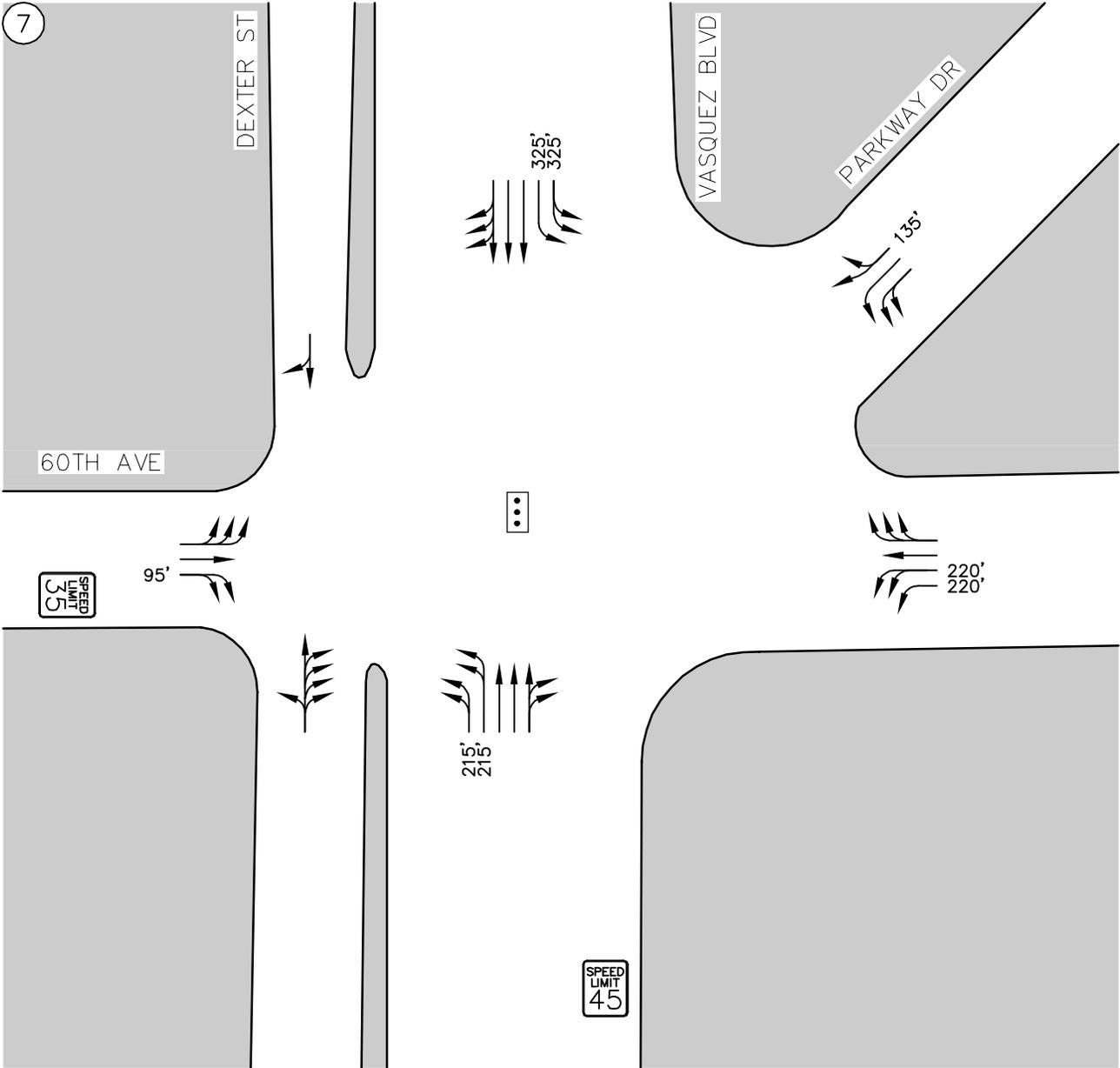
LEGEND

- Study Area Key Intersection
- Signalized Intersection
- Stop Controlled Approach
- RDway Speed Limit
- 100' Turn Lane Length (feet)

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 2
EXISTING LANE CONFIGURATIONS



7



LEGEND

-  Study Area Key Intersection
-  Signalized Intersection
-  Stop Controlled Approach
-  RDway Speed Limit
-  100' Turn Lane Length (feet)

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 3
 EXISTING LANE CONFIGURATIONS

3.2 EXISTING STUDY AREA

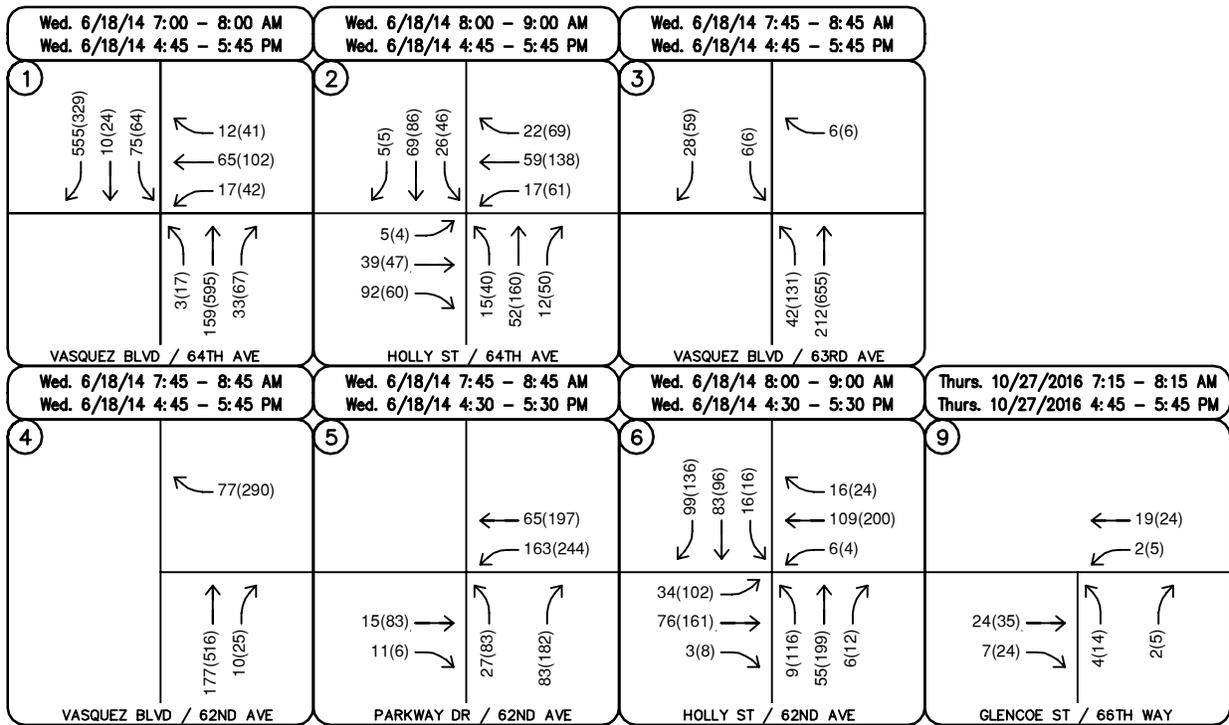
The existing site is comprised of the Mile High Greyhound Park, which contained a race track venue and parking lots. The surrounding area contains a mix of uses. Directly to the west of the site are industrial uses. Directly to the west of the site are residential and business uses. Directly to the south of the site is a King Soopers grocery store and residential uses. Directly to the north of the site is Primitive Fear and residential uses. Beyond these, other residences, industrial and commercial uses surround the site.

3.3 EXISTING TRAFFIC VOLUMES

Existing peak hour turning movement counts were conducted at the study intersections on Wednesday, June 18, 2014 and at the 66th Way and Glencoe Street intersection on Thursday, October 27, 2016. The counts were conducted during the morning and afternoon peak hours of adjacent street traffic in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. These turning movement counts are shown in **Figures 4** and **5** with count sheets provided in **Appendix A**.

3.4 UNSPECIFIED DEVELOPMENT TRAFFIC GROWTH

According to information provided on the website for the Colorado Department of Transportation (CDOT), the 20-year growth factor along Vasquez Boulevard (US-6/85 & SH-2) adjacent to the site is 1.06. This value equates to annual growth rates of approximately 0.30 percent. Also from this information, Vasquez Boulevard (US-6/85 & SH-2) carries approximately 13 percent heavy vehicles. Traffic information from the CDOT Online Transportation Information System (OTIS) website is included in **Appendix B**. This 0.30 percent annual growth rate was used to estimate near term 2020, mid-term 2025, and long term 2035 traffic volume projections at the key intersections without construction of the redevelopment project. Background traffic volumes for 2020, 2025 and 2035 are shown in **Figures 6** through **11**, respectively.



LEGEND

⊗ Study Area Key Intersection

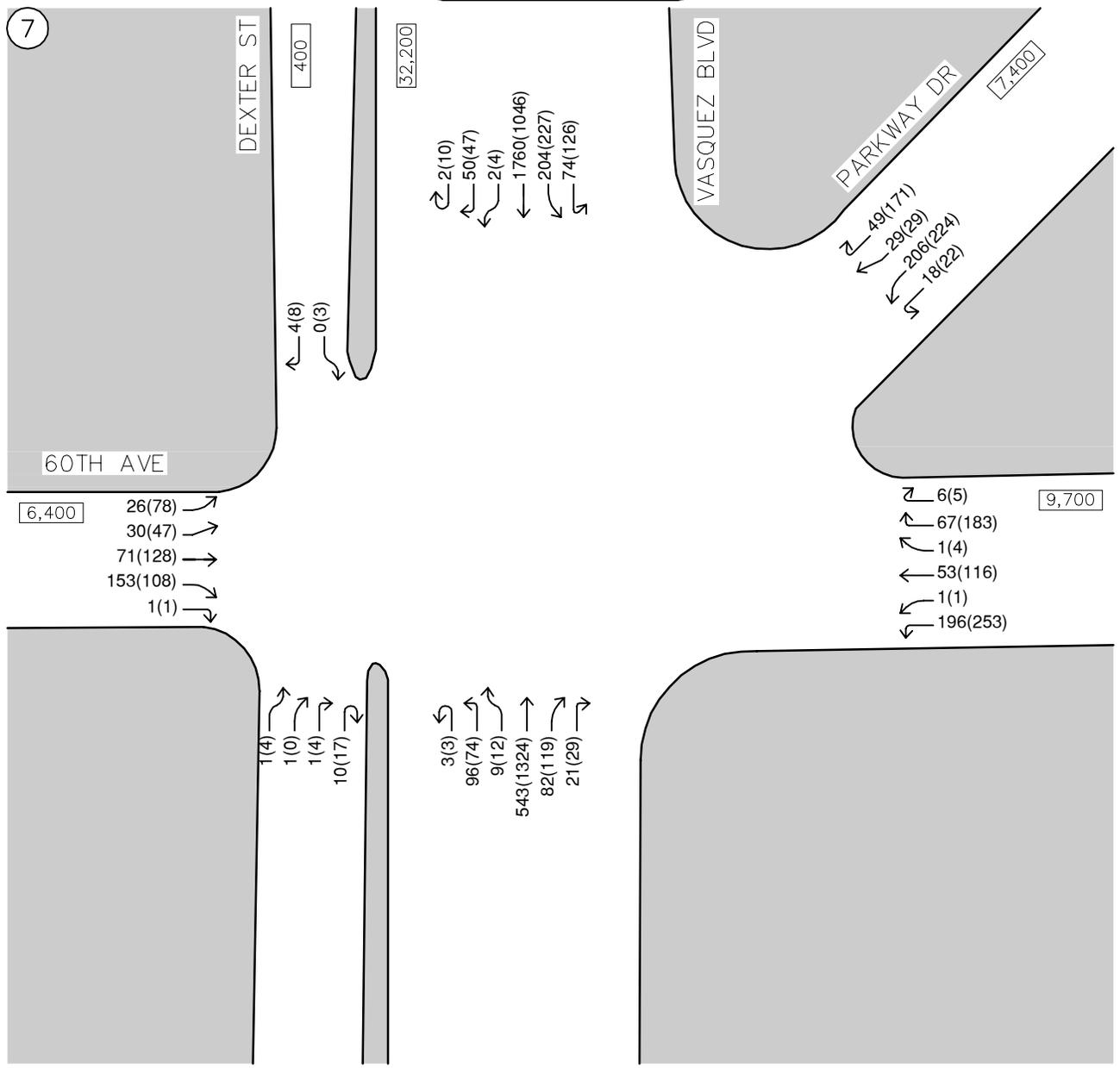
XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 4
EXISTING TRAFFIC VOLUMES



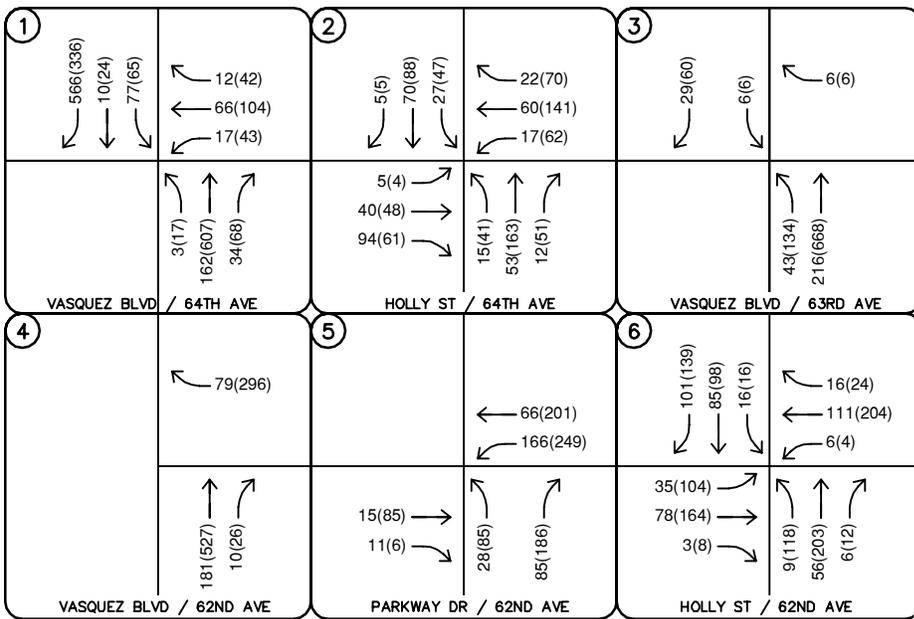
Wed. 6/18/14 7:00 - 8:00 AM
 Wed. 6/18/14 4:15 - 5:15 PM



LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 5
 EXISTING TRAFFIC VOLUMES



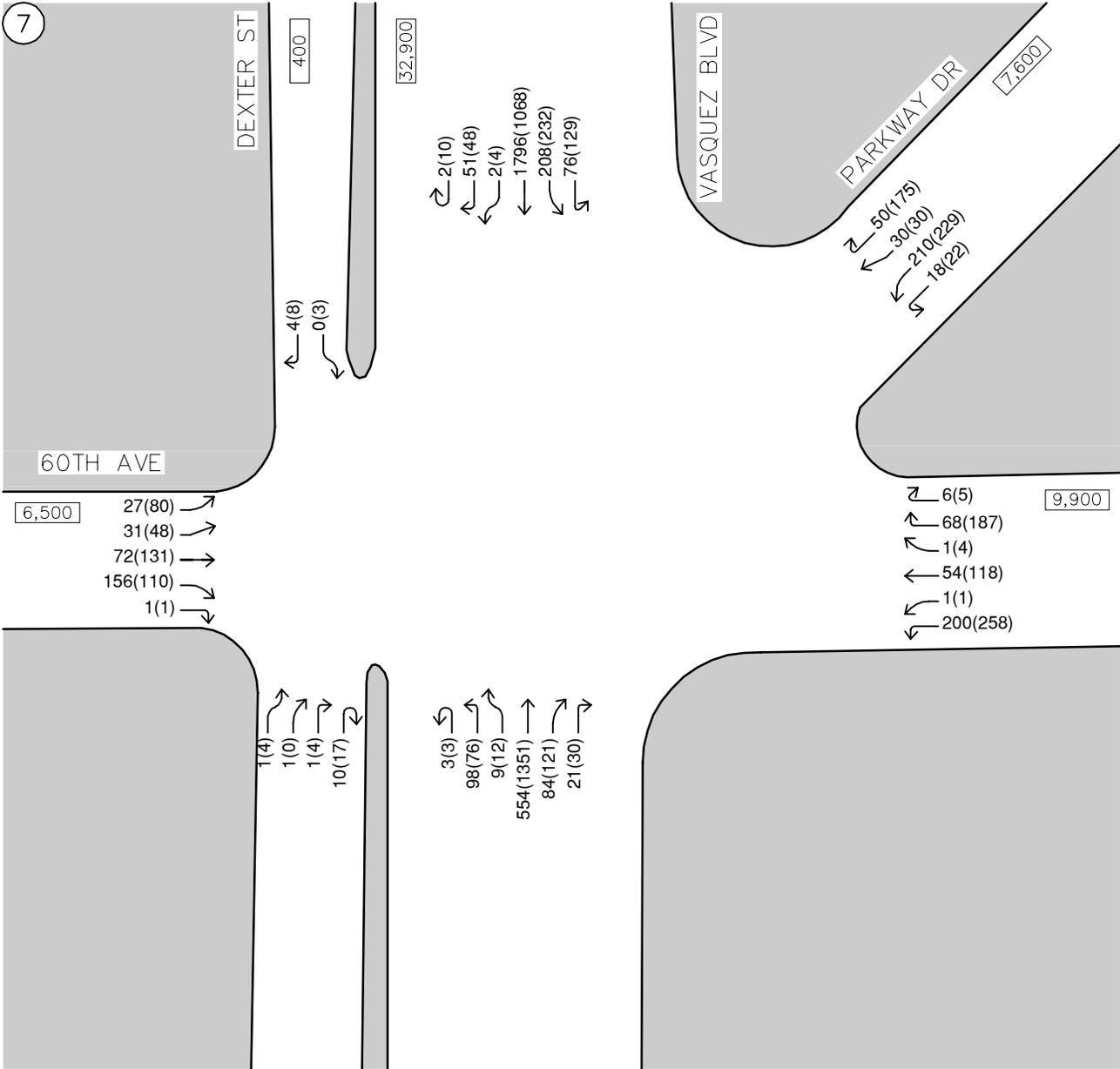
LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

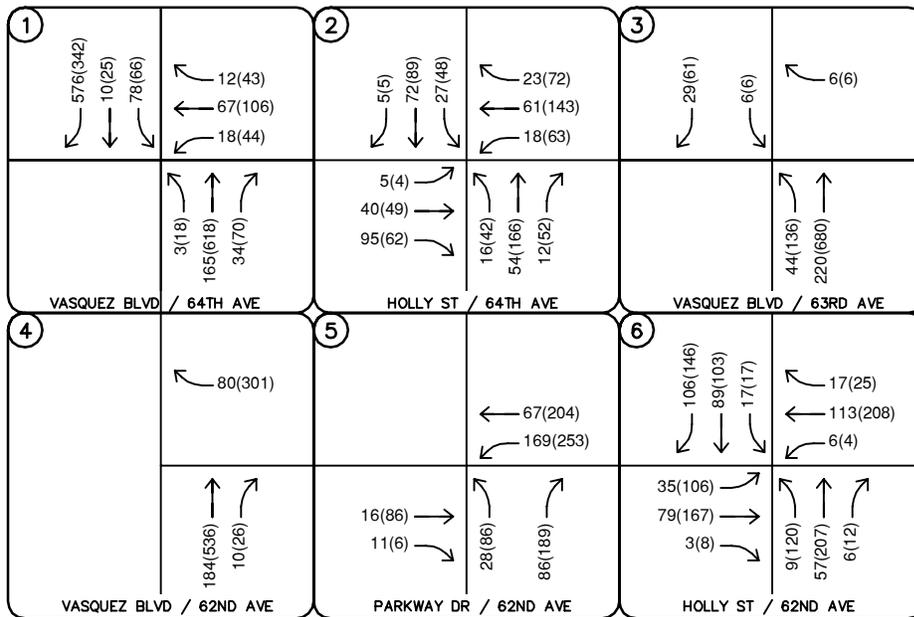
MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 6
2020 BACKGROUND TRAFFIC VOLUMES



LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 7
 2020 BACKGROUND TRAFFIC VOLUMES



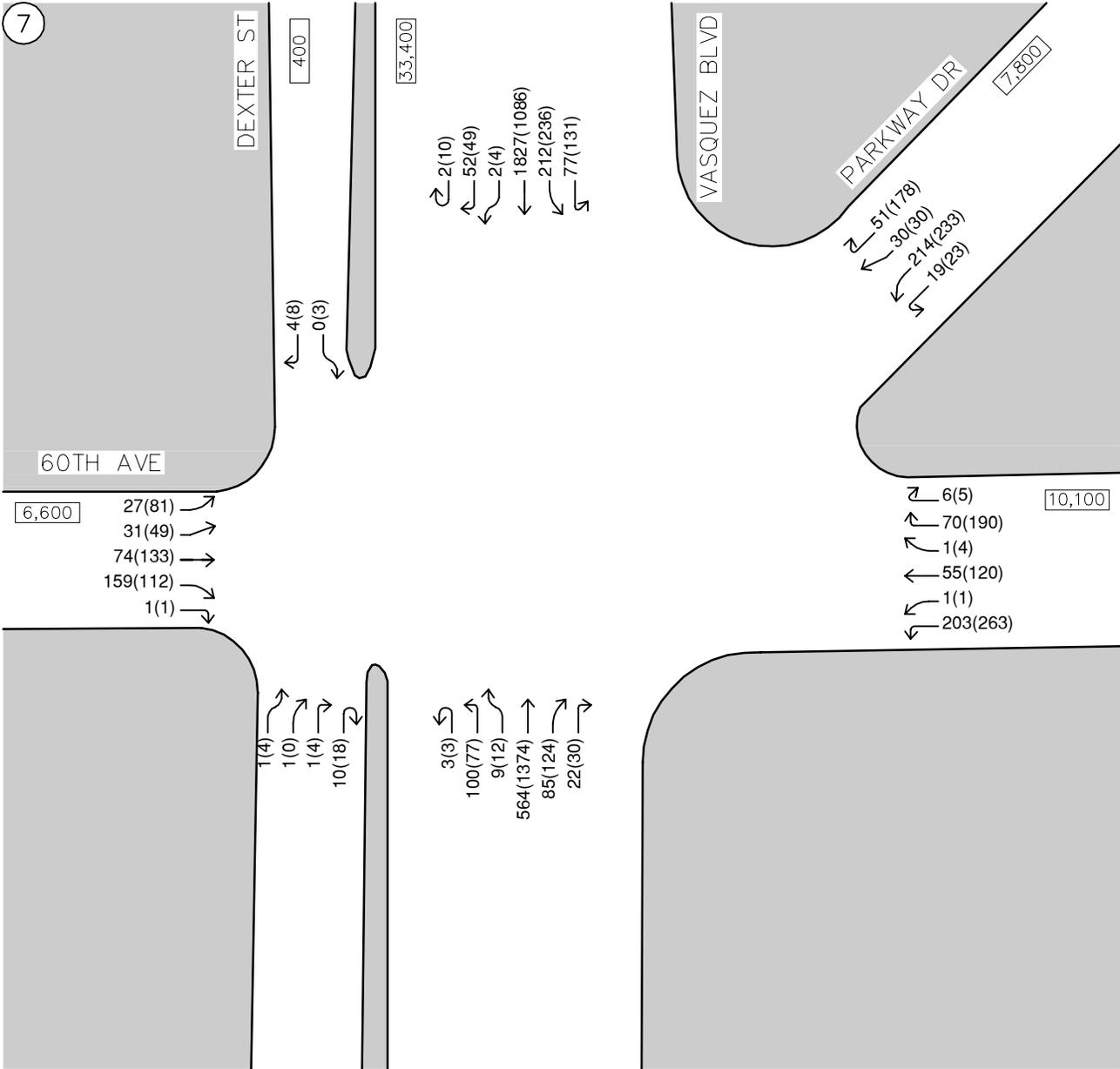
LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 8
2025 BACKGROUND TRAFFIC VOLUMES



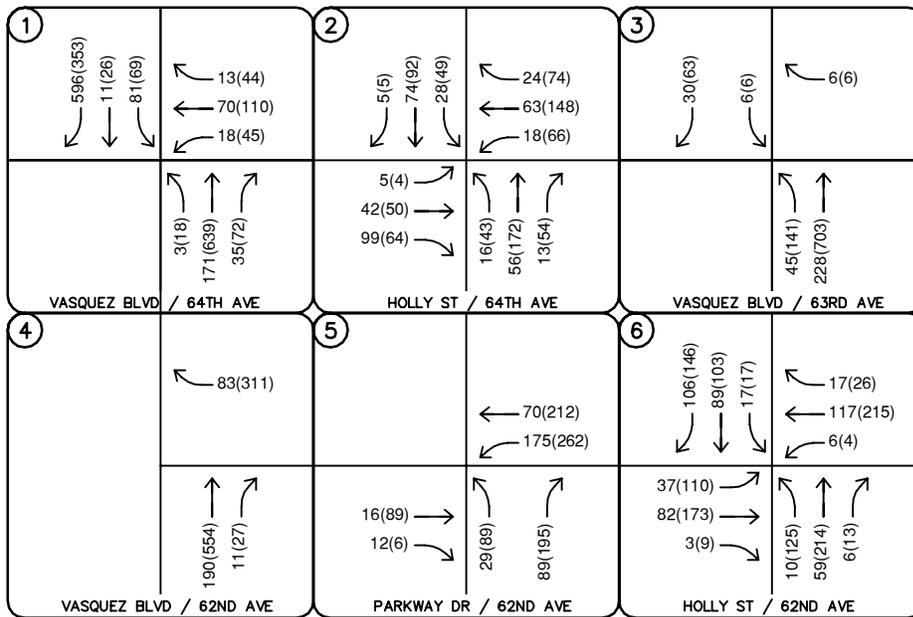
LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,XXX Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 9
 2025 BACKGROUND TRAFFIC VOLUMES



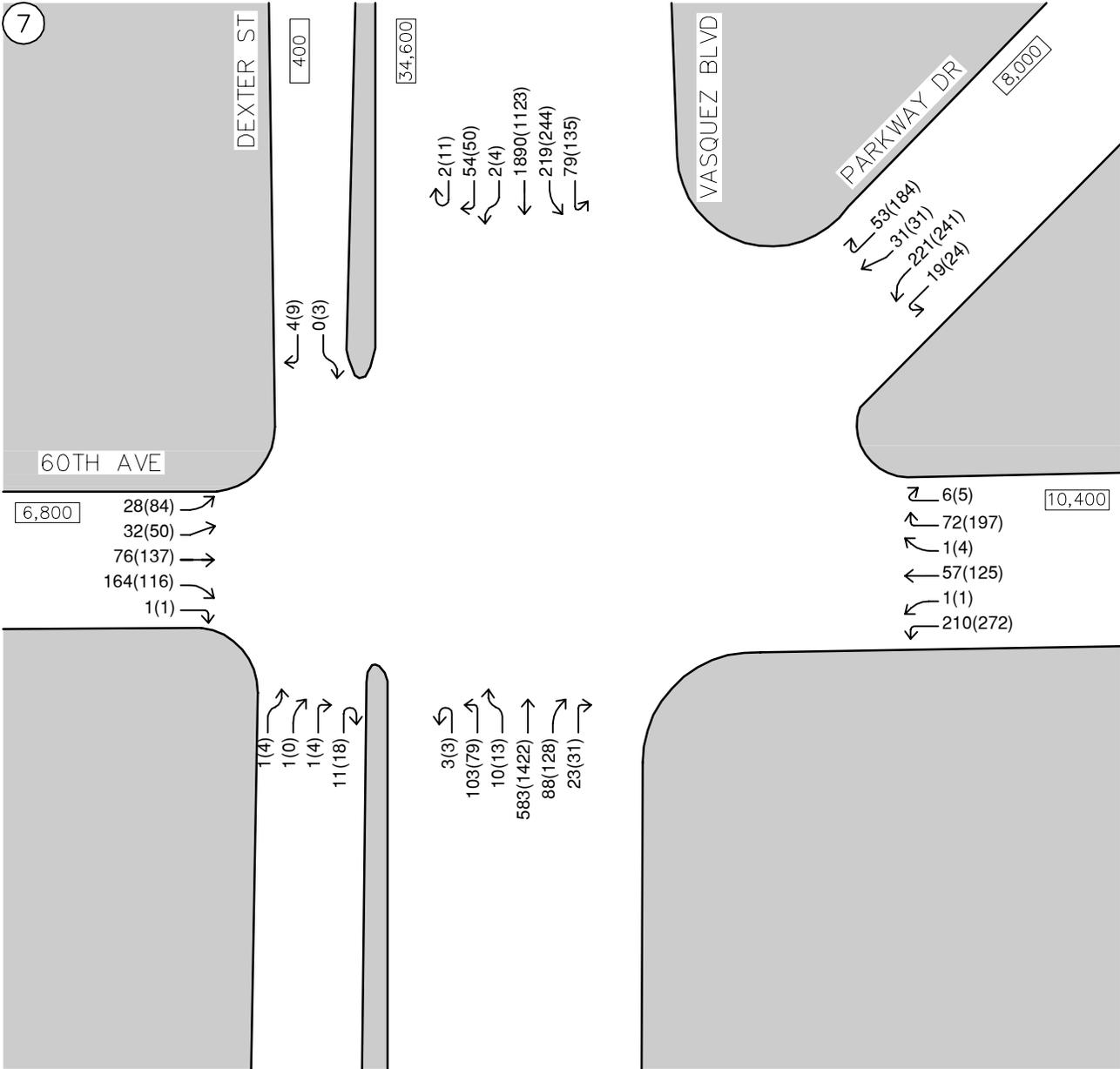
LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 10
2035 BACKGROUND TRAFFIC VOLUMES



LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 11
 2035 BACKGROUND TRAFFIC VOLUMES

4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 TRIP GENERATION

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation*¹ report published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, the ITE Trip Generation fitted curve and average trip rates that apply to Single-Family Detached Housing (ITE Code 210), Apartment (220), Condominium/ Townhouse (230), Hotel (310), Shopping Center (820), Recreational Community Center (495), and Junior/Community College (540) were used to estimate traffic generated by the proposed development.

By 2020, buildout of the proposed residential portion of the development is expected to generate approximately 4,594 daily weekday trips. Of these, 438 trips are expected to occur during the morning peak hour, while 427 trips are expected during the afternoon peak hour. No internal capture was applied to the residential portion of the project for the 2020 horizon. **Table 1** summarizes the estimated traffic generation for the residential portion of the development.

Table 1. 2020 MHGP Redevelopment Residential Project Traffic Generation

	Vehicles Trips						
	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Non Pass-By Trips							
Single Family	643	12	49	61	38	22	60
Apartment	3,446	66	263	329	204	116	320
Townhomes	505	10	39	48	30	17	47
Total Net New Trips	4,594	88	351	438	272	155	427

By 2025, it is anticipated that full buildout of the project will be complete. Since a mix of uses, residential, hotel, and retail is proposed within the same development, it is anticipated that traffic will be shared between the uses. This internal trip generation, or capture, is most specifically expected to occur between the residential, hotel, and shopping center (retail) uses. Therefore, the ITE internal capture procedure was used to determine the amount of traffic that may be shared between uses, which thereby determines the number of external trips. Use of ITE is appropriate for calculating internal capture for this type of project and use. Internal capture rates of 18 percent for daily traffic, 2.7 percent for morning peak hour traffic, and 19.8 percent for afternoon peak hour traffic were used, as identified directly from the ITE procedure. Based on this, full buildout of the proposed development is expected to generate approximately 11,513 daily weekday driveway trips. Of these, 740 driveway trips are expected to occur during the morning peak hour, while 1,019 driveway trips are expected during the afternoon peak hour. **Table 2** summarizes the estimated traffic generation for proposed development. The trip generation

¹ Institute of Transportation Engineers, *Trip Generation: An Information Report*, Ninth Edition, Washington DC, 2012.

worksheets are included in **Appendix C**. These calculations illustrate the equations used, directional distribution of trips, and number of daily trips based on the published ITE *Trip Generation Report*.

Table 2. 2025 MHGP Redevelopment Project Traffic Generation

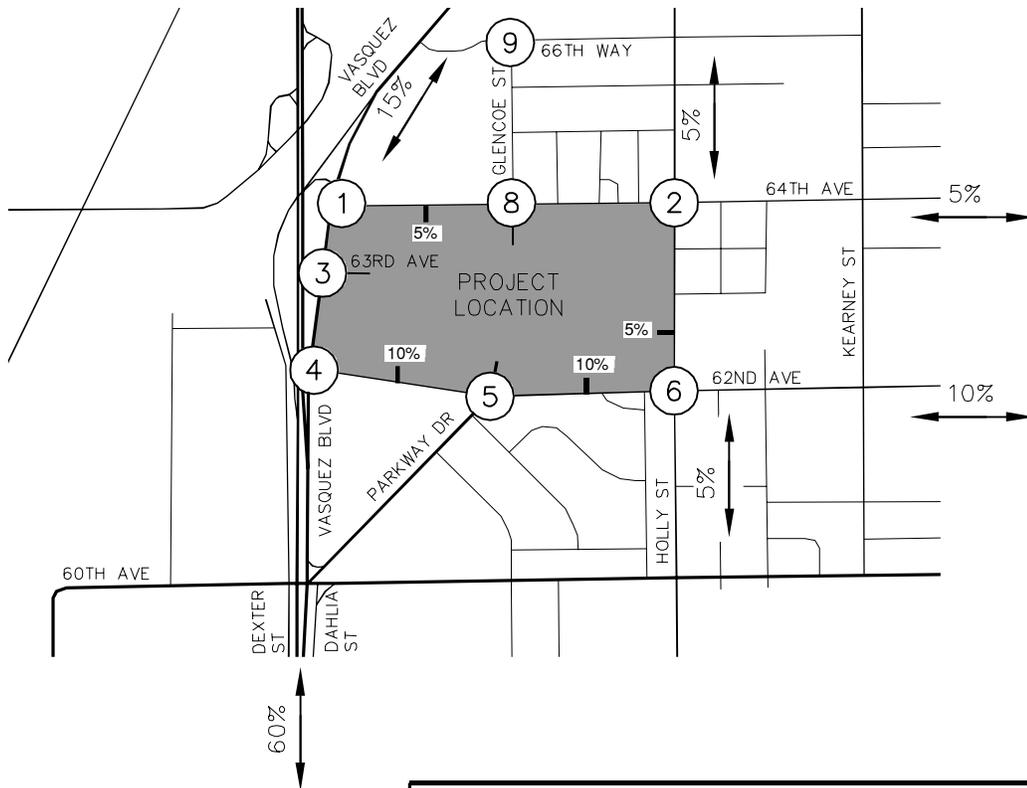
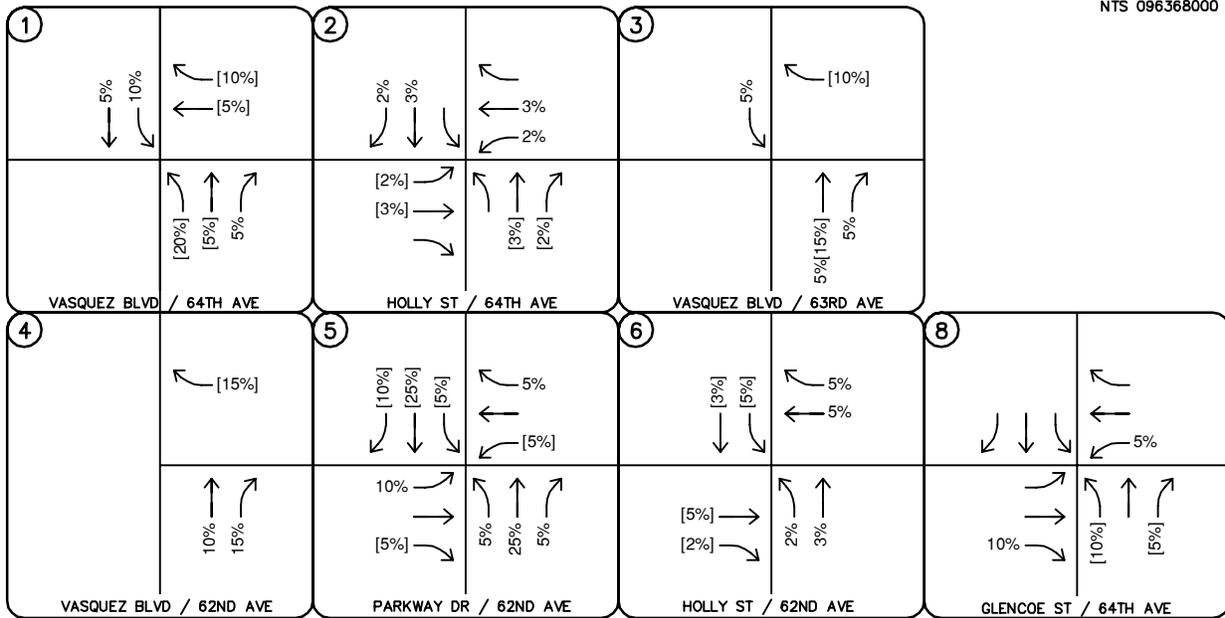
	Vehicles Trips						
	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Non Pass-By Trips							
Single Family	643	12	49	61	38	22	60
Apartment	3,446	66	263	329	204	116	320
Townhomes	505	10	39	48	30	17	47
Hotel	827	47	30	70	33	39	72
Retail	4,716	76	49	125	215	188	403
Recreation Center	880	35	18	53	35	36	71
Institutional	496	40	14	54	27	19	46
Total Net New Trips	11,513	286	462	740	582	437	1,019

4.2 TRIP DISTRIBUTION

Distribution of the net new site traffic on the street system was based on the area street system characteristics, existing traffic patterns and volumes, and the access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to original source direction. Of note, a relatively low percentage of trip distribution to/from the adjacent neighborhoods was used which provides a conservative analysis for the study area intersections. **Figures 12** and **13** illustrate the expected trip distribution for the site traffic.

4.3 TRAFFIC ASSIGNMENT AND BACKGROUND PLUS PROJECT TRAFFIC

Traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. Project traffic assignment for the project conditions during the peak hours studied is shown for the 2020 horizon year in **Figures 14** and **15** and the 2025/2035 horizon years in **16** and **17**. Project traffic volumes were added to the background volumes to represent estimated traffic conditions for the short term 2020 and long term 2035 horizons. The background plus project (total) traffic volumes for the project are illustrated for the 2020 horizon year in **Figures 18** and **19**, 2025 horizon year in **Figures 20** and **21**, and for the 2035 horizon year in **Figures 22** and **23**.



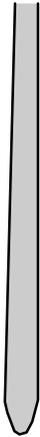
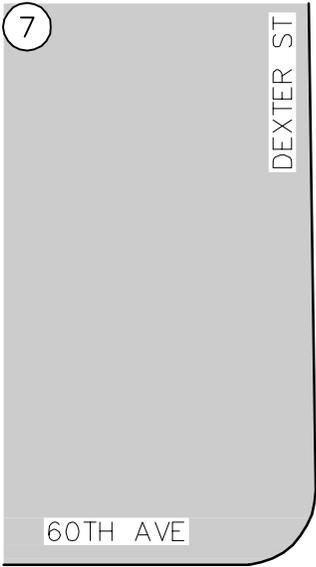
LEGEND

(X) Study Area Key Intersection

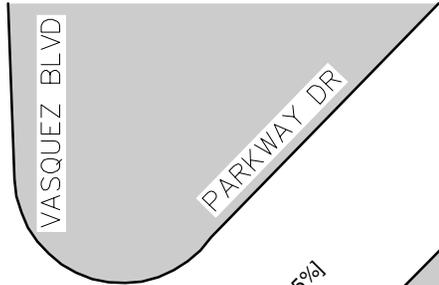
XX%[XX%] Entering[Exiting] Trip Distribution Percentage

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 12 TRIP DISTRIBUTION

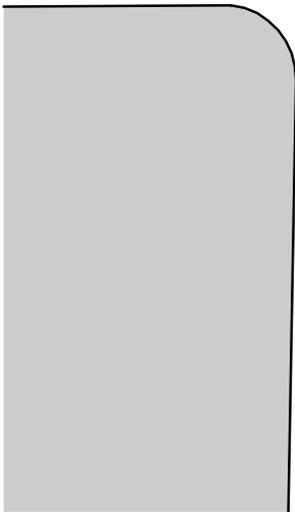
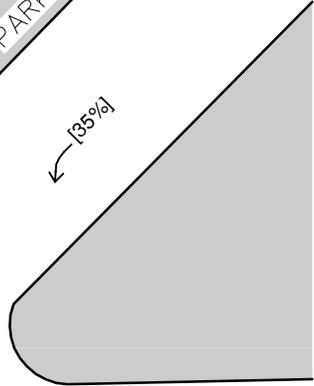
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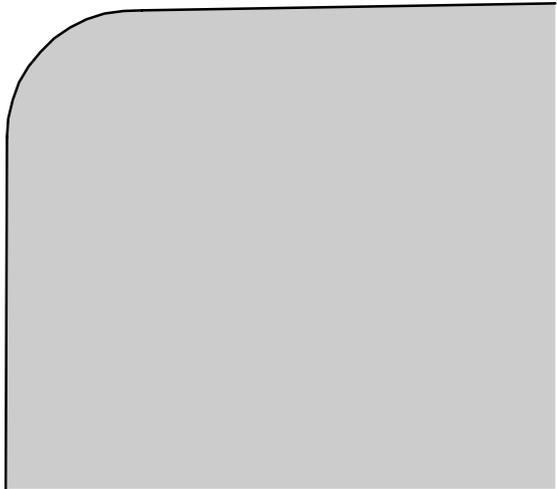
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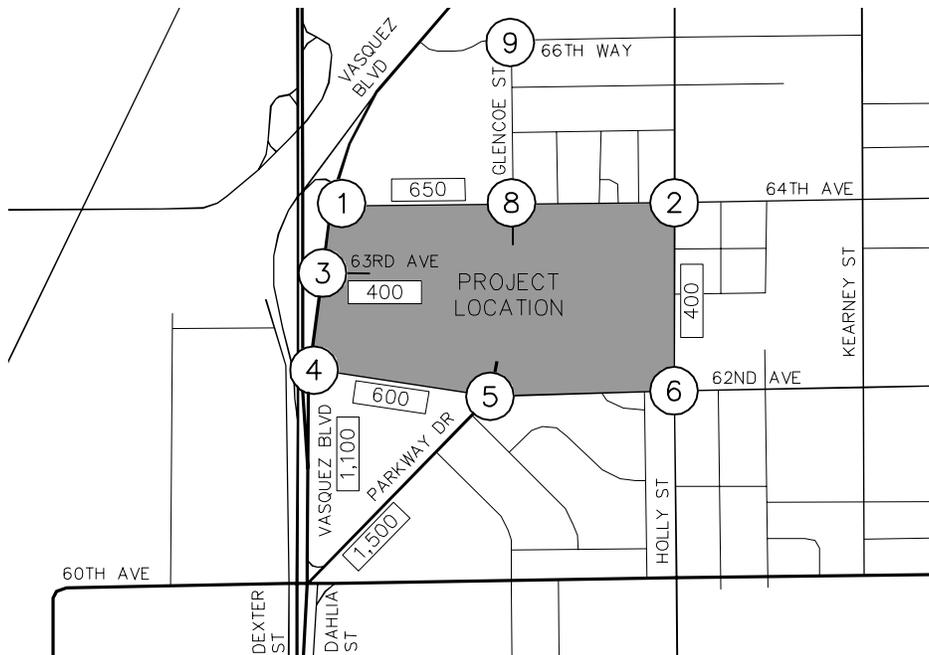
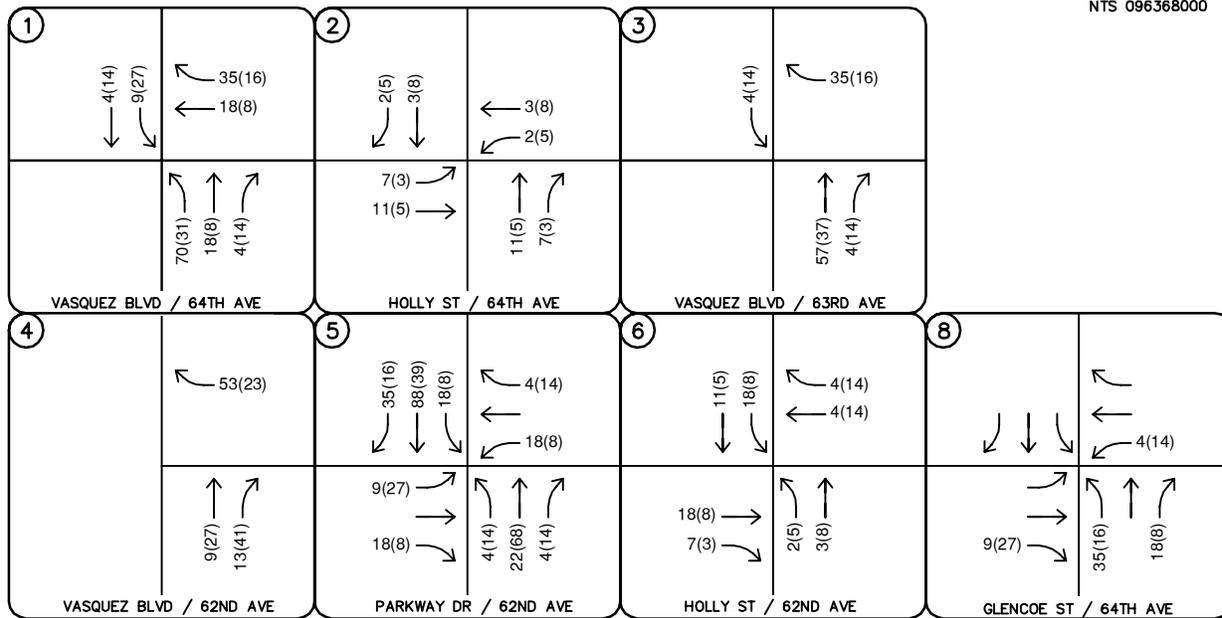
Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00

Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 13
 TRIP DISTRIBUTION



LEGEND

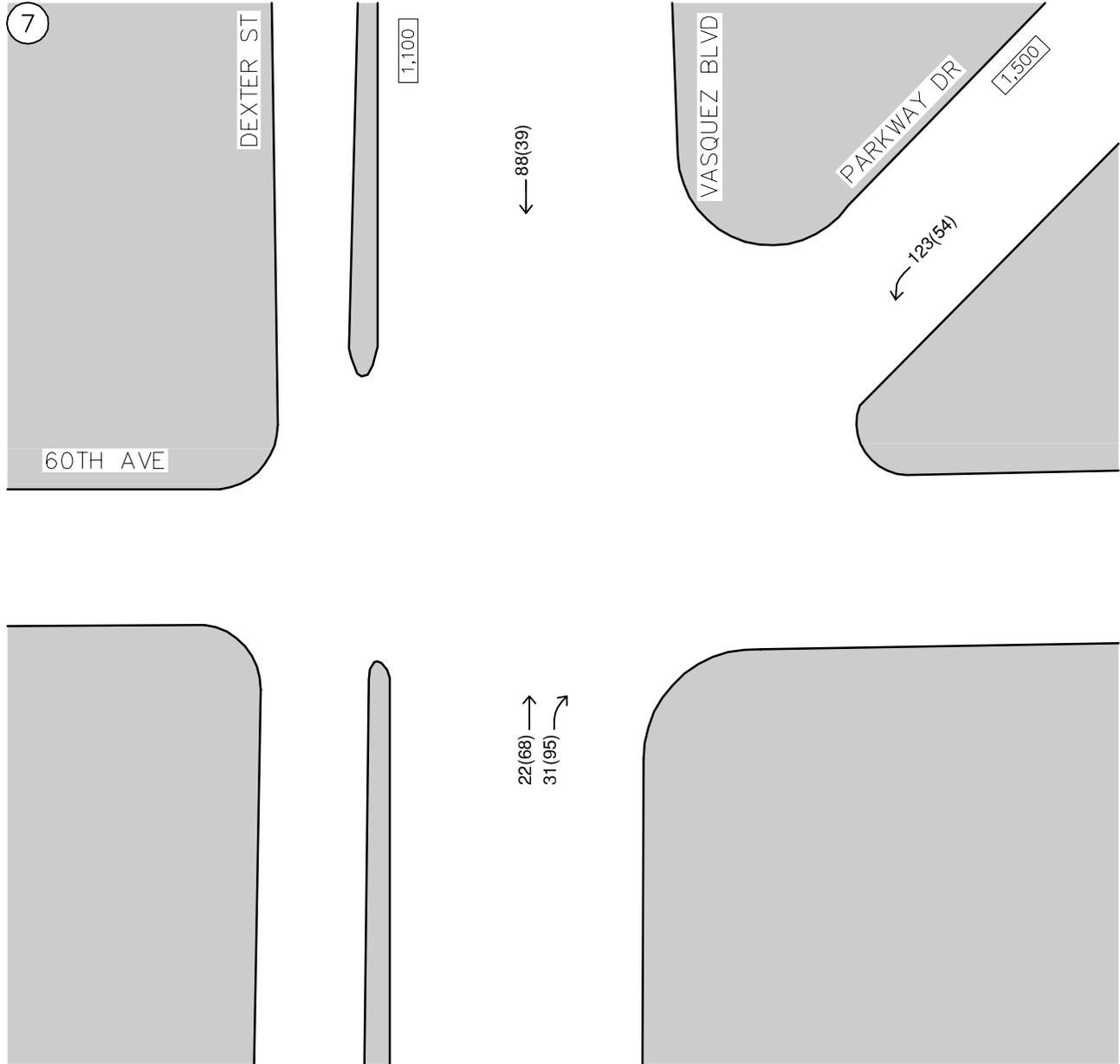
(X) Study Area Key Intersection

XX(X) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT
2020
AM & PM TRAFFIC ASSIGNMENT

FIGURE 14



LEGEND

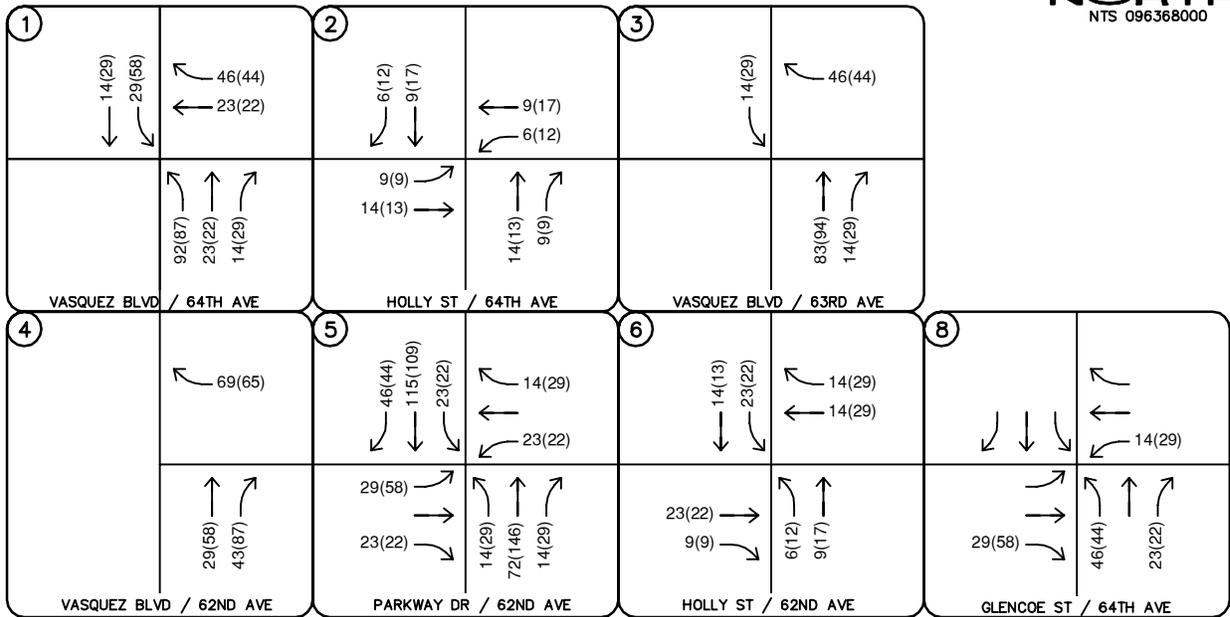
(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

[XX,X00] Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT
 2020
 AM & PM TRAFFIC ASSIGNMENT

FIGURE 15



LEGEND

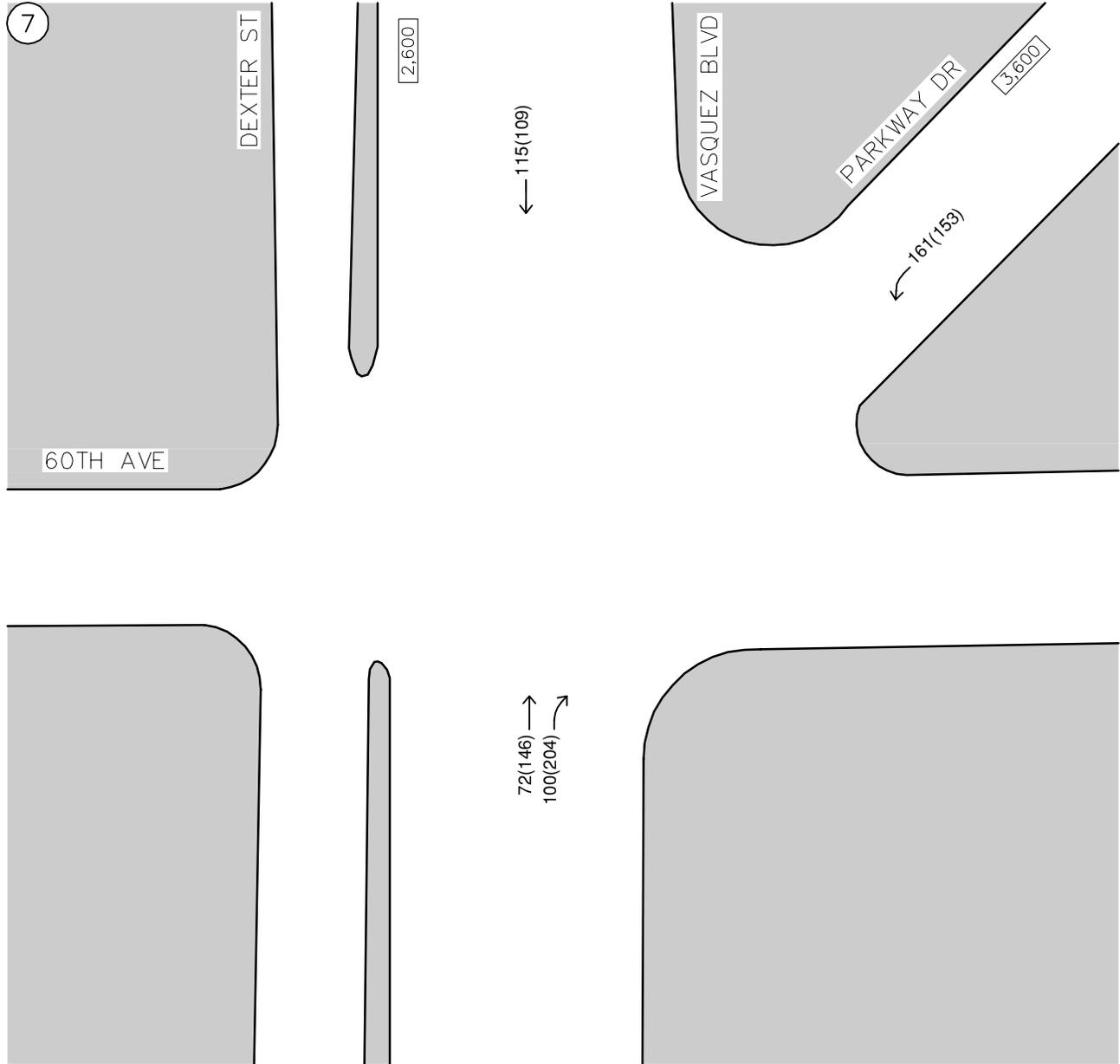
(X) Study Area Key Intersection

XX(X) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT
 2025 AND 2035
 AM & PM TRAFFIC ASSIGNMENT

FIGURE 16



LEGEND

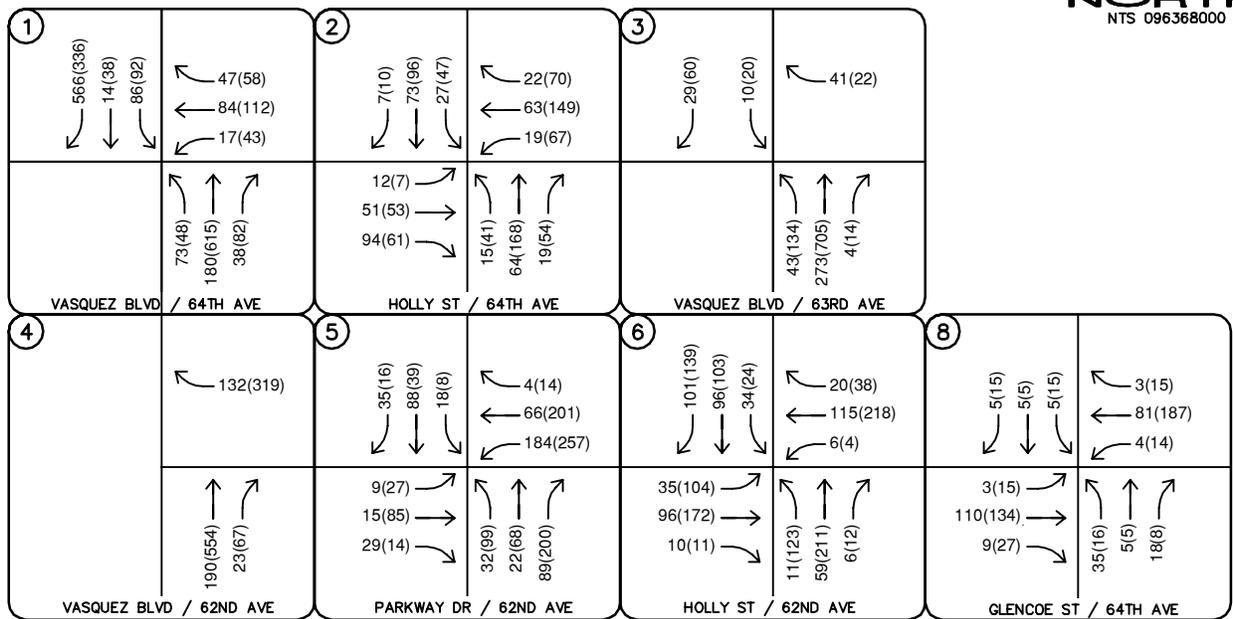
(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT
 2025 AND 2035
 AM & PM TRAFFIC ASSIGNMENT

FIGURE 17



LEGEND

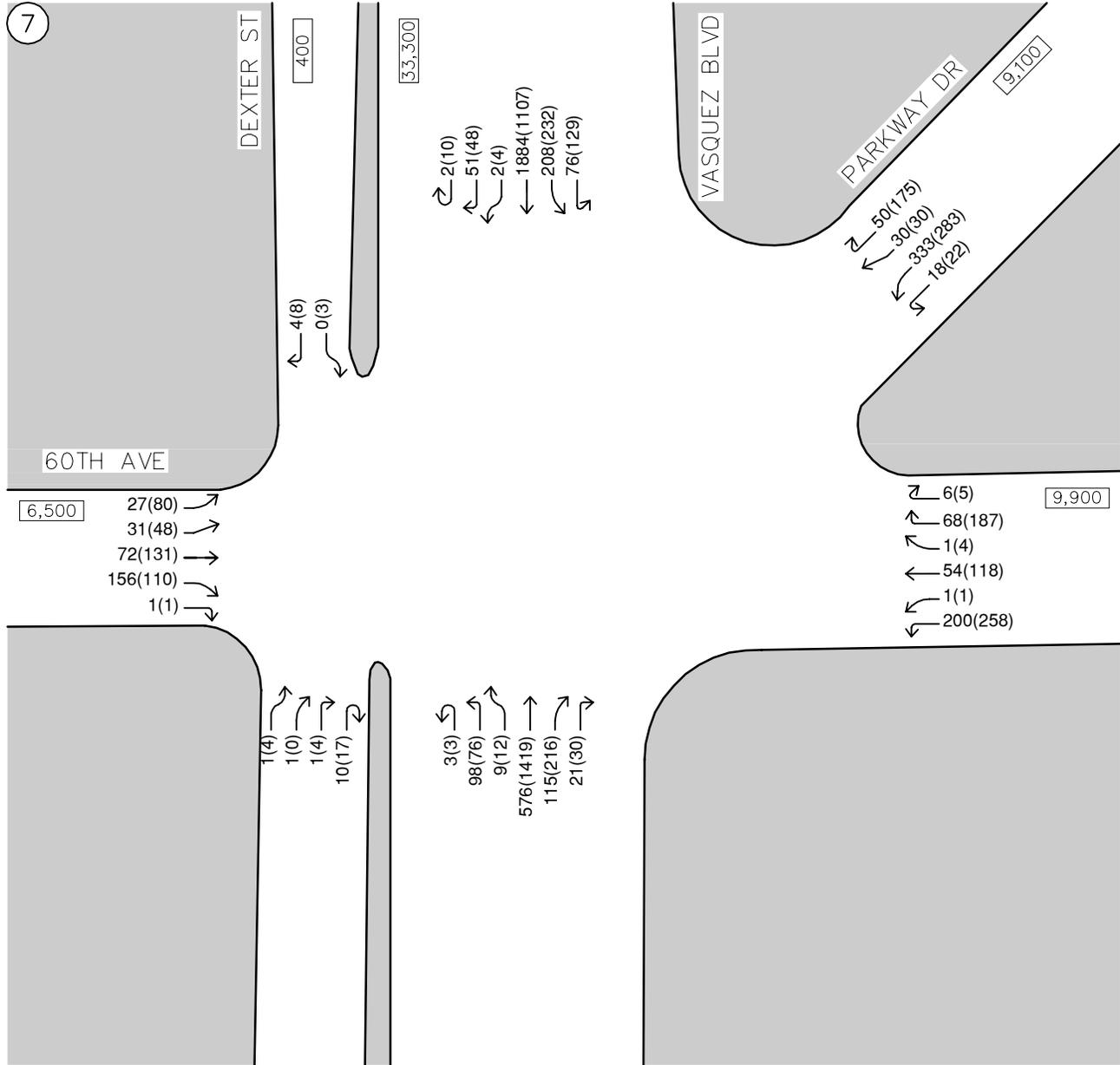
(X) Study Area Key Intersection

XX(X) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT
 2020 BACKGROUND
 PLUS PROJECT TRAFFIC VOLUMES

FIGURE 18



LEGEND

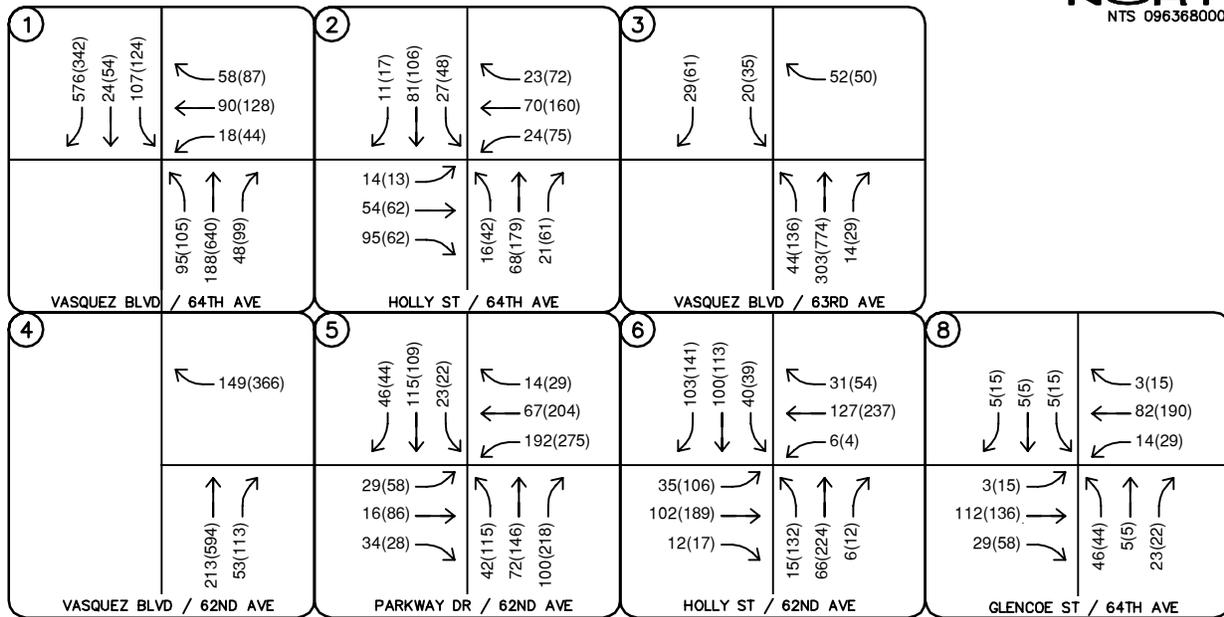
(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT
 2020 BACKGROUND
 PLUS PROJECT TRAFFIC VOLUMES

FIGURE 19



LEGEND

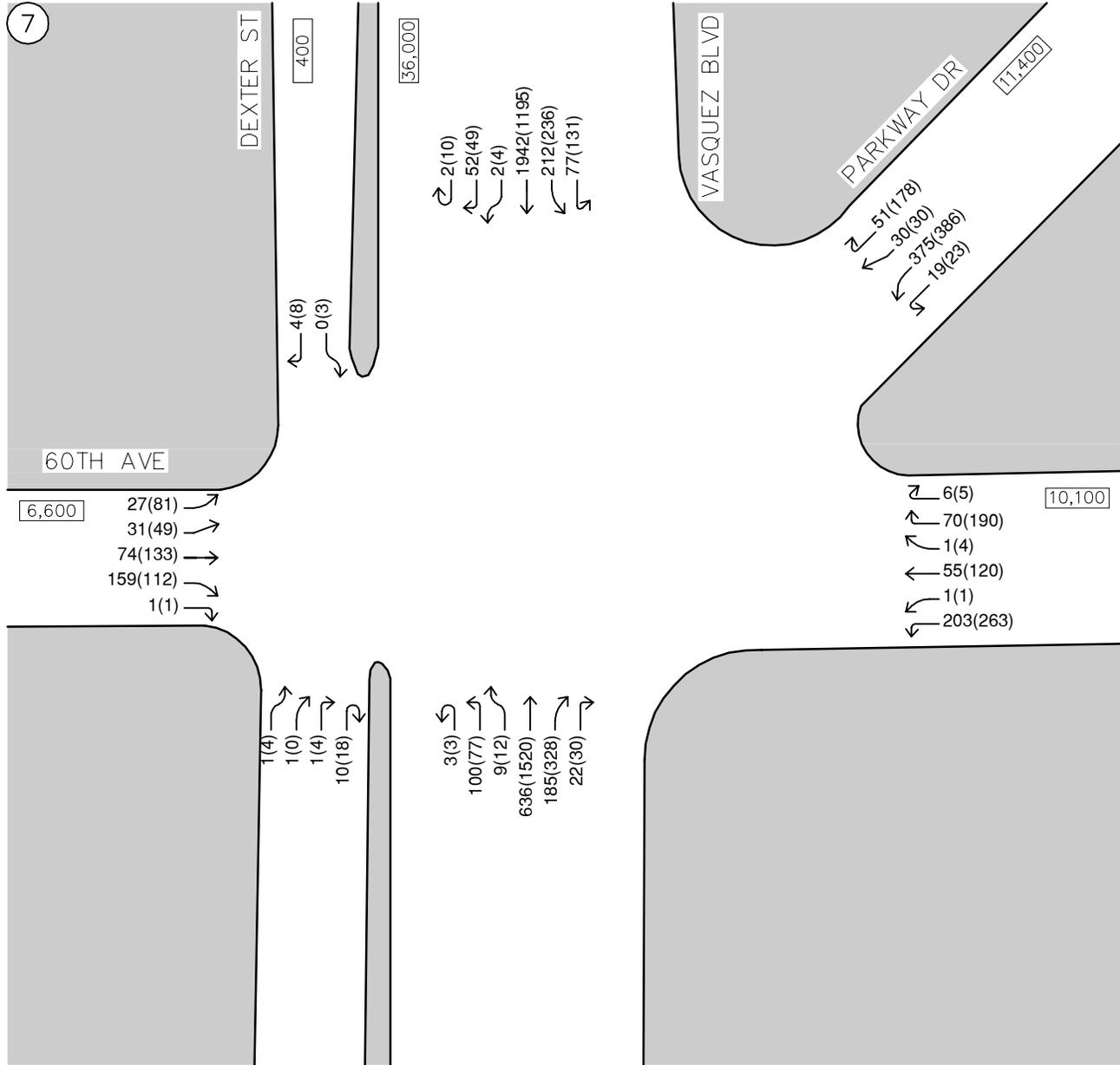
(X) Study Area Key Intersection

XX(X) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT
 2025 BACKGROUND
 PLUS PROJECT TRAFFIC VOLUMES

FIGURE 20



LEGEND

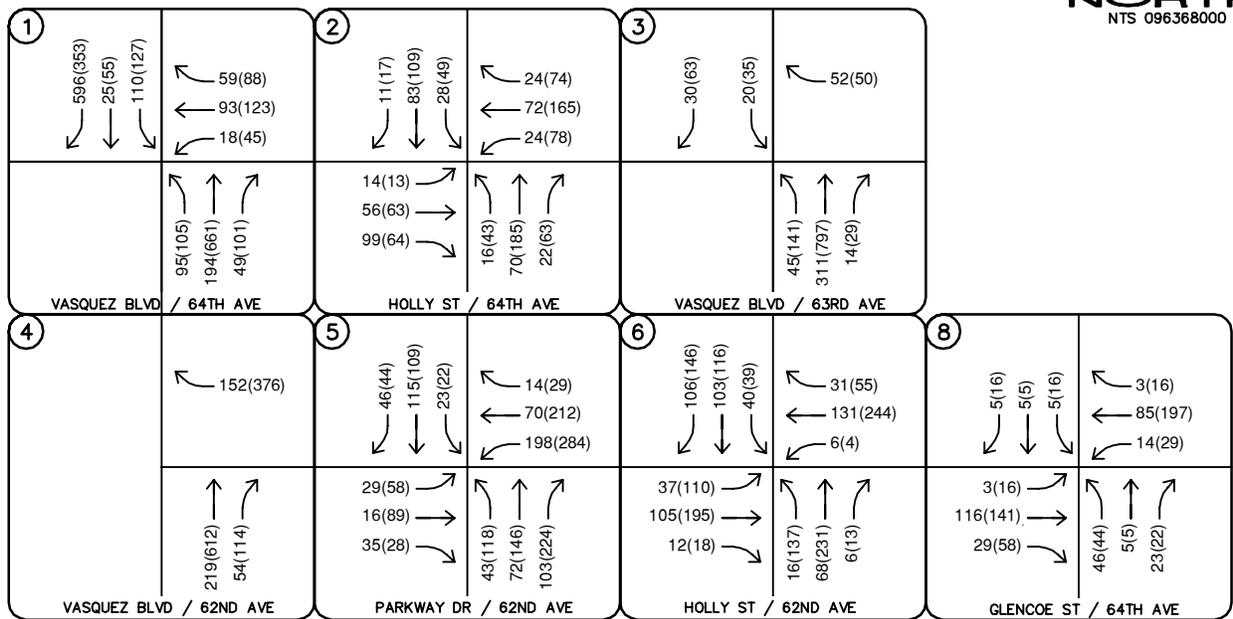
(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT
 2025 BACKGROUND
 PLUS PROJECT TRAFFIC VOLUMES

FIGURE 21



LEGEND

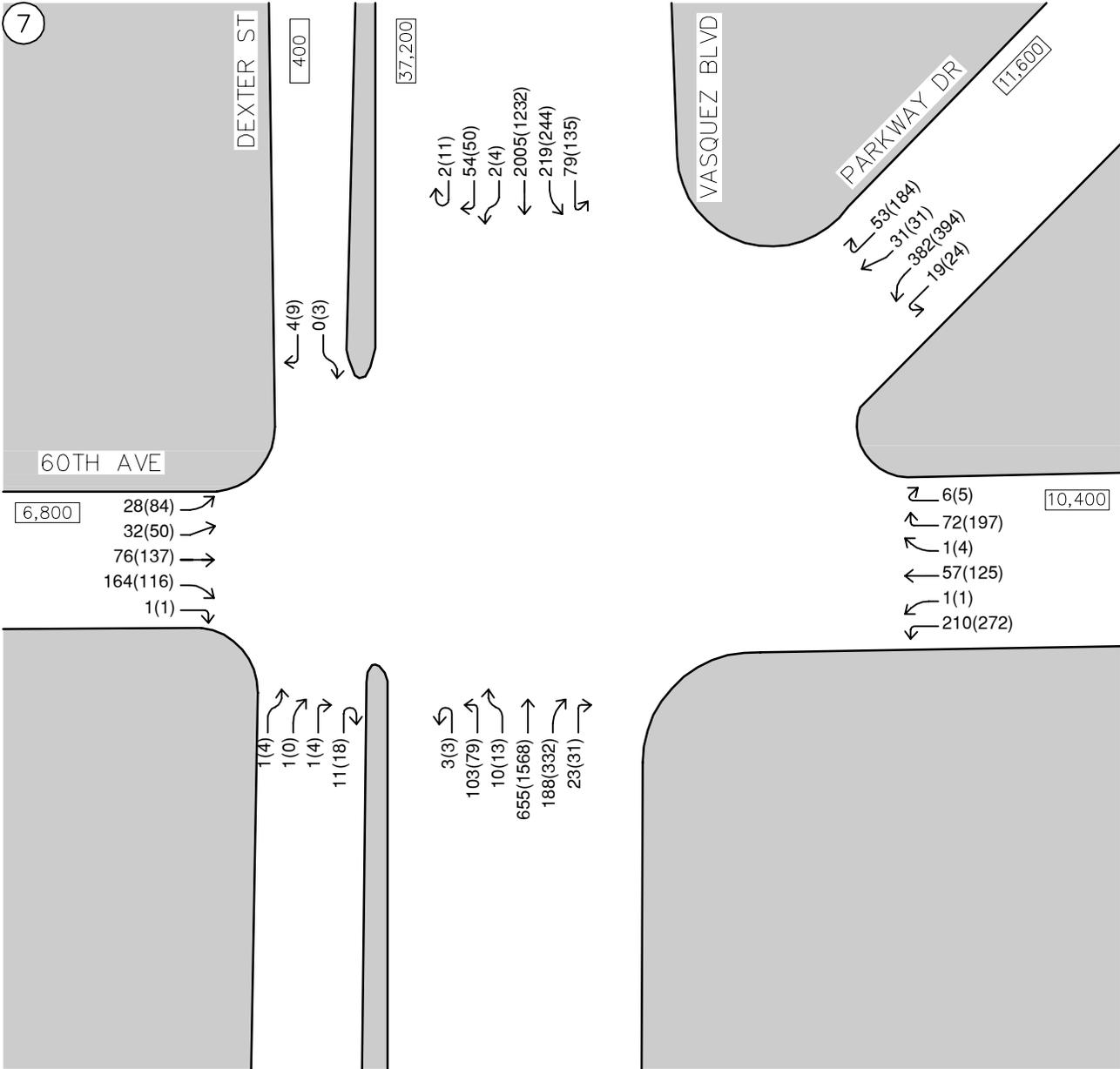
(X) Study Area Key Intersection

XX(X) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT
 2035 BACKGROUND
 PLUS PROJECT TRAFFIC VOLUMES

FIGURE 22



LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

MILE HIGH GREYHOUND PARK REDEVELOPMENT
 2035 BACKGROUND
 PLUS PROJECT TRAFFIC VOLUMES

FIGURE 23

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2020 and 2035 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the *Highway Capacity Manual*².

5.1 ANALYSIS METHODOLOGY

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways in this study area, standard traffic engineering practice recommends intersection LOS D as the minimum threshold for acceptable operations for signalized intersections and LOS E for movements or approaches of unsignalized intersections. **Table 3** shows the definition of level of service for signalized and unsignalized intersections.

Table 3. Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Highway Capacity Manual, Special Report 209, Transportation Research Board, 2010.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the level of service (LOS) for a two-way stop controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service for a two-way stop-controlled intersection is not defined for the intersection as a whole. Level of service for a signalized and all-way stop controlled intersection is defined for each approach and for the intersection.

² Transportation Research Board, *Highway Capacity Manual*, Special Report 209, Washington DC, 2010.

5.2 KEY INTERSECTION OPERATIONAL ANALYSIS

Calculations for the level of service and signal timing data at the key intersections identified for study are provided in **Appendix D**. The existing and background traffic analyses are based on the lane geometry and intersection control shown in **Figure 2**. Existing signal timings were obtained from Commerce City and used in the analysis for all scenarios with no optimization. Although no lane specific turn lane improvements were found to be needed at the surrounding key intersections, traffic signal upgrades of equipment will likely be required due to the increase in traffic volumes. Synchro traffic analysis software was used to analyze the study intersection for level of service. The Synchro Highway Capacity Manual (HCM) methodology reports were used to analyze intersection delay and level of service.

60TH AVENUE AND VASQUEZ BOULEVARD (US-6/85 & SH-2)

The existing full movement intersection of 60th Avenue/Vasquez Boulevard (US-6/85)/State Highway 2 (SH-2)/Parkway Drive is a signalized 5-leg intersection. With existing conditions, this intersection operates with a LOS D during both the morning and afternoon peak hours. Prior to the addition of project traffic in 2020, this intersection is anticipated to continue to operate at LOS D during both the morning and afternoon peak hours. With the addition of residential project traffic in 2020, this intersection is anticipated to continue to operate at LOS D during the morning peak hour, but operate with a LOS E during the afternoon peak hour. Although not significantly beyond the LOS D to E threshold, additional improvements may be warranted at this intersection by the near-term horizon.

With the addition of all project traffic in 2025, this intersection is anticipated to operate at LOS E during both the morning and afternoon peak hours. With the addition of all project traffic in 2035, this intersection is anticipated to operate at LOS E during the morning peak hour and LOS F during the afternoon peak hour. This demonstrates or identifies that this improvement may be needed in the near future. **Table 4** provides the results of the level of service at this intersection.

If poor level of service (LOS E/F) is realized at the 60th Avenue/Vasquez Boulevard (US-6/85)/State Highway 2 (SH-2)/Parkway Drive is a signalized intersection, roadway improvements may be needed. It has been previously discussed that Parkway Drive may be realigned and removed from this intersection to connect with the existing signalized intersection along 60th Avenue, located approximately 500 feet (measured curb to curb) east of Vasquez Boulevard. Although this now seems less likely with the recent developments constructed north of 60th Avenue, it is still an option to improve traffic conditions at this intersection. Another possible improvement could be to consider converting either Parkway Drive or 60th Avenue to one-way traffic movements away from the intersection, eastbound 60th Avenue or northeastbound Parkway Drive. This would improve traffic conditions at this intersection by removing the entering phase of this one approach. It is understood that The Colorado Department of Transportation (CDOT) is currently conducting a study to improve safety conditions at this intersection. Existing issues are present at the intersection today, so the City of Commerce City and CDOT should consider possible improvements of the intersection to implement them within the next few years.

Table 4. 60th Avenue & Vasquez Boulevard LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2016 Existing	43.4	D	52.8	D
Eastbound Approach	56.8	E	60.8	E

Eastbound Sharp Left/Left	43.4	D	84.1	F
Eastbound Through	44.7	D	47.7	D
Eastbound Right/Sharp Right	68.1	E	49.0	D
Westbound Approach	46.6	D	86.8	F
Westbound Sharp Left/Left	46.4	D	80.7	F
Westbound Through	45.5	D	49.2	D
Westbound Right/Sharp Right	47.9	D	119.2	F
Northbound Approach	32.1	C	33.4	C
Northbound Sharp Left	80.4	F	43.6	D
Northbound Left/Slight Left	58.4	E	24.1	C
Northbound Through/Right	23.8	C	33.1	C
Southbound Approach	38.7	D	42.1	D
Southbound Left/Slight Left	69.9	E	75.4	E
Southbound Through/Right	33.0	C	31.0	C
Southeastbound Approach	57.9	E	88.1	F
Northeastbound Approach	216.1	F	131.6	F
Southwestbound Approach	37.2	D	60.2	E
Southwestbound Left	93.1	F	156.5	F
Southwestbound Slight Right/Right	18.5	B	24.1	C
Southwestbound Right	0.0	A	0.2	A
2020 Background	43.9	D	49.5	D
Eastbound Approach	59.4	E	49.6	E
Eastbound Sharp Left/Left	44.8	D	63.6	E
Eastbound Through	45.2	D	56.3	E
Eastbound Right/Sharp Right	72.2	E	58.7	E
Westbound Approach	46.6	D	63.5	E
Westbound Sharp Left/Left	46.7	D	50.1	D
Westbound Through	45.3	D	48.6	D
Westbound Right/Sharp Right	47.5	D	90.6	F
Northbound Approach	35.4	D	42.6	D
Northbound Sharp Left	101.7	F	49.4	D
Northbound Left/Slight Left	62.6	E	28.6	C
Northbound Through/Right	24.6	C	42.6	D
Southbound Approach	40.0	D	45.0	D
Southbound Left/Slight Left	72.1	E	79.5	E
Southbound Through/Right	34.0	C	33.5	C
Southeastbound Approach	58.3	E	99.9	F
Northeastbound Approach	216.5	F	151.2	F
Southwestbound Approach	31.6	C	37.3	D
Southwestbound Left	76.2	E	85.7	F
Southwestbound Slight Right/Right	18.5	B	25.9	C
Southwestbound Right	0.0	A	0.2	A
2020 Background Plus Project	51.0	D	63.2	E
Eastbound Approach	80.8	F	93.3	F
Eastbound Sharp Left/Left	46.4	D	123.6	F
Eastbound Through	48.1	D	74.1	E
Eastbound Right/Sharp Right	110.4	F	80.7	F
Westbound Approach	54.5	D	101.6	F
Westbound Sharp Left/Left	54.7	D	89.8	F
Westbound Through	50.1	D	54.1	D
Westbound Right/Sharp Right	57.2	E	147.7	F

Northbound Approach	41.2	D	41.7	D
Northbound Sharp Left	149.7	F	49.6	D
Northbound Left/Slight Left	66.3	E	26.2	C
Northbound Through/Right	25.9	C	41.6	D
Southbound Approach	43.5	D	63.2	E
Southbound Left/Slight Left	75.8	E	156.9	F
Southbound Through/Right	37.8	C	32.8	C
Southeastbound Approach	58.7	E	260.2	F
Northeastbound Approach	200.5	F	347.6	F
Southwestbound Approach	53.7	D	30.7	C
Southwestbound Left	88.7	F	67.0	E
Southwestbound Slight Right/Right	18.7	B	25.1	C
Southwestbound Right	0.0	A	0.2	A
2025 Background	45.2	D	51.0	D
Eastbound Approach	60.4	E	61.0	E
Eastbound Sharp Left/Left	45.0	D	66.8	E
Eastbound Through	45.4	D	56.6	E
Eastbound Right/Sharp Right	73.8	E	59.3	E
Westbound Approach	47.1	D	64.4	E
Westbound Sharp Left/Left	47.3	D	51.4	D
Westbound Through	45.5	D	48.9	D
Westbound Right/Sharp Right	47.8	D	91.5	F
Northbound Approach	36.0	D	44.0	D
Northbound Sharp Left	105.9	F	50.2	D
Northbound Left/Slight Left	66.3	E	29.0	C
Northbound Through/Right	24.7	C	44.1	D
Southbound Approach	41.3	D	46.1	D
Southbound Left/Slight Left	75.7	E	83.8	F
Southbound Through/Right	35.0	C	33.4	C
Southeastbound Approach	58.5	E	101.2	F
Northeastbound Approach	216.7	F	160.8	F
Southwestbound Approach	50.0	D	39.0	D
Southwestbound Left	80.4	F	91.3	F
Southwestbound Slight Right/Right	15.5	B	25.7	C
Southwestbound Right	0.0	A	0.2	A
2025 Background Plus Project	55.8	E	79.8	E
Eastbound Approach	84.7	F	100.4	F
Eastbound Sharp Left/Left	47.0	D	137.4	F
Eastbound Through	48.7	D	76.7	E
Eastbound Right/Sharp Right	117.2	F	85.4	F
Westbound Approach	55.9	E	110.2	F
Westbound Sharp Left/Left	56.2	E	101.4	F
Westbound Through	50.6	D	55.5	E
Westbound Right/Sharp Right	58.9	E	157.4	F
Northbound Approach	40.9	D	65.9	E
Northbound Sharp Left	152.9	F	52.3	D
Northbound Left/Slight Left	70.1	E	27.6	C
Northbound Through/Right	26.7	C	67.2	E
Southbound Approach	46.0	D	64.1	E
Southbound Left/Slight Left	80.6	F	167.9	F
Southbound Through/Right	40.0	D	32.3	C

Southeastbound Approach	59.1	E	260.7	F
Northeastbound Approach	201.0	F	348.0	F
Southwestbound Approach	48.2	D	55.0	E
Southwestbound Left	126.1	F	140.9	F
Southwestbound Slight Right/Right	18.5	B	24.0	C
Southwestbound Right	0.0	A	0.2	A
2035 Background	48.0	D	54.5	D
Eastbound Approach	73.7	E	65.4	E
Eastbound Sharp Left/Left	45.1	D	75.6	E
Eastbound Through	46.8	D	58.3	E
Eastbound Right/Sharp Right	98.3	F	61.9	E
Westbound Approach	52.4	D	70.6	E
Westbound Sharp Left/Left	52.8	D	55.9	E
Westbound Through	48.6	D	49.8	D
Westbound Right/Sharp Right	54.4	D	103.3	F
Northbound Approach	36.8	D	46.4	D
Northbound Sharp Left	118.0	F	51.5	D
Northbound Left/Slight Left	69.4	E	29.5	C
Northbound Through/Right	23.8	C	46.6	D
Southbound Approach	42.1	D	48.1	D
Southbound Left/Slight Left	83.5	F	92.9	F
Southbound Through/Right	34.5	C	33.0	C
Southeastbound Approach	58.5	E	113.8	F
Northeastbound Approach	236.3	F	170.8	F
Southwestbound Approach	35.4	C	42.3	D
Southwestbound Left	88.4	F	102.0	F
Southwestbound Slight Right/Right	17.7	B	25.1	C
Southwestbound Right	0.0	A	0.2	A
2035 Background Plus Project	61.9	E	99.3	F
Eastbound Approach	90.0	F	236.8	F
Eastbound Sharp Left/Left	47.0	D	429.0	F
Eastbound Through	48.9	D	127.3	F
Eastbound Right/Sharp Right	127.2	F	143.4	F
Westbound Approach	52.5	D	175.2	F
Westbound Sharp Left/Left	51.7	D	209.3	F
Westbound Through	49.7	D	61.3	E
Westbound Right/Sharp Right	56.1	E	205.5	F
Northbound Approach	43.1	D	45.0	D
Northbound Sharp Left	168.2	F	49.7	D
Northbound Left/Slight Left	74.9	E	24.1	C
Northbound Through/Right	27.6	C	45.2	D
Southbound Approach	55.3	E	66.0	E
Southbound Left/Slight Left	88.0	F	182.8	F
Southbound Through/Right	49.6	D	30.1	C
Southeastbound Approach	59.2	E	834.1	F
Northeastbound Approach	224.5	F	1066.8	F
Southwestbound Approach	50.8	D	57.7	E
Southwestbound Left	133.3	F	150.9	F
Southwestbound Slight Right/Right	19.1	B	22.2	C
Southwestbound Right	0.0	A	0.2	A

62ND AVENUE AND STATE HIGHWAY 2

The existing intersection of 62nd Avenue and northbound State Highway 2 (SH-2) is an unsignalized “T” intersection with a raised channelized island controlling traffic movements to and from State Highway 2 (SH-2). With existing conditions, all movements at this intersection are anticipated operate with acceptable level of service B or better during the morning and afternoon peak hours. With or without the addition of project traffic throughout 2035, all movements at this intersection are anticipated to continue to operate acceptably during the morning and afternoon peak hours with the current intersection configuration. Therefore operationally, no improvements are believed to be needed at this intersection. **Table 5** provides the results of the level of service at this intersection.

Table 5. 62nd Avenue & State Highway 2 LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2016 Existing				
Westbound Right	9.5	A	14.7	B
2020 Background				
Westbound Right	9.5	A	15.1	C
2020 Background Plus Project				
Westbound Right	10.0	B	16.4	C
2025 Background				
Westbound Right	9.5	A	15.4	C
2025 Background Plus Project				
Westbound Right	10.3	B	19.9	C
2035 Background				
Westbound Right	9.6	A	16.1	C
2035 Background Plus Project				
Westbound Right	10.4	B	21.3	C

62ND AVENUE AND PARKWAY DRIVE

The existing intersection of 62nd Avenue and Parkway Drive is signalized with protected-permissive left turn phasing northbound with split phase eastbound and westbound. With existing conditions, this intersection operates with acceptable level of service C during the morning and afternoon peak hours. With or without the addition of project traffic throughout 2035, this intersection is anticipated to continue to operate acceptably during the morning and afternoon peak hours with the current intersection configuration. Therefore operationally, no roadway or intersection improvements are believed to be needed at this intersection. Of note, the delay decreases with the addition of project traffic due to the addition of traffic on low volume movements and the volumes are more evenly spread throughout the intersection. It is recommended that the traffic signal controller equipment be considered for an upgrade. **Table 6** provides the results of the level of service at this intersection.

Table 6. 62nd Avenue and Parkway Drive LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2016 Existing	26.9	C	29.6	C
Eastbound Approach	51.7	D	46.0	D
Eastbound Through	51.7	D	46.0	D
Eastbound Right	0.0	A	0.0	A
Westbound Approach	34.7	C	38.2	D
Westbound Left	34.0	C	38.4	D
Westbound Left/Through	35.3	D	38.0	D
Northbound Approach	4.0	A	8.8	A
Northbound Left	4.3	A	8.6	A
Northbound Right	3.9	A	8.9	A
2020 Background	26.9	C	28.9	C
Eastbound Approach	51.8	D	44.5	D
Eastbound Through	51.8	D	44.5	D
Eastbound Right	0.0	A	0.0	A
Westbound Approach	34.7	C	37.1	D
Westbound Left	34.0	C	37.3	D
Westbound Left/Through	35.3	D	36.9	D
Northbound Approach	4.0	A	9.1	A
Northbound Left	4.3	A	8.9	A
Northbound Right	3.9	A	9.2	A
2020 Background Plus Project	21.6	C	27.3	C
Eastbound Approach	42.8	D	44.2	D
Eastbound Left	39.2	D	38.5	D
Eastbound Through	44.3	D	45.5	D
Eastbound Right	0.0	A	0.0	A
Westbound Approach	34.9	C	38.5	D
Westbound Left	34.1	C	38.6	D
Westbound Left/Through/Right	35.5	D	38.3	D
Northbound Approach	4.4	A	9.4	A
Northbound Left	4.7	A	9.3	A
Northbound Through	4.0	A	8.2	A

Northbound Right	4.3	A	9.7	A
Southbound Approach	7.0	A	12.5	B
2025 Background	27.0	C	29.0	C
Eastbound Approach	51.8	D	44.6	D
Eastbound Through	51.8	D	44.6	D
Eastbound Right	0.0	A	0.0	A
Westbound Approach	34.7	C	37.2	D
Westbound Left	34.0	C	37.4	D
Westbound Left/Through	35.3	D	36.9	D
Northbound Approach	4.1	A	9.3	A
Northbound Left	4.4	A	9.0	A
Northbound Right	4.0	A	9.4	A
2025 Background Plus Project	20.6	C	26.1	C
Eastbound Approach	42.2	D	44.1	D
Eastbound Left	43.4	D	40.7	D
Eastbound Through	40.7	D	45.8	D
Eastbound Right	0.0	A	0.0	A
Westbound Approach	35.2	D	38.7	D
Westbound Left	34.4	C	38.8	D
Westbound Left/Through/Right	35.9	D	38.6	D
Northbound Approach	4.8	A	10.3	B
Northbound Left	5.2	A	10.2	B
Northbound Through	4.6	A	9.5	A
Northbound Right	4.9	A	10.8	B
Southbound Approach	8.1	A	15.2	B
2035 Background	26.1	C	30.1	C
Eastbound Approach	50.6	D	46.4	D
Eastbound Through	50.6	D	46.4	D
Eastbound Right	0.0	A	0.0	A
Westbound Approach	33.6	C	38.5	D
Westbound Left	32.9	C	38.7	D
Westbound Left/Through	34.1	C	38.3	D
Northbound Approach	4.2	A	9.7	A
Northbound Left	4.5	A	9.4	A
Northbound Right	4.1	A	9.8	A
2035 Background Plus Project	20.8	C	26.5	C
Eastbound Approach	42.4	D	44.5	D
Eastbound Left	43.6	D	40.9	D
Eastbound Through	40.9	D	46.2	D
Eastbound Right	0.0	A	0.0	A
Westbound Approach	35.2	D	38.8	D
Westbound Left	34.4	C	38.9	D
Westbound Left/Through/Right	35.9	D	38.7	D
Northbound Approach	5.0	A	10.7	B
Northbound Left	5.3	A	10.6	B
Northbound Through	4.7	A	9.9	A
Northbound Right	5.0	A	11.3	B
Southbound Approach	8.2	A	15.8	B

62ND AVENUE AND HOLLY STREET

The existing intersection of 62nd Avenue and Holly Street is signalized. With existing conditions, this intersection operates with acceptable LOS B during the morning and afternoon peak hours. With or without the addition of project traffic throughout 2035, this intersection is anticipated to continue to operate acceptably during the peak hours with the current intersection configuration. Therefore operationally, no improvements are believed to be needed at this intersection other than possible traffic signal equipment upgrades. **Table 7** provides the results of the level of service at this intersection.

Table 7. 62nd Avenue and Holly Street LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2016 Existing	15.1	B	18.8	B
Eastbound Approach	30.5	C	31.5	C
Westbound Approach	31.3	C	26.3	C
Northbound Approach	2.5	A	10.8	B
Southbound Approach	3.1	A	9.3	A
2020 Background	15.1	B	19.1	B
Eastbound Approach	30.5	C	31.6	C
Westbound Approach	31.3	C	26.2	C
Northbound Approach	2.5	A	11.4	B
Southbound Approach	3.1	A	9.7	A
2020 Background Plus Project	15.4	B	19.2	B
Eastbound Approach	30.8	C	31.0	C
Westbound Approach	31.1	C	26.9	C
Northbound Approach	2.8	A	11.2	B
Southbound Approach	3.6	A	9.9	A
2025 Background	15.0	B	18.6	B
Eastbound Approach	30.2	C	31.1	C
Westbound Approach	31.3	C	26.8	C
Northbound Approach	2.6	A	10.3	B
Southbound Approach	3.3	A	9.3	A
2025 Background Plus Project	16.0	B	20.8	C
Eastbound Approach	29.9	C	31.2	C
Westbound Approach	31.1	C	26.3	C
Northbound Approach	3.4	A	14.6	B
Southbound Approach	4.4	A	12.4	B
2035 Background	15.2	B	20.0	C
Eastbound Approach	30.6	C	31.8	C
Westbound Approach	31.2	C	25.6	C
Northbound Approach	2.7	A	13.6	B
Southbound Approach	3.4	A	11.0	B
2035 Background Plus Project	16.0	B	21.5	C
Eastbound Approach	30.0	C	31.3	C
Westbound Approach	31.1	C	26.0	C
Northbound Approach	3.5	A	16.1	B
Southbound Approach	4.5	A	13.4	B

63RD AVENUE AND STATE HIGHWAY 2

The existing intersection of 63rd Avenue and State Highway 2 is unsignalized with stop control on the westbound approach. With existing conditions, all movements at this intersection operate with acceptable level of service B or better during the morning and afternoon peak hours. With or without the addition of project traffic throughout 2035, all movements at this intersection are anticipated to continue to operate acceptably during the morning and afternoon peak hours with the current intersection configuration and control. Therefore, based on the operational analysis, no improvements are believed to be needed at this intersection. **Table 8** provides the results of the level of service at this intersection.

Table 8. 63rd Avenue and State Highway 2 LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2016 Existing				
Westbound Approach	9.1	A	11.1	B
Southbound Left	7.8	A	9.4	A
2020 Background				
Westbound Approach	9.1	A	11.1	B
Southbound Left	7.8	A	9.5	A
2020 Background Plus Project				
Westbound Approach	10.1	B	11.8	B
Southbound Left	8.0	A	9.9	A
2025 Background				
Westbound Approach	9.1	A	11.2	B
Southbound Left	7.8	A	9.8	A
2025 Background Plus Project				
Westbound Approach	10.6	B	13.4	B
Southbound Left	8.3	A	10.6	B
2035 Background				
Westbound Approach	9.2	A	11.3	B
Southbound Left	7.9	A	9.7	A
2035 Background Plus Project				
Westbound Approach	10.6	B	13.6	B
Southbound Left	8.3	A	10.8	B

64TH AVENUE AND STATE HIGHWAY 2

The existing intersection of 64th Avenue and SH-2 is signalized with protected-permissive left turn phasing northbound and southbound. With existing conditions, this intersection operates with acceptable level of service B during the morning and afternoon peak hours. With or without the addition of project traffic throughout 2035, this intersection is anticipated to continue to operate acceptably during the morning and afternoon peak hours with the current intersection configuration. No lane improvements are believed to be needed at this intersection. Improvements to the traffic signal controller and equipment may be necessary. **Table 9** provides the results of the level of service at this intersection.

Table 9. 64th Avenue and State Highway 2 LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2016 Existing	14.9	B	18.1	B
Westbound Approach	50.1	D	66.7	E
Northbound Approach	7.5	A	8.8	A
Northbound Left	7.8	A	5.7	A
Northbound Through/Right	7.4	A	9.0	A
Southbound Approach	12.0	B	8.6	A
Southbound Left	5.0	A	5.6	A
Southbound Through/Right	13.0	B	9.2	A
2020 Background	15.0	B	22.2	C
Westbound Approach	50.1	D	36.3	D
Northbound Approach	7.5	A	20.0	B
Northbound Left	7.9	A	14.0	B
Northbound Through/Right	7.5	A	20.2	C
Southbound Approach	12.2	B	18.8	B
Southbound Left	5.1	A	12.7	B
Southbound Through/Right	13.2	B	19.8	B
2020 Background Plus Project	17.1	B	27.3	C
Westbound Approach	57.7	E	35.6	D
Northbound Approach	9.4	A	24.3	C
Northbound Left	11.8	B	15.6	B
Northbound Through/Right	7.5	A	25.2	C
Southbound Approach	12.2	B	28.0	C
Southbound Left	5.1	A	15.6	B
Southbound Through/Right	13.4	B	30.9	C
2025 Background	15.2	B	22.4	C
Westbound Approach	50.3	D	36.6	D
Northbound Approach	7.5	A	20.1	C
Northbound Left	8.1	A	14.2	B
Northbound Through/Right	7.5	A	20.3	C
Southbound Approach	12.4	B	19.0	B
Southbound Left	5.1	A	12.8	B
Southbound Through/Right	13.5	B	20.0	C
2025 Background Plus Project	18.5	B	28.0	C
Westbound Approach	61.5	E	38.2	D

Northbound Approach	11.3	B	24.2	C
Northbound Left	15.3	B	18.4	B
Northbound Through/Right	7.6	A	25.5	C
Southbound Approach	12.6	B	28.5	C
Southbound Left	5.3	A	16.7	B
Southbound Through/Right	14.0	B	32.0	C
2035 Background	15.5	B	21.3	C
Westbound Approach	50.6	D	37.8	D
Northbound Approach	7.5	A	17.8	B
Northbound Left	8.6	A	12.9	B
Northbound Through/Right	7.5	A	18.0	B
Southbound Approach	12.9	B	18.7	B
Southbound Left	5.1	A	13.0	B
Southbound Through/Right	14.0	B	19.7	B
2035 Background Plus Project	19.1	B	25.6	C
Westbound Approach	62.5	E	39.2	D
Northbound Approach	11.9	B	22.0	C
Northbound Left	16.7	B	17.8	B
Northbound Through/Right	7.6	A	22.9	C
Southbound Approach	13.1	B	24.3	C
Southbound Left	5.4	A	15.8	B
Southbound Through/Right	14.6	B	26.8	C

64TH AVENUE AND GLENCOE STREET

The existing intersection of 64th Avenue and Glencoe Street is unsignalized with stop control on the southbound approach. The eastbound and westbound approaches consist of two through lanes, while the southbound approach consists of a single shared left turn/right turn lane. When this redevelopment project occurs, a south leg of the intersection will be constructed to align with Glencoe Street. With or without the addition of project traffic throughout 2035, all movements at this intersection are anticipated to continue operating acceptably during the morning and afternoon peak hours. It is recommended that the northbound approach, when constructed, include a R1-1 "STOP" sign to designate the stop control condition. **Table 10** provides the results of the level of service at this intersection.

Table 10. 64th Avenue and State Highway 2 LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2020 Background Plus Project				
Eastbound Approach	0.2	A	0.7	A
Westbound Approach	0.3	A	0.5	A
Northbound Approach	9.9	A	11.1	B
Southbound Approach	9.7	A	10.8	B
2025 Background Plus Project				
Eastbound Approach	0.2	A	0.6	A
Westbound Approach	1.1	A	1.0	A
Northbound Approach	10.3	B	12.0	B
Southbound Approach	9.9	A	11.3	B
2035 Background Plus Project				
Eastbound Approach	0.2	A	0.6	A
Westbound Approach	1.0	A	1.0	A
Northbound Approach	10.4	B	12.1	B
Southbound Approach	9.9	A	11.4	B

64TH AVENUE AND HOLLY STREET

The existing intersection of 64th Avenue and Holly Street is signalized. With existing conditions, this intersection operates with acceptable level of service B during the morning peak hour and level of service C during the afternoon peak hour. With or without the addition of project traffic throughout 2035, this intersection is anticipated to continue to operate acceptably during the morning and afternoon peak hours with the current intersection configuration. **Table 11** provides the results of the level of service at this intersection.

Table 11. 64th Avenue and Holly Street LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2016 Existing				
Eastbound Approach	15.7	B	14.7	B

Eastbound Left	15.1	B	18.1	B
Eastbound Through/Right	15.7	B	14.5	B
Westbound Approach	14.9	B	16.2	B
Westbound Left	17.8	B	16.7	B
Westbound Through/Right	14.3	B	16.0	B
Northbound Approach	23.2	C	27.6	C
Southbound Approach	23.9	C	26.0	C
2020 Background	18.7	B	21.1	C
Eastbound Approach	16.3	B	22.4	C
Eastbound Left	15.7	B	27.7	C
Eastbound Through/Right	16.3	B	22.1	C
Westbound Approach	15.4	B	24.9	C
Westbound Left	18.5	B	25.7	C
Westbound Through/Right	14.8	B	24.6	C
Northbound Approach	22.6	C	18.4	B
Southbound Approach	23.3	C	17.1	B
2020 Background Plus Project	18.9	B	21.3	C
Eastbound Approach	16.0	B	23.4	C
Eastbound Left	15.4	B	29.1	C
Eastbound Through/Right	16.0	B	22.9	C
Westbound Approach	15.1	B	25.9	C
Westbound Left	18.4	B	26.8	C
Westbound Through/Right	14.3	B	25.6	C
Northbound Approach	23.6	C	18.0	B
Southbound Approach	24.2	C	16.6	B
2025 Background	18.8	B	21.1	C
Eastbound Approach	16.3	B	22.5	C
Eastbound Left	15.7	B	27.8	C
Eastbound Through/Right	16.3	B	22.1	C
Westbound Approach	15.5	B	25.0	C
Westbound Left	18.6	B	25.8	C
Westbound Through/Right	14.8	B	24.7	C
Northbound Approach	22.6	C	18.6	B
Southbound Approach	23.4	C	17.0	B
2025 Background Plus Project	19.1	B	21.8	C
Eastbound Approach	16.1	B	24.1	C
Eastbound Left	15.6	B	30.2	C
Eastbound Through/Right	16.1	B	23.1	C
Westbound Approach	15.3	B	26.4	C
Westbound Left	18.7	B	27.7	C
Westbound Through/Right	14.4	B	25.9	C
Northbound Approach	23.8	C	18.4	B
Southbound Approach	24.5	C	17.0	B
2035 Background	18.8	B	21.4	C
Eastbound Approach	15.9	B	23.2	C
Eastbound Left	15.2	B	29.0	C
Eastbound Through/Right	15.9	B	22.9	C
Westbound Approach	15.0	B	26.0	C
Westbound Left	18.2	B	26.8	C
Westbound Through/Right	14.3	B	25.7	C

Northbound Approach	23.3	C	18.1	B
Southbound Approach	24.1	C	16.7	B
2035 Background Plus Project	19.2	B	22.0	C
Eastbound Approach	16.2	B	24.9	C
Eastbound Left	15.7	B	31.4	C
Eastbound Through/Right	16.3	B	23.9	C
Westbound Approach	15.4	B	27.5	C
Westbound Left	19.0	B	28.8	C
Westbound Through/Right	14.5	B	27.0	C
Northbound Approach	23.9	C	18.0	B
Southbound Approach	24.6	C	16.5	B

66TH WAY AND GLENCOE STREET

Due to public concern about the surrounding street network connectivity to the north of the project, the 66th Way and Glencoe Street intersection was included for analysis. The existing intersection of 66th Way and Glencoe Street is unsignalized with stop control on the northbound Glencoe Street approach to 66th Way. All approaches contain a single lane. With existing conditions, all movements at this intersection operate with acceptable level of service A during the morning and afternoon peak hours. It is believed that the project will have no impact on this intersection and the addition of traffic to Glencoe Street will be minimal. Traffic calming measures (speed bumps) have been constructed along Glencoe Street. It is recommended that the City monitor traffic conditions along Glencoe Street as the MHGP Redevelopment project develops to determine if anything else is needed along this roadway to address the concerns. Traffic signal upgrades are being recommended at the study area intersections to improve traffic conditions of the surrounding street network. This is being accomplished to limit the amount of potential cut through traffic within the residential neighborhood. **Table 12** provides the results of the level of service at this intersection.

Table 12. 66th Way and Glencoe Street LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2016 Existing				
Westbound Left	7.3	A	7.4	A
Northbound Approach	8.7	A	9.1	A

5.3 TURN BAY LENGTH ANALYSIS

It is recommended that auxiliary turn lanes along State Highway 2 (SH-2) be constructed in accordance with the current CDOT State Highway Access Code (SHAC). The State Highway Access Category Schedule categorizes the segment of SH-2 through the study intersection as NR-C: Non Rural Arterial. This section of State Highway 2 (SH-2) has a 45 mile per hour posted speed limit. According to the State Highway Access Code for category NR-C roadways, the following thresholds apply:

- A left turn lane with storage length plus taper length is required for any access with a projected peak hour left ingress turning volume greater than 25 vph. If the posted speed is greater than 40 mph, a deceleration lane with taper is required for any access with a projected peak hour left ingress turning volume greater than 10 vph. The taper length will be included within the deceleration length.
- A right turn lane with storage length plus taper length is required for any access with a projected peak hour right ingress turning volume greater than 50 vph. If the posted speed is greater than 40 mph, a right turn deceleration lane with taper is required for any access with a projected peak hour right ingress turning volume greater than 25 vph. The taper length will be included within the deceleration length.
- Acceleration lanes are generally not required.

Based on future traffic projections, the auxiliary turn lane requirements were calculated per the State Highway Access Code for the SH-2 and 64th Avenue signalized intersection. Through this intersection, the state highway provides two lanes of travel northbound and one lane of travel southbound with a 45 mile per hour posted speed limit. As such, turn lane requirements at the SH-2 and 64th Avenue intersection are as follows:

State Highway 2 (SH-2)/64th Avenue

A southbound left turn lane is warranted at the intersection of SH-2 and 64th Avenue based on existing traffic. Since it has a category of NR-C with a 45 mile per hour speed limit, the turn lane requirement is deceleration length, with taper length being included within the required deceleration length. The required deceleration length is 435 feet (including a 13.5 to 1 taper). Therefore, the overall required length for the southbound left turn lane is 275 feet plus 160-foot taper (the taper is identified as 13.5 to 1 based on the 45 mile per hour speed limit). A 145-foot southbound left turn lane exists today. Therefore, it is recommended that this southbound left turn lane be lengthened to 275 feet plus 160-foot taper. Adequate pavement width exists today north of this turn lane in the form of a striped median which would only require restriping to accommodate this modification.

5.4 QUEUING ANALYSIS

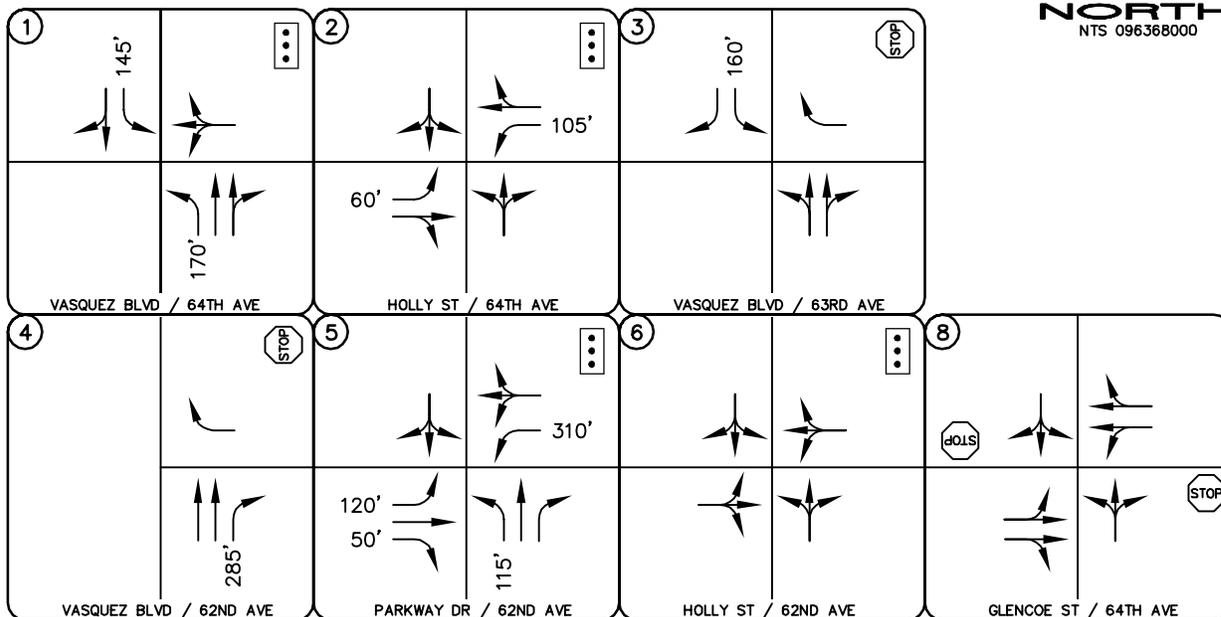
A queuing analysis was conducted for the signalized and unsignalized study area intersections. The queuing analysis was performed using Synchro analysis software presenting results of the 95th percentile queue length. Results are shown in the following **Table 13** with calculations provided within the level of service (LOS) operational sheets of **Appendix D** for the unsignalized intersections and **Appendix E** for signalized intersections.

Table 13. Turn Lane Queuing Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2020 Queue Length (feet)	2020 Recommended Turn Lane Length (feet)	2025 Queue Length (feet)	2025 Recommended Turn Lane Length (feet)	2035 Queue Length (feet)	2035 Recommended Turn Lane Length (feet)
60th/Vasquez							
Westbound Left	220'	36'	220'	37'	220'	40'	220'
Northbound Left	215'	180'	215'	182'	215'	189'	215'
Southbound Left	325'	291'	325'	298'	325'	310'	325'
Southwest Right	135'	16'	135'	16'	135'	21'	135'
62nd/SH-2							
Northbound Right	285'	83'	285'	113'	285'	133'	285'
62nd/Parkway							
Eastbound Left	120'	46'	120'	46'	120'	87'	120'
Eastbound Right	50'	40'	50'	44'	50'	48'	50'
Westbound Left	310'	254'	310'	273'	310'	284'	310'
Northbound Left	115'	77'	115'	92'	115'	100'	115'
63rd/SH-2							
Southbound Left	160'	25'	160'	25'	160'	25'	160'
64th/SH-2							
Northbound Left	170'	32'	170'	60'	170'	59'	170'
Southbound Left	145'	57'	145'	74'	145'	74'	145'
64th/Holly							
Eastbound Left	60'	13'	60'	17'	60'	17'	60'
Westbound Left	105'	65'	105'	73'	105'	76'	105'

As shown in the table representing the queuing results, all anticipated queues are accommodated or managed within existing turn bay lengths with project traffic throughout the 2035 horizon. Therefore, no modification with respect to queuing are anticipated to be needed with development of the project.

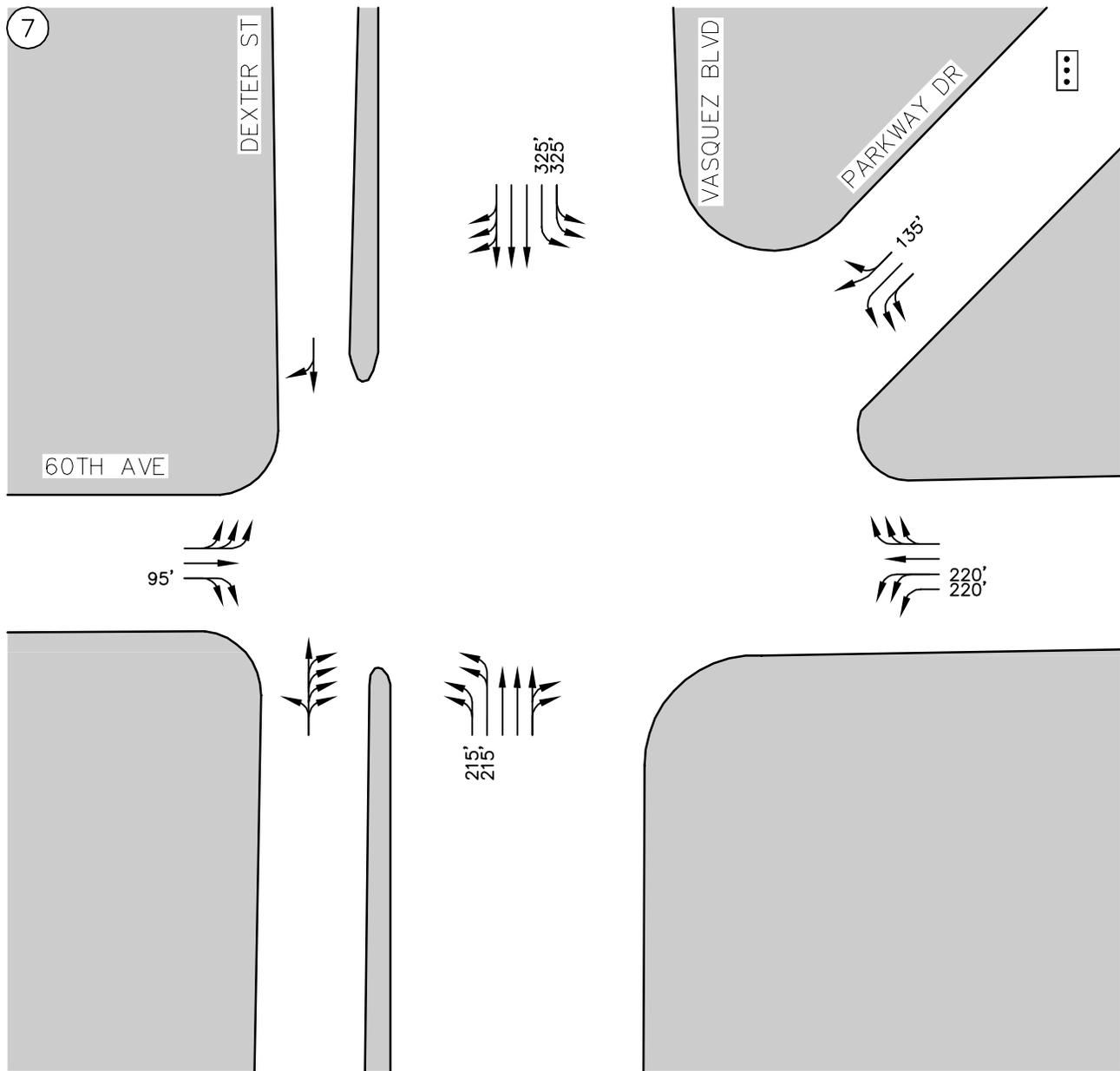
Results of the level of service capacity and queuing analysis as it relates to intersection control and intersection configuration improvements are illustrated in **Figures 14** and **15**.



LEGEND

- (X) Study Area Key Intersection
- ⋮ Signalized Intersection
- STOP Stop Controlled Approach
- ↪ 100' Turn Lane Length (feet)

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 24
 RECOMMENDED LANE CONFIGURATIONS



LEGEND

- Study Area Key Intersection
- Signalized Intersection
- Stop Controlled Approach
- 100' Turn Lane Length (feet)

MILE HIGH GREYHOUND PARK REDEVELOPMENT FIGURE 25
 RECOMMENDED LANE CONFIGURATIONS

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes the proposed Mile High Greyhound Park Redevelopment Project (MHGP) will be successfully incorporated into the existing roadway network. The proposed project development resulted in the following recommendations and conclusions:

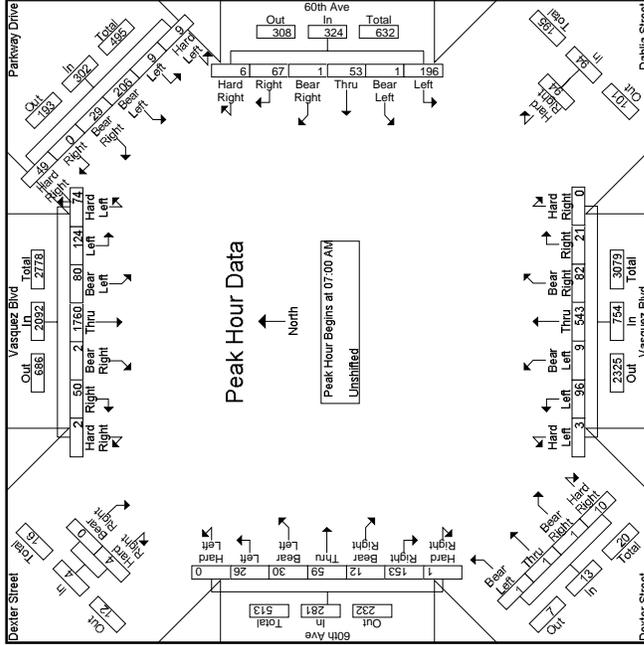
- Roadway improvements may be needed at the existing 60th Avenue/Vasquez Boulevard (US-6/85)/State Highway 2 (SH-2)/Parkway Drive signalized intersection. It has been previously discussed that Parkway Drive may be realigned and removed from this intersection to connect with the existing signalized intersection along 60th Avenue, located approximately 500 feet (measured edge to edge) east of Vasquez Boulevard. Although this now seems less likely with the recent developments constructed north of 60th Avenue, it is still an option to improve traffic conditions at this intersection. Another possible improvement could be to consider converting either Parkway Drive or 60th Avenue to one-way traffic movements away from the intersection, eastbound 60th Avenue or northeastbound Parkway Drive. This would improve traffic conditions at this intersection by removing the entering phase of this one approach. It is understood that The Colorado Department of Transportation (CDOT) is currently conducting a study to improve safety conditions at this intersection. Existing issues are present at the intersection today, which will continue to be more of an issue in the future as traffic volumes increase, so the City of Commerce City and CDOT should consider possible improvements to implement within the next few years.
- Since State Highway 2 (SH-2) is a State Highway, it is believed that CDOT Access Permits will be required for the existing SH-2 intersections with 62nd Avenue, 63rd Avenue, and 64th Avenue with development of the project. This is due to traffic volumes increasing by more than 20 percent over existing with the redevelopment project.
- At the State Highway 2 (SH-2) and 64th Avenue intersection, it is recommended that the southbound left turn lane be lengthened to 275 feet plus 160-foot taper based on CDOT State Highway Access Code (SHAC) standards. It is believed that adequate pavement width exists today in the form of a striped median that could be restriped to accommodate this modification.
- As the parcels are being developed within the project, site specific recommendations will be provided as it relates to the traffic analysis and access.
- Although no lane specific turn lane improvements were found to be needed at the surrounding key intersections, traffic signal upgrades of equipment will likely be required due to the increase in traffic volumes.
- As the northeast portion of the site is planned for specific development, the drop-off and pick-up timeframes of Central Elementary School should be evaluated to determine potential project impacts or if any mitigation measures would be recommended. This shall occur during the Development Permit process of that future development.
- All on-site improvements should be incorporated into the Civil Drawings, and conform to standards of Commerce City, CDOT, Institute of Transportation Engineers (ITE), and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

APPENDICES

Intersections Count Sheets



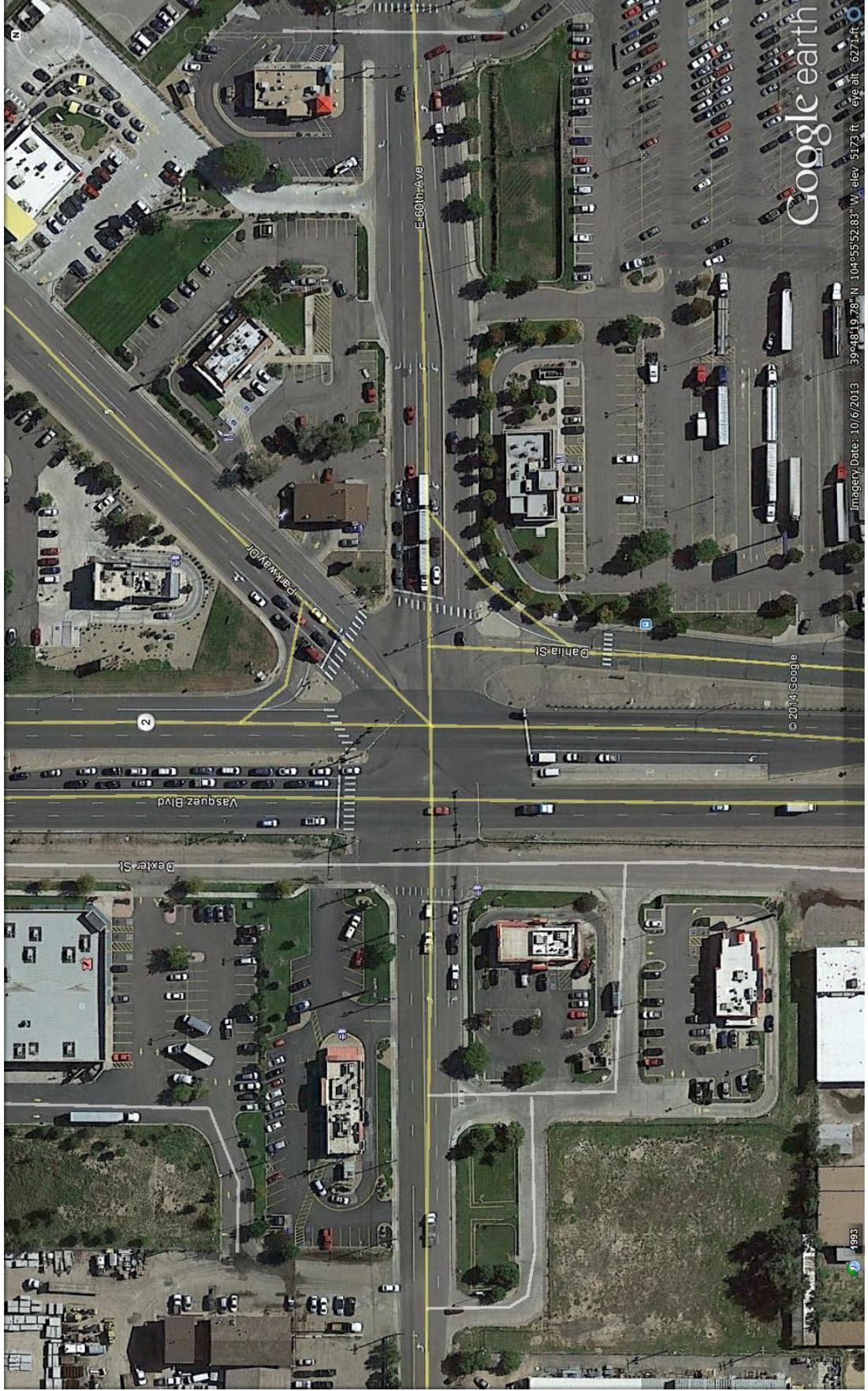
Start Time	60th Ave Eastbound					60th Ave Westbound					Vasquez Blvd Northbound					Vasquez Blvd Southbound					Parkway Drive From Northeast					Dahlia Street From Southeast					Dexter Street From Southwest					Dexter Street From Northwest																	
	Left	Thru	Right	App Total	In Total	Left	Thru	Right	App Total	In Total	Left	Thru	Right	App Total	In Total	Left	Thru	Right	App Total	In Total	Left	Thru	Right	App Total	In Total	Left	Thru	Right	App Total	In Total	Left	Thru	Right	App Total	In Total																		
07:00 AM	0	3	6	12	1	30	0	52	0	52	1	20	2	117	18	5	0	163	0	571	2	28	17	446	1	14	0	571	3	5	51	6	0	8	76	23	23	0	1	0	0	1	0	1	1	954							
07:15 AM	0	3	6	16	5	34	1	65	44	1	9	0	9	3	66	0	175	18	34	31	474	0	14	0	14	0	14	0	14	0	15	6	0	15	78	13	13	0	0	1	2	3	0	1	972								
07:30 AM	0	7	9	16	4	47	0	83	43	0	19	0	21	2	85	1	209	10	26	10	426	0	10	1	483	2	3	53	10	0	14	82	51	51	0	0	0	3	3	0	1	1	956										
07:45 AM	0	13	9	15	2	42	0	81	53	0	14	1	14	1	82	1	207	25	36	22	414	1	12	1	511	2	0	45	7	0	12	66	51	51	0	0	0	3	3	0	1	1	1002										
Total Volume	0	26	30	59	12	153	1	281	196	1	53	1	67	6	324	3	96	9	543	82	21	0	754	74	124	80	1760	2	50	2	2092	9	9	206	29	0	49	302	94	94	1	1	1	10	13	0	4	4	3864				
% App. Total	0	9.3	10.7	21.1	4.3	54.4	0.4	60.5	60.5	0.3	16.4	0.3	20.7	1.9	60.5	0.4	12.7	1.2	72	10.9	2.8	0	3.5	5.9	3.8	84.1	0.1	2.4	0.1	7.7	0.3	68.2	9.6	0	16.2	100	7.7	7.7	7.7	76.9	0	0	0	100	0	0	0	1000	1000	1000	1000	1000	964



RDC
Ridgeview Data
Collection
Morrison, CO 80465

File Name : 60th_Vasquez-AM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 4

Image 1



R|D|C
Ridgeview Data
Collection

Morrison, CO 80465

Commerce City, CO
Mile High Grayhound Park Redevelopment
PM Peak
60th & Vasquez/Parkway/Dexter/Dahlia

File Name : 60th_Vasquez.PM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 4

Image 1



Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 62nd Ave and Holly Street

File Name : 62ndHollyAM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

Start Time	62nd Ave Eastbound				62nd Ave Westbound				Holly Street Northbound				Holly Street Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	8	10	0	18	0	31	3	34	0	8	1	9	2	27	28	57	118
07:15 AM	6	8	0	14	2	19	4	25	5	12	1	18	2	22	23	47	104
07:30 AM	8	6	3	17	2	33	2	37	3	8	1	12	1	35	27	63	129
07:45 AM	6	15	6	27	1	34	3	38	2	13	0	15	2	31	27	60	140
Total	28	39	9	76	5	117	12	134	10	41	3	54	7	115	105	227	491
08:00 AM	6	20	0	26	1	29	3	33	1	11	1	13	2	21	22	45	117
08:15 AM	8	16	1	25	2	27	0	29	5	17	0	22	2	15	18	35	111
08:30 AM	10	17	1	28	1	26	9	36	1	14	2	17	5	18	36	59	140
08:45 AM	10	23	1	34	2	27	4	33	2	13	3	18	7	29	23	59	144
Total	34	76	3	113	6	109	16	131	9	55	6	70	16	83	99	198	512
Grand Total	62	115	12	189	11	226	28	265	19	96	9	124	23	198	204	425	1003
Apprch %	32.8	60.8	6.3		4.2	85.3	10.6		15.3	77.4	7.3		5.4	46.6	48		
Total %	6.2	11.5	1.2	18.8	1.1	22.5	2.8	26.4	1.9	9.6	0.9	12.4	2.3	19.7	20.3	42.4	

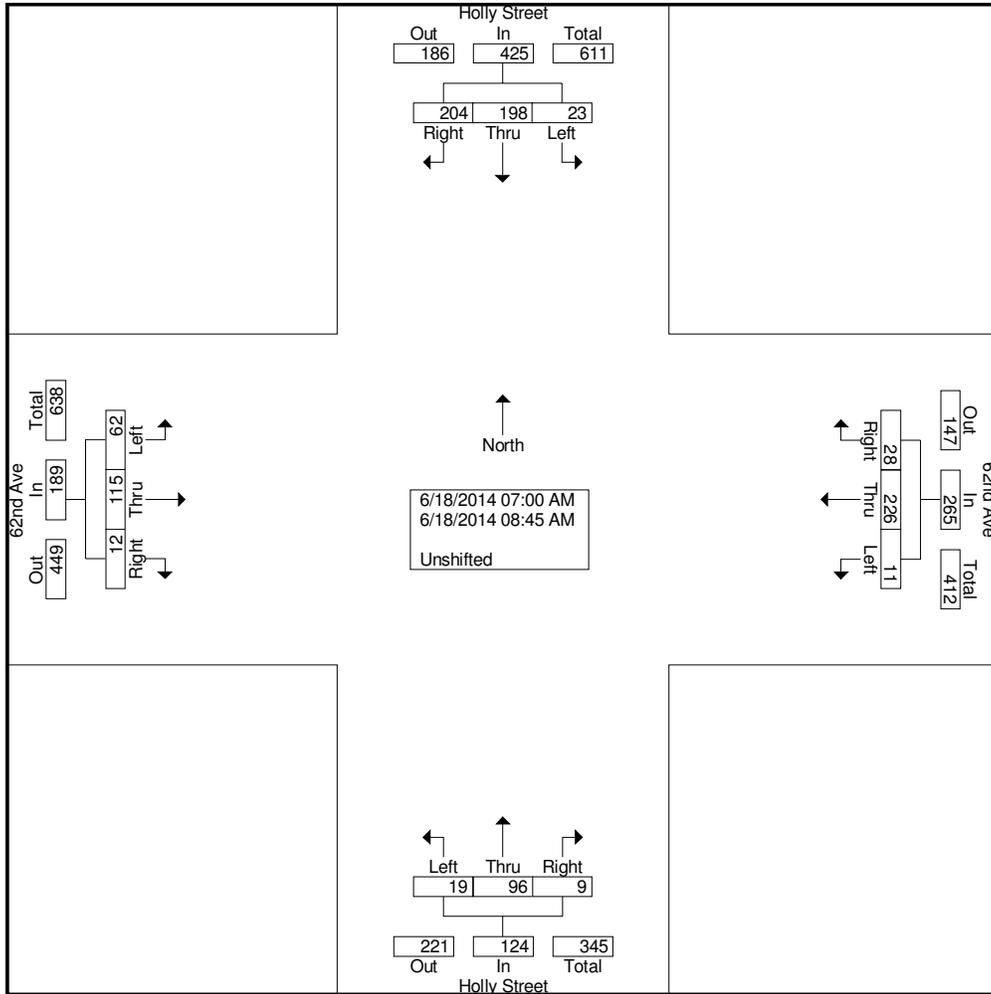


Ridgeview Data
Collection

Morrison, CO 80465

Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
62nd Ave and Holly Street

File Name : 62ndHollyAM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 2



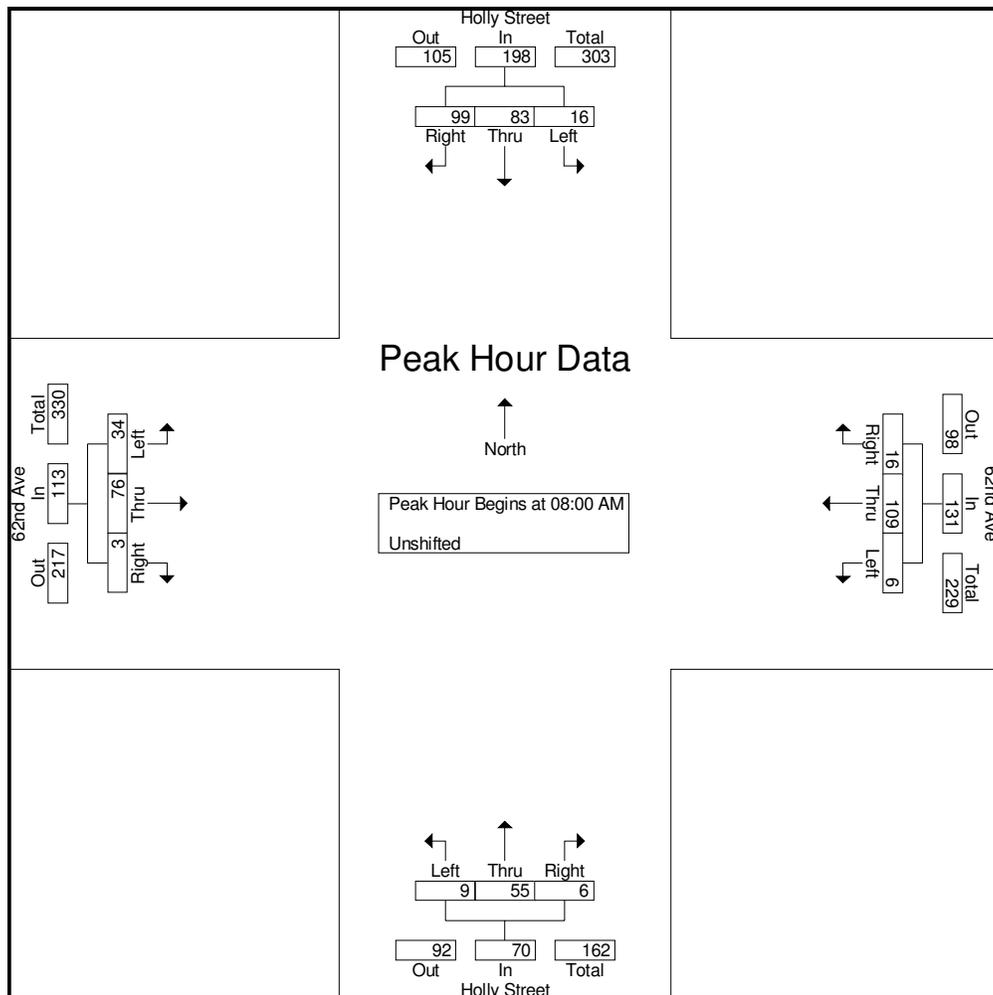


Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 62nd Ave and Holly Street

File Name : 62ndHollyAM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	62nd Ave Eastbound				62nd Ave Westbound				Holly Street Northbound				Holly Street Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	6	20	0	26	1	29	3	33	1	11	1	13	2	21	22	45	117
08:15 AM	8	16	1	25	2	27	0	29	5	17	0	22	2	15	18	35	111
08:30 AM	10	17	1	28	1	26	9	36	1	14	2	17	5	18	36	59	140
08:45 AM	10	23	1	34	2	27	4	33	2	13	3	18	7	29	23	59	144
Total Volume	34	76	3	113	6	109	16	131	9	55	6	70	16	83	99	198	512
% App. Total	30.1	67.3	2.7		4.6	83.2	12.2		12.9	78.6	8.6		8.1	41.9	50		
PHF	.850	.826	.750	.831	.750	.940	.444	.910	.450	.809	.500	.795	.571	.716	.688	.839	.889



Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
62nd Ave and Holly Street

File Name : 62ndHollyAM
Site Code : IPO 42
Start Date : 6/18/2014
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Image 1





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 62nd Ave and Holly Street

File Name : 62ndHollyPM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

Start Time	62nd Ave Eastbound				62nd Ave Westbound				Holly St Northbound				Holly St Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	18	43	3	64	2	36	2	40	20	50	7	77	6	18	28	52	233
04:15 PM	13	26	2	41	1	41	5	47	14	47	1	62	5	8	25	38	188
04:30 PM	19	38	3	60	1	60	7	68	37	51	2	90	4	27	21	52	270
04:45 PM	28	39	1	68	1	48	4	53	30	54	8	92	4	17	28	49	262
Total	78	146	9	233	5	185	18	208	101	202	18	321	19	70	102	191	953
05:00 PM	30	35	2	67	1	46	6	53	29	47	2	78	5	26	47	78	276
05:15 PM	25	49	2	76	1	46	7	54	20	47	0	67	3	26	40	69	266
05:30 PM	23	30	6	59	1	39	6	46	17	49	5	71	2	22	38	62	238
05:45 PM	35	35	5	75	0	60	12	72	16	32	3	51	3	14	32	49	247
Total	113	149	15	277	3	191	31	225	82	175	10	267	13	88	157	258	1027
Grand Total	191	295	24	510	8	376	49	433	183	377	28	588	32	158	259	449	1980
Apprch %	37.5	57.8	4.7		1.8	86.8	11.3		31.1	64.1	4.8		7.1	35.2	57.7		
Total %	9.6	14.9	1.2	25.8	0.4	19	2.5	21.9	9.2	19	1.4	29.7	1.6	8	13.1	22.7	

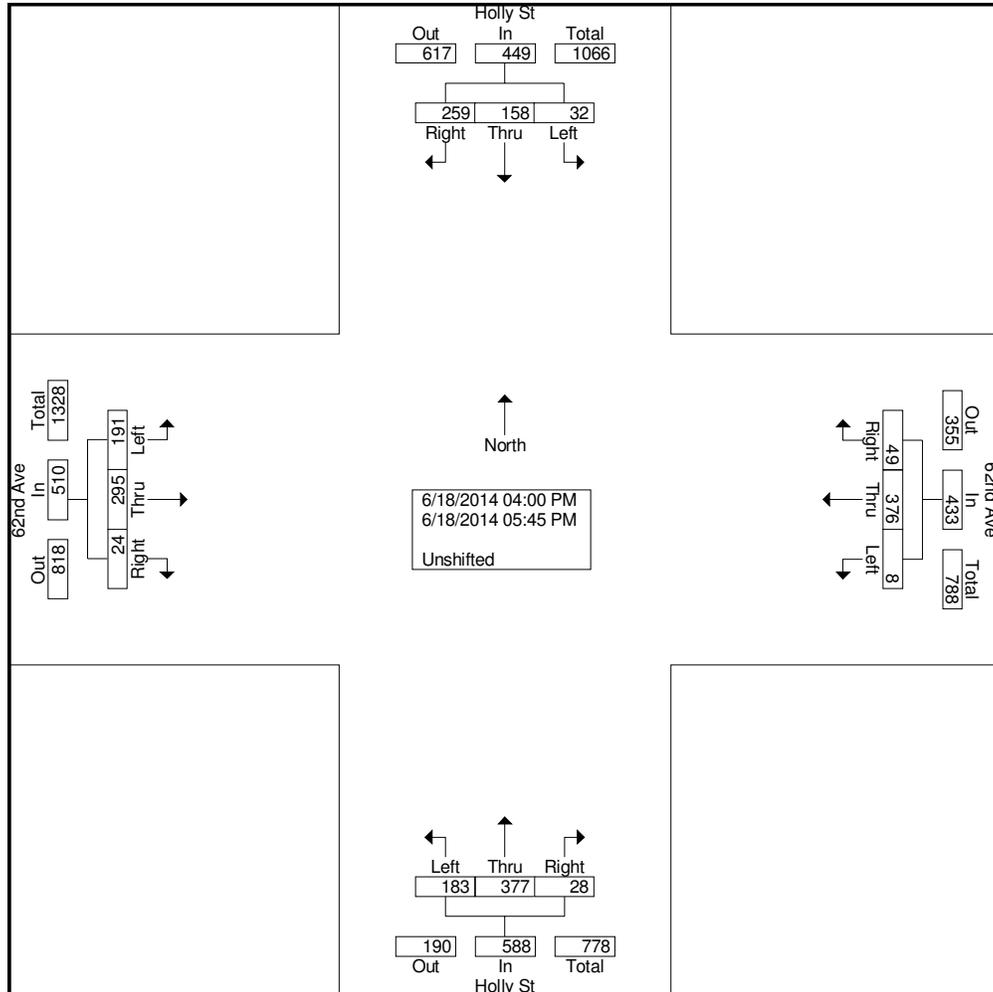


Ridgeview Data
Collection

Morrison, CO 80465

Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
62nd Ave and Holly Street

File Name : 62ndHollyPM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 2



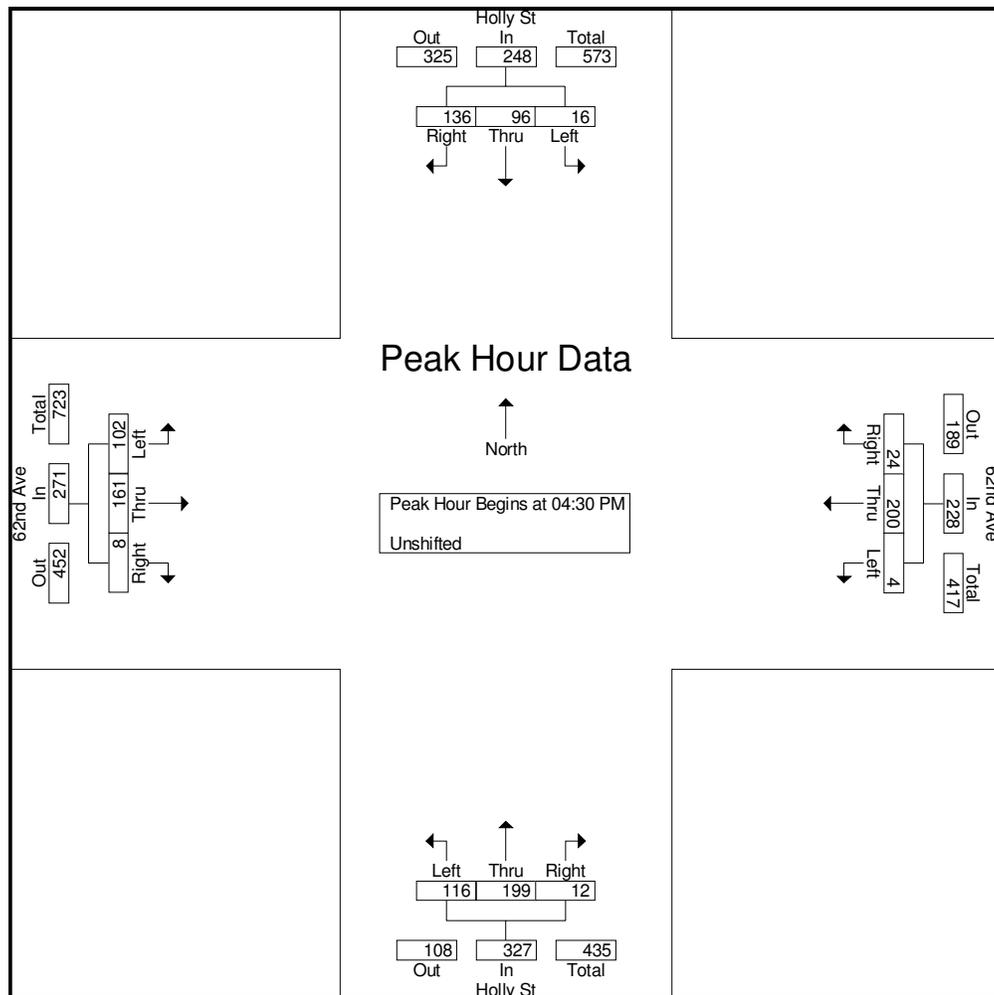


Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 62nd Ave and Holly Street

File Name : 62ndHollyPM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	62nd Ave Eastbound				62nd Ave Westbound				Holly St Northbound				Holly St Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	19	38	3	60	1	60	7	68	37	51	2	90	4	27	21	52	270
04:45 PM	28	39	1	68	1	48	4	53	30	54	8	92	4	17	28	49	262
05:00 PM	30	35	2	67	1	46	6	53	29	47	2	78	5	26	47	78	276
05:15 PM	25	49	2	76	1	46	7	54	20	47	0	67	3	26	40	69	266
Total Volume	102	161	8	271	4	200	24	228	116	199	12	327	16	96	136	248	1074
% App. Total	37.6	59.4	3		1.8	87.7	10.5		35.5	60.9	3.7		6.5	38.7	54.8		
PHF	.850	.821	.667	.891	1.00	.833	.857	.838	.784	.921	.375	.889	.800	.889	.723	.795	.973



Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
62nd Ave and Holly Street

File Name : 62ndHollyPM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 4

Image 1





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 62nd Ave and Parkway Drive

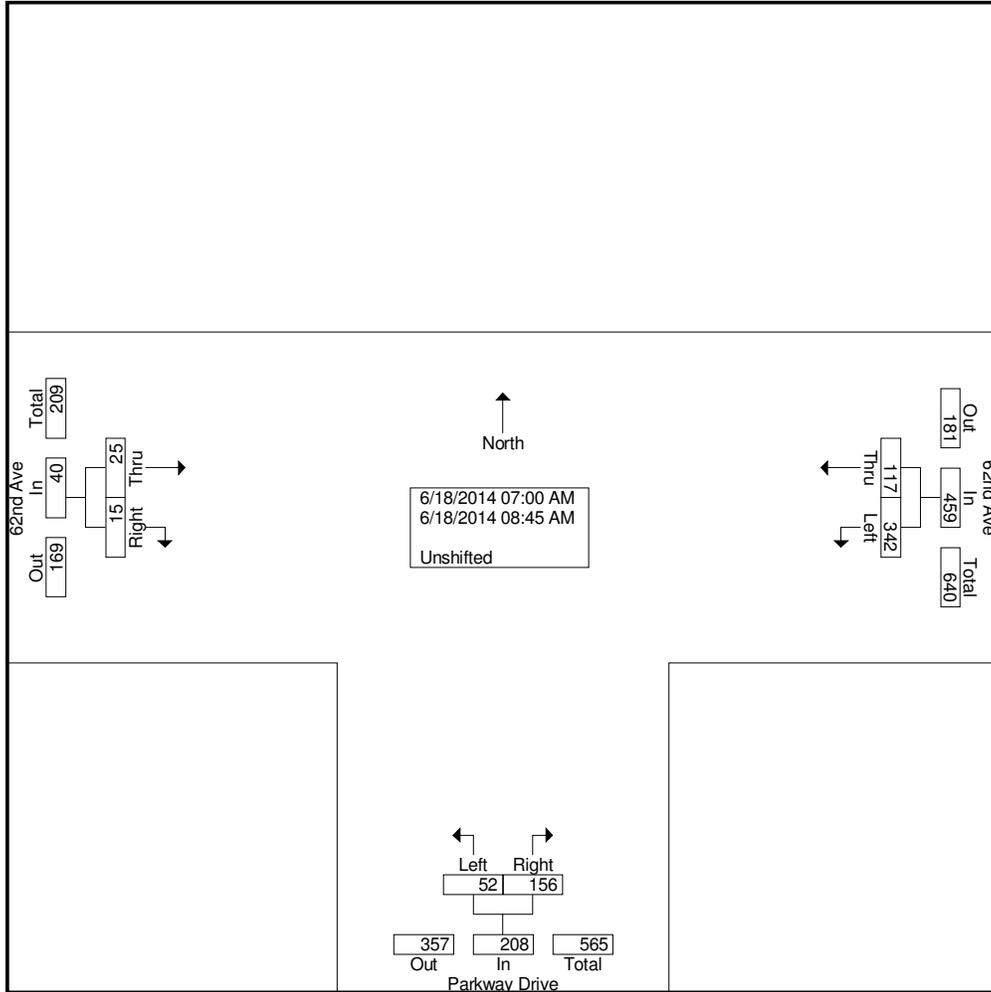
File Name : 62ndParkwayAM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

Start Time	62nd Ave Eastbound			62nd Ave Westbound			Parkway Drive Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	2	0	2	49	12	61	7	16	23	86
07:15 AM	0	1	1	41	10	51	2	14	16	68
07:30 AM	3	1	4	47	16	63	10	15	25	92
07:45 AM	3	1	4	49	17	66	6	23	29	99
Total	8	3	11	186	55	241	25	68	93	345
08:00 AM	2	1	3	33	17	50	7	22	29	82
08:15 AM	6	4	10	36	16	52	8	18	26	88
08:30 AM	4	5	9	45	15	60	6	20	26	95
08:45 AM	5	2	7	42	14	56	6	28	34	97
Total	17	12	29	156	62	218	27	88	115	362
Grand Total	25	15	40	342	117	459	52	156	208	707
Apprch %	62.5	37.5		74.5	25.5		25	75		
Total %	3.5	2.1	5.7	48.4	16.5	64.9	7.4	22.1	29.4	

Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
62nd Ave and Parkway Drive

File Name : 62ndParkwayAM
Site Code : IPO 42
Start Date : 6/18/2014
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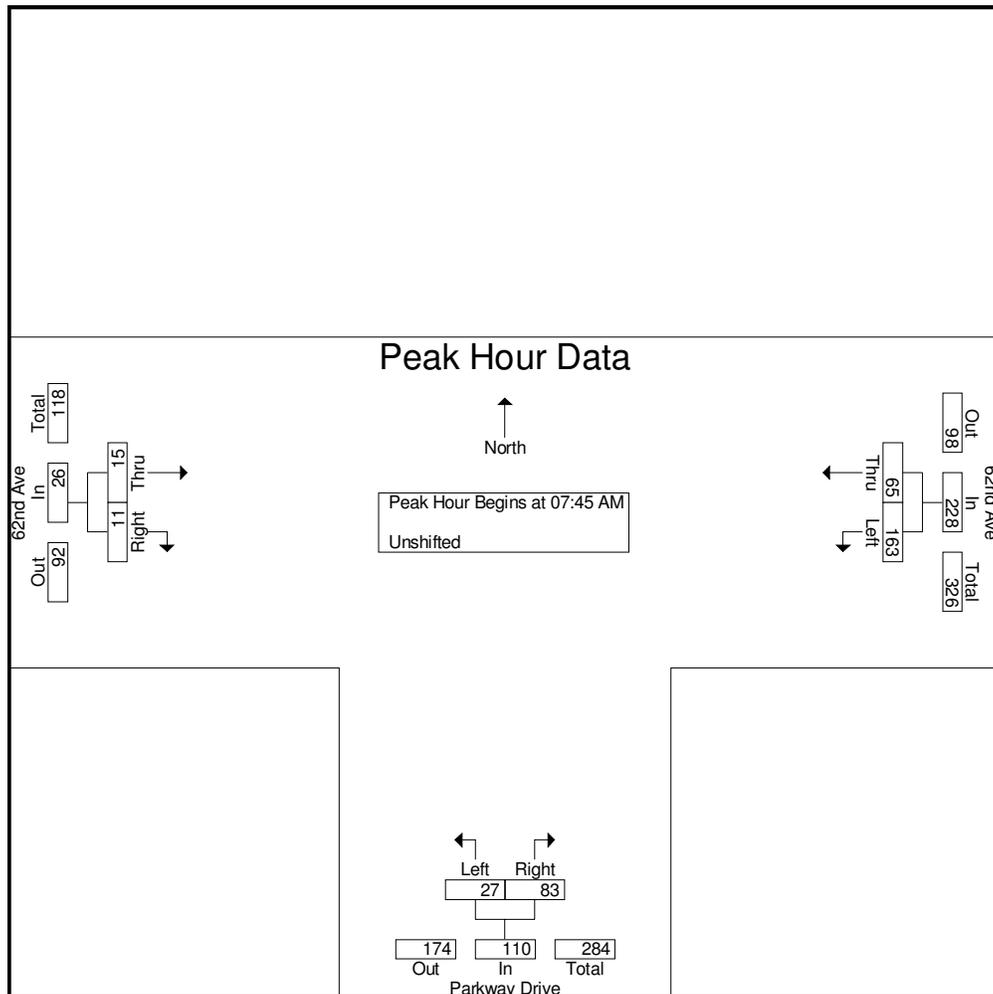


Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 62nd Ave and Parkway Drive

File Name : 62ndParkwayAM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	62nd Ave Eastbound			62nd Ave Westbound			Parkway Drive Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	3	1	4	49	17	66	6	23	29	99
08:00 AM	2	1	3	33	17	50	7	22	29	82
08:15 AM	6	4	10	36	16	52	8	18	26	88
08:30 AM	4	5	9	45	15	60	6	20	26	95
Total Volume	15	11	26	163	65	228	27	83	110	364
% App. Total	57.7	42.3		71.5	28.5		24.5	75.5		
PHF	.625	.550	.650	.832	.956	.864	.844	.902	.948	.919



Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
62nd Ave and Parkway Drive

File Name : 62ndParkwayAM
Site Code : IPO 42
Start Date : 6/18/2014
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Image 1





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 62nd Ave and Parkway Drive

File Name : 62ndParkwayPM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

Start Time	62nd Ave Eastbound			62nd Ave Westbound			Parkway Dr Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	19	2	21	39	42	81	11	40	51	153
04:15 PM	6	3	9	34	45	79	10	33	43	131
04:30 PM	13	2	15	65	56	121	16	49	65	201
04:45 PM	20	2	22	48	56	104	21	52	73	199
Total	58	9	67	186	199	385	58	174	232	684
05:00 PM	20	0	20	64	49	113	22	38	60	193
05:15 PM	30	2	32	67	36	103	24	43	67	202
05:30 PM	16	1	17	39	45	84	20	41	61	162
05:45 PM	9	4	13	26	46	72	16	46	62	147
Total	75	7	82	196	176	372	82	168	250	704
Grand Total	133	16	149	382	375	757	140	342	482	1388
Apprch %	89.3	10.7		50.5	49.5		29	71		
Total %	9.6	1.2	10.7	27.5	27	54.5	10.1	24.6	34.7	

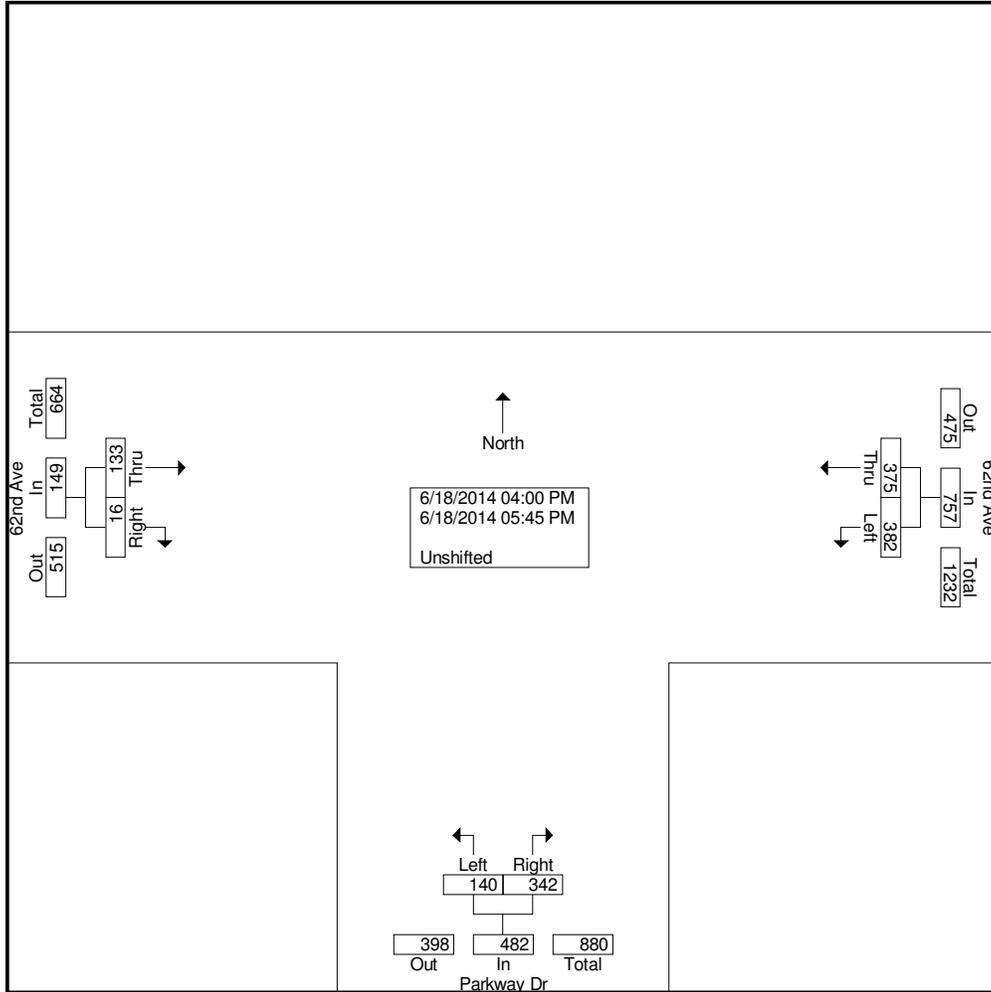


Ridgeview Data
Collection

Morrison, CO 80465

Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
62nd Ave and Parkway Drive

File Name : 62ndParkwayPM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 2



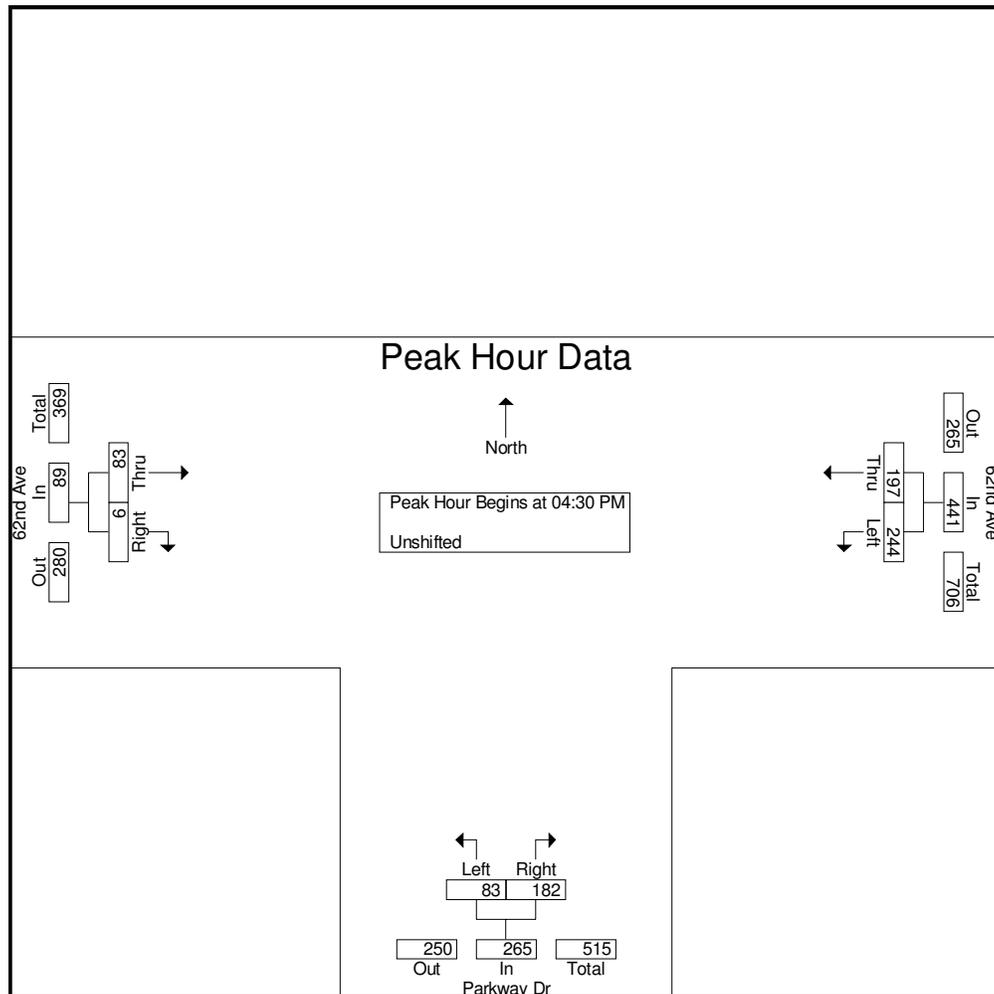


Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 62nd Ave and Parkway Drive

File Name : 62ndParkwayPM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	62nd Ave Eastbound			62nd Ave Westbound			Parkway Dr Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	13	2	15	65	56	121	16	49	65	201
04:45 PM	20	2	22	48	56	104	21	52	73	199
05:00 PM	20	0	20	64	49	113	22	38	60	193
05:15 PM	30	2	32	67	36	103	24	43	67	202
Total Volume	83	6	89	244	197	441	83	182	265	795
% App. Total	93.3	6.7		55.3	44.7		31.3	68.7		
PHF	.692	.750	.695	.910	.879	.911	.865	.875	.908	.984



Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
62nd Ave and Parkway Drive

File Name : 62ndParkwayPM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 4

Image 1





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 62nd Ave and SH-2

File Name : 62ndSH2AM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

Start Time	62nd Ave Westbound			SH-2 Northbound			SH-2 Southbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	16	16	27	2	29	0	0	0	45
07:15 AM	0	20	20	41	2	43	0	0	0	63
07:30 AM	0	19	19	31	0	31	0	0	0	50
07:45 AM	0	15	15	58	3	61	0	0	0	76
Total	0	70	70	157	7	164	0	0	0	234
08:00 AM	0	27	27	38	1	39	0	0	0	66
08:15 AM	0	22	22	45	2	47	0	0	0	69
08:30 AM	0	13	13	36	4	40	0	0	0	53
08:45 AM	0	11	11	47	4	51	0	0	0	62
Total	0	73	73	166	11	177	0	0	0	250
Grand Total	0	143	143	323	18	341	0	0	0	484
Apprch %	0	100		94.7	5.3		0	0		
Total %	0	29.5	29.5	66.7	3.7	70.5	0	0	0	

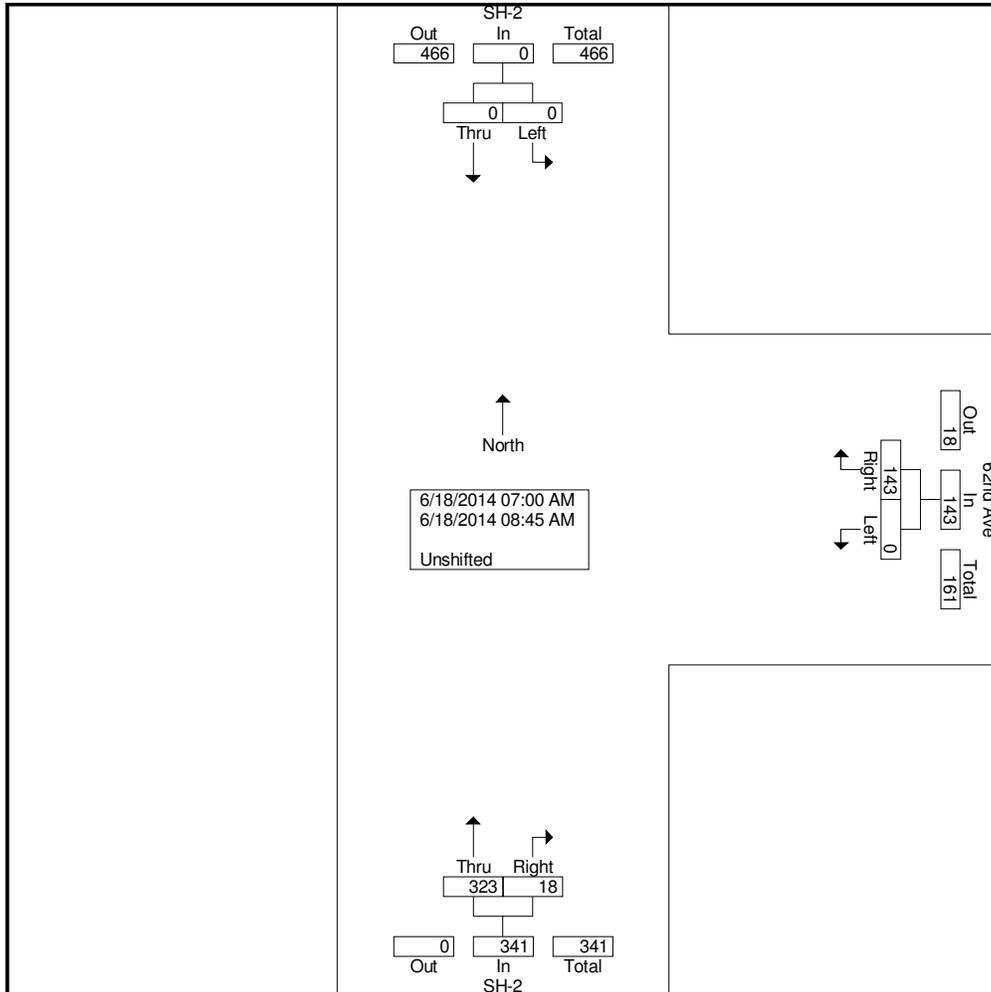


Ridgeview Data
Collection

Morrison, CO 80465

Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
62nd Ave and SH-2

File Name : 62ndSH2AM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 2



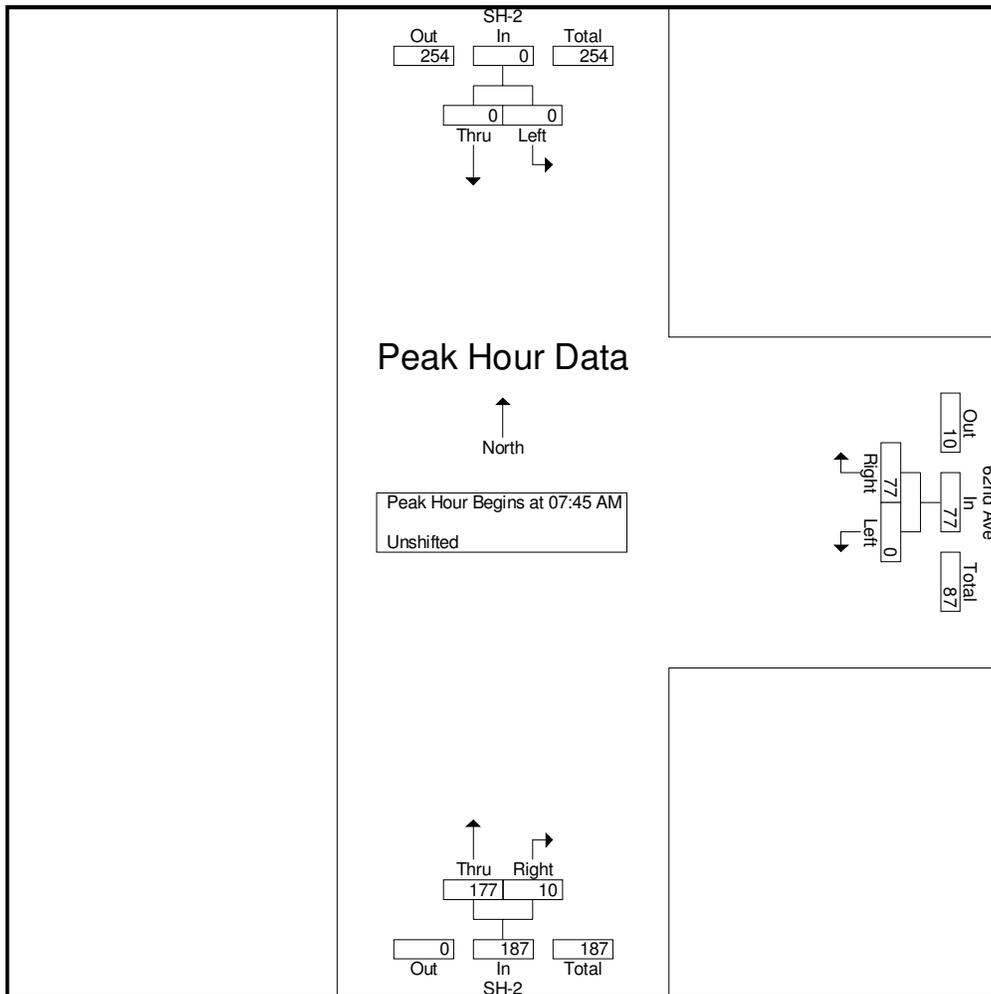


Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 62nd Ave and SH-2

File Name : 62ndSH2AM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	62nd Ave Westbound			SH-2 Northbound			SH-2 Southbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	15	15	58	3	61	0	0	0	76
08:00 AM	0	27	27	38	1	39	0	0	0	66
08:15 AM	0	22	22	45	2	47	0	0	0	69
08:30 AM	0	13	13	36	4	40	0	0	0	53
Total Volume	0	77	77	177	10	187	0	0	0	264
% App. Total	0	100		94.7	5.3		0	0		
PHF	.000	.713	.713	.763	.625	.766	.000	.000	.000	.868



Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
62nd Ave and SH-2

File Name : 62ndSH2AM
Site Code : IPO 42
Start Date : 6/18/2014
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Image 1





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 62nd Ave and SH-2

File Name : 62ndSH2PM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

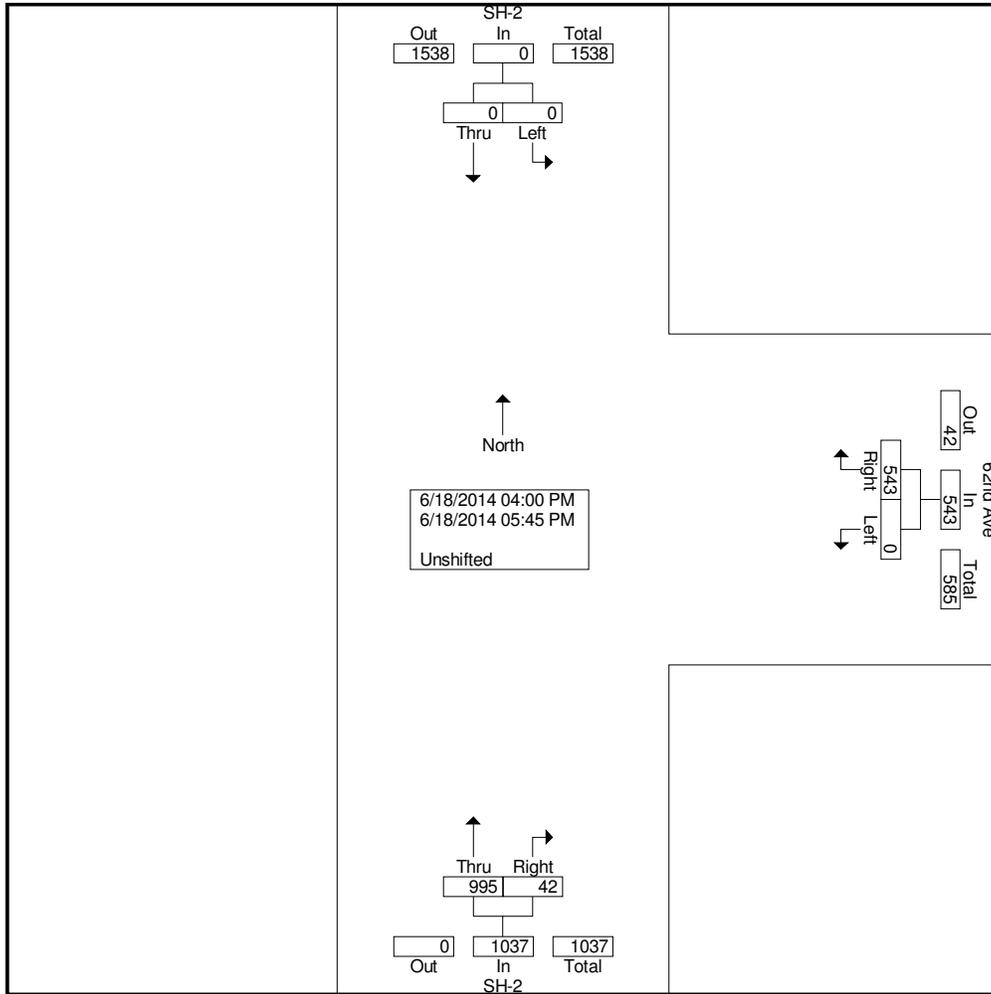
Start Time	62nd Ave Westbound			SH-2 Northbound			SH-2 Southbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	59	59	124	1	125	0	0	0	184
04:15 PM	0	47	47	115	6	121	0	0	0	168
04:30 PM	0	81	81	124	6	130	0	0	0	211
04:45 PM	0	65	65	123	4	127	0	0	0	192
Total	0	252	252	486	17	503	0	0	0	755
05:00 PM	0	69	69	125	10	135	0	0	0	204
05:15 PM	0	71	71	123	5	128	0	0	0	199
05:30 PM	0	85	85	145	6	151	0	0	0	236
05:45 PM	0	66	66	116	4	120	0	0	0	186
Total	0	291	291	509	25	534	0	0	0	825
Grand Total	0	543	543	995	42	1037	0	0	0	1580
Apprch %	0	100		95.9	4.1		0	0		
Total %	0	34.4	34.4	63	2.7	65.6	0	0	0	



Morrison, CO 80465

Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
62nd Ave and SH-2

File Name : 62ndSH2PM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 2



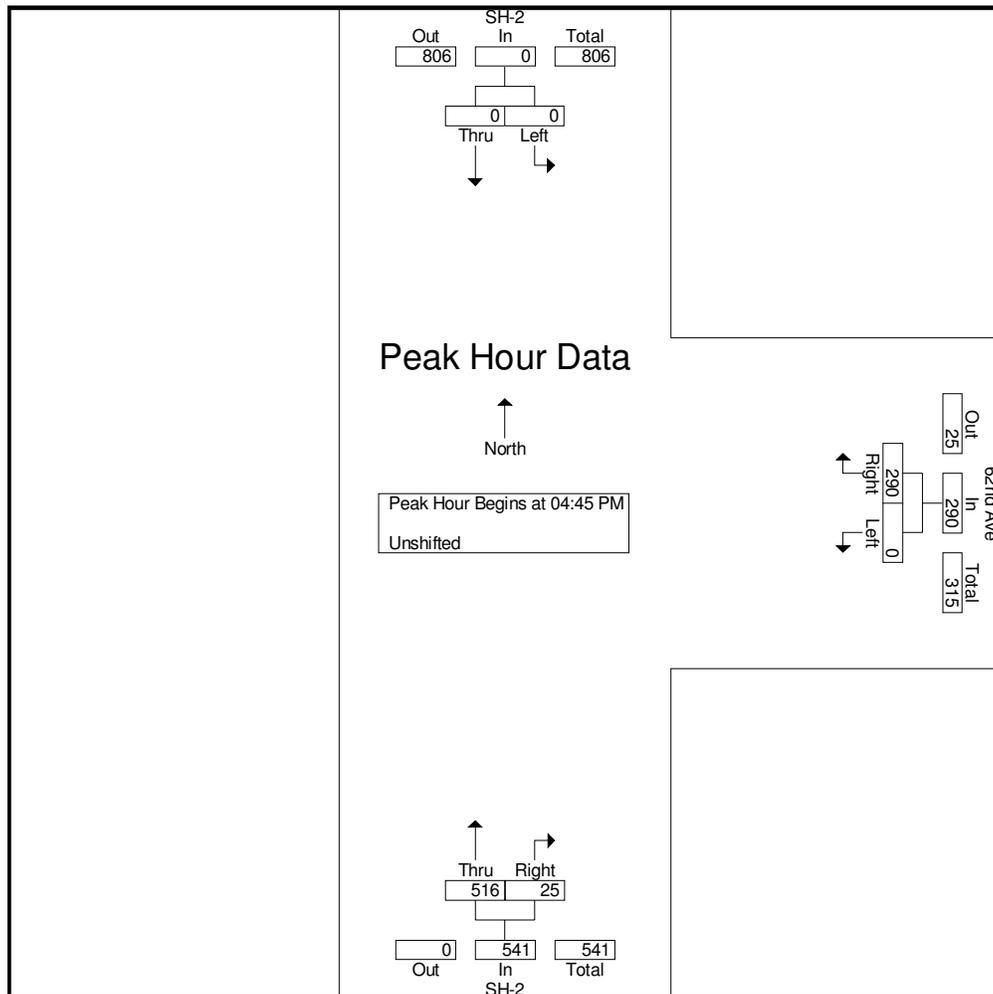


Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 62nd Ave and SH-2

File Name : 62ndSH2PM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	62nd Ave Westbound			SH-2 Northbound			SH-2 Southbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	65	65	123	4	127	0	0	0	192
05:00 PM	0	69	69	125	10	135	0	0	0	204
05:15 PM	0	71	71	123	5	128	0	0	0	199
05:30 PM	0	85	85	145	6	151	0	0	0	236
Total Volume	0	290	290	516	25	541	0	0	0	831
% App. Total	0	100		95.4	4.6		0	0		
PHF	.000	.853	.853	.890	.625	.896	.000	.000	.000	.880



Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
62nd Ave and SH-2

File Name : 62ndSH2PM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 4

Image 1





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 63rd Ave and SH-2

File Name : 63thSH2AM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

Start Time	63rd Ave Eastbound				63rd Ave Westbound				SH-2 Northbound				SH-2 Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	2	2	5	38	0	43	2	0	8	10	55
07:15 AM	0	0	0	0	0	0	1	1	14	49	0	63	1	0	5	6	70
07:30 AM	0	0	0	0	0	0	0	0	7	42	0	49	0	0	9	9	58
07:45 AM	0	0	0	0	0	0	0	0	8	65	0	73	0	0	3	3	76
Total	0	0	0	0	0	0	3	3	34	194	0	228	3	0	25	28	259
08:00 AM	0	0	0	0	0	0	0	0	18	47	0	65	0	0	6	6	71
08:15 AM	0	0	0	0	0	0	1	1	12	55	0	67	1	0	3	4	72
08:30 AM	0	0	0	0	0	0	5	5	4	45	0	49	5	0	16	21	75
08:45 AM	0	0	0	0	0	0	2	2	3	54	0	57	2	0	10	12	71
Total	0	0	0	0	0	0	8	8	37	201	0	238	8	0	35	43	289
Grand Total	0	0	0	0	0	0	11	11	71	395	0	466	11	0	60	71	548
Apprch %	0	0	0		0	0	100		15.2	84.8	0		15.5	0	84.5		
Total %	0	0	0	0	0	0	2	2	13	72.1	0	85	2	0	10.9	13	

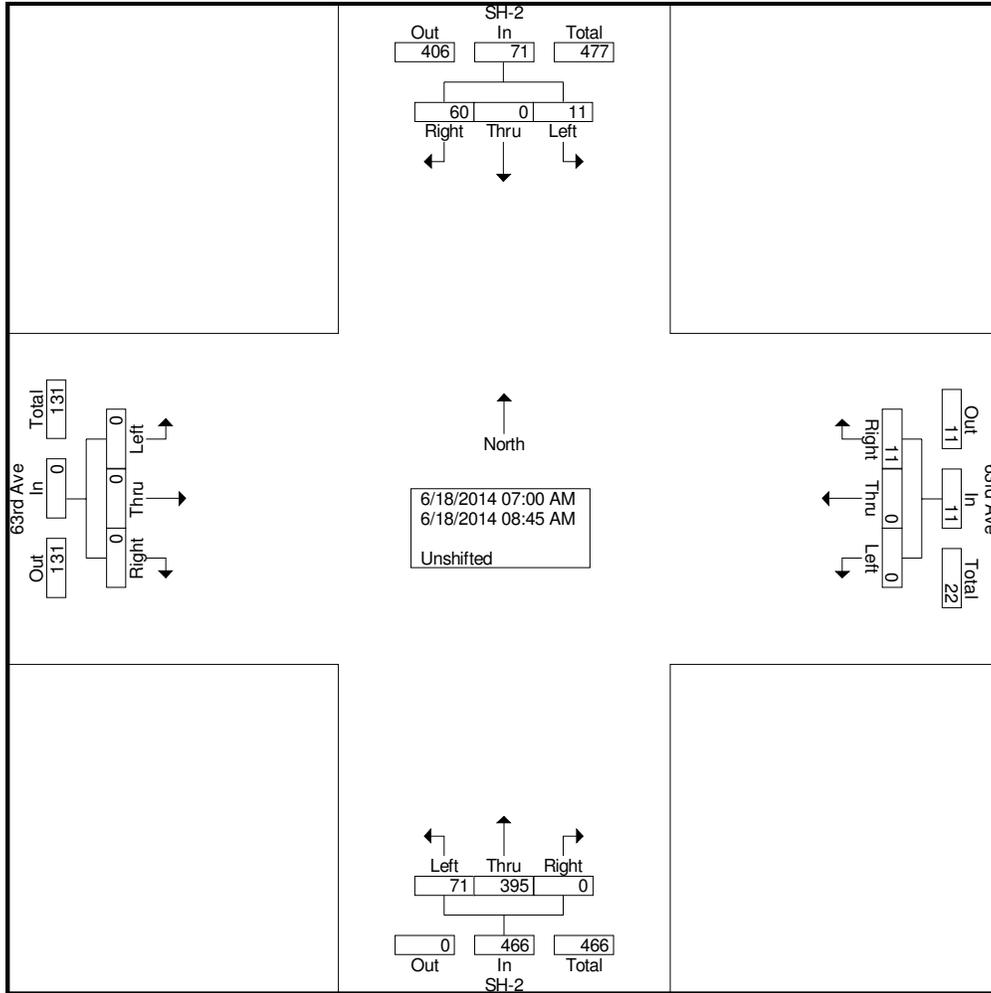


Ridgeview Data
Collection

Morrison, CO 80465

Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
63rd Ave and SH-2

File Name : 63thSH2AM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 2





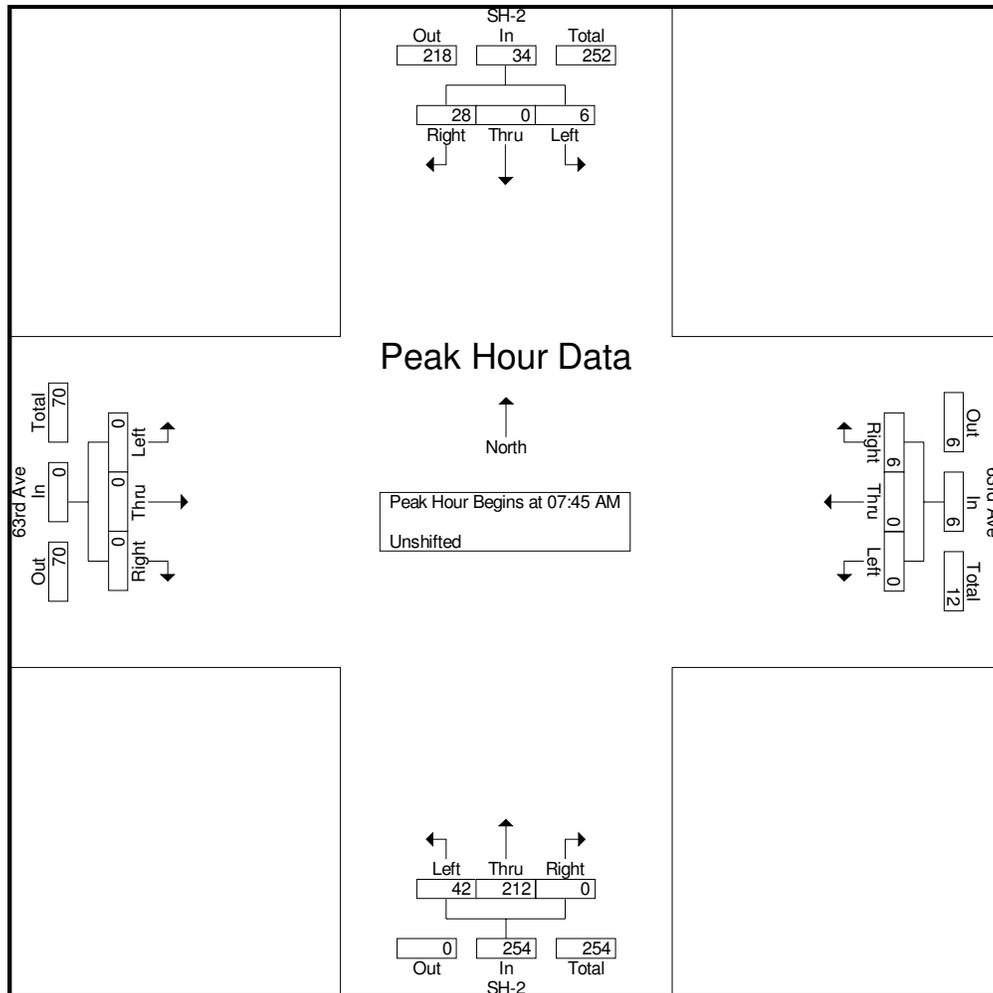
Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 63rd Ave and SH-2

File Name : 63thSH2AM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	63rd Ave Eastbound				63rd Ave Westbound				SH-2 Northbound				SH-2 Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:45 AM	0	0	0	0	0	0	0	0	8	65	0	73	0	0	3	3	76
08:00 AM	0	0	0	0	0	0	0	0	18	47	0	65	0	0	6	6	71
08:15 AM	0	0	0	0	0	0	1	1	12	55	0	67	1	0	3	4	72
08:30 AM	0	0	0	0	0	0	5	5	4	45	0	49	5	0	16	21	75
Total Volume	0	0	0	0	0	0	6	6	42	212	0	254	6	0	28	34	294
% App. Total	0	0	0		0	0	100		16.5	83.5	0		17.6	0	82.4		
PHF	.000	.000	.000	.000	.000	.000	.300	.300	.583	.815	.000	.870	.300	.000	.438	.405	.967

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM



Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
63rd Ave and SH-2

File Name : 63thSH2AM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 4

Image 1





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 63rd Ave and SH-2

File Name : 63thSH2PM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

Start Time	63rd Ave Eastbound				63rd Ave Westbound				SH-2 Northbound				SH-2 Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	2	2	25	155	0	180	2	0	10	12	194
04:15 PM	0	0	0	0	0	0	2	2	22	133	0	155	2	0	14	16	173
04:30 PM	0	0	0	0	0	0	1	1	51	153	0	204	1	0	10	11	216
04:45 PM	0	0	0	0	0	0	3	3	33	151	0	184	3	0	14	17	204
Total	0	0	0	0	0	0	8	8	131	592	0	723	8	0	48	56	787
05:00 PM	0	0	0	0	0	0	0	0	41	155	0	196	0	0	16	16	212
05:15 PM	0	0	0	0	0	0	1	1	30	151	0	181	1	0	19	20	202
05:30 PM	0	0	0	0	0	0	2	2	27	198	0	225	2	0	10	12	239
05:45 PM	0	0	0	0	0	0	0	0	33	142	0	175	0	0	8	8	183
Total	0	0	0	0	0	0	3	3	131	646	0	777	3	0	53	56	836
Grand Total	0	0	0	0	0	0	11	11	262	1238	0	1500	11	0	101	112	1623
Apprch %	0	0	0		0	0	100		17.5	82.5	0		9.8	0	90.2		
Total %	0	0	0		0	0	0.7	0.7	16.1	76.3	0	92.4	0.7	0	6.2	6.9	

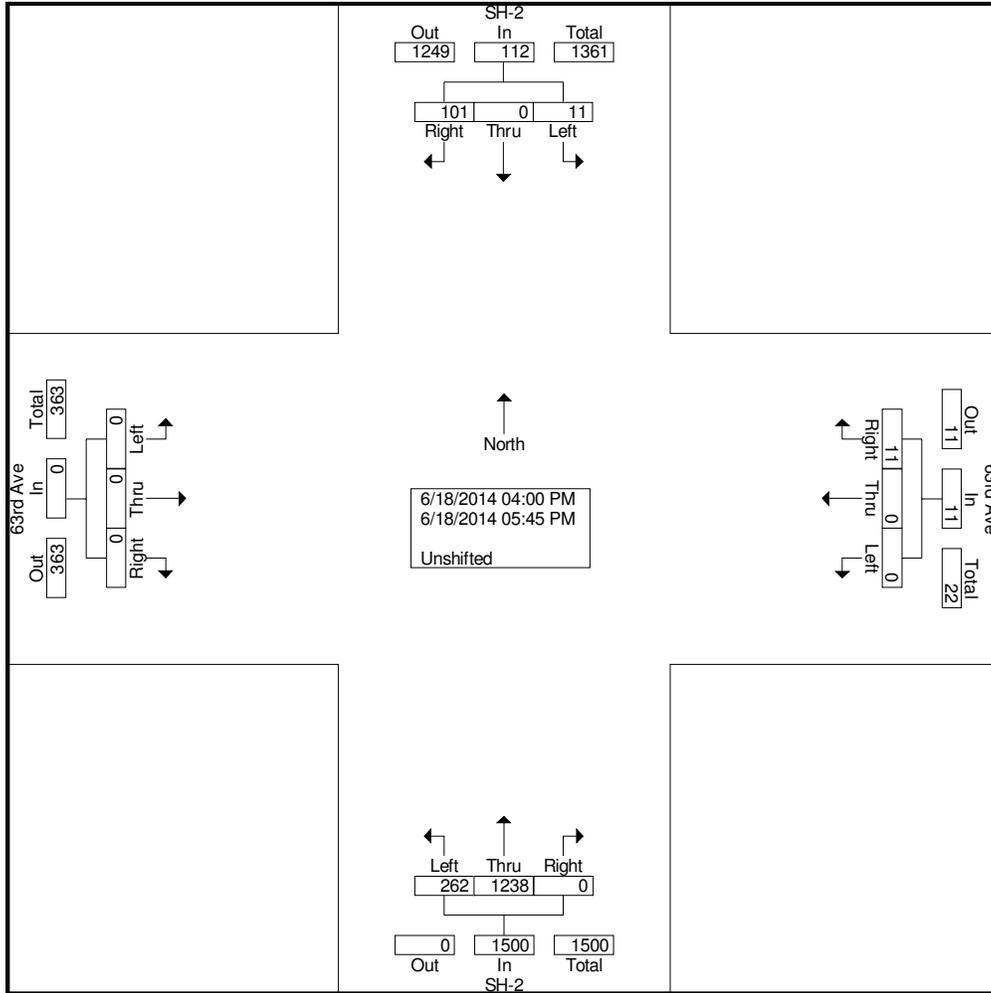


Ridgeview Data
Collection

Morrison, CO 80465

Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
63rd Ave and SH-2

File Name : 63thSH2PM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 2





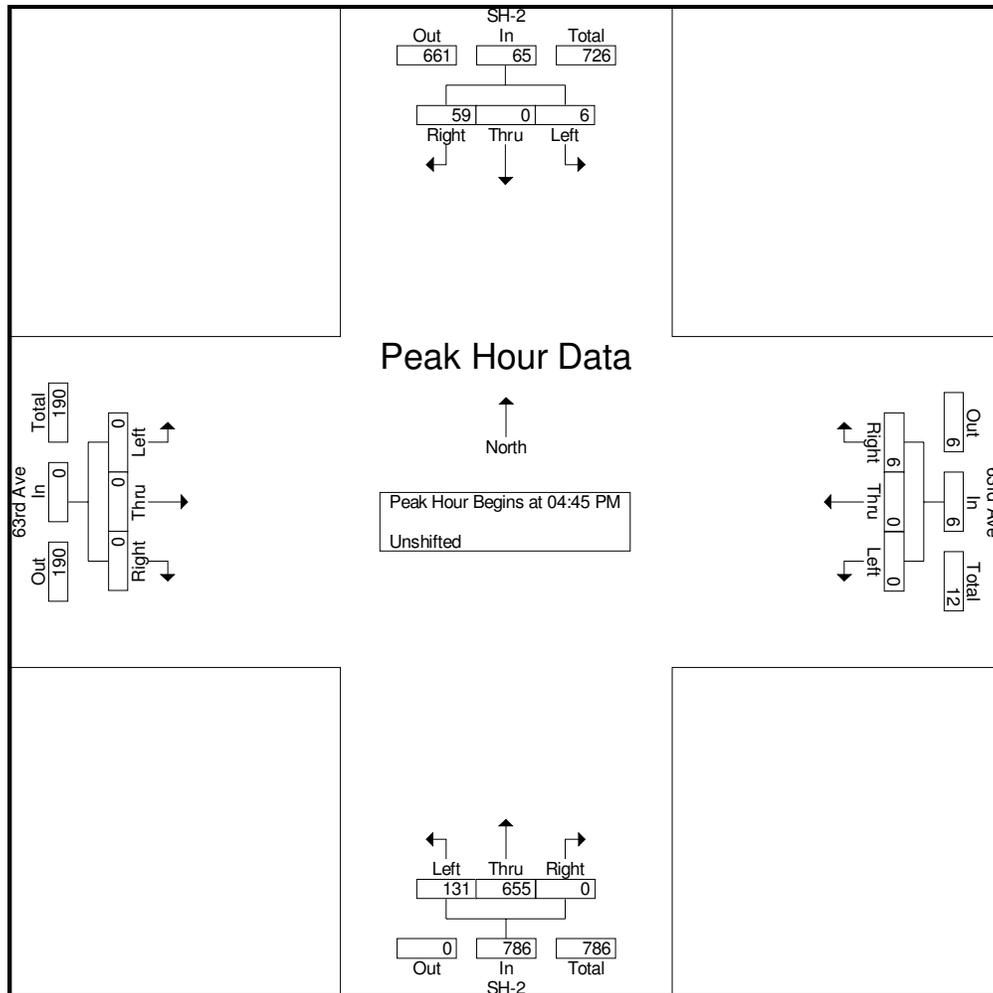
Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 63rd Ave and SH-2

File Name : 63thSH2PM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	63rd Ave Eastbound				63rd Ave Westbound				SH-2 Northbound				SH-2 Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:45 PM	0	0	0	0	0	0	3	3	33	151	0	184	3	0	14	17	204
05:00 PM	0	0	0	0	0	0	0	0	41	155	0	196	0	0	16	16	212
05:15 PM	0	0	0	0	0	0	1	1	30	151	0	181	1	0	19	20	202
05:30 PM	0	0	0	0	0	0	2	2	27	198	0	225	2	0	10	12	239
Total Volume	0	0	0	0	0	0	6	6	131	655	0	786	6	0	59	65	857
% App. Total	0	0	0		0	0	100		16.7	83.3	0		9.2	0	90.8		
PHF	.000	.000	.000	.000	.000	.000	.500	.500	.799	.827	.000	.873	.500	.000	.776	.813	.896

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM



Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
63rd Ave and SH-2

File Name : 63thSH2PM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 4

Image 1





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 64th Ave and Holly Street

File Name : 64thHollyAM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

Start Time	64th Ave Eastbound				64th Ave Westbound				Holly Street Northbound				Holly Street Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	9	16	25	5	15	2	22	3	3	3	9	4	29	0	33	89
07:15 AM	0	7	16	23	5	19	4	28	2	9	3	14	6	16	1	23	88
07:30 AM	0	7	19	26	11	16	2	29	3	12	0	15	10	24	1	35	105
07:45 AM	0	10	10	20	7	13	3	23	2	9	0	11	6	30	1	37	91
Total	0	33	61	94	28	63	11	102	10	33	6	49	26	99	3	128	373
08:00 AM	1	3	19	23	4	20	3	27	3	12	3	18	4	18	0	22	90
08:15 AM	1	6	11	18	6	12	5	23	3	13	4	20	6	17	2	25	86
08:30 AM	1	13	37	51	3	19	9	31	4	15	3	22	6	12	2	20	124
08:45 AM	2	17	25	44	4	8	5	17	5	12	2	19	10	22	1	33	113
Total	5	39	92	136	17	59	22	98	15	52	12	79	26	69	5	100	413
Grand Total	5	72	153	230	45	122	33	200	25	85	18	128	52	168	8	228	786
Apprch %	2.2	31.3	66.5		22.5	61	16.5		19.5	66.4	14.1		22.8	73.7	3.5		
Total %	0.6	9.2	19.5	29.3	5.7	15.5	4.2	25.4	3.2	10.8	2.3	16.3	6.6	21.4	1	29	

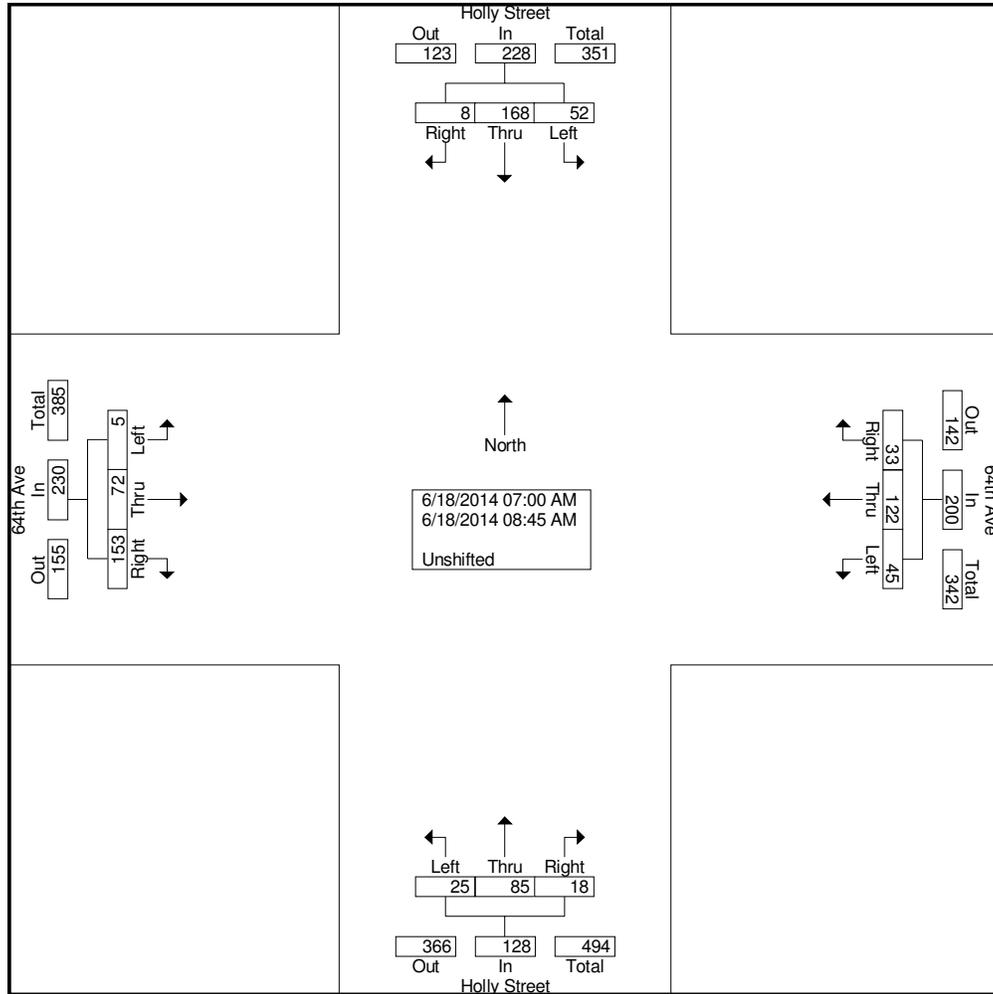


Ridgeview Data
Collection

Morrison, CO 80465

Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
64th Ave and Holly Street

File Name : 64thHollyAM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 2



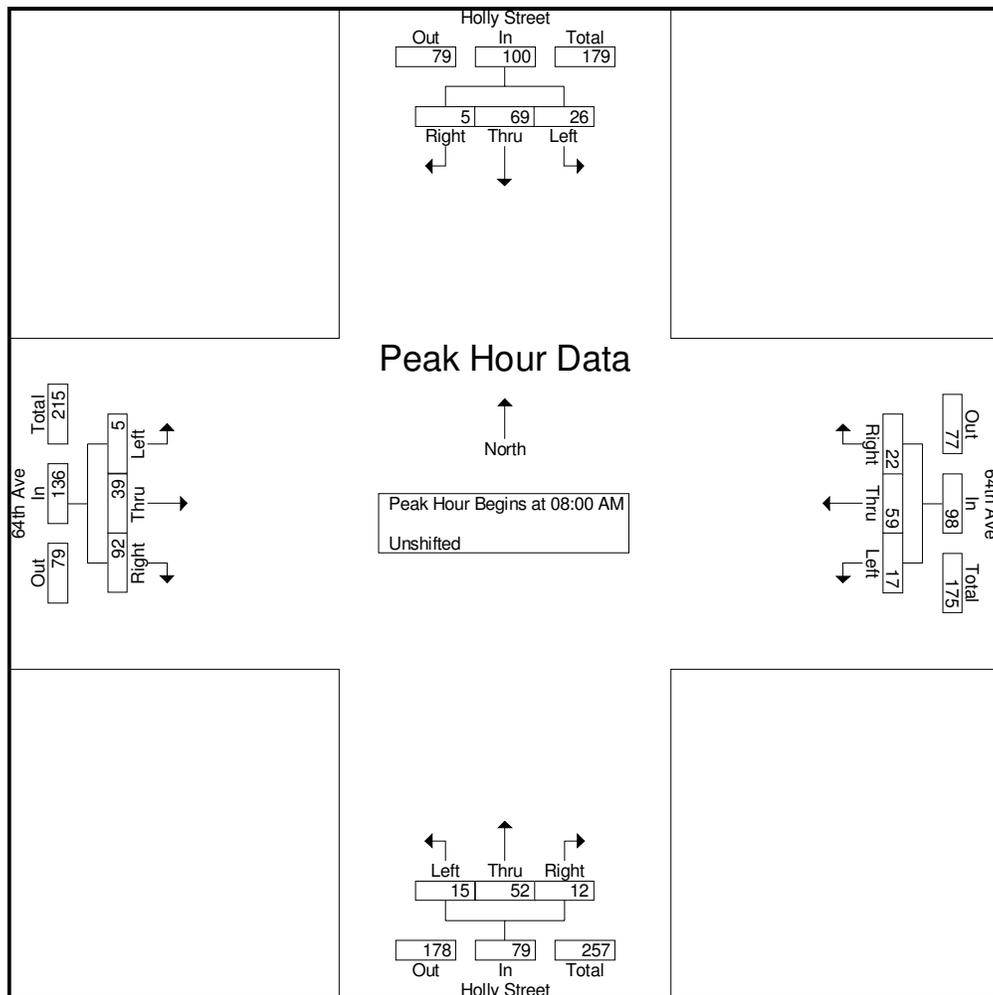


Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 64th Ave and Holly Street

File Name : 64thHollyAM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	64th Ave Eastbound				64th Ave Westbound				Holly Street Northbound				Holly Street Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	1	3	19	23	4	20	3	27	3	12	3	18	4	18	0	22	90
08:15 AM	1	6	11	18	6	12	5	23	3	13	4	20	6	17	2	25	86
08:30 AM	1	13	37	51	3	19	9	31	4	15	3	22	6	12	2	20	124
08:45 AM	2	17	25	44	4	8	5	17	5	12	2	19	10	22	1	33	113
Total Volume	5	39	92	136	17	59	22	98	15	52	12	79	26	69	5	100	413
% App. Total	3.7	28.7	67.6		17.3	60.2	22.4		19	65.8	15.2		26	69	5		
PHF	.625	.574	.622	.667	.708	.738	.611	.790	.750	.867	.750	.898	.650	.784	.625	.758	.833



Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
64th Ave and Holly Street

File Name : 64thHollyAM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 4

Image 1





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 64th Ave and Holly Street

File Name : 64thHollyPM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

Start Time	64th Ave Eastbound				64th Ave Westbound				Holly St Northbound				Holly St Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	14	8	22	2	28	12	42	7	33	9	49	9	24	1	34	147
04:15 PM	0	19	10	29	6	36	10	52	10	39	7	56	9	13	1	23	160
04:30 PM	0	14	12	26	8	31	14	53	9	31	13	53	8	13	1	22	154
04:45 PM	0	9	11	20	13	25	22	60	11	46	16	73	16	19	0	35	188
Total	0	56	41	97	29	120	58	207	37	149	45	231	42	69	3	114	649
05:00 PM	2	10	15	27	20	39	19	78	8	44	9	61	12	23	0	35	201
05:15 PM	1	12	17	30	14	42	13	69	12	34	15	61	7	19	3	29	189
05:30 PM	1	16	17	34	14	32	15	61	9	36	10	55	11	25	2	38	188
05:45 PM	2	18	12	32	11	26	11	48	7	26	14	47	13	21	2	36	163
Total	6	56	61	123	59	139	58	256	36	140	48	224	43	88	7	138	741
Grand Total	6	112	102	220	88	259	116	463	73	289	93	455	85	157	10	252	1390
Apprch %	2.7	50.9	46.4		19	55.9	25.1		16	63.5	20.4		33.7	62.3	4		
Total %	0.4	8.1	7.3	15.8	6.3	18.6	8.3	33.3	5.3	20.8	6.7	32.7	6.1	11.3	0.7	18.1	

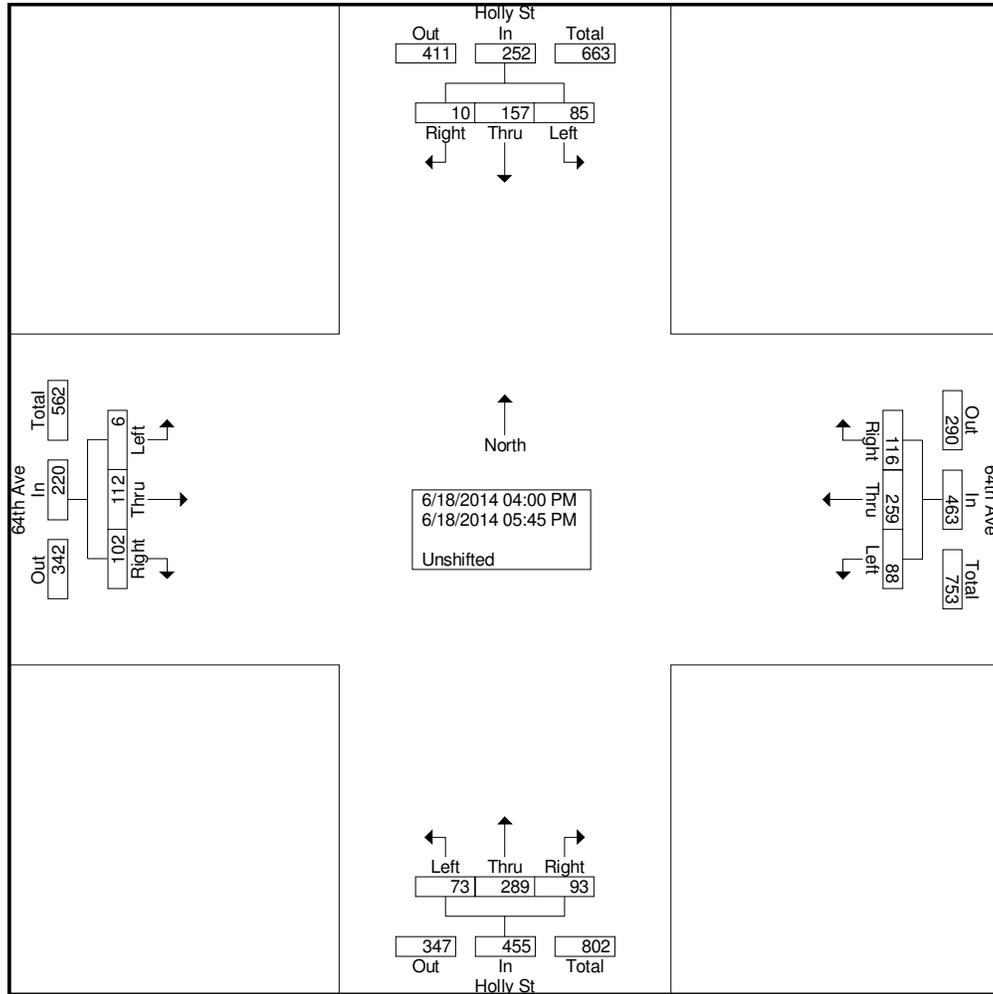


Ridgeview Data
Collection

Morrison, CO 80465

Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
64th Ave and Holly Street

File Name : 64thHollyPM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 2





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 64th Ave and Holly Street

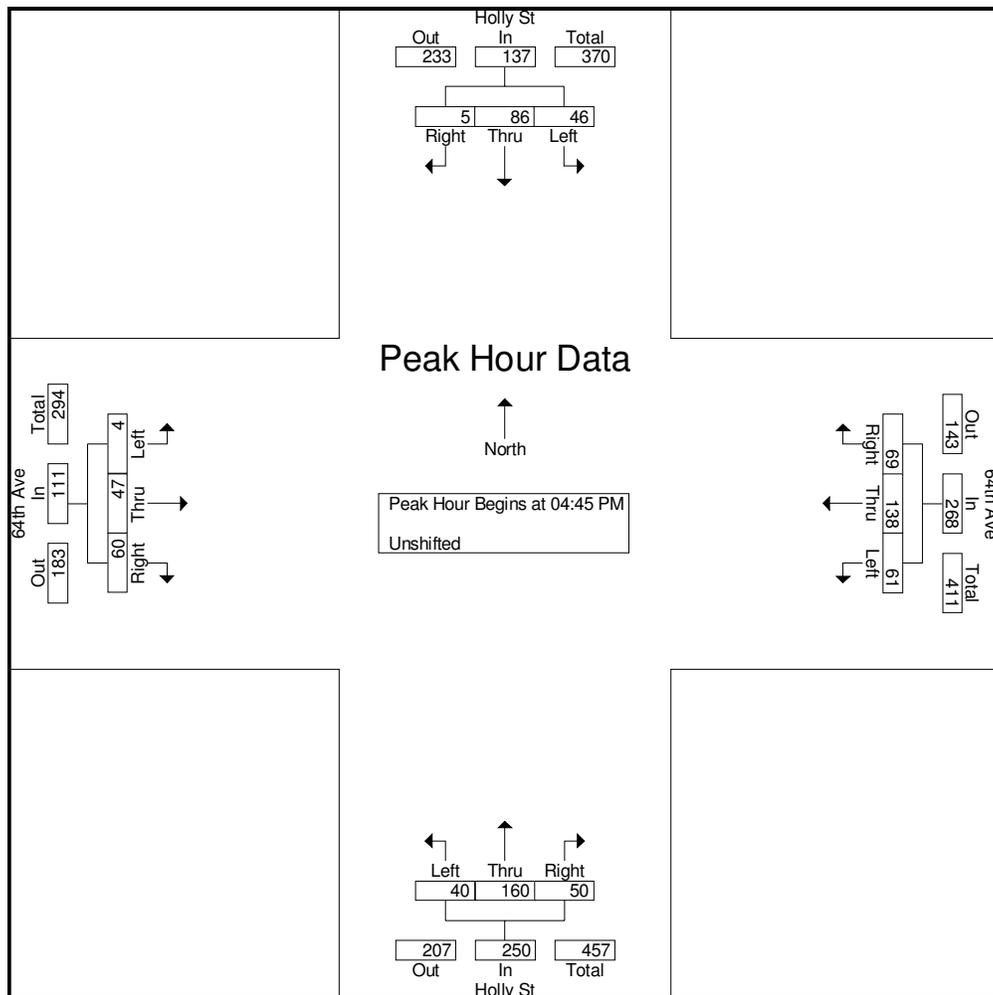
File Name : 64thHollyPM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	64th Ave Eastbound				64th Ave Westbound				Holly St Northbound				Holly St Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	0	9	11	20	13	25	22	60	11	46	16	73	16	19	0	35	188
05:00 PM	2	10	15	27	20	39	19	78	8	44	9	61	12	23	0	35	201
05:15 PM	1	12	17	30	14	42	13	69	12	34	15	61	7	19	3	29	189
05:30 PM	1	16	17	34	14	32	15	61	9	36	10	55	11	25	2	38	188
Total Volume	4	47	60	111	61	138	69	268	40	160	50	250	46	86	5	137	766
% App. Total	3.6	42.3	54.1		22.8	51.5	25.7		16	64	20		33.6	62.8	3.6		
PHF	.500	.734	.882	.816	.763	.821	.784	.859	.833	.870	.781	.856	.719	.860	.417	.901	.953



Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
64th Ave and Holly Street

File Name : 64thHollyPM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 4

Image 1





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 64th Ave and SH-2

File Name : 64thSH2AM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

Start Time	64th Ave Eastbound				64th Ave Westbound				SH-2 Northbound				SH-2 Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	4	13	3	20	1	34	4	39	18	5	158	181	240
07:15 AM	0	0	0	0	5	19	4	28	0	41	5	46	21	1	145	167	241
07:30 AM	0	0	0	0	5	18	3	26	2	27	11	40	24	4	129	157	223
07:45 AM	0	0	0	0	3	15	2	20	0	57	13	70	12	0	123	135	225
Total	0	0	0	0	17	65	12	94	3	159	33	195	75	10	555	640	929
08:00 AM	0	0	0	0	7	19	4	30	2	41	4	47	18	0	109	127	204
08:15 AM	0	0	0	0	1	16	2	19	0	49	3	52	20	3	109	132	203
08:30 AM	0	0	0	0	11	8	4	23	2	35	15	52	33	11	73	117	192
08:45 AM	0	0	0	0	8	6	3	17	0	35	21	56	22	4	55	81	154
Total	0	0	0	0	27	49	13	89	4	160	43	207	93	18	346	457	753
Grand Total	0	0	0	0	44	114	25	183	7	319	76	402	168	28	901	1097	1682
Apprch %	0	0	0	0	24	62.3	13.7		1.7	79.4	18.9		15.3	2.6	82.1		
Total %	0	0	0	0	2.6	6.8	1.5	10.9	0.4	19	4.5	23.9	10	1.7	53.6	65.2	

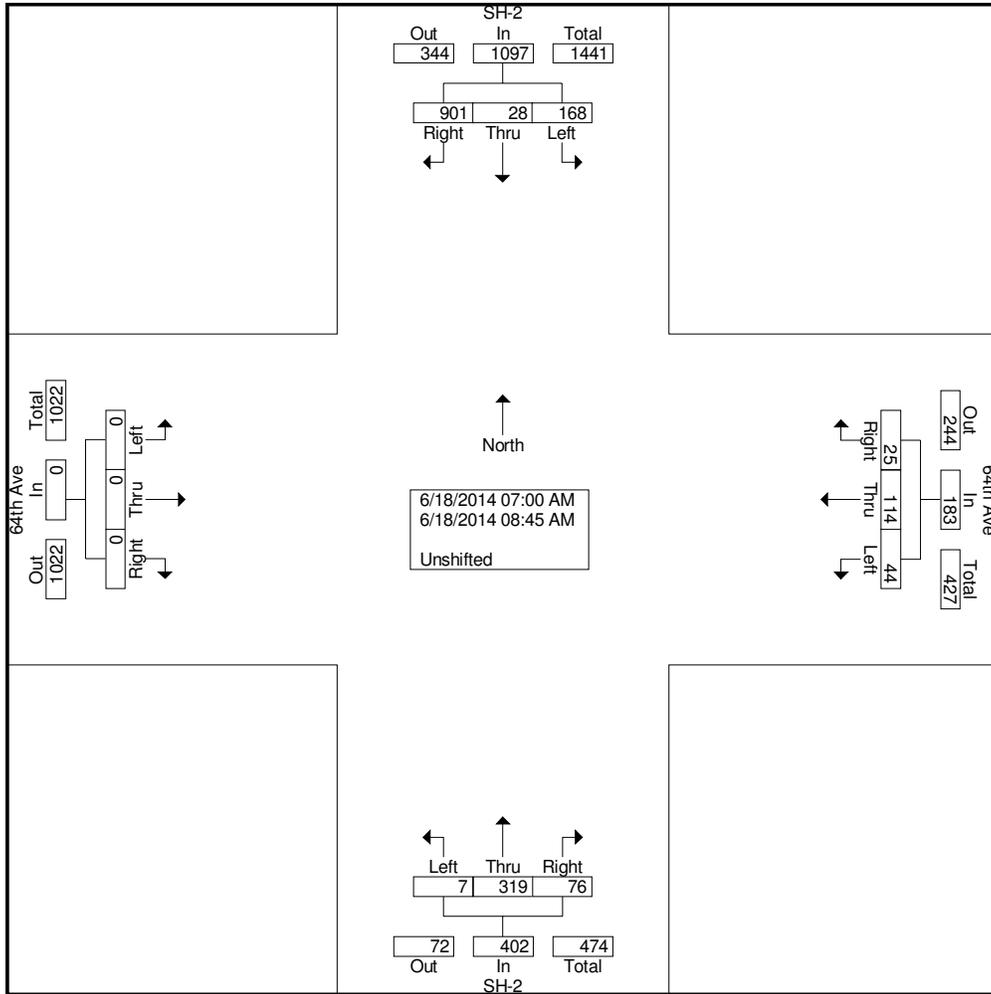


Ridgeview Data
Collection

Morrison, CO 80465

Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
64th Ave and SH-2

File Name : 64thSH2AM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 2



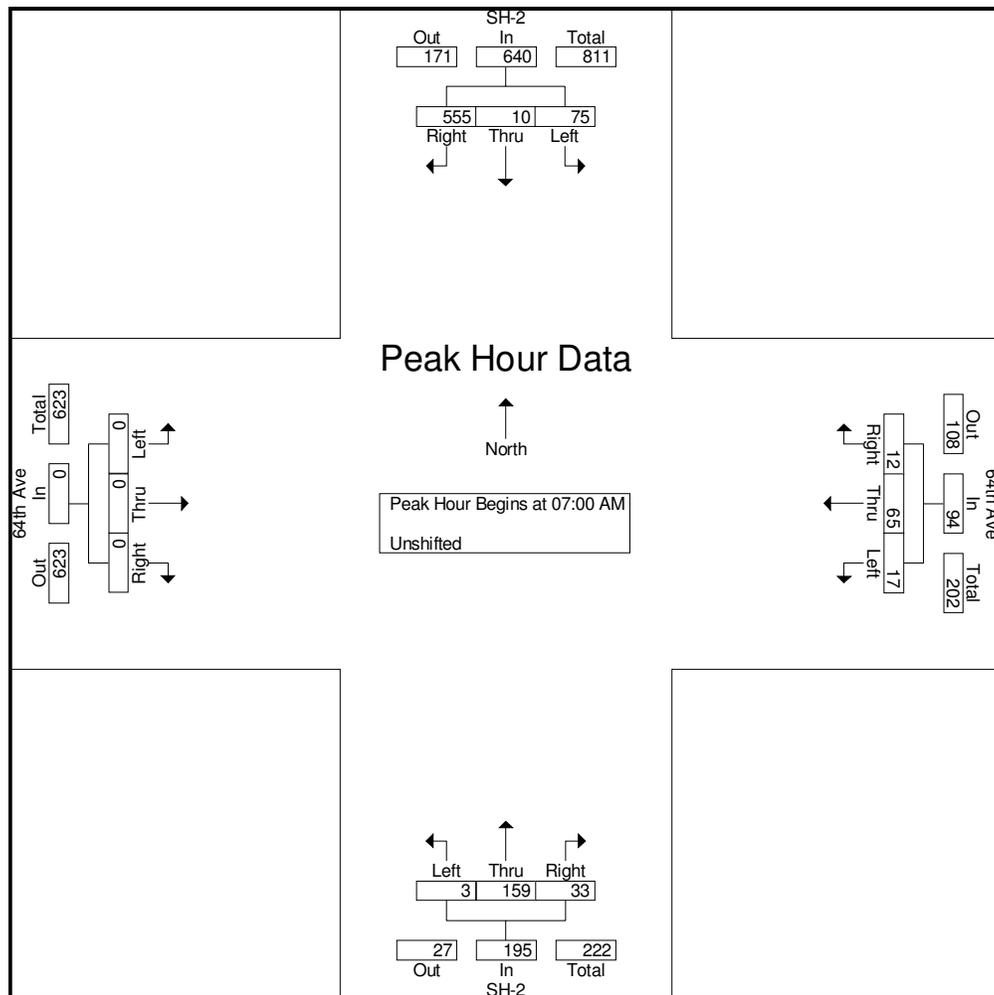


Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 AM Peak
 64th Ave and SH-2

File Name : 64thSH2AM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	64th Ave Eastbound				64th Ave Westbound				SH-2 Northbound				SH-2 Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	4	13	3	20	1	34	4	39	18	5	158	181	240
07:15 AM	0	0	0	0	5	19	4	28	0	41	5	46	21	1	145	167	241
07:30 AM	0	0	0	0	5	18	3	26	2	27	11	40	24	4	129	157	223
07:45 AM	0	0	0	0	3	15	2	20	0	57	13	70	12	0	123	135	225
Total Volume	0	0	0	0	17	65	12	94	3	159	33	195	75	10	555	640	929
% App. Total	0	0	0		18.1	69.1	12.8		1.5	81.5	16.9		11.7	1.6	86.7		
PHF	.000	.000	.000	.000	.850	.855	.750	.839	.375	.697	.635	.696	.781	.500	.878	.884	.964



Commerce City
Mile High Greyhound Park Redevelopment
AM Peak
64th Ave and SH-2

File Name : 64thSH2AM
Site Code : IPO 42
Start Date : 6/18/2014
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Image 1





Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 64th Ave and SH-2

File Name : 64thSH2PM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 1

Groups Printed- Unshifted

Start Time	64th Ave Eastbound				64th Ave Westbound				SH-2 Northbound				SH-2 Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	8	22	10	40	7	131	12	150	13	6	77	96	286
04:15 PM	0	0	0	0	10	16	18	44	4	129	14	147	18	6	64	88	279
04:30 PM	0	0	0	0	8	25	11	44	5	133	14	152	13	2	60	75	271
04:45 PM	0	0	0	0	11	22	12	45	7	133	18	158	14	7	79	100	303
Total	0	0	0	0	37	85	51	173	23	526	58	607	58	21	280	359	1139
05:00 PM	0	0	0	0	8	27	12	47	2	143	14	159	17	8	75	100	306
05:15 PM	0	0	0	0	14	32	9	55	5	140	15	160	16	6	89	111	326
05:30 PM	0	0	0	0	9	21	8	38	3	179	20	202	17	3	86	106	346
05:45 PM	0	0	0	0	9	17	16	42	0	134	15	149	17	0	55	72	263
Total	0	0	0	0	40	97	45	182	10	596	64	670	67	17	305	389	1241
Grand Total	0	0	0	0	77	182	96	355	33	1122	122	1277	125	38	585	748	2380
Apprch %	0	0	0	0	21.7	51.3	27		2.6	87.9	9.6		16.7	5.1	78.2		
Total %	0	0	0	0	3.2	7.6	4	14.9	1.4	47.1	5.1	53.7	5.3	1.6	24.6	31.4	

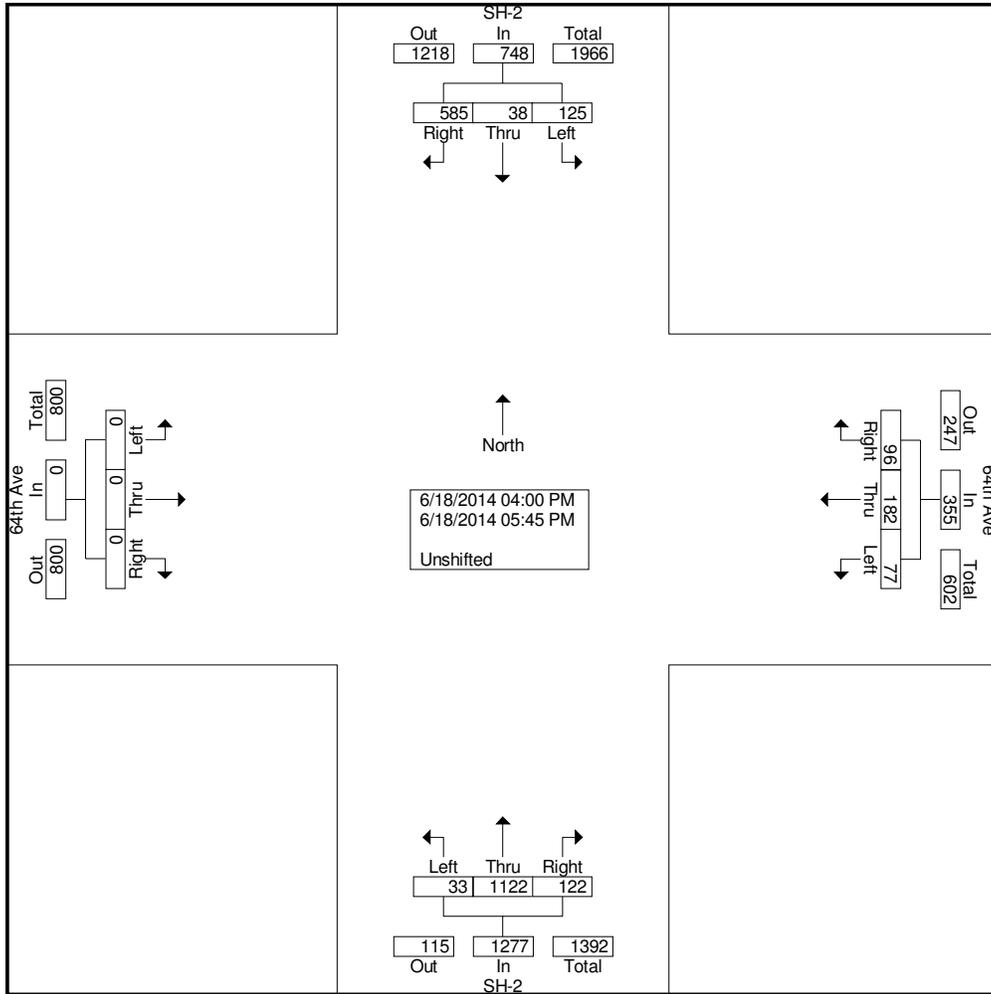


Ridgeview Data
Collection

Morrison, CO 80465

Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
64th Ave and SH-2

File Name : 64thSH2PM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 2



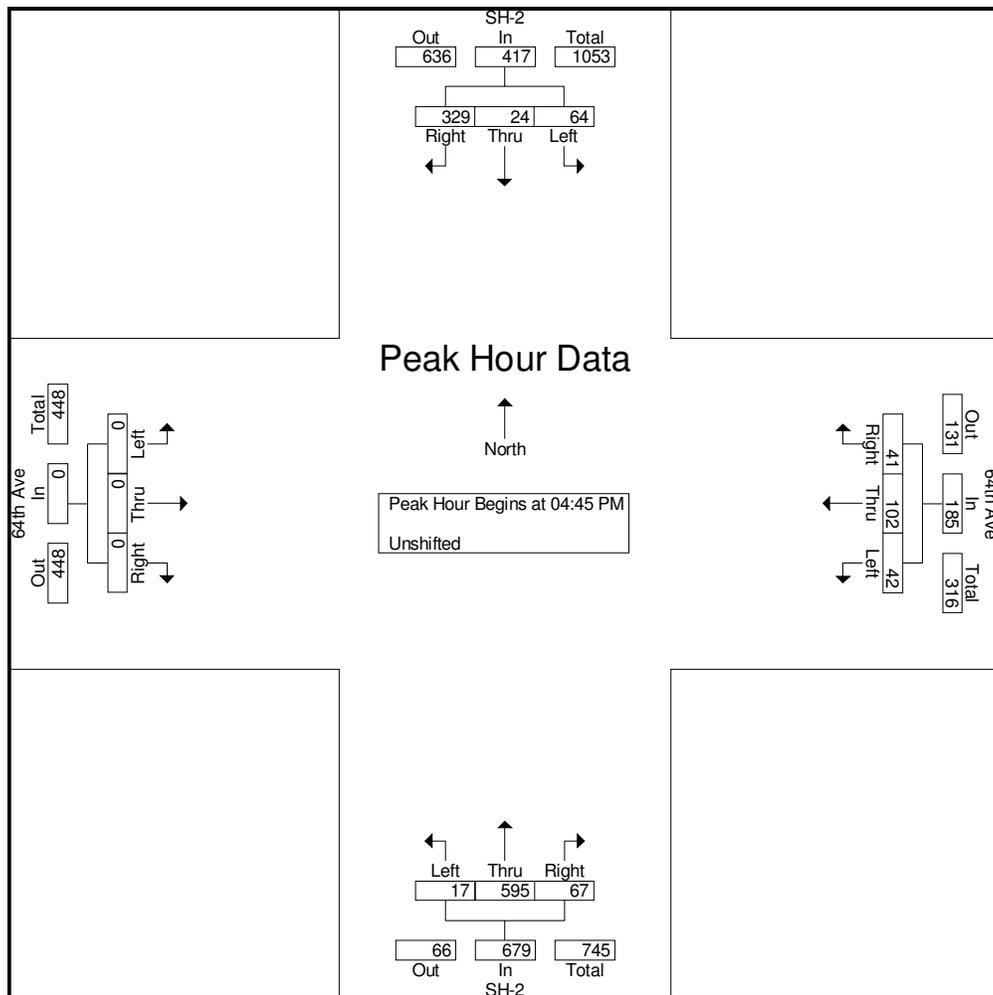


Morrison, CO 80465

Commerce City
 Mile High Greyhound Park Redevelopment
 PM Peak
 64th Ave and SH-2

File Name : 64thSH2PM
 Site Code : IPO 42
 Start Date : 6/18/2014
 Page No : 3

Start Time	64th Ave Eastbound				64th Ave Westbound				SH-2 Northbound				SH-2 Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	11	22	12	45	7	133	18	158	14	7	79	100	303
05:00 PM	0	0	0	0	8	27	12	47	2	143	14	159	17	8	75	100	306
05:15 PM	0	0	0	0	14	32	9	55	5	140	15	160	16	6	89	111	326
05:30 PM	0	0	0	0	9	21	8	38	3	179	20	202	17	3	86	106	346
Total Volume	0	0	0	0	42	102	41	185	17	595	67	679	64	24	329	417	1281
% App. Total	0	0	0		22.7	55.1	22.2		2.5	87.6	9.9		15.3	5.8	78.9		
PHF	.000	.000	.000	.000	.750	.797	.854	.841	.607	.831	.838	.840	.941	.750	.924	.939	.926



Commerce City
Mile High Greyhound Park Redevelopment
PM Peak
64th Ave and SH-2

File Name : 64thSH2PM
Site Code : IPO 42
Start Date : 6/18/2014
Page No : 4

Image 1





Morrison, CO 80465

Commerce City, CO
 MHGP Redevelopment
 AM Peak
 66th Way and Glencoe Street

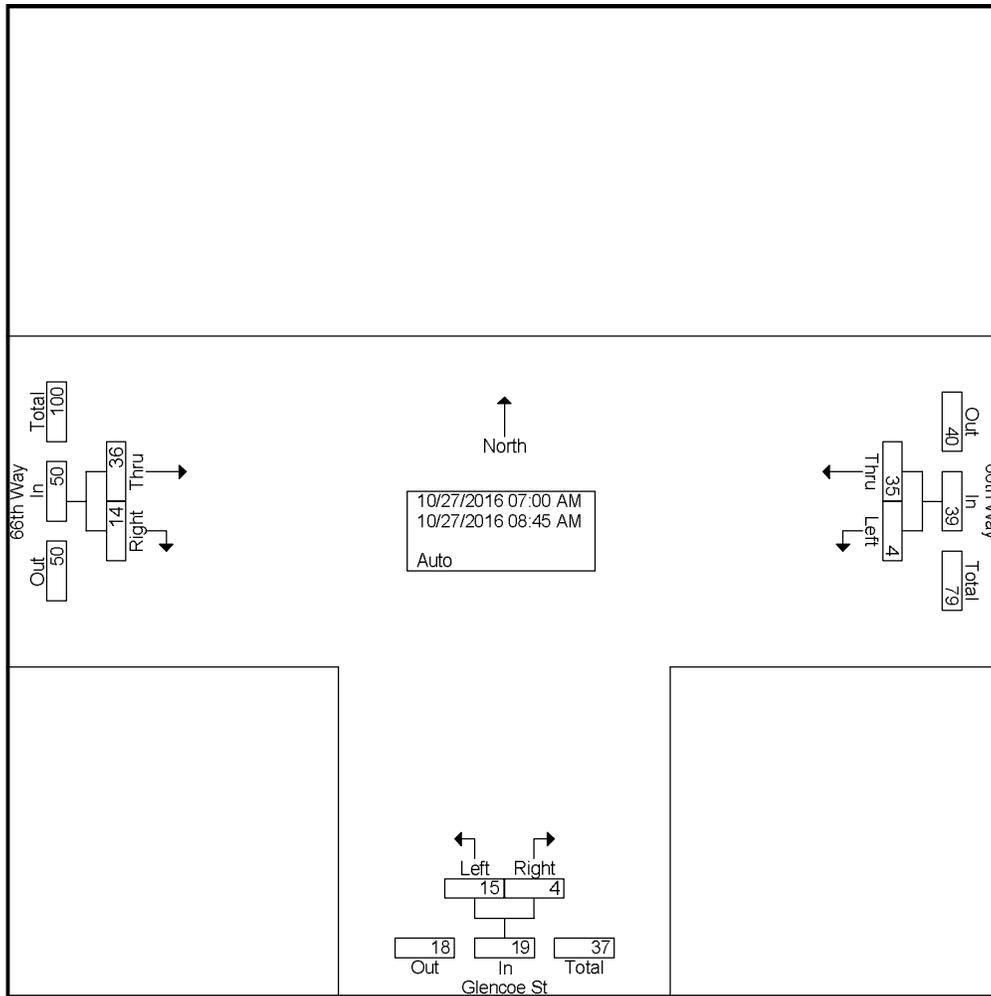
File Name : 66thGlencoeAM
 Site Code : IPO 195
 Start Date : 10/27/2016
 Page No : 1

Groups Printed- Auto

Start Time	66th Way Eastbound			66th Way Westbound			Glencoe St Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	3	0	3	0	3	3	2	0	2	8
07:15 AM	7	1	8	1	5	6	0	0	0	14
07:30 AM	7	4	11	0	5	5	0	0	0	16
07:45 AM	7	1	8	1	5	6	2	2	4	18
Total	24	6	30	2	18	20	4	2	6	56
08:00 AM	3	1	4	0	4	4	2	0	2	10
08:15 AM	2	0	2	1	4	5	2	0	2	9
08:30 AM	1	3	4	1	2	3	3	1	4	11
08:45 AM	6	4	10	0	7	7	4	1	5	22
Total	12	8	20	2	17	19	11	2	13	52
Grand Total	36	14	50	4	35	39	15	4	19	108
Apprch %	72	28		10.3	89.7		78.9	21.1		
Total %	33.3	13	46.3	3.7	32.4	36.1	13.9	3.7	17.6	

Commerce City, CO
MHGP Redevelopment
AM Peak
66th Way and Glencoe Street

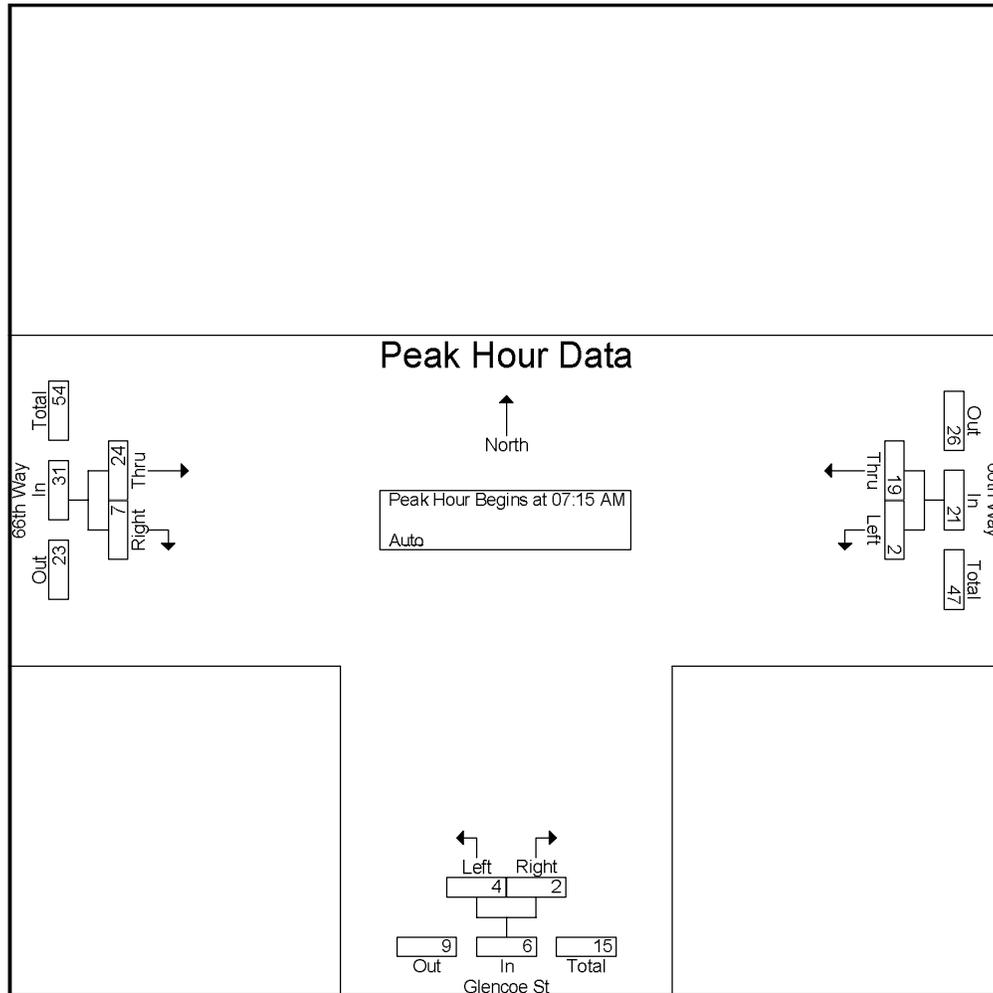
File Name : 66thGlencoeAM
Site Code : IPO 195
Start Date : 10/27/2016
Page No : 2



Commerce City, CO
MHGP Redevelopment
AM Peak
66th Way and Glencoe Street

File Name : 66thGlencoeAM
Site Code : IPO 195
Start Date : 10/27/2016
Page No : 3

Start Time	66th Way Eastbound			66th Way Westbound			Glencoe St Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	7	1	8	1	5	6	0	0	0	14
07:30 AM	7	4	11	0	5	5	0	0	0	16
07:45 AM	7	1	8	1	5	6	2	2	4	18
08:00 AM	3	1	4	0	4	4	2	0	2	10
Total Volume	24	7	31	2	19	21	4	2	6	58
% App. Total	77.4	22.6		9.5	90.5		66.7	33.3		
PHF	.857	.438	.705	.500	.950	.875	.500	.250	.375	.806





Morrison, CO 80465

Commerce City, CO
 MHGP Redevelopment
 PM Peak
 66th Way and Glencoe Street

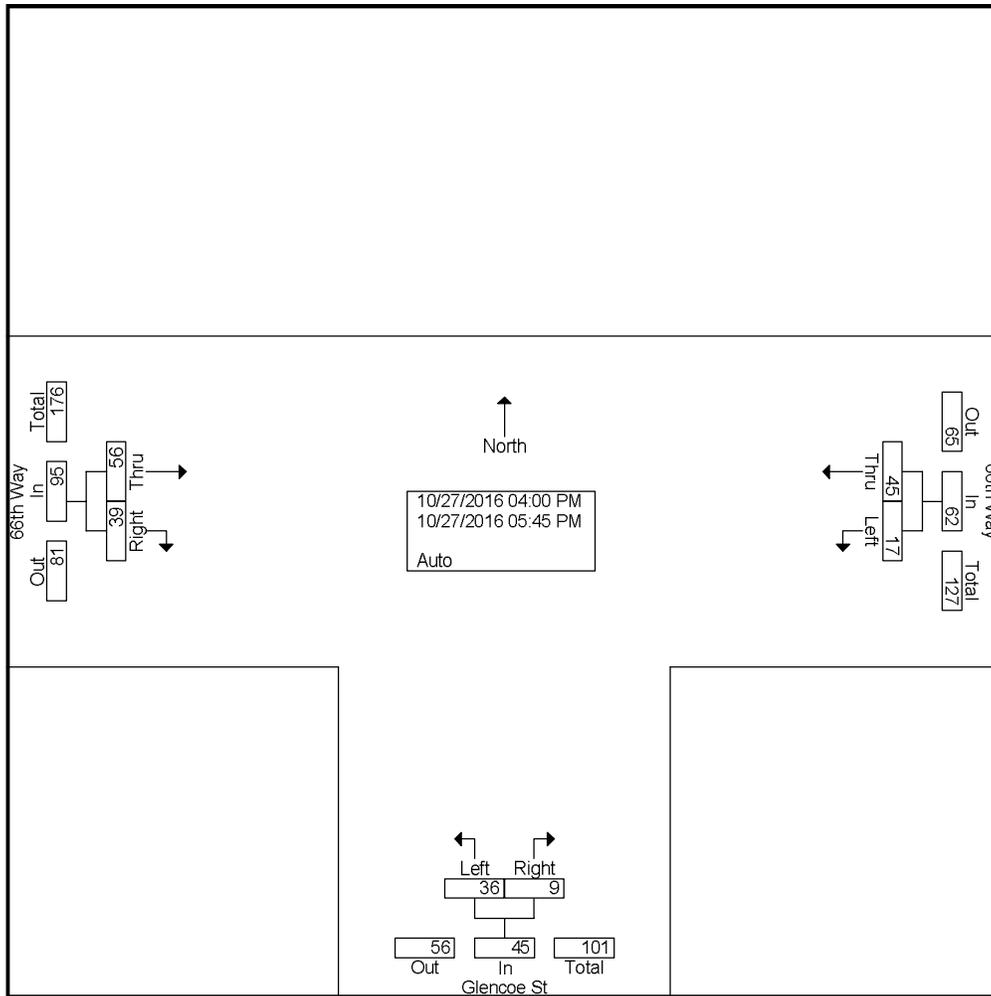
File Name : 66thGlencoePM
 Site Code : IPO 195
 Start Date : 10/27/2016
 Page No : 1

Groups Printed- Auto

Start Time	66th Way Eastbound			66th Way Westbound			Glencoe St Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	3	2	5	3	10	13	11	2	13	31
04:15 PM	4	8	12	2	6	8	3	1	4	24
04:30 PM	9	0	9	5	2	7	4	1	5	21
04:45 PM	11	4	15	0	4	4	3	0	3	22
Total	27	14	41	10	22	32	21	4	25	98
05:00 PM	8	2	10	1	7	8	2	1	3	21
05:15 PM	7	10	17	1	4	5	3	3	6	28
05:30 PM	9	8	17	3	9	12	6	1	7	36
05:45 PM	5	5	10	2	3	5	4	0	4	19
Total	29	25	54	7	23	30	15	5	20	104
Grand Total	56	39	95	17	45	62	36	9	45	202
Apprch %	58.9	41.1		27.4	72.6		80	20		
Total %	27.7	19.3	47	8.4	22.3	30.7	17.8	4.5	22.3	

Commerce City, CO
MHGP Redevelopment
PM Peak
66th Way and Glencoe Street

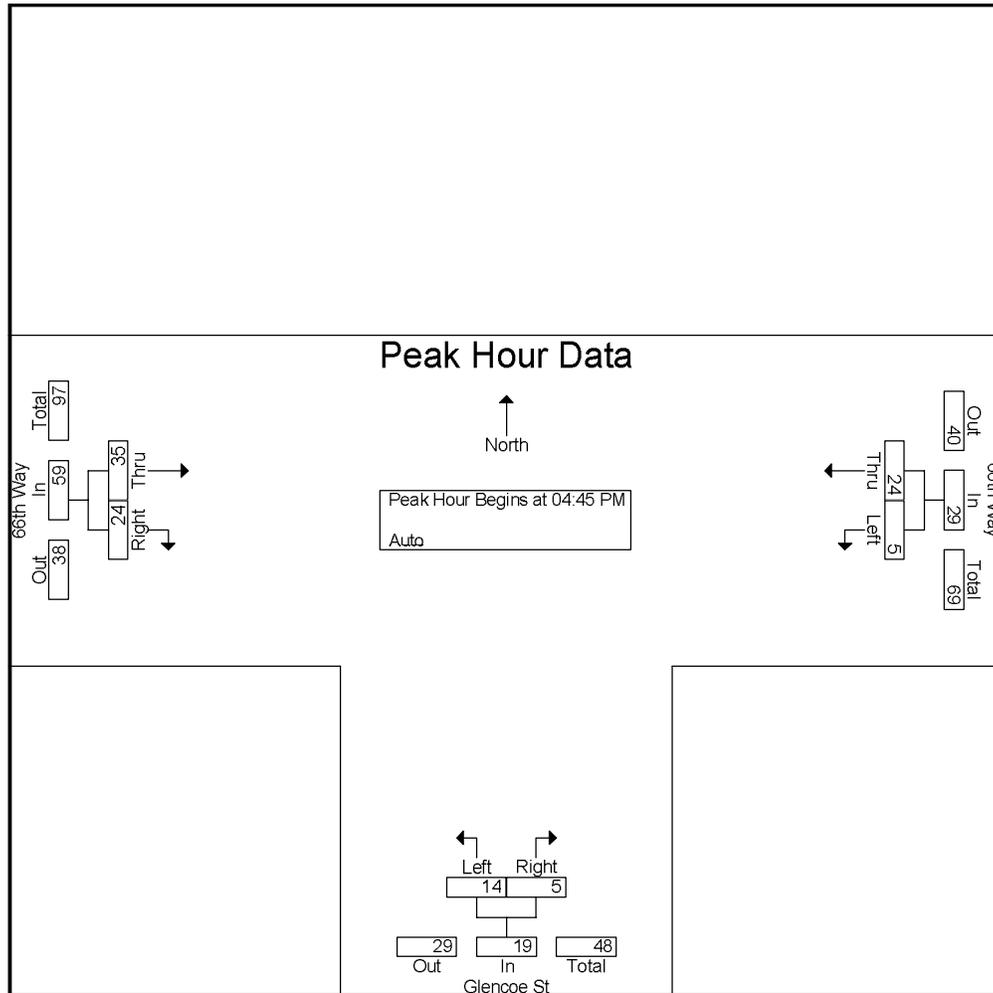
File Name : 66thGlencoePM
Site Code : IPO 195
Start Date : 10/27/2016
Page No : 2



Commerce City, CO
MHGP Redevelopment
PM Peak
66th Way and Glencoe Street

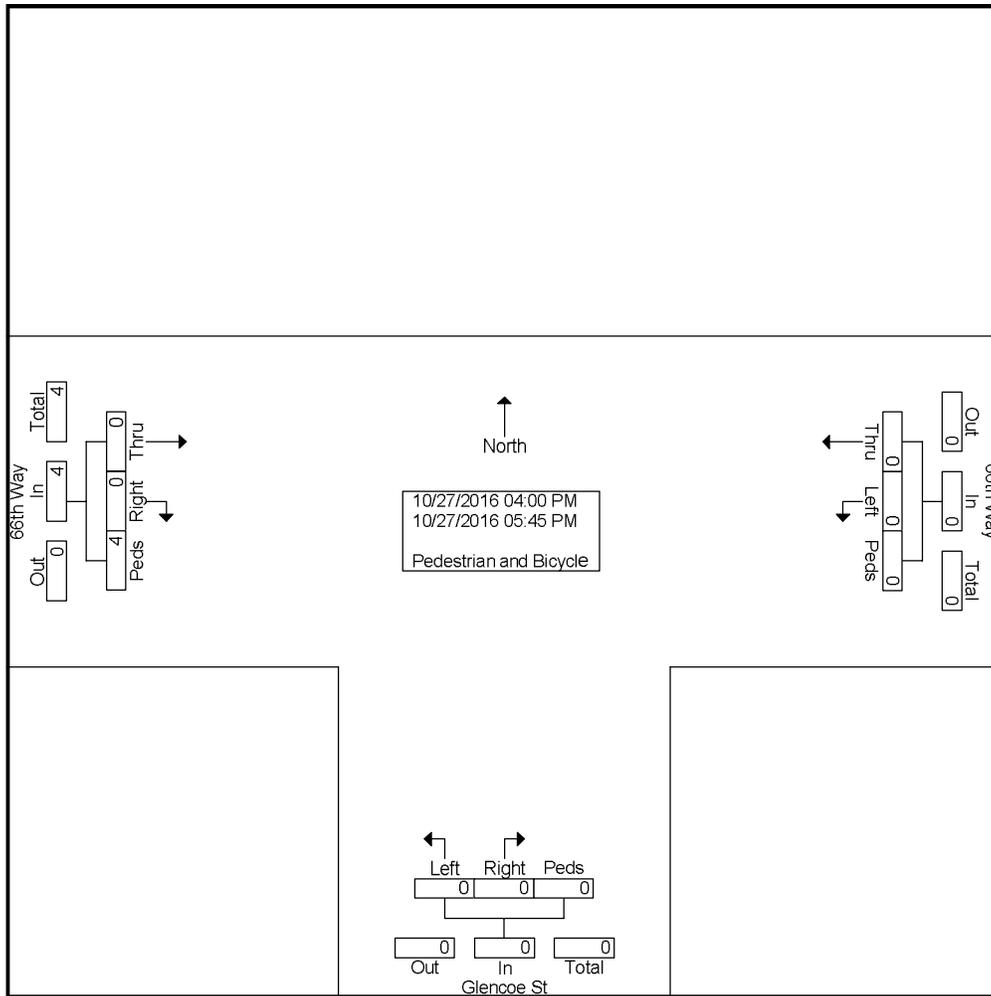
File Name : 66thGlencoePM
Site Code : IPO 195
Start Date : 10/27/2016
Page No : 3

Start Time	66th Way Eastbound			66th Way Westbound			Glencoe St Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	11	4	15	0	4	4	3	0	3	22
05:00 PM	8	2	10	1	7	8	2	1	3	21
05:15 PM	7	10	17	1	4	5	3	3	6	28
05:30 PM	9	8	17	3	9	12	6	1	7	36
Total Volume	35	24	59	5	24	29	14	5	19	107
% App. Total	59.3	40.7		17.2	82.8		73.7	26.3		
PHF	.795	.600	.868	.417	.667	.604	.583	.417	.679	.743



Commerce City, CO
MHGP Redevelopment
PM Peak Peds and Bikes
66th Way and Glencoe Street

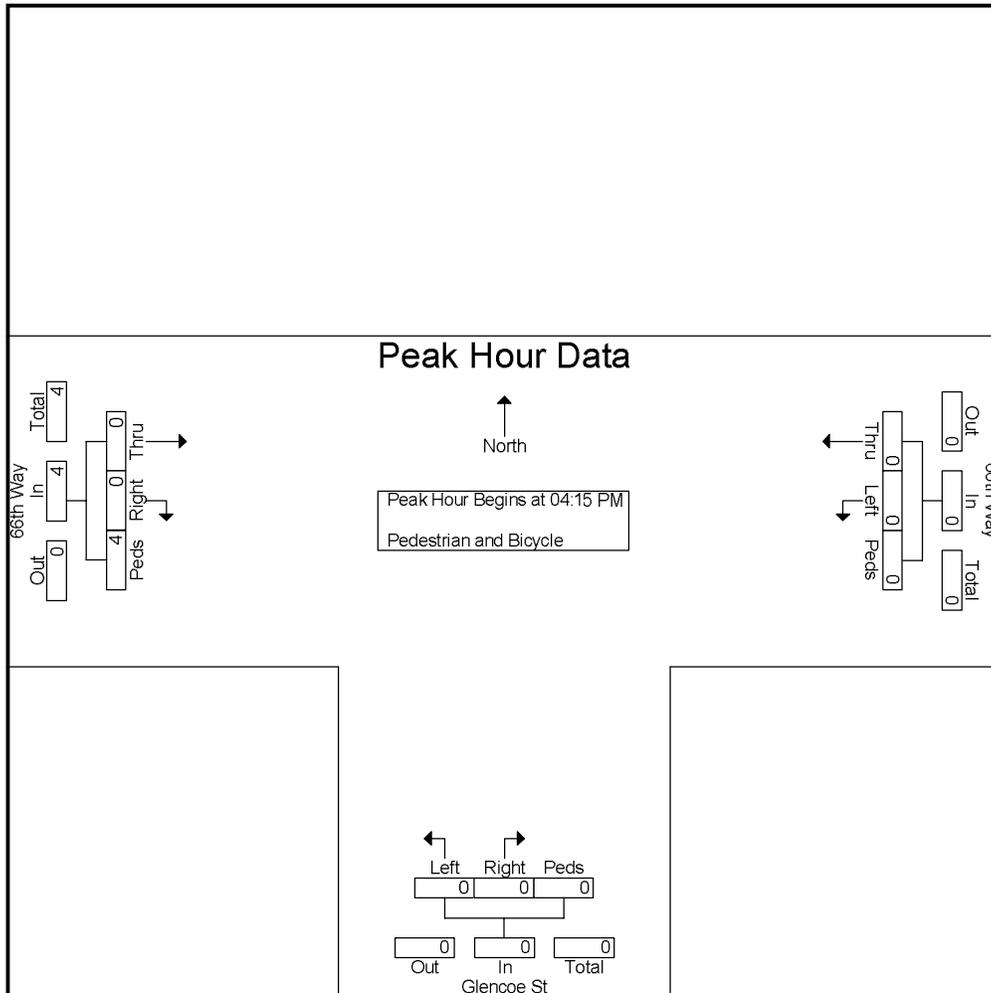
File Name : 66thGlencoePM PedsBikes
Site Code : IPO 195
Start Date : 10/27/2016
Page No : 2



Commerce City, CO
MHGP Redevelopment
PM Peak Peds and Bikes
66th Way and Glencoe Street

File Name : 66thGlencoePM PedsBikes
Site Code : IPO 195
Start Date : 10/27/2016
Page No : 3

Start Time	66th Way Eastbound				66th Way Westbound				Glencoe St Northbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	2	2	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	2	2	0	0	0	0	0	0	0	0	2
Total Volume	0	0	4	4	0	0	0	0	0	0	0	0	4
% App. Total	0	0	100		0	0	0		0	0	0		
PHF	.000	.000	.500	.500	.000	.000	.000	.000	.000	.000	.000	.000	.500



CDOT Traffic Information

ROUTE	REFPT	ENDREFPT	LENGTH	UPDATEYR	RAADT	AADTYR	YR20FACT	COUNT	STALOCATION
006H	292.723	293.122	0.403	2016	43000	2015	1.04	100345	ON SH 6 VASQUEZ BLVD N/O I-270 COMMERCE CITY
006H	293.122	293.67	0.514	2016	38000	2015	1.06	100346	ON SH 6 VASQUEZ BLVD N/O 60TH AVE COMMERCE CITY

Trip Generation Calculations



Project MHGP Redevelopment
 Subject Trip Generation for Single-Family Detached Housing
 Designed by Matt Farnen Date September 21, 2016 Job No. 96368000
 Checked by Curtis Rowe Sheet No. 1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 9th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independant Variable - Dwelling Units (X)

$$X = 71$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (page 297)

Average Weekday	Directional Distribution:	25% ent.	75% exit.
(T) = 0.70 (X) + 9.74	T = 59	Average Vehicle Trip Ends	
(T) = 0.70 * (71) + 9.94	15 entering	44	exiting
	15 + 44 = 59		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (page 298)

Average Weekday	Directional Distribution:	63% ent.	37% exit.
Ln(T) = 0.90 Ln(X) + 0.51	T = 77	Average Vehicle Trip Ends	
Ln(T) = 0.90 * Ln(71) + 0.51	49 entering	28	exiting
	49 + 28 = 77		

Peak Hour of Generator, Saturday (page 302)

Average Saturday	Directional Distribution:	53% ent.	47% exit.
(T) = 0.89 (X) + 8.77	T = 72	Average Vehicle Trip Ends	
(T) = 0.89 * (71) + 8.77	38 entering	34	exiting
	38 + 34 = 72		

Weekday (page 296)

Average Weekday	Directional Distribution:	50% entering,	50% exiting
Ln(T) = 0.92 Ln(X) + 2.72	T = 766	Average Vehicle Trip Ends	
Ln(T) = 0.92 * Ln(71) + 2.72	383 entering	383	exiting
	383 + 383 = 766		

Project MHGP Redevelopment
 Subject Trip Generation for Apartment
 Designed by Matt Farnen Date September 21, 2016 Job No. 96368000
 Checked by Curtis Rowe Sheet No. 1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 9th Edition, Fitted Curve Equations

Land Use Code - Apartment, (220)

Independent Variable - Dwelling Units (X)

$$X = 675$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (page 334)

Daily Weekday

$$T = 0.49 (X) + 3.73$$

$$T = 0.49 * 675.0 + 3.79$$

Directional Distribution: 20% ent. 80% exit.

$$T = 335 \text{ Average Vehicle Trip Ends}$$

$$67 \text{ entering} \quad 268 \text{ exiting}$$

$$67 + 268 = 335$$

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (page 335)

Daily Weekday

$$T = 0.55 (X) + 17.65$$

$$T = 0.55 * 675.0 + 17.65$$

Directional Distribution: 65% ent. 35% exit.

$$T = 389 \text{ Average Vehicle Trip Ends}$$

$$253 \text{ entering} \quad 136 \text{ exiting}$$

$$253 + 136 = 389$$

Weekday (page 333)

Daily Weekday

$$T = 6.06 (X) + 123.56$$

$$T = 6.06 * 675.0 + 123.56$$

Directional Distribution: 50% entering, 50% exiting

$$T = 4214 \text{ Average Vehicle Trip Ends}$$

$$2107 \text{ entering} \quad 2107 \text{ exiting}$$

$$2107 + 2107 = 4214$$

Project MHGP Redevelopment
 Subject Trip Generation for Residential Condominium/Townhouse
 Designed by Matt Farnen Date September 21, 2016 Job No. 96368000
 Checked by Curtis Rowe Sheet No. 1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 9th Edition, Fitted Curve Equations

Land Use Code - Residential Condominium/Townhouse (230)

Independent Variable - Dwelling Units (X)

$$X = 95$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (page 395)

$\ln(T) = 0.80 \ln(X) + 0.26$	Directional Distribution:	17% ent.	83% exit.
$\ln(T) = 0.80 * \ln(95.0) + 0.26$	T = 50	Average Vehicle Trip Ends	
	7 entering	42	exiting
	8 + 42	= 50	

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (page 396)

$\ln(T) = 0.82 \ln(X) + 0.32$	Directional Distribution:	67% ent.	33% exit.
$\ln(T) = 0.82 * \ln(95.0) + 0.32$	T = 58	Average Vehicle Trip Ends	
	39 entering	19	exiting
	39 + 19	= 58	

Weekday (page 394)

Average Weekday	Directional Distribution:	50% entering, 50% exiting	
$\ln(T) = 0.87 \ln(X) + 2.46$	T = 616	Average Vehicle Trip Ends	
$\ln(T) = 0.87 * \ln(95.0) + 2.46$	308 entering	308	exiting
	308 + 308	= 616	

Weekday Midday Peak Uses Saturday Peak Hour of Generator (page 400)

$(T) = 0.29*(X) + 42.63$	Directional Distribution:	54% ent.	46% exit.
$(T) = 0.29 * 95 + 42.63$	T = 70	Average Vehicle Trip Ends	
	38 entering	32	exiting
	38 + 32	= 70	

Project MHGP Redevelopment
 Subject Trip Generation for Hotel
 Designed by Matt Farnen Date September 21, 2016 Job No. 96368000
 Checked by Curtis Rowe Sheet No. 1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 9th Edition, Fitted Curve and Average Rate Equations

Land Use Code -Hotel (310)

Independent Variable - Rooms (X)

X = 150
 T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (page 614)

(T) = 0.53 (X)		Directional Distribution:	59%	ent.	41%	exit.
(T) = 0.53 *	(150.0)	T =	80	Average Vehicle Trip Ends		
			47	entering	33	exiting
			47	+	33	= 80

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (page 615)

T = 0.60 (X)		Directional Distribution:	51%	ent.	49%	exit.
T = 0.60 *	150	T =	90	Average Vehicle Trip Ends		
			46	entering	44	exiting
			46	+	44	= 90

Weekday (page 613)

Average Weekday		Directional Distribution:	50% entering, 50% exiting		
(T) = 8.95 (X) - 373.16		T =	970	Average Vehicle Trip Ends	
(T) = 8.95 *	(150.0) - 373.16		485	entering	485 exiting
			485	+	485 = 970

Project MHGP Redevelopment
 Subject Trip Generation for Shopping Center
 Designed by Matt Farnen Date September 21, 2016 Job No. 96368000
 Checked by Curtis Rowe Sheet No. 1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 9th Edition, Fitted Curve Equations

Land Use Code - Shopping Center (820)

Independent Variable - 1000 Square Feet Gross Leasable Area (X)

Gross Leasable Area = 78,500 Square Feet

X = 78.500

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Page 1562)

Ln(T) = 0.61 Ln(X) + 2.24	Directional Distribution: 62% ent. 38% exit.
Ln(T) = 0.61 * Ln(79) + 2.24	T = 134 Average Vehicle Trip Ends
	83 entering 51 exiting

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (page 1563)

Ln(T) = 0.67 Ln(X) + 3.31	Directional Distribution: 48% ent. 52% exit.
Ln(T) = 0.67 * Ln(79) + 3.31	T = 509 Average Vehicle Trip Ends
	244 entering 265 exiting

Weekday (page 1561)

Daily Weekday	Directional Distribution: 50% entering, 50% exiting
Ln(T) = 0.65 Ln(X) + 5.83	T = 5802 Average Vehicle Trip Ends
Ln(T) = 0.65 * Ln(79) + 5.83	2901 entering 2901 exiting

Saturday Peak Hour of Generator

Average Saturday	Directional Distribution: 52% ent. 48% exit.
Ln(T) = 0.65 Ln(X) + 3.78	T = 747 Average Vehicle Trip Ends
Ln(T) = 0.65 * Ln(79) + 3.78	388 entering 359 exiting

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, June 2004)

PM Peak Hour = 34% Pass-by	Saturday Peak Hour = 26% Pass-by
AM Peak	
PM Peak	
Daily	
Saturday Peak	

IN	Out	Total	
62	38	100	*uses lesser of PM and Saturday pass-by rates (26%)
161	175	336	
1915	1915	3830	*uses PM peak hour pass-by rate
287	265	552	

Project MHGP Redevelopment



Trip generation for Junior/Community College

Designed by Matt Farmen Date September 21, 2016 Job No. 096368000

Checked by Curtis Rowe Date September 22, 2016 Sheet No. 1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE *Trip Generation 9th Edition*, Average Rate Equations

Land Use Code - 540 Junior/Community College

Independent Variable - 1,000 Sq Ft

Number of Units (X) - 18

T = Trip Ends

Peak Hour Adjacent Street Traffic One Hour Between 7 and 9 AM

AM Peak

Directional Distribution:

$T = (X) * 2.99$

Trip Ends Per 1,000 Sq Ft

74% Entering

26% Exiting

T = 54

Trip Ends

40 Entering

14 Exiting

Peak Hour Adjacent Street Traffic One Hour Between 4 and 6 PM

PM Peak

Directional Distribution:

$T = (X) * 2.54$

Trip Ends Per 1,000 Sq Ft

58% Entering

42% Exiting

T = 46

Trip Ends

27 Entering

19 Exiting

Weekday

Daily Weekday

Directional Distribution:

$T = (X) * 27.49$

Trip Ends Per 1,000 Sq Ft

50% Entering

50% Exiting

T = 496

Trip Ends

248 Entering

248 Exiting

Non-Pass-By Trip Percentage

Non-Pass-By Trip Volumes

AM 100%

AM Peak

40 Entering

14 Exiting

PM 100%

PM Peak

27 Entering

19 Exiting

Note: Rounding may occur in calculations

Project MHGP Redevelopment



Trip generation for Recreational Community Center

Designed by Matt Farmen

Date September 21, 2016

Job No. 096368000

Checked by Curtis Rowe

Date September 22, 2016

Sheet No. 1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE *Trip Generation 9th Edition* , Average Rate Equations

Land Use Code - 495 Recreational Community Center

Independent Variable - 1,000 Sq Ft

Number of Units (X) - 26

T = Trip Ends

Peak Hour Adjacent Street Traffic One Hour Between 7 and 9 AM

AM Peak

Directional Distribution:

T = (X) * 2.05 Trip Ends Per 1,000 Sq Ft

66% Entering 34% Exiting

T = 53 Trip Ends

35 Entering 18 Exiting

Peak Hour Adjacent Street Traffic One Hour Between 4 and 6 PM

PM Peak

Directional Distribution:

T = (X) * 2.74 Trip Ends Per 1,000 Sq Ft

49% Entering 51% Exiting

T = 71 Trip Ends

35 Entering 36 Exiting

Weekday

Daily Weekday

Directional Distribution:

T = (X) * 33.82 Trip Ends Per 1,000 Sq Ft

50% Entering 50% Exiting

T = 880 Trip Ends

440 Entering 440 Exiting

Non-Pass-By Trip Percentage

Non-Pass-By Trip Volumes

AM 100%

AM Peak 35 Entering 18 Exiting

PM 100%

PM Peak 35 Entering 36 Exiting

Note: Rounding may occur in calculations

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook*, 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY

GROSS TRIP GENERATION

INPUT	Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
	Office						
Retail	2,901	2,901	83	51	244	265	
Restaurant							
Cinema/Entertainment							
Residential	2,798	2,798	90	354	341	183	
Hotel	485	485	47	33	46	44	
	6,184	6,184	220	438	631	492	

INTERNAL TRIPS

OUTPUT	Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
	Office	0	0	0	0	0	0
Retail	465	621	7	2	29	77	
Restaurant	0	0	0	0	0	0	
Cinema/Entertainment	0	0	0	0	0	0	
Residential	580	421	2	4	69	29	
Hotel	70	73	0	3	13	5	
	1,115	1,115	9	9	111	111	
% Reduction		18.0%		2.7%		19.8%	

EXTERNAL TRIPS

OUTPUT	Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
	Office	0	0	0	0	0	0
Retail	2,436	2,280	76	49	215	188	
Restaurant	0	0	0	0	0	0	
Cinema/Entertainment	0	0	0	0	0	0	
Residential	2,218	2,377	88	350	272	154	
Hotel	415	412	47	30	33	39	
	5,069	5,069	211	429	520	381	
Rec	440	440	35	18	35	36	
Institutional	248	248	40	14	27	19	
Total	5,757	5,757	286	461	582	436	

DAILY

GROSS TRIP GENERATION

DAILY	Land Use	Daily	
		Enter	Exit
	Office	0	0
Retail	2,901	2,901	
Restaurant	0	0	
Cinema/Entertainment	0	0	
Residential	2,798	2,798	
Hotel	485	485	
	6,184	6,184	

Estimated Trip Origins within a Mixed-Use Development (Daily) (Average of A.M. Peak Hour and P.M. Peak Hour)

DAILY	Origin Land Use	Destination Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		24%	34%	0%	2%	0%
	Retail	16%		21%	2%	20%	3%
	Restaurant	17%	28%		4%	11%	5%
	Cinema/Entertainment	1%	11%	16%		4%	1%
	Residential	3%	22%	21%	0%		2%
	Hotel	38%	15%	39%	0%	1%	

Estimated Trip Destinations within a Mixed-Use Development (Daily) (Average of A.M. Peak Hour and P.M. Peak Hour)

DAILY	Origin Land Use	Destination Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		20%	13%	1%	2%	0%
	Retail	18%		40%	13%	24%	9%
	Restaurant	22%	29%		16%	11%	38%
	Cinema/Entertainment	3%	2%	2%		2%	1%
	Residential	30%	14%	17%	0%		6%
	Hotel	2%	3%	6%	0%	0%	

*** BASED ON EXIT ***

DAILY	(Exit) Land Use	(Enter) Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		0	0	0	0	0
	Retail	450		609	58	580	73
	Restaurant	0	0		0	0	0
	Cinema/Entertainment	0	0	0		0	0
	Residential	84	602	574	0		42
	Hotel	182	73	187	0	5	

*** BASED ON ENTER ***

DAILY	(Exit) Land Use	(Enter) Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office	580	0	0	0	56	0
	Retail	0		0	0	672	41
	Restaurant	0	841		0	294	182
	Cinema/Entertainment	0	58	0		56	2
	Residential	0	392	0	0		29
	Hotel	0	87	0	0	0	

*** MINIMUM ***

DAILY	(Exit) Land Use	(Enter) Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		0	0	0	0	0
	Retail	0		0	0	580	41
	Restaurant	0	0		0	0	0
	Cinema/Entertainment	0	0	0		0	0
	Residential	0	392	0	0		29
	Hotel	0	73	0	0	0	

INTERNAL TRIPS

DAILY	Land Use	Daily	
		Enter	Exit
	Office	0	0
Retail	465	621	
Restaurant	0	0	
Cinema/Entertainment	0	0	
Residential	580	421	
Hotel	70	73	
	1,115	1,115	

A.M. PEAK HOUR

GROSS TRIP GENERATION

A.M. PEAK	Land Use	A.M. Peak Hour	
		Enter	Exit
	Office	0	0
Retail	83	51	
Restaurant	0	0	
Cinema/Entertainment	0	0	
Residential	90	354	
Hotel	47	33	
	220	438	

Table 6.1 Unconstrained Internal Person Trip Capture Rates
for Trip Origins within a Mixed-Use Development (A.M. Peak Hour)

A.M. PEAK	Origin Land Use	Destination Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		28%	63%	0%	1%	0%
	Retail	29%		13%	0%	14%	0%
	Restaurant	31%	14%		0%	4%	3%
	Cinema/Entertainment	0%	0%	0%		0%	0%
	Residential	2%	1%	20%	0%		0%
	Hotel	75%	14%	9%	0%	0%	

Table 6.2 Unconstrained Internal Person Trip Capture Rates
for Trip Destinations within a Mixed-Use Development (A.M. Peak Hour)

A.M. PEAK	Origin Land Use	Destination Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		32%	23%	0%	0%	0%
	Retail	4%		50%	0%	2%	0%
	Restaurant	14%	8%		0%	5%	4%
	Cinema/Entertainment	0%	0%	0%		0%	0%
	Residential	3%	17%	20%	0%		0%
	Hotel	3%	4%	6%	0%	0%	

*** BASED ON EXIT ***

A.M. PEAK	(Exit) Land Use	(Enter) Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		0	0	0	0	0
	Retail	15		7	0	7	0
	Restaurant	0	0		0	0	0
	Cinema/Entertainment	0	0	0		0	0
	Residential	7	4	71	0		0
	Hotel	25	5	3	0	0	

*** BASED ON ENTER ***

A.M. PEAK	(Exit) Land Use	(Enter) Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		27	0	0	0	0
	Retail	0		0	0	2	0
	Restaurant	0	7		0	5	2
	Cinema/Entertainment	0	0	0		0	0
	Residential	0	14	0	0		0
	Hotel	0	3	0	0	0	

*** MINIMUM ***

A.M. PEAK	(Exit) Land Use	(Enter) Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		0	0	0	0	0
	Retail	0		0	0	2	0
	Restaurant	0	0		0	0	0
	Cinema/Entertainment	0	0	0		0	0
	Residential	0	4	0	0		0
	Hotel	0	3	0	0	0	

INTERNAL TRIPS

A.M. PEAK	Land Use	A. M. Peak Hour	
		Enter	Exit
	Office	0	0
Retail	7	2	
Restaurant	0	0	
Cinema/Entertainment	0	0	
Residential	2	4	
Hotel	0	3	
	9	9	

P.M. PEAK HOUR

GROSS TRIP GENERATION

P.M. PEAK	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	0	0
	Retail	244	265
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	341	183
	Hotel	46	44
		631	492

Table 6.1 Unconstrained Internal Person Trip Capture Rates
for Trip Origins within a Mixed-Use Development (P.M. Peak Hour)

P.M. PEAK	Origin Land Use	Destination Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		20%	4%	0%	2%	0%
	Retail	2%		29%	4%	26%	5%
	Restaurant	3%	41%		8%	18%	7%
	Cinema/Entertainment	2%	21%	31%		8%	2%
	Residential	4%	42%	21%	0%		3%
	Hotel	0%	16%	68%	0%	2%	

Table 6.2 Unconstrained Internal Person Trip Capture Rates
for Trip Destinations within a Mixed-Use Development (P.M. Peak Hour)

P.M. PEAK	Origin Land Use	Destination Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		8%	2%	1%	4%	0%
	Retail	31%		29%	26%	46%	17%
	Restaurant	30%	50%		32%	16%	71%
	Cinema/Entertainment	6%	4%	3%		4%	1%
	Residential	57%	10%	14%	0%		12%
	Hotel	0%	2%	5%	0%	0%	

*** BASED ON EXIT ***

P.M. PEAK	(Exit) Land Use	(Enter) Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		0	0	0	0	0
	Retail	5		77	11	69	13
	Restaurant	0	0		0	0	0
	Cinema/Entertainment	0	0	0		0	0
	Residential	7	77	38	0		5
	Hotel	0	7	30	0	1	

*** BASED ON ENTER ***

P.M. PEAK	(Exit) Land Use	(Enter) Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		20	0	0	14	0
	Retail	0		0	0	157	8
	Restaurant	0	122		0	55	33
	Cinema/Entertainment	0	10	0		14	0
	Residential	0	24	0	0		6
	Hotel	0	5	0	0	0	

*** MINIMUM ***

P.M. PEAK	(Exit) Land Use	(Enter) Land Use					
		Office	Retail	Restaurant	Cinema/Ent.	Residential	Hotel
	Office		0	0	0	0	0
	Retail	0		0	0	69	8
	Restaurant	0	0		0	0	0
	Cinema/Entertainment	0	0	0		0	0
	Residential	0	24	0	0		5
	Hotel	0	5	0	0	0	

INTERNAL TRIPS

P.M. PEAK	Land Use	P.M. Peak Hour	
		Enter	Exit
	Office	0	0
	Retail	29	77
	Restaurant	0	0
	Cinema/Entertainment	0	0
	Residential	69	29
	Hotel	13	5
		111	111

Intersection Analysis Worksheets

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2014 Existing AM
 7/24/2014



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Volume (vph)	26	30	71	153	1	196	1	53	1	73	99	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.65	1.00	1.00			0.70	1.00	1.00		0.95	0.08
Satd. Flow (perm)		1203	1863	1583			2543	1863	1583		1522	148
Peak-hour factor, PHF	0.50	0.83	0.87	0.81	0.25	0.88	0.25	0.70	0.25	0.71	0.75	0.75
Adj. Flow (vph)	52	36	82	189	4	223	4	76	4	103	132	12
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	88	82	193	0	0	227	76	107	0	102	42
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		20.4	17.3	17.3			18.2	16.2	16.2		9.8	47.7
Effective Green, g (s)		20.4	17.3	17.3			18.2	16.2	16.2		9.8	47.7
Actuated g/C Ratio		0.18	0.15	0.15			0.16	0.14	0.14		0.08	0.41
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		226	277	235			413	259	220		128	60
v/s Ratio Prot		c0.01	0.04				0.01	0.04			0.07	
v/s Ratio Perm		0.06		c0.12			0.08		0.07			c0.28
v/c Ratio		0.39	0.30	0.82			1.06dl	0.29	0.49		0.80	0.70
Uniform Delay, d1		42.2	44.1	48.0			44.9	44.9	46.2		52.3	28.4
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		1.1	0.6	20.1			1.5	0.6	1.7		28.1	30.0
Delay (s)		43.4	44.7	68.1			46.4	45.5	47.9		80.4	58.4
Level of Service		D	D	E			D	D	D		F	E
Approach Delay (s)			56.8				46.6					
Approach LOS			E				D					

Intersection Summary

HCM 2000 Control Delay	43.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	116.3	Sum of lost time (s)	24.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			
! Phase conflict between lane groups.			
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2014 Existing AM
 7/24/2014

	↑	↗	↘	↙	↓	↘	↙	↘	↙	↗	↘	
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET
Lane Configurations	↑↑↑				↘ ↙	↑↑↑			↘			↘
Volume (vph)	543	82	21	74	204	1760	2	52	0	4	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00
Frt	0.98				1.00	1.00			0.86			0.90
Flt Protected	1.00				0.95	1.00			1.00			0.99
Satd. Flow (prot)	4965				3433	5061			1611			1664
Flt Permitted	1.00				0.95	1.00			1.00			0.99
Satd. Flow (perm)	4965				3433	5061			1611			1664
Peak-hour factor, PHF	0.88	0.93	0.75	0.74	0.78	0.93	0.50	0.88	0.92	1.00	0.25	0.25
Adj. Flow (vph)	617	88	28	100	262	1892	4	59	0	4	4	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	733	0	0	0	362	1955	0	0	4	0	0	32
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA
Protected Phases	2!			1!	1!	6!						10!
Permitted Phases									10!		10!	
Actuated Green, G (s)	47.7				13.9	51.8			2.3			2.3
Effective Green, g (s)	47.7				13.9	51.8			2.3			2.3
Actuated g/C Ratio	0.41				0.12	0.45			0.02			0.02
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0
Lane Grp Cap (vph)	2036				410	2254			31			32
v/s Ratio Prot	0.15				0.11	c0.39						
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.36				0.88	0.87			0.13			1.00
Uniform Delay, d1	23.7				50.4	29.1			56.0			57.0
Progression Factor	1.00				1.00	1.00			1.00			1.00
Incremental Delay, d2	0.1				19.5	3.8			1.9			159.1
Delay (s)	23.8				69.9	33.0			57.9			216.1
Level of Service	C				E	C			E			F
Approach Delay (s)	32.1					38.7						216.1
Approach LOS	C					D						F
Intersection Summary												

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

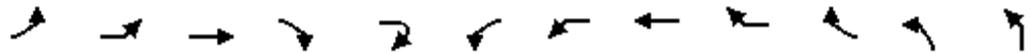
2014 Existing AM
 7/24/2014



Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations						
Volume (vph)	1	10	18	206	29	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Fr _t				1.00	0.85	0.85
Fl _t Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Fl _t Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	0.25	0.50	0.75	0.90	0.73	0.82
Adj. Flow (vph)	4	20	24	229	40	60
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	253	40	60
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				9.1	51.8	116.3
Effective Green, g (s)				9.1	51.8	116.3
Actuated g/C Ratio				0.08	0.45	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				268	620	1583
v/s Ratio Prot				c0.07		
v/s Ratio Perm					0.03	c0.04
v/c Ratio				0.94	0.06	0.04
Uniform Delay, d ₁				53.3	18.4	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d ₂				39.7	0.0	0.0
Delay (s)				93.1	18.5	0.0
Level of Service				F	B	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2014 Existing PM
 7/24/2014



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Volume (vph)	78	47	128	108	1	253	1	116	4	188	77	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.42	1.00	1.00			0.51	1.00	1.00		0.95	0.23
Satd. Flow (perm)		782	1863	1583			1830	1863	1583		1522	399
Peak-hour factor, PHF	0.93	0.62	0.80	0.79	0.25	0.92	0.25	0.83	0.50	0.91	0.78	0.75
Adj. Flow (vph)	84	76	160	137	4	275	4	140	8	207	99	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	160	160	141	0	0	279	140	215	0	76	39
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		21.0	17.0	17.0			17.0	15.0	15.0		17.5	44.5
Effective Green, g (s)		21.0	17.0	17.0			17.0	15.0	15.0		17.5	44.5
Actuated g/C Ratio		0.19	0.15	0.15			0.15	0.13	0.13		0.15	0.39
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		179	279	237			302	246	209		234	156
v/s Ratio Prot		c0.03	0.09				0.02	0.08			0.05	
v/s Ratio Perm		0.13		0.09			0.12		c0.14			0.10
v/c Ratio		0.89	0.57	0.59			1.75dl	0.57	1.03		0.32	0.25
Uniform Delay, d1		45.6	44.9	45.0			48.3	46.2	49.2		42.7	23.3
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		38.6	2.8	4.0			32.4	3.0	69.9		0.8	0.8
Delay (s)		84.1	47.7	49.0			80.7	49.2	119.2		43.6	24.1
Level of Service		F	D	D			F	D	F		D	C
Approach Delay (s)			60.8					86.8				
Approach LOS			E					F				

Intersection Summary			
HCM 2000 Control Delay	52.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	113.5	Sum of lost time (s)	24.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			
! Phase conflict between lane groups.			
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2014 Existing PM
 7/24/2014

	↑	↖	↗	↘	↙	↓	↘	↗	↙	↘	↖	↗
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET
Lane Configurations	↑↑↑				↖ ↗	↑↑↑			↘			↖ ↗
Volume (vph)	1324	119	29	126	227	1046	4	57	3	8	4	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00
Frt	0.98				1.00	0.99			0.86			0.90
Flt Protected	1.00				0.95	1.00			1.00			0.99
Satd. Flow (prot)	4997				3433	5031			1611			1649
Flt Permitted	1.00				0.95	1.00			1.00			0.99
Satd. Flow (perm)	4997				3433	5031			1611			1649
Peak-hour factor, PHF	0.95	0.88	0.62	0.90	0.90	0.96	0.50	0.76	0.25	0.50	0.50	0.25
Adj. Flow (vph)	1394	135	47	140	252	1090	8	75	12	16	8	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1576	0	0	0	392	1173	0	0	28	0	0	36
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA
Protected Phases	2!			1!	1!	6!						10!
Permitted Phases									10!		10!	
Actuated Green, G (s)	44.5				14.0	41.0			3.0			3.0
Effective Green, g (s)	44.5				14.0	41.0			3.0			3.0
Actuated g/C Ratio	0.39				0.12	0.36			0.03			0.03
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0
Lane Grp Cap (vph)	1959				423	1817			42			43
v/s Ratio Prot	c0.32				c0.11	0.23						
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.80				0.93	0.65			0.67			0.84
Uniform Delay, d1	30.6				49.2	30.2			54.8			55.0
Progression Factor	1.00				1.00	1.00			1.00			1.00
Incremental Delay, d2	2.5				26.2	0.8			33.4			76.6
Delay (s)	33.1				75.4	31.0			88.1			131.6
Level of Service	C				E	C			F			F
Approach Delay (s)	33.4					42.1						131.6
Approach LOS	C					D						F

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2014 Existing PM
 7/24/2014

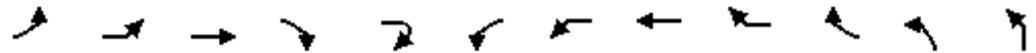


Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations				↔	↔	↔
Volume (vph)	4	17	22	224	29	171
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Frt				1.00	0.85	0.85
Flt Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Flt Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	1.00	0.71	0.62	0.80	0.56	0.86
Adj. Flow (vph)	4	24	35	280	52	199
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	315	52	199
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				9.0	41.0	113.5
Effective Green, g (s)				9.0	41.0	113.5
Actuated g/C Ratio				0.08	0.36	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				272	503	1583
v/s Ratio Prot				c0.09		
v/s Ratio Perm					0.04	0.13
v/c Ratio				1.16	0.10	0.13
Uniform Delay, d1				52.2	24.1	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d2				104.2	0.1	0.2
Delay (s)				156.5	24.1	0.2
Level of Service				F	C	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2020 Background AM

7/24/2014



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Volume (vph)	27	31	72	156	1	200	1	54	1	74	101	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.68	1.00	1.00			0.68	1.00	1.00		0.95	0.08
Satd. Flow (perm)		1258	1863	1583			2462	1863	1583		1522	149
Peak-hour factor, PHF	0.50	0.83	0.87	0.81	0.25	0.88	0.25	0.70	0.25	0.71	0.75	0.75
Adj. Flow (vph)	54	37	83	193	4	227	4	77	4	104	135	12
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	91	83	197	0	0	231	77	108	0	104	43
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		19.6	17.3	17.3			19.0	17.0	17.0		9.1	47.4
Effective Green, g (s)		19.6	17.3	17.3			19.0	17.0	17.0		9.1	47.4
Actuated g/C Ratio		0.17	0.15	0.15			0.16	0.15	0.15		0.08	0.40
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		220	274	233			415	270	229		118	60
v/s Ratio Prot		0.01	0.04				c0.01	0.04			0.07	
v/s Ratio Perm		0.06		c0.12			0.08		0.07			c0.29
v/c Ratio		0.41	0.30	0.85			1.07dl	0.29	0.47		0.88	0.72
Uniform Delay, d1		43.5	44.6	48.6			45.0	44.7	46.0		53.5	29.3
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		1.3	0.6	23.5			1.6	0.6	1.5		48.1	33.3
Delay (s)		44.8	45.2	72.2			46.7	45.3	47.5		101.7	62.6
Level of Service		D	D	E			D	D	D		F	E
Approach Delay (s)			59.4					46.6				
Approach LOS			E					D				

Intersection Summary

HCM 2000 Control Delay	43.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	117.2	Sum of lost time (s)	24.0
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2020 Background AM
 7/24/2014

	↑	↖	↗	↘	↙	↓	↘	↗	↙	↘	↖	↗
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET
Lane Configurations	↑↑↑				↖↗	↑↑↑			↘			↖↗
Volume (vph)	554	84	21	76	208	1796	2	53	0	4	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00
Frt	0.98				1.00	1.00			0.86			0.90
Flt Protected	1.00				0.95	1.00			1.00			0.99
Satd. Flow (prot)	4965				3433	5061			1611			1664
Flt Permitted	1.00				0.95	1.00			1.00			0.99
Satd. Flow (perm)	4965				3433	5061			1611			1664
Peak-hour factor, PHF	0.88	0.93	0.75	0.74	0.78	0.93	0.50	0.88	0.92	1.00	0.25	0.25
Adj. Flow (vph)	630	90	28	103	267	1931	4	60	0	4	4	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	748	0	0	0	370	1995	0	0	4	0	0	32
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA
Protected Phases	2!			1!	1!	6!						10!
Permitted Phases									10!		10!	
Actuated Green, G (s)	47.4				14.1	52.4			2.3			2.3
Effective Green, g (s)	47.4				14.1	52.4			2.3			2.3
Actuated g/C Ratio	0.40				0.12	0.45			0.02			0.02
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0
Lane Grp Cap (vph)	2008				413	2262			31			32
v/s Ratio Prot	0.15				0.11	c0.39						
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.37				0.90	0.88			0.13			1.00
Uniform Delay, d1	24.5				50.8	29.6			56.5			57.5
Progression Factor	1.00				1.00	1.00			1.00			1.00
Incremental Delay, d2	0.1				21.3	4.4			1.9			159.1
Delay (s)	24.6				72.1	34.0			58.3			216.5
Level of Service	C				E	C			E			F
Approach Delay (s)	35.4					40.0						216.5
Approach LOS	D					D						F

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2020 Background AM
 7/24/2014



Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations				⇈	⇈	⇈
Volume (vph)	1	10	18	210	30	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Fr _t				1.00	0.85	0.85
Fl _t Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Fl _t Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	0.25	0.50	0.75	0.90	0.73	0.82
Adj. Flow (vph)	4	20	24	233	41	61
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	257	41	61
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				10.1	52.4	117.2
Effective Green, g (s)				10.1	52.4	117.2
Actuated g/C Ratio				0.09	0.45	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				295	622	1583
v/s Ratio Prot				c0.07		
v/s Ratio Perm					0.03	c0.04
v/c Ratio				0.87	0.07	0.04
Uniform Delay, d ₁				52.9	18.5	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d ₂				23.3	0.0	0.0
Delay (s)				76.2	18.5	0.0
Level of Service				E	B	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2020 Background PM
 7/24/2014



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Volume (vph)	80	48	131	110	1	258	1	118	4	192	79	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.55	1.00	1.00			0.34	1.00	1.00		0.95	0.21
Satd. Flow (perm)		1026	1863	1583			1243	1863	1583		1522	379
Peak-hour factor, PHF	0.93	0.62	0.80	0.79	0.25	0.92	0.25	0.83	0.50	0.91	0.78	0.75
Adj. Flow (vph)	86	77	164	139	4	280	4	142	8	211	101	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	163	164	143	0	0	284	142	219	0	78	39
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		20.8	15.8	15.8			24.8	17.8	17.8		15.3	43.0
Effective Green, g (s)		20.8	15.8	15.8			24.8	17.8	17.8		15.3	43.0
Actuated g/C Ratio		0.17	0.13	0.13			0.21	0.15	0.15		0.13	0.36
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		209	245	208			385	276	235		194	136
v/s Ratio Prot		0.03	0.09				c0.04	0.08			0.05	
v/s Ratio Perm		0.10		0.09			0.11		c0.14			0.10
v/c Ratio		0.78	0.67	0.69			1.40dl	0.51	0.93		0.40	0.29
Uniform Delay, d1		46.9	49.5	49.6			42.8	47.0	50.4		48.0	27.4
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		16.7	6.8	9.1			7.2	1.6	40.2		1.4	1.2
Delay (s)		63.6	56.3	58.7			50.1	48.6	90.6		49.4	28.6
Level of Service		E	E	E			D	D	F		D	C
Approach Delay (s)			59.6					63.5				
Approach LOS			E					E				

Intersection Summary

HCM 2000 Control Delay	49.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	119.8	Sum of lost time (s)	24.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2020 Background PM
 7/24/2014

	↑	↗	↘	↖	↙	↓	↘	↖	↙	↗	↘	
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET
Lane Configurations	↑↑↑				↖↗	↑↑↑			↖			↖↗
Volume (vph)	1351	121	30	129	232	1068	4	58	3	8	4	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00
Frt	0.98				1.00	0.99			0.86			0.90
Flt Protected	1.00				0.95	1.00			1.00			0.99
Satd. Flow (prot)	4997				3433	5032			1611			1649
Flt Permitted	1.00				0.95	1.00			1.00			0.99
Satd. Flow (perm)	4997				3433	5032			1611			1649
Peak-hour factor, PHF	0.95	0.88	0.62	0.90	0.90	0.96	0.50	0.76	0.25	0.50	0.50	0.25
Adj. Flow (vph)	1422	138	48	143	258	1112	8	76	12	16	8	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1608	0	0	0	401	1196	0	0	28	0	0	36
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA
Protected Phases	2!			1!	1!	6!						10!
Permitted Phases									10!		10!	
Actuated Green, G (s)	43.0				15.0	42.7			3.0			3.0
Effective Green, g (s)	43.0				15.0	42.7			3.0			3.0
Actuated g/C Ratio	0.36				0.13	0.36			0.03			0.03
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0
Lane Grp Cap (vph)	1793				429	1793			40			41
v/s Ratio Prot	c0.32				c0.12	0.24						
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.90				0.93	0.67			0.70			0.88
Uniform Delay, d1	36.3				51.9	32.5			58.0			58.2
Progression Factor	1.00				1.00	1.00			1.00			1.00
Incremental Delay, d2	6.3				27.5	1.0			42.0			92.9
Delay (s)	42.6				79.5	33.5			99.9			151.2
Level of Service	D				E	C			F			F
Approach Delay (s)	42.6					45.0						151.2
Approach LOS	D					D						F

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

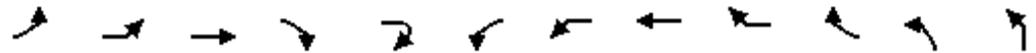
2020 Background PM
 7/24/2014



Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations				↔	↔	↔
Volume (vph)	4	17	22	229	30	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Fr _t				1.00	0.85	0.85
Fl _t Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Fl _t Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	1.00	0.71	0.62	0.80	0.56	0.86
Adj. Flow (vph)	4	24	35	286	54	203
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	321	54	203
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				12.0	42.7	119.8
Effective Green, g (s)				12.0	42.7	119.8
Actuated g/C Ratio				0.10	0.36	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				343	496	1583
v/s Ratio Prot				0.09		
v/s Ratio Perm					0.04	0.13
v/c Ratio				0.94	0.11	0.13
Uniform Delay, d ₁				53.5	25.8	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d ₂				32.2	0.1	0.2
Delay (s)				85.7	25.9	0.2
Level of Service				F	C	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2020 Total AM
 11/2/2016



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Traffic Volume (vph)	27	31	72	156	1	200	1	54	1	74	101	9
Future Volume (vph)	27	31	72	156	1	200	1	54	1	74	101	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.58	1.00	1.00			0.70	1.00	1.00		0.95	0.09
Satd. Flow (perm)		1079	1863	1583			2541	1863	1583		1522	151
Peak-hour factor, PHF	0.50	0.83	0.87	0.81	0.25	0.88	0.25	0.70	0.25	0.71	0.75	0.75
Adj. Flow (vph)	54	37	83	193	4	227	4	77	4	104	135	12
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	91	83	197	0	0	231	77	108	0	104	43
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		19.0	15.0	15.0			15.0	13.0	13.0		8.0	46.9
Effective Green, g (s)		19.0	15.0	15.0			15.0	13.0	13.0		8.0	46.9
Actuated g/C Ratio		0.16	0.13	0.13			0.13	0.11	0.11		0.07	0.40
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		196	236	200			337	204	173		102	59
v/s Ratio Prot		c0.02	0.04				0.01	0.04			c0.07	
v/s Ratio Perm		0.06		c0.12			0.08		0.07			0.28
v/c Ratio		0.46	0.35	0.98			1.30dl	0.38	0.62		1.02	0.73
Uniform Delay, d1		44.7	47.2	51.5			49.0	48.9	50.3		55.2	30.3
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		1.7	0.9	58.9			5.7	1.2	6.8		94.5	36.0
Delay (s)		46.4	48.1	110.4			54.7	50.1	57.2		149.7	66.3
Level of Service		D	D	F			D	D	E		F	E
Approach Delay (s)			80.8					54.5				
Approach LOS			F					D				

Intersection Summary

HCM 2000 Control Delay	51.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	118.3	Sum of lost time (s)	24.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2020 Total AM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/2/2016

Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET
Lane Configurations	↑↑↑				↓ ↓	↑↑↑			↓			↗
Traffic Volume (vph)	576	115	21	76	208	1884	2	53	0	4	1	1
Future Volume (vph)	576	115	21	76	208	1884	2	53	0	4	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00
Frt	0.97				1.00	1.00			0.86			0.90
Flt Protected	1.00				0.95	1.00			1.00			0.99
Satd. Flow (prot)	4942				3433	5062			1611			1664
Flt Permitted	1.00				0.95	1.00			1.00			0.99
Satd. Flow (perm)	4942				3433	5062			1611			1664
Peak-hour factor, PHF	0.88	0.93	0.75	0.74	0.78	0.93	0.50	0.88	0.92	1.00	0.25	0.25
Adj. Flow (vph)	655	124	28	103	267	2026	4	60	0	4	4	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	807	0	0	0	370	2090	0	0	4	0	0	32
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA
Protected Phases	2!			1!	1!	6!						10!
Permitted Phases									10!		10!	
Actuated Green, G (s)	46.9				14.0	52.9			2.4			2.4
Effective Green, g (s)	46.9				14.0	52.9			2.4			2.4
Actuated g/C Ratio	0.40				0.12	0.45			0.02			0.02
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0
Lane Grp Cap (vph)	1959				406	2263			32			33
v/s Ratio Prot	0.16				0.11	0.41						
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.41				0.91	0.92			0.12			0.97
Uniform Delay, d1	25.8				51.5	30.8			56.9			57.9
Progression Factor	1.00				1.00	1.00			1.00			1.00
Incremental Delay, d2	0.1				24.3	7.0			1.8			142.6
Delay (s)	25.9				75.8	37.8			58.7			200.5
Level of Service	C				E	D			E			F
Approach Delay (s)	41.2					43.5						200.5
Approach LOS	D					D						F

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2020 Total AM
 11/2/2016



Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations						
Traffic Volume (vph)	1	10	18	333	30	50
Future Volume (vph)	1	10	18	333	30	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Frt				1.00	0.85	0.85
Flt Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Flt Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	0.25	0.50	0.75	0.90	0.73	0.82
Adj. Flow (vph)	4	20	24	370	41	61
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	394	41	61
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				14.0	52.9	118.3
Effective Green, g (s)				14.0	52.9	118.3
Actuated g/C Ratio				0.12	0.45	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				406	622	1583
v/s Ratio Prot				0.11		
v/s Ratio Perm					0.03	0.04
v/c Ratio				0.97	0.07	0.04
Uniform Delay, d1				51.9	18.6	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d2				36.8	0.0	0.0
Delay (s)				88.7	18.7	0.0
Level of Service				F	B	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2020 Total PM
 11/2/2016



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Traffic Volume (vph)	80	48	131	110	1	258	1	118	4	192	79	12
Future Volume (vph)	80	48	131	110	1	258	1	118	4	192	79	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.51	1.00	1.00			0.27	1.00	1.00		0.95	0.19
Satd. Flow (perm)		956	1863	1583			989	1863	1583		1522	334
Peak-hour factor, PHF	0.93	0.62	0.80	0.79	0.25	0.92	0.25	0.83	0.50	0.91	0.78	0.75
Adj. Flow (vph)	86	77	164	139	4	280	4	142	8	211	101	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	163	164	143	0	0	284	142	219	0	78	39
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		17.0	13.0	13.0			21.0	15.0	15.0		15.2	47.2
Effective Green, g (s)		17.0	13.0	13.0			21.0	15.0	15.0		15.2	47.2
Actuated g/C Ratio		0.14	0.11	0.11			0.18	0.13	0.13		0.13	0.39
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		162	201	171			295	233	198		192	131
v/s Ratio Prot		0.03	0.09				c0.05	0.08			0.05	
v/s Ratio Perm		0.11		0.09			0.12		c0.14			0.12
v/c Ratio		1.01	0.82	0.84			1.83dl	0.61	1.11		0.41	0.30
Uniform Delay, d1		51.3	52.3	52.4			47.7	49.7	52.4		48.2	25.0
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		72.3	21.9	28.3			42.1	4.5	95.2		1.4	1.3
Delay (s)		123.6	74.1	80.7			89.8	54.1	147.7		49.6	26.2
Level of Service		F	E	F			F	D	F		D	C
Approach Delay (s)			93.3					101.6				
Approach LOS			F					F				

Intersection Summary

HCM 2000 Control Delay	63.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	24.0
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2020 Total PM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/2/2016

Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET
Lane Configurations												
Traffic Volume (vph)	1419	216	30	129	232	1107	4	58	3	8	4	0
Future Volume (vph)	1419	216	30	129	232	1107	4	58	3	8	4	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00
Frt	0.98				1.00	0.99			0.86			0.90
Flt Protected	1.00				0.95	1.00			1.00			0.99
Satd. Flow (prot)	4960				3433	5033			1611			1649
Flt Permitted	1.00				0.95	1.00			1.00			0.99
Satd. Flow (perm)	4960				3433	5033			1611			1649
Peak-hour factor, PHF	0.95	0.88	0.62	0.90	0.90	0.96	0.50	0.76	0.25	0.50	0.50	0.25
Adj. Flow (vph)	1494	245	48	143	258	1153	8	76	12	16	8	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1787	0	0	0	401	1237	0	0	28	0	0	36
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA
Protected Phases	2!			1!	1!	6!						10!
Permitted Phases									10!		10!	
Actuated Green, G (s)	47.2				12.0	44.0			2.0			2.0
Effective Green, g (s)	47.2				12.0	44.0			2.0			2.0
Actuated g/C Ratio	0.39				0.10	0.37			0.02			0.02
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0
Lane Grp Cap (vph)	1952				343	1846			26			27
v/s Ratio Prot	c0.36				c0.12	0.25						
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.92				1.17	0.67			1.08			1.33
Uniform Delay, d1	34.5				54.0	31.9			59.0			59.0
Progression Factor	1.00				1.00	1.00			1.00			1.00
Incremental Delay, d2	7.2				102.9	1.0			201.3			288.6
Delay (s)	41.6				156.9	32.8			260.2			347.6
Level of Service	D				F	C			F			F
Approach Delay (s)	41.7					63.2						347.6
Approach LOS	D					E						F

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2020 Total PM
 11/2/2016

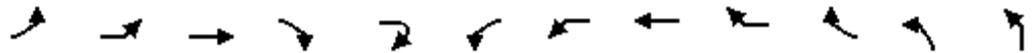


Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations				↔	↔	↔
Traffic Volume (vph)	4	17	22	283	30	175
Future Volume (vph)	4	17	22	283	30	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Frt				1.00	0.85	0.85
Flt Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Flt Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	1.00	0.71	0.62	0.80	0.56	0.86
Adj. Flow (vph)	4	24	35	354	54	203
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	389	54	203
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				15.7	44.0	119.9
Effective Green, g (s)				15.7	44.0	119.9
Actuated g/C Ratio				0.13	0.37	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				449	511	1583
v/s Ratio Prot				0.11		
v/s Ratio Perm					0.04	0.13
v/c Ratio				0.87	0.11	0.13
Uniform Delay, d1				51.1	25.0	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d2				15.9	0.1	0.2
Delay (s)				67.0	25.1	0.2
Level of Service				E	C	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2025 Background AM

11/2/2016



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Traffic Volume (vph)	27	31	74	159	1	203	1	55	1	76	103	9
Future Volume (vph)	27	31	74	159	1	203	1	55	1	76	103	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.67	1.00	1.00			0.67	1.00	1.00		0.95	0.08
Satd. Flow (perm)		1245	1863	1583			2437	1863	1583		1522	148
Peak-hour factor, PHF	0.50	0.83	0.87	0.81	0.25	0.88	0.25	0.70	0.25	0.71	0.75	0.75
Adj. Flow (vph)	54	37	85	196	4	231	4	79	4	107	137	12
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	91	85	200	0	0	235	79	111	0	105	44
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		19.7	17.4	17.4			19.1	17.1	17.1		9.1	47.7
Effective Green, g (s)		19.7	17.4	17.4			19.1	17.1	17.1		9.1	47.7
Actuated g/C Ratio		0.17	0.15	0.15			0.16	0.15	0.15		0.08	0.41
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		218	275	234			412	270	230		117	60
v/s Ratio Prot		0.01	0.05				c0.01	0.04			0.07	
v/s Ratio Perm		0.06		c0.13			0.08		0.07			c0.30
v/c Ratio		0.42	0.31	0.85			1.09dl	0.29	0.48		0.90	0.73
Uniform Delay, d1		43.7	44.7	48.9			45.3	44.9	46.2		53.8	29.6
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		1.3	0.6	24.9			1.9	0.6	1.6		52.1	36.8
Delay (s)		45.0	45.4	73.8			47.3	45.5	47.8		105.9	66.3
Level of Service		D	D	E			D	D	D		F	E
Approach Delay (s)			60.4				47.1					
Approach LOS			E				D					

Intersection Summary

HCM 2000 Control Delay	45.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	117.6	Sum of lost time (s)	24.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET		
Lane Configurations	↑↑↑				↘↘	↑↑↑			↘			↘↘		
Traffic Volume (vph)	564	85	22	77	212	1827	2	54	0	4	1	1		
Future Volume (vph)	564	85	22	77	212	1827	2	54	0	4	1	1		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0		
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00		
Frt	0.98				1.00	1.00			0.86			0.90		
Flt Protected	1.00				0.95	1.00			1.00			0.99		
Satd. Flow (prot)	4965				3433	5061			1611			1664		
Flt Permitted	1.00				0.95	1.00			1.00			0.99		
Satd. Flow (perm)	4965				3433	5061			1611			1664		
Peak-hour factor, PHF	0.88	0.93	0.75	0.74	0.78	0.93	0.50	0.88	0.92	1.00	0.25	0.25		
Adj. Flow (vph)	641	91	29	104	272	1965	4	61	0	4	4	4		
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0		
Lane Group Flow (vph)	761	0	0	0	376	2030	0	0	4	0	0	32		
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA		
Protected Phases	2!			1!	1!	6!						10!		
Permitted Phases									10!		10!			
Actuated Green, G (s)	47.7				14.1	52.7			2.3			2.3		
Effective Green, g (s)	47.7				14.1	52.7			2.3			2.3		
Actuated g/C Ratio	0.41				0.12	0.45			0.02			0.02		
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0		
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)	2013				411	2267			31			32		
v/s Ratio Prot	0.15				0.11	c0.40								
v/s Ratio Perm									0.00			0.02		
v/c Ratio	0.38				0.91	0.90			0.13			1.00		
Uniform Delay, d1	24.5				51.2	29.9			56.7			57.6		
Progression Factor	1.00				1.00	1.00			1.00			1.00		
Incremental Delay, d2	0.1				24.5	5.1			1.9			159.1		
Delay (s)	24.7				75.7	35.0			58.5			216.7		
Level of Service	C				E	C			E			F		
Approach Delay (s)	36.0					41.3						216.7		
Approach LOS	D					D						F		
Intersection Summary														

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2025 Background AM
 11/2/2016



Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations						
Traffic Volume (vph)	1	10	19	214	30	51
Future Volume (vph)	1	10	19	214	30	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Frt				1.00	0.85	0.85
Flt Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Flt Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	0.25	0.50	0.75	0.90	0.73	0.82
Adj. Flow (vph)	4	20	25	238	41	62
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	263	41	62
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				10.1	52.7	117.6
Effective Green, g (s)				10.1	52.7	117.6
Actuated g/C Ratio				0.09	0.45	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				294	624	1583
v/s Ratio Prot				c0.08		
v/s Ratio Perm					0.03	c0.04
v/c Ratio				0.89	0.07	0.04
Uniform Delay, d1				53.2	18.5	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d2				27.2	0.0	0.0
Delay (s)				80.4	18.5	0.0
Level of Service				F	B	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2025 Background PM
 11/2/2016



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Traffic Volume (vph)	81	49	133	112	1	263	1	120	4	195	80	12
Future Volume (vph)	81	49	133	112	1	263	1	120	4	195	80	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.54	1.00	1.00			0.34	1.00	1.00		0.95	0.21
Satd. Flow (perm)		1009	1863	1583			1232	1863	1583		1522	366
Peak-hour factor, PHF	0.93	0.62	0.80	0.79	0.25	0.92	0.25	0.83	0.50	0.91	0.78	0.75
Adj. Flow (vph)	87	79	166	142	4	286	4	145	8	214	103	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	166	166	146	0	0	290	145	222	0	79	40
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		21.0	16.0	16.0			25.0	18.0	18.0		14.9	43.2
Effective Green, g (s)		21.0	16.0	16.0			25.0	18.0	18.0		14.9	43.2
Actuated g/C Ratio		0.17	0.13	0.13			0.21	0.15	0.15		0.12	0.36
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		207	247	210			384	278	237		188	131
v/s Ratio Prot		0.03	0.09				c0.04	0.08			0.05	
v/s Ratio Perm		0.11		0.09			0.11		c0.14			0.11
v/c Ratio		0.80	0.67	0.70			1.44dl	0.52	0.94		0.42	0.31
Uniform Delay, d1		47.2	49.6	49.8			43.2	47.1	50.5		48.7	27.7
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		19.6	7.0	9.6			8.2	1.8	40.9		1.5	1.3
Delay (s)		66.8	56.6	59.3			51.4	48.9	91.5		50.2	29.0
Level of Service		E	E	E			D	D	F		D	C
Approach Delay (s)			61.0					64.4				
Approach LOS			E					E				

Intersection Summary

HCM 2000 Control Delay	51.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.2	Sum of lost time (s)	24.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET		
Lane Configurations	↑↑↑				↘↘	↑↑↑			↘			↘↘		
Traffic Volume (vph)	1374	124	30	131	236	1086	4	59	3	8	4	0		
Future Volume (vph)	1374	124	30	131	236	1086	4	59	3	8	4	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0		
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00		
Frt	0.98				1.00	0.99			0.86			0.89		
Flt Protected	1.00				0.95	1.00			1.00			0.99		
Satd. Flow (prot)	4997				3433	5031			1611			1648		
Flt Permitted	1.00				0.95	1.00			1.00			0.99		
Satd. Flow (perm)	4997				3433	5031			1611			1648		
Peak-hour factor, PHF	0.95	0.88	0.62	0.90	0.90	0.96	0.50	0.76	0.25	0.50	0.50	0.25		
Adj. Flow (vph)	1446	141	48	146	262	1131	8	78	12	16	8	0		
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0		
Lane Group Flow (vph)	1635	0	0	0	408	1217	0	0	28	0	0	37		
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA		
Protected Phases	2!			1!	1!	6!						10!		
Permitted Phases									10!		10!			
Actuated Green, G (s)	43.2				15.0	43.3			3.0			3.0		
Effective Green, g (s)	43.2				15.0	43.3			3.0			3.0		
Actuated g/C Ratio	0.36				0.12	0.36			0.02			0.02		
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0		
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)	1795				428	1812			40			41		
v/s Ratio Prot	c0.33				c0.12	0.24								
v/s Ratio Perm									0.02			0.02		
v/c Ratio	0.91				0.95	0.67			0.70			0.90		
Uniform Delay, d1	36.7				52.3	32.5			58.2			58.5		
Progression Factor	1.00				1.00	1.00			1.00			1.00		
Incremental Delay, d2	7.4				31.6	1.0			43.0			102.4		
Delay (s)	44.1				83.8	33.4			101.2			160.8		
Level of Service	D				F	C			F			F		
Approach Delay (s)	44.0					46.1						160.8		
Approach LOS	D					D						F		

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2025 Background PM
 11/2/2016



Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations				↔	↔	↔
Traffic Volume (vph)	4	18	23	233	30	178
Future Volume (vph)	4	18	23	233	30	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Frt				1.00	0.85	0.85
Flt Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Flt Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	1.00	0.71	0.62	0.80	0.56	0.86
Adj. Flow (vph)	4	25	37	291	54	207
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	328	54	207
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				12.0	43.3	120.2
Effective Green, g (s)				12.0	43.3	120.2
Actuated g/C Ratio				0.10	0.36	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				342	501	1583
v/s Ratio Prot				0.10		
v/s Ratio Perm					0.04	0.13
v/c Ratio				0.96	0.11	0.13
Uniform Delay, d1				53.9	25.6	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d2				37.4	0.1	0.2
Delay (s)				91.3	25.7	0.2
Level of Service				F	C	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis

2025 Total AM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/2/2016



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Traffic Volume (vph)	27	31	74	159	1	203	1	55	1	76	103	9
Future Volume (vph)	27	31	74	159	1	203	1	55	1	76	103	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.57	1.00	1.00			0.70	1.00	1.00		0.95	0.08
Satd. Flow (perm)		1062	1863	1583			2536	1863	1583		1522	148
Peak-hour factor, PHF	0.50	0.83	0.87	0.81	0.25	0.88	0.25	0.70	0.25	0.71	0.75	0.75
Adj. Flow (vph)	54	37	85	196	4	231	4	79	4	107	137	12
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	91	85	200	0	0	235	79	111	0	105	44
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		19.0	15.0	15.0			15.0	13.0	13.0		8.0	47.8
Effective Green, g (s)		19.0	15.0	15.0			15.0	13.0	13.0		8.0	47.8
Actuated g/C Ratio		0.16	0.13	0.13			0.13	0.11	0.11		0.07	0.40
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		193	234	199			334	203	172		102	59
v/s Ratio Prot		c0.02	0.05				0.01	0.04			c0.07	
v/s Ratio Perm		0.06		c0.13			0.08		0.07			0.30
v/c Ratio		0.47	0.36	1.01			1.34dl	0.39	0.65		1.03	0.75
Uniform Delay, d1		45.2	47.7	52.1			49.6	49.4	50.9		55.6	30.5
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		1.8	1.0	65.1			6.6	1.2	8.0		97.3	39.6
Delay (s)		47.0	48.7	117.2			56.2	50.6	58.9		152.9	70.1
Level of Service		D	D	F			E	D	E		F	E
Approach Delay (s)			84.7					55.9				
Approach LOS			F					E				

Intersection Summary

HCM 2000 Control Delay	55.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	119.2	Sum of lost time (s)	24.0
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2025 Total AM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/2/2016

	↑	↖	↗	↘	↙	↓	↘	↗	↙	↘	↖	↗
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET
Lane Configurations	↑↑↑				↖↗	↑↑↑			↘			↖↗
Traffic Volume (vph)	636	185	22	77	212	1942	2	54	0	4	1	1
Future Volume (vph)	636	185	22	77	212	1942	2	54	0	4	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00
Frt	0.96				1.00	1.00			0.86			0.90
Flt Protected	1.00				0.95	1.00			1.00			0.99
Satd. Flow (prot)	4902				3433	5062			1611			1664
Flt Permitted	1.00				0.95	1.00			1.00			0.99
Satd. Flow (perm)	4902				3433	5062			1611			1664
Peak-hour factor, PHF	0.88	0.93	0.75	0.74	0.78	0.93	0.50	0.88	0.92	1.00	0.25	0.25
Adj. Flow (vph)	723	199	29	104	272	2088	4	61	0	4	4	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	951	0	0	0	376	2153	0	0	4	0	0	32
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA
Protected Phases	2!			1!	1!	6!						10!
Permitted Phases									10!		10!	
Actuated Green, G (s)	47.8				14.0	53.8			2.4			2.4
Effective Green, g (s)	47.8				14.0	53.8			2.4			2.4
Actuated g/C Ratio	0.40				0.12	0.45			0.02			0.02
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0
Lane Grp Cap (vph)	1965				403	2284			32			33
v/s Ratio Prot	0.19				0.11	0.43						
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.48				0.93	0.94			0.12			0.97
Uniform Delay, d1	26.5				52.1	31.2			57.4			58.4
Progression Factor	1.00				1.00	1.00			1.00			1.00
Incremental Delay, d2	0.2				28.4	8.7			1.8			142.6
Delay (s)	26.7				80.6	40.0			59.1			201.0
Level of Service	C				F	D			E			F
Approach Delay (s)	40.5					46.0						201.0
Approach LOS	D					D						F
Intersection Summary												

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2025 Total AM
 11/2/2016



Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations						
Traffic Volume (vph)	1	10	19	375	30	51
Future Volume (vph)	1	10	19	375	30	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Frt				1.00	0.85	0.85
Flt Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Flt Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	0.25	0.50	0.75	0.90	0.73	0.82
Adj. Flow (vph)	4	20	25	417	41	62
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	442	41	62
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				14.0	53.8	119.2
Effective Green, g (s)				14.0	53.8	119.2
Actuated g/C Ratio				0.12	0.45	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				403	628	1583
v/s Ratio Prot				0.13		
v/s Ratio Perm					0.03	0.04
v/c Ratio				1.10	0.07	0.04
Uniform Delay, d1				52.6	18.5	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d2				73.5	0.0	0.0
Delay (s)				126.1	18.5	0.0
Level of Service				F	B	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis

2025 Total PM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/2/2016



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Traffic Volume (vph)	81	49	133	112	1	263	1	120	4	195	80	12
Future Volume (vph)	81	49	133	112	1	263	1	120	4	195	80	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.50	1.00	1.00			0.27	1.00	1.00		0.95	0.16
Satd. Flow (perm)		927	1863	1583			964	1863	1583		1522	288
Peak-hour factor, PHF	0.93	0.62	0.80	0.79	0.25	0.92	0.25	0.83	0.50	0.91	0.78	0.75
Adj. Flow (vph)	87	79	166	142	4	286	4	145	8	214	103	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	166	166	146	0	0	290	145	222	0	79	40
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		17.0	13.0	13.0			21.0	15.0	15.0		13.5	47.8
Effective Green, g (s)		17.0	13.0	13.0			21.0	15.0	15.0		13.5	47.8
Actuated g/C Ratio		0.14	0.11	0.11			0.17	0.12	0.12		0.11	0.40
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		158	200	170			290	231	196		170	113
v/s Ratio Prot		0.03	0.09				c0.05	0.08			0.05	
v/s Ratio Perm		0.11		0.09			0.12		c0.14			0.14
v/c Ratio		1.05	0.83	0.86			1.91dl	0.63	1.13		0.46	0.35
Uniform Delay, d1		51.8	52.8	53.0			48.6	50.2	52.9		50.3	25.6
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		85.7	23.9	32.4			52.8	5.2	104.5		2.0	1.9
Delay (s)		137.4	76.7	85.4			101.4	55.5	157.4		52.3	27.6
Level of Service		F	E	F			F	E	F		D	C
Approach Delay (s)			100.4					110.2				
Approach LOS			F					F				

Intersection Summary

HCM 2000 Control Delay	79.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.8	Sum of lost time (s)	24.0
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2025 Total PM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/2/2016

													
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET	
Lane Configurations													
Traffic Volume (vph)	1520	328	30	131	236	1195	4	59	3	8	4	0	
Future Volume (vph)	1520	328	30	131	236	1195	4	59	3	8	4	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0	
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00	
Frt	0.97				1.00	0.99			0.86			0.90	
Flt Protected	1.00				0.95	1.00			1.00			0.99	
Satd. Flow (prot)	4926				3433	5036			1611			1649	
Flt Permitted	1.00				0.95	1.00			1.00			0.99	
Satd. Flow (perm)	4926				3433	5036			1611			1649	
Peak-hour factor, PHF	0.95	0.88	0.62	0.90	0.90	0.96	0.50	0.76	0.25	0.50	0.50	0.25	
Adj. Flow (vph)	1600	373	48	146	262	1245	8	78	12	16	8	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	2021	0	0	0	408	1331	0	0	28	0	0	36	
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA	
Protected Phases	2!			1!	1!	6!						10!	
Permitted Phases									10!		10!		
Actuated Green, G (s)	47.8				12.0	46.3			2.0			2.0	
Effective Green, g (s)	47.8				12.0	46.3			2.0			2.0	
Actuated g/C Ratio	0.40				0.10	0.38			0.02			0.02	
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	1949				341	1930			26			27	
v/s Ratio Prot	c0.41				c0.12	0.26							
v/s Ratio Perm									0.02			0.02	
v/c Ratio	1.04				1.20	0.69			1.08			1.33	
Uniform Delay, d1	36.5				54.4	31.2			59.4			59.4	
Progression Factor	1.00				1.00	1.00			1.00			1.00	
Incremental Delay, d2	30.7				113.5	1.0			201.3			288.6	
Delay (s)	67.2				167.9	32.3			260.7			348.0	
Level of Service	E				F	C			F			F	
Approach Delay (s)	65.9					64.1						348.0	
Approach LOS	E					E						F	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2025 Total PM
 11/2/2016

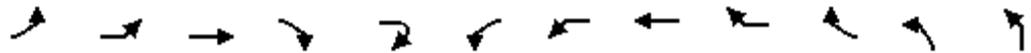


Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations				↔	↔	↔
Traffic Volume (vph)	4	17	23	386	30	178
Future Volume (vph)	4	17	23	386	30	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Frt				1.00	0.85	0.85
Flt Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Flt Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	1.00	0.71	0.62	0.80	0.56	0.86
Adj. Flow (vph)	4	24	37	482	54	207
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	520	54	207
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				16.0	46.3	120.8
Effective Green, g (s)				16.0	46.3	120.8
Actuated g/C Ratio				0.13	0.38	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				454	533	1583
v/s Ratio Prot				0.15		
v/s Ratio Perm					0.04	0.13
v/c Ratio				1.15	0.10	0.13
Uniform Delay, d1				52.4	23.9	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d2				88.5	0.1	0.2
Delay (s)				140.9	24.0	0.2
Level of Service				F	C	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2035 Background AM

7/24/2014



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations												
Volume (vph)	28	32	76	164	1	210	1	57	1	78	106	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.58	1.00	1.00			0.70	1.00	1.00		0.95	0.08
Satd. Flow (perm)		1078	1863	1583			2532	1863	1583		1522	144
Peak-hour factor, PHF	0.50	0.83	0.87	0.81	0.25	0.88	0.25	0.70	0.25	0.71	0.75	0.75
Adj. Flow (vph)	56	39	87	202	4	239	4	81	4	110	141	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	95	87	206	0	0	243	81	114	0	109	45
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		20.1	16.1	16.1			16.1	14.1	14.1		9.0	49.2
Effective Green, g (s)		20.1	16.1	16.1			16.1	14.1	14.1		9.0	49.2
Actuated g/C Ratio		0.17	0.14	0.14			0.14	0.12	0.12		0.08	0.42
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		207	255	216			361	223	189		116	60
v/s Ratio Prot		c0.02	0.05				0.01	0.04			0.07	
v/s Ratio Perm		0.06		c0.13			0.08		0.07			c0.31
v/c Ratio		0.46	0.34	0.95			1.28dl	0.36	0.60		0.94	0.75
Uniform Delay, d1		43.5	45.9	50.4			47.9	47.6	49.1		54.0	29.0
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		1.6	0.8	47.9			4.9	1.0	5.3		64.0	40.4
Delay (s)		45.1	46.8	98.3			52.8	48.6	54.4		118.0	69.4
Level of Service		D	D	F			D	D	D		F	E
Approach Delay (s)			73.7					52.4				
Approach LOS			E					D				

Intersection Summary

HCM 2000 Control Delay	48.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	117.6	Sum of lost time (s)	24.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2035 Background AM

7/24/2014

	↑	↖	↗	↘	↙	↓	↘	↗	↙	↖	↗	
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET
Lane Configurations	↑↑↑				↖↗	↑↑↑			↖			↗
Volume (vph)	583	88	23	79	219	1890	2	56	0	4	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00
Frt	0.98				1.00	1.00			0.86			0.90
Flt Protected	1.00				0.95	1.00			1.00			0.99
Satd. Flow (prot)	4963				3433	5061			1611			1661
Flt Permitted	1.00				0.95	1.00			1.00			0.99
Satd. Flow (perm)	4963				3433	5061			1611			1661
Peak-hour factor, PHF	0.88	0.93	0.75	0.74	0.78	0.93	0.50	0.88	0.92	1.00	0.25	0.25
Adj. Flow (vph)	662	95	31	107	281	2032	4	64	0	4	4	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	788	0	0	0	388	2100	0	0	4	0	0	34
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA
Protected Phases	2!			1!	1!	6!						10!
Permitted Phases									10!		10!	
Actuated Green, G (s)	49.2				14.0	54.2			2.3			2.3
Effective Green, g (s)	49.2				14.0	54.2			2.3			2.3
Actuated g/C Ratio	0.42				0.12	0.46			0.02			0.02
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0
Lane Grp Cap (vph)	2076				408	2332			31			32
v/s Ratio Prot	0.16				0.11	c0.41						
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.38				0.95	0.90			0.13			1.06
Uniform Delay, d1	23.6				51.5	29.2			56.7			57.6
Progression Factor	1.00				1.00	1.00			1.00			1.00
Incremental Delay, d2	0.1				32.1	5.3			1.9			178.7
Delay (s)	23.8				83.5	34.5			58.5			236.3
Level of Service	C				F	C			E			F
Approach Delay (s)	36.8					42.1						236.3
Approach LOS	D					D						F

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2035 Background AM
 7/24/2014



Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations				↔	↔	↔
Volume (vph)	1	11	19	221	31	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Fr _t				1.00	0.85	0.85
Fl _t Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Fl _t Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	0.25	0.50	0.75	0.90	0.73	0.82
Adj. Flow (vph)	4	22	25	246	42	65
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	271	42	65
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				10.0	54.2	117.6
Effective Green, g (s)				10.0	54.2	117.6
Actuated g/C Ratio				0.09	0.46	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				291	642	1583
v/s Ratio Prot				c0.08		
v/s Ratio Perm					0.03	0.04
v/c Ratio				0.93	0.07	0.04
Uniform Delay, d ₁				53.5	17.6	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d ₂				34.9	0.0	0.0
Delay (s)				88.4	17.7	0.0
Level of Service				F	B	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2035 Background PM

7/24/2014



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Volume (vph)	84	50	137	116	1	272	1	125	4	202	82	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.52	1.00	1.00			0.32	1.00	1.00		0.95	0.19
Satd. Flow (perm)		969	1863	1583			1173	1863	1583		1522	343
Peak-hour factor, PHF	0.93	0.62	0.80	0.79	0.25	0.92	0.25	0.83	0.50	0.91	0.78	0.75
Adj. Flow (vph)	90	81	171	147	4	296	4	151	8	222	105	17
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	171	171	151	0	0	300	151	230	0	81	41
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		21.0	16.0	16.0			25.0	18.0	18.0		14.2	43.8
Effective Green, g (s)		21.0	16.0	16.0			25.0	18.0	18.0		14.2	43.8
Actuated g/C Ratio		0.17	0.13	0.13			0.21	0.15	0.15		0.12	0.36
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		201	246	209			373	277	235		178	124
v/s Ratio Prot		0.04	0.09				c0.05	0.08			0.05	
v/s Ratio Perm		0.11		0.10			0.12		c0.15			0.12
v/c Ratio		0.85	0.70	0.72			1.53dl	0.55	0.98		0.46	0.33
Uniform Delay, d1		48.1	50.1	50.3			44.1	47.6	51.2		49.7	27.9
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		27.5	8.2	11.6			11.9	2.2	52.1		1.8	1.6
Delay (s)		75.6	58.3	61.9			55.9	49.8	103.3		51.5	29.5
Level of Service		E	E	E			E	D	F		D	C
Approach Delay (s)			65.4					70.6				
Approach LOS			E					E				

Intersection Summary

HCM 2000 Control Delay	54.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.8	Sum of lost time (s)	24.0
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2035 Background PM
 7/24/2014

	↑	↖	↗	↘	↙	↓	↘	↗	↙	↘	↖	↗
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET
Lane Configurations	↑↑↑				↖↗	↑↑↑			↘			↖↗
Volume (vph)	1422	128	31	135	244	1123	4	61	3	9	4	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00
Frt	0.98				1.00	0.99			0.86			0.89
Flt Protected	1.00				0.95	1.00			1.00			0.99
Satd. Flow (prot)	4997				3433	5032			1611			1648
Flt Permitted	1.00				0.95	1.00			1.00			0.99
Satd. Flow (perm)	4997				3433	5032			1611			1648
Peak-hour factor, PHF	0.95	0.88	0.62	0.90	0.90	0.96	0.50	0.76	0.25	0.50	0.50	0.25
Adj. Flow (vph)	1497	145	50	150	271	1170	8	80	12	18	8	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1692	0	0	0	421	1258	0	0	30	0	0	37
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA
Protected Phases	2!			1!	1!	6!						10!
Permitted Phases									10!		10!	
Actuated Green, G (s)	43.8				15.0	44.6			3.0			3.0
Effective Green, g (s)	43.8				15.0	44.6			3.0			3.0
Actuated g/C Ratio	0.36				0.12	0.37			0.02			0.02
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0
Lane Grp Cap (vph)	1811				426	1857			40			40
v/s Ratio Prot	c0.34				c0.12	0.25						
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.93				0.99	0.68			0.75			0.93
Uniform Delay, d1	37.1				52.8	32.0			58.5			58.8
Progression Factor	1.00				1.00	1.00			1.00			1.00
Incremental Delay, d2	9.5				40.1	1.0			55.2			112.0
Delay (s)	46.6				92.9	33.0			113.8			170.8
Level of Service	D				F	C			F			F
Approach Delay (s)	46.4					48.1						170.8
Approach LOS	D					D						F

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2035 Background PM
 7/24/2014



Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations				↔	↔	↔
Volume (vph)	4	18	24	241	31	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Frt				1.00	0.85	0.85
Flt Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Flt Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	1.00	0.71	0.62	0.80	0.56	0.86
Adj. Flow (vph)	4	25	39	301	55	214
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	340	55	214
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				12.0	44.6	120.8
Effective Green, g (s)				12.0	44.6	120.8
Actuated g/C Ratio				0.10	0.37	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				341	514	1583
v/s Ratio Prot				c0.10		
v/s Ratio Perm					0.04	0.14
v/c Ratio				1.00	0.11	0.14
Uniform Delay, d1				54.4	25.0	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d2				47.6	0.1	0.2
Delay (s)				102.0	25.1	0.2
Level of Service				F	C	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2035 Total AM
 11/2/2016



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Traffic Volume (vph)	28	32	76	164	1	210	1	57	1	78	106	10
Future Volume (vph)	28	32	76	164	1	210	1	57	1	78	106	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.61	1.00	1.00			0.69	1.00	1.00		0.95	0.09
Satd. Flow (perm)		1140	1863	1583			2477	1863	1583		1522	151
Peak-hour factor, PHF	0.50	0.83	0.87	0.81	0.25	0.88	0.25	0.70	0.25	0.71	0.75	0.75
Adj. Flow (vph)	56	39	87	202	4	239	4	81	4	110	141	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	95	87	206	0	0	243	81	114	0	109	45
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		19.0	15.0	15.0			17.0	14.0	14.0		8.0	47.0
Effective Green, g (s)		19.0	15.0	15.0			17.0	14.0	14.0		8.0	47.0
Actuated g/C Ratio		0.16	0.13	0.13			0.14	0.12	0.12		0.07	0.39
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		202	234	198			376	218	185		101	59
v/s Ratio Prot		0.02	0.05				c0.02	0.04			c0.07	
v/s Ratio Perm		0.06		c0.13			0.08		0.07			0.30
v/c Ratio		0.47	0.37	1.04			1.23dl	0.37	0.62		1.08	0.76
Uniform Delay, d1		45.2	47.9	52.2			47.9	48.6	50.1		55.7	31.4
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		1.7	1.0	75.0			3.8	1.1	6.0		112.5	43.5
Delay (s)		47.0	48.9	127.2			51.7	49.7	56.1		168.2	74.9
Level of Service		D	D	F			D	D	E		F	E
Approach Delay (s)			90.0					52.5				
Approach LOS			F					D				

Intersection Summary

HCM 2000 Control Delay	61.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	119.4	Sum of lost time (s)	24.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2035 Total AM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/2/2016

	↑	↗	↘	↖	↙	↓	↘	↙	↘	↙	↗	↖
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET
Lane Configurations	↑↑↑				↖↗	↑↑↑			↖			↖↗
Traffic Volume (vph)	655	188	23	79	219	2005	2	56	0	4	1	1
Future Volume (vph)	655	188	23	79	219	2005	2	56	0	4	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00
Frt	0.96				1.00	1.00			0.86			0.90
Flt Protected	1.00				0.95	1.00			1.00			0.99
Satd. Flow (prot)	4903				3433	5062			1611			1661
Flt Permitted	1.00				0.95	1.00			1.00			0.99
Satd. Flow (perm)	4903				3433	5062			1611			1661
Peak-hour factor, PHF	0.88	0.93	0.75	0.74	0.78	0.93	0.50	0.88	0.92	1.00	0.25	0.25
Adj. Flow (vph)	744	202	31	107	281	2156	4	64	0	4	4	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	977	0	0	0	388	2224	0	0	4	0	0	34
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA
Protected Phases	2!			1!	1!	6!						10!
Permitted Phases									10!		10!	
Actuated Green, G (s)	47.0				14.0	53.0			2.4			2.4
Effective Green, g (s)	47.0				14.0	53.0			2.4			2.4
Actuated g/C Ratio	0.39				0.12	0.44			0.02			0.02
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0
Lane Grp Cap (vph)	1929				402	2246			32			33
v/s Ratio Prot	0.20				0.11	0.44						
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.51				0.97	0.99			0.12			1.03
Uniform Delay, d1	27.4				52.5	32.9			57.5			58.5
Progression Factor	1.00				1.00	1.00			1.00			1.00
Incremental Delay, d2	0.2				35.5	16.7			1.8			166.0
Delay (s)	27.6				88.0	49.6			59.2			224.5
Level of Service	C				F	D			E			F
Approach Delay (s)	43.1					55.3						224.5
Approach LOS	D					E						F
Intersection Summary												

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2035 Total AM
 11/2/2016



Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations				↔	↔	↔
Traffic Volume (vph)	1	11	19	382	31	53
Future Volume (vph)	1	11	19	382	31	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Frt				1.00	0.85	0.85
Flt Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Flt Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	0.25	0.50	0.75	0.90	0.73	0.82
Adj. Flow (vph)	4	22	25	424	42	65
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	449	42	65
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				14.0	53.0	119.4
Effective Green, g (s)				14.0	53.0	119.4
Actuated g/C Ratio				0.12	0.44	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				402	618	1583
v/s Ratio Prot				c0.13		
v/s Ratio Perm					0.03	c0.04
v/c Ratio				1.12	0.07	0.04
Uniform Delay, d1				52.7	19.0	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d2				80.6	0.0	0.0
Delay (s)				133.3	19.1	0.0
Level of Service				F	B	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2035 Total PM
 11/2/2016



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations		↔	↑	↔			↔	↑	↔		↔	↔
Traffic Volume (vph)	84	50	137	116	1	272	1	125	4	202	82	13
Future Volume (vph)	84	50	137	116	1	272	1	125	4	202	82	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Lane Util. Factor		1.00	1.00	1.00			0.97	1.00	1.00		0.86	0.95
Frt		1.00	1.00	0.85			1.00	1.00	0.85		1.00	1.00
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00		0.95	0.95
Satd. Flow (prot)		1770	1863	1583			3433	1863	1583		1522	1681
Flt Permitted		0.49	1.00	1.00			0.29	1.00	1.00		0.95	0.16
Satd. Flow (perm)		920	1863	1583			1032	1863	1583		1522	281
Peak-hour factor, PHF	0.93	0.62	0.80	0.79	0.25	0.92	0.25	0.83	0.50	0.91	0.78	0.75
Adj. Flow (vph)	90	81	171	147	4	296	4	151	8	222	105	17
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	171	171	151	0	0	300	151	230	0	81	41
Turn Type	pm+pt	pm+pt	NA	Perm		pm+pt	pm+pt	NA	Perm		custom	Perm
Protected Phases	7!	7	4			3	3	8			5	
Permitted Phases	4	4		4		8	8		8		5	2
Actuated Green, G (s)		12.0	11.0	11.0			18.0	14.0	14.0		15.7	52.8
Effective Green, g (s)		12.0	11.0	11.0			18.0	14.0	14.0		15.7	52.8
Actuated g/C Ratio		0.10	0.09	0.09			0.15	0.12	0.12		0.13	0.44
Clearance Time (s)		4.0	4.0	4.0			4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0			3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		98	169	144			233	215	183		197	122
v/s Ratio Prot		0.01	0.09				c0.04	0.08			0.05	
v/s Ratio Perm		c0.16		0.10			0.15		0.15			0.15
v/c Ratio		1.74	1.01	1.05			2.45dl	0.70	1.26		0.41	0.34
Uniform Delay, d1		55.2	54.9	54.9			51.6	51.4	53.4		48.3	22.4
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		373.8	72.4	88.5			157.8	9.9	152.1		1.4	1.6
Delay (s)		429.0	127.3	143.4			209.3	61.3	205.5		49.7	24.1
Level of Service		F	F	F			F	E	F		D	C
Approach Delay (s)			236.8					175.2				
Approach LOS			F					F				

Intersection Summary

HCM 2000 Control Delay	99.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.8	Sum of lost time (s)	24.0
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

! Phase conflict between lane groups.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2035 Total PM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/2/2016

													
Movement	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER	SER2	NEL	NET	
Lane Configurations													
Traffic Volume (vph)	1568	332	31	135	244	1232	4	61	3	9	4	0	
Future Volume (vph)	1568	332	31	135	244	1232	4	61	3	9	4	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0				4.0	4.0			4.0			4.0	
Lane Util. Factor	0.91				0.97	0.91			1.00			1.00	
Frt	0.97				1.00	0.99			0.86			0.89	
Flt Protected	1.00				0.95	1.00			1.00			0.99	
Satd. Flow (prot)	4929				3433	5036			1611			1648	
Flt Permitted	1.00				0.95	1.00			1.00			0.99	
Satd. Flow (perm)	4929				3433	5036			1611			1648	
Peak-hour factor, PHF	0.95	0.88	0.62	0.90	0.90	0.96	0.50	0.76	0.25	0.50	0.50	0.25	
Adj. Flow (vph)	1651	377	50	150	271	1283	8	80	12	18	8	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	2078	0	0	0	421	1371	0	0	30	0	0	37	
Turn Type	NA			Prot	Prot	NA			Perm		Perm	NA	
Protected Phases	2!			1!	1!	6!						10!	
Permitted Phases									10!		10!		
Actuated Green, G (s)	52.8				12.0	49.1			1.0			1.0	
Effective Green, g (s)	52.8				12.0	49.1			1.0			1.0	
Actuated g/C Ratio	0.44				0.10	0.41			0.01			0.01	
Clearance Time (s)	4.0				4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	2154				341	2046			13			13	
v/s Ratio Prot	c0.42				c0.12	0.27							
v/s Ratio Perm									0.02			0.02	
v/c Ratio	0.96				1.23	0.67			2.31			2.85	
Uniform Delay, d1	33.1				54.4	29.2			59.9			59.9	
Progression Factor	1.00				1.00	1.00			1.00			1.00	
Incremental Delay, d2	12.1				128.4	0.9			774.2			1006.9	
Delay (s)	45.2				182.8	30.1			834.1			1066.8	
Level of Service	D				F	C			F			F	
Approach Delay (s)	45.0					66.0						1066.8	
Approach LOS	D					E						F	
Intersection Summary													

HCM Signalized Intersection Capacity Analysis
 7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

2035 Total PM
 11/2/2016



Movement	NER	NER2	SWL2	SWL	SWR	SWR2
Lane Configurations						
Traffic Volume (vph)	4	18	24	394	31	184
Future Volume (vph)	4	18	24	394	31	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0
Lane Util. Factor				0.97	0.88	1.00
Frt				1.00	0.85	0.85
Flt Protected				0.95	1.00	1.00
Satd. Flow (prot)				3433	1393	1583
Flt Permitted				0.95	1.00	1.00
Satd. Flow (perm)				3433	1393	1583
Peak-hour factor, PHF	1.00	0.71	0.62	0.80	0.56	0.86
Adj. Flow (vph)	4	25	39	492	55	214
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	532	55	214
Turn Type			Prot	Prot	Perm	Free
Protected Phases			9	9		
Permitted Phases					6!	Free!
Actuated Green, G (s)				16.0	49.1	120.8
Effective Green, g (s)				16.0	49.1	120.8
Actuated g/C Ratio				0.13	0.41	1.00
Clearance Time (s)				4.0	4.0	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				454	566	1583
v/s Ratio Prot				0.15		
v/s Ratio Perm					0.04	0.14
v/c Ratio				1.17	0.10	0.14
Uniform Delay, d1				52.4	22.2	0.0
Progression Factor				1.00	1.00	1.00
Incremental Delay, d2				98.5	0.1	0.2
Delay (s)				150.9	22.2	0.2
Level of Service				F	C	A
Approach Delay (s)						
Approach LOS						
Intersection Summary						

Intersection

Int Delay, s/veh 3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	77	177	10	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	71	76	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	108	233	16	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	233	115	0	-
Stage 1	233	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	702	916	-	0
Stage 1	749	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	702	916	-	-
Mov Cap-2 Maneuver	702	-	-	-
Stage 1	749	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	9.5	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBT	WBLn1
Capacity (veh/h)	-	916
HCM Lane V/C Ratio	-	0.118
HCM Control Delay (s)	-	9.5
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	0.4

Intersection

Int Delay, s/veh 5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	290	516	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	89	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	341	580	40	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	580	289	0	-
Stage 1	580	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	398	708	-	0
Stage 1	467	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	398	708	-	-
Mov Cap-2 Maneuver	398	-	-	-
Stage 1	467	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	14.7	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	WBLn1
Capacity (veh/h)	-	708
HCM Lane V/C Ratio	-	0.482
HCM Control Delay (s)	-	14.7
HCM Lane LOS	-	B
HCM 95th %tile Q(veh)	-	2.6

Intersection

Int Delay, s/veh 3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	79	181	10	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	71	76	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	111	238	16	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	238	118	0	-
Stage 1	238	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	696	912	-	0
Stage 1	744	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	696	912	-	-
Mov Cap-2 Maneuver	696	-	-	-
Stage 1	744	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	9.5	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBT	WBLn1
Capacity (veh/h)	-	912
HCM Lane V/C Ratio	-	0.122
HCM Control Delay (s)	-	9.5
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	0.4

Intersection

Int Delay, s/veh 5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	296	527	26	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	89	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	348	592	41	0	0

Major/Minor

	Minor1	Major1
Conflicting Flow All	592	295
Stage 1	592	-
Stage 2	0	-
Critical Hdwy	7.54	6.94
Critical Hdwy Stg 1	6.54	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	3.52	3.32
Pot Cap-1 Maneuver	390	701
Stage 1	460	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	390	701
Mov Cap-2 Maneuver	390	-
Stage 1	460	-
Stage 2	-	-

Approach

	WB	NB
HCM Control Delay, s	15.1	0
HCM LOS	C	

Minor Lane/Major Mvmt

	NBT	WBLn1
Capacity (veh/h)	-	701
HCM Lane V/C Ratio	-	0.497
HCM Control Delay (s)	-	15.1
HCM Lane LOS	-	C
HCM 95th %tile Q(veh)	-	2.8

Intersection

Int Delay, s/veh 4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	132	190	23	0	0
Future Vol, veh/h	0	132	190	23	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	71	76	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	186	250	37	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	250	124	0	-
Stage 1	250	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	683	904	-	0
Stage 1	732	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	683	904	-	-
Mov Cap-2 Maneuver	683	-	-	-
Stage 1	732	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	10	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBTWBLn1
Capacity (veh/h)	- 904
HCM Lane V/C Ratio	- 0.206
HCM Control Delay (s)	- 10
HCM Lane LOS	- B
HCM 95th %tile Q(veh)	- 0.8

Intersection

Int Delay, s/veh 6.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	319	554	67	0	0
Future Vol, veh/h	0	319	554	67	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	89	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	375	622	106	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	622	310	0	-
Stage 1	622	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	371	686	-	0
Stage 1	441	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	371	686	-	-
Mov Cap-2 Maneuver	371	-	-	-
Stage 1	441	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	16.4	0
HCM LOS	C	

Minor Lane/Major Mvmt

	NBTWBLn1
Capacity (veh/h)	- 686
HCM Lane V/C Ratio	- 0.547
HCM Control Delay (s)	- 16.4
HCM Lane LOS	- C
HCM 95th %tile Q(veh)	- 3.3

Intersection

Int Delay, s/veh 3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	80	184	10	0	0
Future Vol, veh/h	0	80	184	10	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	71	76	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	113	242	16	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	242	120	0	-
Stage 1	242	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	692	909	-	0
Stage 1	740	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	692	909	-	-
Mov Cap-2 Maneuver	692	-	-	-
Stage 1	740	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	9.5	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBTWBLn1
Capacity (veh/h)	- 909
HCM Lane V/C Ratio	- 0.124
HCM Control Delay (s)	- 9.5
HCM Lane LOS	- A
HCM 95th %tile Q(veh)	- 0.4

Intersection

Int Delay, s/veh 5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	301	536	26	0	0
Future Vol, veh/h	0	301	536	26	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	89	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	354	602	41	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	602	300	0	-
Stage 1	602	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	383	696	-	0
Stage 1	453	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	383	696	-	-
Mov Cap-2 Maneuver	383	-	-	-
Stage 1	453	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	15.4	0
HCM LOS	C	

Minor Lane/Major Mvmt

	NBTWBLn1
Capacity (veh/h)	- 696
HCM Lane V/C Ratio	- 0.509
HCM Control Delay (s)	- 15.4
HCM Lane LOS	- C
HCM 95th %tile Q(veh)	- 2.9

Intersection

Int Delay, s/veh 4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	149	213	53	0	0
Future Vol, veh/h	0	149	213	53	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	71	76	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	210	280	84	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	280	139	0	-
Stage 1	280	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	650	884	-	0
Stage 1	703	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	650	884	-	-
Mov Cap-2 Maneuver	650	-	-	-
Stage 1	703	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	10.3	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBTWBLn1
Capacity (veh/h)	- 884
HCM Lane V/C Ratio	- 0.237
HCM Control Delay (s)	- 10.3
HCM Lane LOS	- B
HCM 95th %tile Q(veh)	- 0.9

Intersection

Int Delay, s/veh 7.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	366	594	113	0	0
Future Vol, veh/h	0	366	594	113	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	89	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	431	667	179	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	667	333	0	-
Stage 1	667	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	344	663	-	0
Stage 1	414	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	344	663	-	-
Mov Cap-2 Maneuver	344	-	-	-
Stage 1	414	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	19.9	0
HCM LOS	C	

Minor Lane/Major Mvmt

	NBTWBLn1
Capacity (veh/h)	- 663
HCM Lane V/C Ratio	- 0.649
HCM Control Delay (s)	- 19.9
HCM Lane LOS	- C
HCM 95th %tile Q(veh)	- 4.8

Intersection

Int Delay, s/veh 3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	83	190	11	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	71	76	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	117	250	17	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	250	124	0	-
Stage 1	250	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	683	904	-	0
Stage 1	732	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	683	904	-	-
Mov Cap-2 Maneuver	683	-	-	-
Stage 1	732	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	9.6	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBT	WBLn1
Capacity (veh/h)	-	904
HCM Lane V/C Ratio	-	0.129
HCM Control Delay (s)	-	9.6
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	0.4

Intersection

Int Delay, s/veh 6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	311	554	27	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	89	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	366	622	43	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	622	310	0	-
Stage 1	622	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	371	686	-	0
Stage 1	441	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	371	686	-	-
Mov Cap-2 Maneuver	371	-	-	-
Stage 1	441	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	16.1	0
HCM LOS	C	

Minor Lane/Major Mvmt

	NBT	WBLn1
Capacity (veh/h)	-	686
HCM Lane V/C Ratio	-	0.533
HCM Control Delay (s)	-	16.1
HCM Lane LOS	-	C
HCM 95th %tile Q(veh)	-	3.2

Intersection

Int Delay, s/veh 4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	152	219	54	0	0
Future Vol, veh/h	0	152	219	54	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	71	76	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	214	288	86	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	288	143	0	-
Stage 1	288	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	642	879	-	0
Stage 1	695	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	642	879	-	-
Mov Cap-2 Maneuver	642	-	-	-
Stage 1	695	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	10.4	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBTWBLn1
Capacity (veh/h)	- 879
HCM Lane V/C Ratio	- 0.244
HCM Control Delay (s)	- 10.4
HCM Lane LOS	- B
HCM 95th %tile Q(veh)	- 1

Intersection

Int Delay, s/veh 8.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	376	612	114	0	0
Future Vol, veh/h	0	376	612	114	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	Free	-	None
Storage Length	-	0	-	285	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	85	89	63	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	442	688	181	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	688	343	0	-
Stage 1	688	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.54	6.94	-	-
Critical Hdwy Stg 1	6.54	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-
Pot Cap-1 Maneuver	333	653	-	0
Stage 1	403	-	-	0
Stage 2	-	-	-	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	333	653	-	-
Mov Cap-2 Maneuver	333	-	-	-
Stage 1	403	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	21.3	0
HCM LOS	C	

Minor Lane/Major Mvmt

	NBTWBLn1
Capacity (veh/h)	- 653
HCM Lane V/C Ratio	- 0.677
HCM Control Delay (s)	- 21.3
HCM Lane LOS	- C
HCM 95th %tile Q(veh)	- 5.3

HCM 2010 Signalized Intersection Summary
 5: Parkway Drive & 62nd Ave

2014 Existing AM
 7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	15	11	163	65	0	27	0	83	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	24	0	132	158	0	32	0	92	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.63	0.56	0.83	0.96	0.92	0.84	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	39	33	221	233	0	1013	1297	1103	0	1151	0
Arrive On Green	0.00	0.02	0.00	0.12	0.12	0.00	0.03	0.00	0.70	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Grp Volume(v), veh/h	0	24	0	132	158	0	32	0	92	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Q Serve(g_s), s	0.0	1.0	0.0	5.4	6.2	0.0	0.5	0.0	1.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.0	0.0	5.4	6.2	0.0	0.5	0.0	1.4	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	37	39	33	221	233	0	1013	1297	1103	0	1151	0
V/C Ratio(X)	0.00	0.62	0.00	0.60	0.68	0.00	0.03	0.00	0.08	0.00	0.00	0.00
Avail Cap(c_a), veh/h	746	783	666	2145	2252	0	1643	1297	1103	0	1151	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	36.9	0.0	31.5	31.8	0.0	4.2	0.0	3.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	14.8	0.0	2.6	3.5	0.0	0.0	0.0	0.1	0.0	0.0	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(50%),veh/ln	0.0	0.7	0.0	2.8	3.4	0.0	0.2	0.0	0.7	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	51.7	0.0	34.0	35.3	0.0	4.3	0.0	3.9	0.0	0.0	0.0
LnGrp LOS		D		C	D		A		A			
Approach Vol, veh/h		24			290			124			0	
Approach Delay, s/veh		51.7			34.7			4.0			0.0	
Approach LOS		D			C			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.0		5.6	6.0	51.0		13.5				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0		32.0	29.0	20.0		92.0				
Max Q Clear Time (g_c+l1), s		3.4		3.0	2.5	0.0		8.2				
Green Ext Time (p_c), s		0.3		0.1	0.1	0.0		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				26.9								
HCM 2010 LOS				C								
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary
 5: Parkway Drive & 62nd Ave

2014 Existing PM
 7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	83	6	244	197	0	83	0	182	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	120	0	246	255	0	95	0	207	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.69	0.75	0.91	0.88	0.92	0.87	0.92	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	162	138	321	338	0	876	1111	944	0	945	0
Arrive On Green	0.00	0.09	0.00	0.18	0.18	0.00	0.04	0.00	0.60	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Grp Volume(v), veh/h	0	120	0	246	255	0	95	0	207	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Q Serve(g_s), s	0.0	5.6	0.0	11.7	11.5	0.0	2.1	0.0	5.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.6	0.0	11.7	11.5	0.0	2.1	0.0	5.4	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	155	162	138	321	338	0	876	1111	944	0	945	0
V/C Ratio(X)	0.00	0.74	0.00	0.77	0.76	0.00	0.11	0.00	0.22	0.00	0.00	0.00
Avail Cap(c_a), veh/h	639	671	570	1837	1929	0	1376	1111	944	0	945	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	39.6	0.0	34.6	34.5	0.0	8.5	0.0	8.3	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.4	0.0	3.8	3.5	0.0	0.1	0.0	0.5	0.0	0.0	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(50%),veh/ln	0.0	3.2	0.0	6.1	6.3	0.0	1.0	0.0	2.5	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	46.0	0.0	38.4	38.0	0.0	8.6	0.0	8.9	0.0	0.0	0.0
LnGrp LOS		D		D	D		A		A			
Approach Vol, veh/h		120			501			302				0
Approach Delay, s/veh		46.0			38.2			8.8				0.0
Approach LOS		D			D			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.0		11.8	7.9	49.1		20.1				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0		32.0	29.0	20.0		92.0				
Max Q Clear Time (g_c+l1), s		7.4		7.6	4.1	0.0		13.7				
Green Ext Time (p_c), s		0.7		0.6	0.2	0.0		2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			29.6									
HCM 2010 LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary
5: Parkway Drive & 62nd Ave

2020 Background AM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	15	11	166	66	0	28	0	85	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	24	0	134	161	0	33	0	94	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.63	0.56	0.83	0.96	0.92	0.84	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	39	33	225	236	0	1011	1295	1101	0	1148	0
Arrive On Green	0.00	0.02	0.00	0.13	0.13	0.00	0.03	0.00	0.70	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Grp Volume(v), veh/h	0	24	0	134	161	0	33	0	94	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Q Serve(g_s), s	0.0	1.0	0.0	5.4	6.3	0.0	0.5	0.0	1.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.0	0.0	5.4	6.3	0.0	0.5	0.0	1.5	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	37	39	33	225	236	0	1011	1295	1101	0	1148	0
V/C Ratio(X)	0.00	0.62	0.00	0.60	0.68	0.00	0.03	0.00	0.09	0.00	0.00	0.00
Avail Cap(c_a), veh/h	745	782	664	2141	2248	0	1639	1295	1101	0	1148	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	37.0	0.0	31.5	31.8	0.0	4.3	0.0	3.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	14.8	0.0	2.5	3.5	0.0	0.0	0.0	0.2	0.0	0.0	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(50%),veh/ln	0.0	0.7	0.0	2.8	3.4	0.0	0.2	0.0	0.7	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	51.8	0.0	34.0	35.3	0.0	4.3	0.0	3.9	0.0	0.0	0.0
LnGrp LOS		D		C	D		A		A			
Approach Vol, veh/h		24			295			127				0
Approach Delay, s/veh		51.8			34.7			4.0				0.0
Approach LOS		D			C			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.0		5.6	6.0	51.0		13.7				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0		32.0	29.0	20.0		92.0				
Max Q Clear Time (g_c+l1), s		3.5		3.0	2.5	0.0		8.3				
Green Ext Time (p_c), s		0.3		0.1	0.1	0.0		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				26.9								
HCM 2010 LOS				C								
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary
5: Parkway Drive & 62nd Ave

2020 Background PM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	85	6	249	201	0	85	0	186	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	123	0	251	260	0	98	0	211	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.69	0.75	0.91	0.88	0.92	0.87	0.92	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	168	143	329	345	0	862	1092	928	0	920	0
Arrive On Green	0.00	0.09	0.00	0.19	0.19	0.00	0.05	0.00	0.59	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Grp Volume(v), veh/h	0	123	0	251	260	0	98	0	211	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Q Serve(g_s), s	0.0	5.6	0.0	11.7	11.5	0.0	2.2	0.0	5.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.6	0.0	11.7	11.5	0.0	2.2	0.0	5.5	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	160	168	143	329	345	0	862	1092	928	0	920	0
V/C Ratio(X)	0.00	0.73	0.00	0.76	0.75	0.00	0.11	0.00	0.23	0.00	0.00	0.00
Avail Cap(c_a), veh/h	877	921	783	1693	1778	0	1351	1092	928	0	920	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	38.5	0.0	33.6	33.5	0.0	8.8	0.0	8.6	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.0	0.0	3.7	3.3	0.0	0.1	0.0	0.6	0.0	0.0	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(50%),veh/ln	0.0	3.1	0.0	6.1	6.2	0.0	1.1	0.0	2.5	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	44.5	0.0	37.3	36.9	0.0	8.9	0.0	9.2	0.0	0.0	0.0
LnGrp LOS		D		D	D		A		A			
Approach Vol, veh/h		123			511			309			0	
Approach Delay, s/veh		44.5			37.1			9.1			0.0	
Approach LOS		D			D			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		55.0		11.9	8.0	47.0		20.1				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		51.0		43.0	28.0	19.0		83.0				
Max Q Clear Time (g_c+l1), s		7.5		7.6	4.2	0.0		13.7				
Green Ext Time (p_c), s		0.7		0.7	0.2	0.0		2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			28.9									
HCM 2010 LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary
5: Parkway Drive & 62nd Ave

2020 Total AM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	15	29	184	66	4	32	22	89	18	88	35
Future Volume (veh/h)	9	15	29	184	66	4	32	22	89	18	88	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	10	24	0	148	173	4	38	24	99	20	96	38
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.63	0.56	0.83	0.96	0.92	0.84	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	50	42	242	247	6	938	1271	1080	148	681	254
Arrive On Green	0.03	0.03	0.00	0.14	0.14	0.14	0.03	0.68	0.68	0.60	0.60	0.60
Sat Flow, veh/h	1774	1863	1583	1774	1813	42	1774	1863	1583	159	1132	423
Grp Volume(v), veh/h	10	24	0	148	0	177	38	24	99	154	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1855	1774	1863	1583	1713	0	0
Q Serve(g_s), s	0.4	1.0	0.0	6.1	0.0	7.1	0.6	0.3	1.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	1.0	0.0	6.1	0.0	7.1	0.6	0.3	1.6	2.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.13		0.25
Lane Grp Cap(c), veh/h	47	50	42	242	0	253	938	1271	1080	1084	0	0
V/C Ratio(X)	0.21	0.48	0.00	0.61	0.00	0.70	0.04	0.02	0.09	0.14	0.00	0.00
Avail Cap(c_a), veh/h	731	767	652	2101	0	2198	1549	1271	1080	1084	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.0	37.3	0.0	31.6	0.0	32.0	4.7	4.0	4.2	6.7	0.0	0.0
Incr Delay (d2), s/veh	2.2	7.0	0.0	2.5	0.0	3.5	0.0	0.0	0.2	0.3	0.0	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(50%),veh/ln	0.2	0.6	0.0	3.2	0.0	3.9	0.3	0.2	0.8	1.5	0.0	0.0
LnGrp Delay(d),s/veh	39.2	44.3	0.0	34.1	0.0	35.5	4.7	4.0	4.3	7.0	0.0	0.0
LnGrp LOS	D	D		C		D	A	A	A	A		
Approach Vol, veh/h		34			325			161			154	
Approach Delay, s/veh		42.8			34.9			4.4			7.0	
Approach LOS		D			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.0		6.1	6.2	50.8		14.6				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0		32.0	29.0	20.0		92.0				
Max Q Clear Time (g_c+l1), s		3.6		3.0	2.6	4.9		9.1				
Green Ext Time (p_c), s		1.5		0.1	0.1	1.1		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				21.6								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
5: Parkway Drive & 62nd Ave

2020 Total PM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	85	14	257	201	14	99	68	200	8	39	16
Future Volume (veh/h)	27	85	14	257	201	14	99	68	200	8	39	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	29	123	0	262	255	15	114	74	227	9	42	17
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.69	0.75	0.91	0.88	0.92	0.87	0.92	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	171	146	338	332	20	873	1090	926	121	538	205
Arrive On Green	0.09	0.09	0.00	0.19	0.19	0.19	0.05	0.58	0.58	0.49	0.49	0.49
Sat Flow, veh/h	1774	1863	1583	1774	1742	102	1774	1863	1583	155	1102	419
Grp Volume(v), veh/h	29	123	0	262	0	270	114	74	227	68	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1845	1774	1863	1583	1675	0	0
Q Serve(g_s), s	1.4	5.8	0.0	12.7	0.0	12.6	2.7	1.6	6.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.4	5.8	0.0	12.7	0.0	12.6	2.7	1.6	6.3	1.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		1.00	0.13		0.25
Lane Grp Cap(c), veh/h	163	171	146	338	0	352	873	1090	926	864	0	0
V/C Ratio(X)	0.18	0.72	0.00	0.77	0.00	0.77	0.13	0.07	0.25	0.08	0.00	0.00
Avail Cap(c_a), veh/h	627	658	559	1801	0	1873	1349	1090	926	864	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.0	40.0	0.0	34.8	0.0	34.8	9.2	8.1	9.1	12.3	0.0	0.0
Incr Delay (d2), s/veh	0.5	5.6	0.0	3.8	0.0	3.5	0.1	0.1	0.6	0.2	0.0	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(50%),veh/ln	0.7	3.3	0.0	6.5	0.0	6.7	1.3	0.8	2.9	0.9	0.0	0.0
LnGrp Delay(d),s/veh	38.5	45.5	0.0	38.6	0.0	38.3	9.3	8.2	9.7	12.5	0.0	0.0
LnGrp LOS	D	D		D		D	A	A	A	B		
Approach Vol, veh/h		152			532			415			68	
Approach Delay, s/veh		44.2			38.5			9.4			12.5	
Approach LOS		D			D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.0		12.3	8.7	48.3		21.3				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0		32.0	29.0	20.0		92.0				
Max Q Clear Time (g_c+l1), s		8.3		7.8	4.7	3.8		14.7				
Green Ext Time (p_c), s		1.7		0.7	0.3	1.4		2.6				
Intersection Summary												
HCM 2010 Ctrl Delay				27.3								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
 5: Parkway Drive & 62nd Ave

2025 Background AM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	16	11	169	67	0	28	0	86	0	0	0
Future Volume (veh/h)	0	16	11	169	67	0	28	0	86	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	25	0	137	164	0	33	0	96	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.63	0.56	0.83	0.96	0.92	0.84	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	40	34	228	239	0	1008	1291	1097	0	1145	0
Arrive On Green	0.00	0.02	0.00	0.13	0.13	0.00	0.03	0.00	0.69	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Grp Volume(v), veh/h	0	25	0	137	164	0	33	0	96	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Q Serve(g_s), s	0.0	1.0	0.0	5.6	6.4	0.0	0.5	0.0	1.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.0	0.0	5.6	6.4	0.0	0.5	0.0	1.5	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	38	40	34	228	239	0	1008	1291	1097	0	1145	0
V/C Ratio(X)	0.00	0.62	0.00	0.60	0.69	0.00	0.03	0.00	0.09	0.00	0.00	0.00
Avail Cap(c_a), veh/h	742	780	663	2134	2241	0	1634	1291	1097	0	1145	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	37.1	0.0	31.5	31.8	0.0	4.3	0.0	3.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	14.7	0.0	2.5	3.5	0.0	0.0	0.0	0.2	0.0	0.0	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(50%),veh/ln	0.0	0.7	0.0	2.9	3.6	0.0	0.2	0.0	0.7	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	51.8	0.0	34.0	35.3	0.0	4.4	0.0	4.0	0.0	0.0	0.0
LnGrp LOS		D		C	D		A		A			
Approach Vol, veh/h		25			301			129				0
Approach Delay, s/veh		51.8			34.7			4.1				0.0
Approach LOS		D			C			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.0		5.6	6.0	51.0		13.8				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0		32.0	29.0	20.0		92.0				
Max Q Clear Time (g_c+I1), s		3.5		3.0	2.5	0.0		8.4				
Green Ext Time (p_c), s		0.3		0.1	0.1	0.0		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				27.0								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
5: Parkway Drive & 62nd Ave

2025 Background PM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	86	6	253	204	0	86	0	189	0	0	0
Future Volume (veh/h)	0	86	6	253	204	0	86	0	189	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	125	0	255	264	0	99	0	215	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.69	0.75	0.91	0.88	0.92	0.87	0.92	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	171	145	333	350	0	858	1087	924	0	914	0
Arrive On Green	0.00	0.09	0.00	0.19	0.19	0.00	0.05	0.00	0.58	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Grp Volume(v), veh/h	0	125	0	255	264	0	99	0	215	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Q Serve(g_s), s	0.0	5.7	0.0	11.9	11.7	0.0	2.3	0.0	5.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.7	0.0	11.9	11.7	0.0	2.3	0.0	5.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	163	171	145	333	350	0	858	1087	924	0	914	0
V/C Ratio(X)	0.00	0.73	0.00	0.77	0.76	0.00	0.12	0.00	0.23	0.00	0.00	0.00
Avail Cap(c_a), veh/h	873	916	779	1685	1769	0	1344	1087	924	0	914	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	38.7	0.0	33.7	33.6	0.0	9.0	0.0	8.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.9	0.0	3.7	3.3	0.0	0.1	0.0	0.6	0.0	0.0	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(50%),veh/ln	0.0	3.2	0.0	6.1	6.3	0.0	1.1	0.0	2.7	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	44.6	0.0	37.4	36.9	0.0	9.0	0.0	9.4	0.0	0.0	0.0
LnGrp LOS		D		D	D		A		A			
Approach Vol, veh/h		125			519			314				0
Approach Delay, s/veh		44.6			37.2			9.3				0.0
Approach LOS		D			D			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		55.0		12.0	8.1	46.9		20.4				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		51.0		43.0	28.0	19.0		83.0				
Max Q Clear Time (g_c+I1), s		7.7		7.7	4.3	0.0		13.9				
Green Ext Time (p_c), s		0.7		0.7	0.2	0.0		2.5				
Intersection Summary												
HCM 2010 Ctrl Delay				29.0								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
5: Parkway Drive & 62nd Ave

2025 Total AM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	16	34	192	67	14	42	72	100	23	115	46
Future Volume (veh/h)	29	16	34	192	67	14	42	72	100	23	115	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	25	0	158	172	15	50	78	111	25	125	50
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.63	0.56	0.83	0.96	0.92	0.84	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	67	57	254	242	21	881	1247	1060	138	661	249
Arrive On Green	0.04	0.04	0.00	0.14	0.14	0.14	0.03	0.67	0.67	0.59	0.59	0.59
Sat Flow, veh/h	1774	1863	1583	1774	1689	147	1774	1863	1583	149	1129	426
Grp Volume(v), veh/h	32	25	0	158	0	187	50	78	111	200	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1837	1774	1863	1583	1703	0	0
Q Serve(g_s), s	1.4	1.0	0.0	6.6	0.0	7.7	0.8	1.1	2.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.4	1.0	0.0	6.6	0.0	7.7	0.8	1.1	2.0	4.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	0.12		0.25
Lane Grp Cap(c), veh/h	64	67	57	254	0	263	881	1247	1060	1048	0	0
V/C Ratio(X)	0.50	0.37	0.00	0.62	0.00	0.71	0.06	0.06	0.10	0.19	0.00	0.00
Avail Cap(c_a), veh/h	717	753	640	2061	0	2134	1471	1247	1060	1048	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.5	37.3	0.0	31.9	0.0	32.4	5.2	4.5	4.7	7.7	0.0	0.0
Incr Delay (d2), s/veh	5.9	3.4	0.0	2.5	0.0	3.6	0.0	0.1	0.2	0.4	0.0	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(50%),veh/ln	0.8	0.6	0.0	3.4	0.0	4.2	0.4	0.6	0.9	2.1	0.0	0.0
LnGrp Delay(d),s/veh	43.4	40.7	0.0	34.4	0.0	35.9	5.2	4.6	4.9	8.1	0.0	0.0
LnGrp LOS	D	D		C		D	A	A	A	A		
Approach Vol, veh/h		57			345			239			200	
Approach Delay, s/veh		42.2			35.2			4.8			8.1	
Approach LOS		D			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.0		6.9	6.7	50.3		15.3				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0		32.0	29.0	20.0		92.0				
Max Q Clear Time (g_c+l1), s		4.0		3.4	2.8	6.1		9.7				
Green Ext Time (p_c), s		2.2		0.2	0.1	1.7		1.6				
Intersection Summary												
HCM 2010 Ctrl Delay				20.6								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
 5: Parkway Drive & 62nd Ave

2025 Total PM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	86	28	275	204	29	115	146	218	22	109	44
Future Volume (veh/h)	58	86	28	275	204	29	115	146	218	22	109	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	63	125	0	283	259	32	132	159	248	24	118	48
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.69	0.75	0.91	0.88	0.92	0.87	0.92	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	176	150	361	331	41	755	1066	906	110	516	197
Arrive On Green	0.09	0.09	0.00	0.20	0.20	0.20	0.06	0.57	0.57	0.47	0.47	0.47
Sat Flow, veh/h	1774	1863	1583	1774	1626	201	1774	1863	1583	142	1098	419
Grp Volume(v), veh/h	63	125	0	283	0	291	132	159	248	190	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1827	1774	1863	1583	1659	0	0
Q Serve(g_s), s	3.1	6.0	0.0	14.0	0.0	14.0	3.3	3.7	7.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.1	6.0	0.0	14.0	0.0	14.0	3.3	3.7	7.4	5.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	0.13		0.25
Lane Grp Cap(c), veh/h	168	176	150	361	0	371	755	1066	906	824	0	0
V/C Ratio(X)	0.37	0.71	0.00	0.78	0.00	0.78	0.17	0.15	0.27	0.23	0.00	0.00
Avail Cap(c_a), veh/h	613	644	547	1763	0	1816	1206	1066	906	824	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.3	40.7	0.0	35.0	0.0	35.0	10.1	9.3	10.0	14.6	0.0	0.0
Incr Delay (d2), s/veh	1.4	5.2	0.0	3.8	0.0	3.7	0.1	0.3	0.7	0.7	0.0	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(50%),veh/ln	1.6	3.3	0.0	7.2	0.0	7.4	1.6	2.0	3.4	3.0	0.0	0.0
LnGrp Delay(d),s/veh	40.7	45.8	0.0	38.8	0.0	38.6	10.2	9.5	10.8	15.2	0.0	0.0
LnGrp LOS	D	D		D		D	B	A	B	B		
Approach Vol, veh/h		188			574			539			190	
Approach Delay, s/veh		44.1			38.7			10.3			15.2	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.0		12.8	9.5	47.5		22.8				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0		32.0	29.0	20.0		92.0				
Max Q Clear Time (g_c+I1), s		9.4		8.0	5.3	7.9		16.0				
Green Ext Time (p_c), s		3.2		0.8	0.3	2.4		2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			26.1									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
5: Parkway Drive & 62nd Ave

2035 Background AM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	16	12	175	70	0	29	0	89	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	25	0	142	170	0	35	0	99	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.63	0.56	0.83	0.96	0.92	0.84	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	40	34	236	248	0	997	1274	1083	0	1123	0
Arrive On Green	0.00	0.02	0.00	0.13	0.13	0.00	0.03	0.00	0.68	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Grp Volume(v), veh/h	0	25	0	142	170	0	35	0	99	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Q Serve(g_s), s	0.0	1.0	0.0	5.6	6.5	0.0	0.5	0.0	1.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.0	0.0	5.6	6.5	0.0	0.5	0.0	1.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	38	40	34	236	248	0	997	1274	1083	0	1123	0
V/C Ratio(X)	0.00	0.62	0.00	0.60	0.69	0.00	0.04	0.00	0.09	0.00	0.00	0.00
Avail Cap(c_a), veh/h	762	800	680	2237	2349	0	1638	1274	1083	0	1123	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	36.2	0.0	30.4	30.8	0.0	4.5	0.0	4.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	14.4	0.0	2.4	3.3	0.0	0.0	0.0	0.2	0.0	0.0	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(50%),veh/ln	0.0	0.7	0.0	2.9	3.6	0.0	0.2	0.0	0.7	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	50.6	0.0	32.9	34.1	0.0	4.5	0.0	4.1	0.0	0.0	0.0
LnGrp LOS		D		C	C		A		A			
Approach Vol, veh/h		25			312			134			0	
Approach Delay, s/veh		50.6			33.6			4.2			0.0	
Approach LOS		D			C			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		55.0		5.6	6.1	48.9		13.9				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		51.0		32.0	29.0	18.0		94.0				
Max Q Clear Time (g_c+l1), s		3.6		3.0	2.5	0.0		8.5				
Green Ext Time (p_c), s		0.3		0.1	0.1	0.0		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				26.1								
HCM 2010 LOS				C								
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary
5: Parkway Drive & 62nd Ave

2035 Background PM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	89	6	262	212	0	89	0	195	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	129	0	264	274	0	102	0	222	0	0	0
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.69	0.75	0.91	0.88	0.92	0.87	0.92	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	173	147	340	357	0	858	1087	924	0	916	0
Arrive On Green	0.00	0.09	0.00	0.19	0.19	0.00	0.05	0.00	0.58	0.00	0.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Grp Volume(v), veh/h	0	129	0	264	274	0	102	0	222	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	0	1774	1863	1583	0	1863	0
Q Serve(g_s), s	0.0	6.1	0.0	12.8	12.7	0.0	2.4	0.0	6.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.1	0.0	12.8	12.7	0.0	2.4	0.0	6.2	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	165	173	147	340	357	0	858	1087	924	0	916	0
V/C Ratio(X)	0.00	0.75	0.00	0.78	0.77	0.00	0.12	0.00	0.24	0.00	0.00	0.00
Avail Cap(c_a), veh/h	625	656	558	1796	1886	0	1340	1087	924	0	916	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	40.2	0.0	34.9	34.8	0.0	9.3	0.0	9.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.3	0.0	3.8	3.5	0.0	0.1	0.0	0.6	0.0	0.0	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(50%),veh/ln	0.0	3.5	0.0	6.7	6.9	0.0	1.2	0.0	2.8	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	46.4	0.0	38.7	38.3	0.0	9.4	0.0	9.8	0.0	0.0	0.0
LnGrp LOS		D		D	D		A		A			
Approach Vol, veh/h		129			538			324				0
Approach Delay, s/veh		46.4			38.5			9.7				0.0
Approach LOS		D			D			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.0		12.4	8.3	48.7		21.4				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0		32.0	29.0	20.0		92.0				
Max Q Clear Time (g_c+l1), s		8.2		8.1	4.4	0.0		14.8				
Green Ext Time (p_c), s		0.8		0.6	0.2	0.0		2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			30.1									
HCM 2010 LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary
 5: Parkway Drive & 62nd Ave

2035 Total AM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	16	35	198	70	14	43	72	103	23	115	46
Future Volume (veh/h)	29	16	35	198	70	14	43	72	103	23	115	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	25	0	164	179	15	51	78	114	25	125	50
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.63	0.56	0.83	0.96	0.92	0.84	0.92	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	67	57	261	249	21	876	1241	1055	137	657	248
Arrive On Green	0.04	0.04	0.00	0.15	0.15	0.15	0.03	0.67	0.67	0.58	0.58	0.58
Sat Flow, veh/h	1774	1863	1583	1774	1696	142	1774	1863	1583	148	1129	426
Grp Volume(v), veh/h	32	25	0	164	0	194	51	78	114	200	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1838	1774	1863	1583	1703	0	0
Q Serve(g_s), s	1.4	1.0	0.0	6.9	0.0	8.0	0.8	1.2	2.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.4	1.0	0.0	6.9	0.0	8.0	0.8	1.2	2.1	4.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	0.12		0.25
Lane Grp Cap(c), veh/h	64	67	57	261	0	270	876	1241	1055	1042	0	0
V/C Ratio(X)	0.50	0.37	0.00	0.63	0.00	0.72	0.06	0.06	0.11	0.19	0.00	0.00
Avail Cap(c_a), veh/h	713	749	637	2051	0	2125	1463	1241	1055	1042	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.7	37.5	0.0	31.9	0.0	32.4	5.3	4.6	4.8	7.8	0.0	0.0
Incr Delay (d2), s/veh	6.0	3.4	0.0	2.5	0.0	3.6	0.0	0.1	0.2	0.4	0.0	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(50%),veh/ln	0.8	0.6	0.0	3.6	0.0	4.3	0.4	0.6	0.9	2.2	0.0	0.0
LnGrp Delay(d),s/veh	43.6	40.9	0.0	34.4	0.0	35.9	5.3	4.7	5.0	8.2	0.0	0.0
LnGrp LOS	D	D		C		D	A	A	A	A		
Approach Vol, veh/h		57			358			243			200	
Approach Delay, s/veh		42.4			35.2			5.0			8.2	
Approach LOS		D			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.0		6.9	6.7	50.3		15.7				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0		32.0	29.0	20.0		92.0				
Max Q Clear Time (g_c+l1), s		4.1		3.4	2.8	6.2		10.0				
Green Ext Time (p_c), s		2.2		0.2	0.1	1.7		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay				20.8								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
5: Parkway Drive & 62nd Ave

2035 Total PM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	89	28	284	212	29	118	146	224	22	109	44
Future Volume (veh/h)	58	89	28	284	212	29	118	146	224	22	109	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	63	129	0	292	268	32	136	159	255	24	118	48
Adj No. of Lanes	1	1	1	1	1	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.69	0.75	0.91	0.88	0.92	0.87	0.92	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	180	153	370	341	41	747	1055	897	109	508	194
Arrive On Green	0.10	0.10	0.00	0.21	0.21	0.21	0.06	0.57	0.57	0.46	0.46	0.46
Sat Flow, veh/h	1774	1863	1583	1774	1633	195	1774	1863	1583	141	1098	419
Grp Volume(v), veh/h	63	129	0	292	0	300	136	159	255	190	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	0	1828	1774	1863	1583	1658	0	0
Q Serve(g_s), s	3.1	6.3	0.0	14.6	0.0	14.5	3.5	3.8	7.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.1	6.3	0.0	14.6	0.0	14.5	3.5	3.8	7.8	6.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	0.13		0.25
Lane Grp Cap(c), veh/h	172	180	153	370	0	381	747	1055	897	811	0	0
V/C Ratio(X)	0.37	0.72	0.00	0.79	0.00	0.79	0.18	0.15	0.28	0.23	0.00	0.00
Avail Cap(c_a), veh/h	607	637	541	1744	0	1798	1188	1055	897	811	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.6	41.0	0.0	35.1	0.0	35.1	10.5	9.6	10.5	15.1	0.0	0.0
Incr Delay (d2), s/veh	1.3	5.2	0.0	3.8	0.0	3.6	0.1	0.3	0.8	0.7	0.0	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(50%),veh/ln	1.6	3.5	0.0	7.5	0.0	7.7	1.7	2.0	3.6	3.1	0.0	0.0
LnGrp Delay(d),s/veh	40.9	46.2	0.0	38.9	0.0	38.7	10.6	9.9	11.3	15.8	0.0	0.0
LnGrp LOS	D	D		D		D	B	A	B	B		
Approach Vol, veh/h		192			592			550			190	
Approach Delay, s/veh		44.5			38.8			10.7			15.8	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.0		13.1	9.7	47.3		23.5				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0		32.0	29.0	20.0		92.0				
Max Q Clear Time (g_c+I1), s		9.8		8.3	5.5	8.0		16.6				
Green Ext Time (p_c), s		3.3		0.8	0.3	2.4		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				26.5								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2014 Existing AM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	76	3	6	109	16	9	55	6	16	83	99
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	40	92	4	8	116	36	20	68	12	28	115	143
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.83	0.75	0.75	0.94	0.44	0.45	0.81	0.50	0.57	0.72	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	176	7	57	186	55	266	880	148	137	544	627
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	339	1270	49	38	1338	399	276	1171	197	111	724	835
Grp Volume(v), veh/h	136	0	0	160	0	0	100	0	0	286	0	0
Grp Sat Flow(s),veh/h/ln	1658	0	0	1775	0	0	1644	0	0	1669	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.5	0.0	0.0	6.2	0.0	0.0	1.1	0.0	0.0	3.6	0.0	0.0
Prop In Lane	0.29		0.03	0.05		0.22	0.20		0.12	0.10		0.50
Lane Grp Cap(c), veh/h	294	0	0	298	0	0	1295	0	0	1309	0	0
V/C Ratio(X)	0.46	0.00	0.00	0.54	0.00	0.00	0.08	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	1325	0	0	1422	0	0	1295	0	0	1309	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.4	0.0	0.0	29.8	0.0	0.0	2.4	0.0	0.0	2.7	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	1.5	0.0	0.0	0.1	0.0	0.0	0.4	0.0	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(50%),veh/ln	2.7	0.0	0.0	3.2	0.0	0.0	0.6	0.0	0.0	1.8	0.0	0.0
LnGrp Delay(d),s/veh	30.5	0.0	0.0	31.3	0.0	0.0	2.5	0.0	0.0	3.1	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		136			160			100			286	
Approach Delay, s/veh		30.5			31.3			2.5			3.1	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		14.2		59.0		14.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+l1), s		3.1		7.5		5.6		8.2				
Green Ext Time (p_c), s		2.7		2.0		2.7		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			15.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2014 Existing PM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	102	161	8	4	200	24	116	199	12	16	96	136
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	120	196	12	4	241	28	149	216	32	20	108	189
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.82	0.67	1.00	0.83	0.86	0.78	0.92	0.38	0.80	0.89	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	267	15	42	497	57	360	505	71	77	371	598
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	421	877	49	7	1633	187	503	832	117	56	611	985
Grp Volume(v), veh/h	328	0	0	273	0	0	397	0	0	317	0	0
Grp Sat Flow(s),veh/h/ln	1347	0	0	1827	0	0	1452	0	0	1652	0	0
Q Serve(g_s), s	10.1	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.1	0.0	0.0	11.0	0.0	0.0	13.2	0.0	0.0	8.2	0.0	0.0
Prop In Lane	0.37		0.04	0.01		0.10	0.38		0.08	0.06		0.60
Lane Grp Cap(c), veh/h	464	0	0	596	0	0	936	0	0	1046	0	0
V/C Ratio(X)	0.71	0.00	0.00	0.46	0.00	0.00	0.42	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	946	0	0	1186	0	0	936	0	0	1046	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.5	0.0	0.0	25.8	0.0	0.0	9.4	0.0	0.0	8.6	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.5	0.0	0.0	1.4	0.0	0.0	0.7	0.0	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(50%),veh/ln	7.8	0.0	0.0	5.6	0.0	0.0	5.7	0.0	0.0	4.0	0.0	0.0
LnGrp Delay(d),s/veh	31.5	0.0	0.0	26.3	0.0	0.0	10.8	0.0	0.0	9.3	0.0	0.0
LnGrp LOS	C			C			B			A		
Approach Vol, veh/h		328			273			397			317	
Approach Delay, s/veh		31.5			26.3			10.8			9.3	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		31.6		59.0		31.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+l1), s		15.2		23.1		10.2		13.0				
Green Ext Time (p_c), s		5.7		4.4		5.8		4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			18.8									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2020 Background AM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	78	3	6	111	16	9	56	6	16	85	101
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	41	94	4	8	118	36	20	69	12	28	118	146
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.83	0.75	0.75	0.94	0.44	0.45	0.81	0.50	0.57	0.72	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	177	7	57	189	55	263	883	147	134	546	627
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	340	1264	48	38	1344	395	272	1176	195	107	728	835
Grp Volume(v), veh/h	139	0	0	162	0	0	101	0	0	292	0	0
Grp Sat Flow(s),veh/h/ln	1651	0	0	1776	0	0	1644	0	0	1670	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.6	0.0	0.0	6.3	0.0	0.0	1.1	0.0	0.0	3.8	0.0	0.0
Prop In Lane	0.29		0.03	0.05		0.22	0.20		0.12	0.10		0.50
Lane Grp Cap(c), veh/h	295	0	0	301	0	0	1293	0	0	1307	0	0
V/C Ratio(X)	0.47	0.00	0.00	0.54	0.00	0.00	0.08	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	1321	0	0	1420	0	0	1293	0	0	1307	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.4	0.0	0.0	29.8	0.0	0.0	2.4	0.0	0.0	2.7	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	1.5	0.0	0.0	0.1	0.0	0.0	0.4	0.0	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(50%),veh/ln	2.7	0.0	0.0	3.2	0.0	0.0	0.6	0.0	0.0	1.8	0.0	0.0
LnGrp Delay(d),s/veh	30.5	0.0	0.0	31.3	0.0	0.0	2.5	0.0	0.0	3.1	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		139			162			101			292	
Approach Delay, s/veh		30.5			31.3			2.5			3.1	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		14.3		59.0		14.3				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+l1), s		3.1		7.6		5.8		8.3				
Green Ext Time (p_c), s		2.8		2.0		2.8		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay				15.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2020 Background PM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	104	164	8	4	204	24	118	203	12	16	98	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	122	200	12	4	246	28	151	221	32	20	110	193
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.82	0.67	1.00	0.83	0.86	0.78	0.92	0.38	0.80	0.89	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	271	15	42	508	57	354	501	69	75	367	594
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	420	872	48	7	1637	184	498	832	114	55	610	987
Grp Volume(v), veh/h	334	0	0	278	0	0	404	0	0	323	0	0
Grp Sat Flow(s),veh/h/ln	1340	0	0	1827	0	0	1444	0	0	1652	0	0
Q Serve(g_s), s	10.5	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.8	0.0	0.0	11.3	0.0	0.0	14.1	0.0	0.0	8.6	0.0	0.0
Prop In Lane	0.37		0.04	0.01		0.10	0.37		0.08	0.06		0.60
Lane Grp Cap(c), veh/h	470	0	0	607	0	0	924	0	0	1037	0	0
V/C Ratio(X)	0.71	0.00	0.00	0.46	0.00	0.00	0.44	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	934	0	0	1176	0	0	924	0	0	1037	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.5	0.0	0.0	25.6	0.0	0.0	9.9	0.0	0.0	8.9	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.5	0.0	0.0	1.5	0.0	0.0	0.8	0.0	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(50%),veh/ln	8.1	0.0	0.0	5.8	0.0	0.0	6.0	0.0	0.0	4.2	0.0	0.0
LnGrp Delay(d),s/veh	31.6	0.0	0.0	26.2	0.0	0.0	11.4	0.0	0.0	9.7	0.0	0.0
LnGrp LOS	C			C			B			A		
Approach Vol, veh/h		334			278			404			323	
Approach Delay, s/veh		31.6			26.2			11.4			9.7	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		32.3		59.0		32.3				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+l1), s		16.1		23.8		10.6		13.3				
Green Ext Time (p_c), s		5.9		4.5		5.9		4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			19.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2020 Total AM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	96	10	6	115	20	11	59	6	34	96	101
Future Volume (veh/h)	35	96	10	6	115	20	11	59	6	34	96	101
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	41	116	13	8	122	45	24	73	12	60	133	146
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.83	0.75	0.75	0.94	0.44	0.45	0.81	0.50	0.57	0.72	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	200	20	56	193	69	285	841	132	234	514	522
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.74	0.74	0.74	0.74	0.74	0.74
Sat Flow, veh/h	299	1325	134	34	1279	454	305	1135	178	238	694	705
Grp Volume(v), veh/h	170	0	0	175	0	0	109	0	0	339	0	0
Grp Sat Flow(s),veh/h/ln	1758	0	0	1766	0	0	1618	0	0	1637	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.4	0.0	0.0	6.9	0.0	0.0	1.2	0.0	0.0	4.7	0.0	0.0
Prop In Lane	0.24		0.08	0.05		0.26	0.22		0.11	0.18		0.43
Lane Grp Cap(c), veh/h	326	0	0	318	0	0	1258	0	0	1270	0	0
V/C Ratio(X)	0.52	0.00	0.00	0.55	0.00	0.00	0.09	0.00	0.00	0.27	0.00	0.00
Avail Cap(c_a), veh/h	1332	0	0	1394	0	0	1258	0	0	1270	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.5	0.0	0.0	29.6	0.0	0.0	2.6	0.0	0.0	3.1	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	1.5	0.0	0.0	0.1	0.0	0.0	0.5	0.0	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(50%),veh/ln	3.4	0.0	0.0	3.5	0.0	0.0	0.7	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	30.8	0.0	0.0	31.1	0.0	0.0	2.8	0.0	0.0	3.6	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		170			175			109			339	
Approach Delay, s/veh		30.8			31.1			2.8			3.6	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		15.2		59.0		15.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+1), s		3.2		8.4		6.7		8.9				
Green Ext Time (p_c), s		3.3		2.4		3.2		2.4				
Intersection Summary												
HCM 2010 Ctrl Delay				15.4								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2020 Total PM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	172	11	4	218	38	123	211	12	24	103	139
Future Volume (veh/h)	104	172	11	4	218	38	123	211	12	24	103	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	122	210	16	4	263	44	158	229	32	30	116	193
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.82	0.67	1.00	0.83	0.86	0.78	0.92	0.38	0.80	0.89	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	282	20	42	483	80	363	509	68	99	368	560
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	422	908	64	6	1552	257	513	846	112	93	611	931
Grp Volume(v), veh/h	348	0	0	311	0	0	419	0	0	339	0	0
Grp Sat Flow(s),veh/h/ln	1395	0	0	1814	0	0	1472	0	0	1636	0	0
Q Serve(g_s), s	8.4	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.4	0.0	0.0	13.0	0.0	0.0	13.1	0.0	0.0	9.1	0.0	0.0
Prop In Lane	0.35		0.05	0.01		0.14	0.38		0.08	0.09		0.57
Lane Grp Cap(c), veh/h	487	0	0	604	0	0	940	0	0	1027	0	0
V/C Ratio(X)	0.71	0.00	0.00	0.51	0.00	0.00	0.45	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	946	0	0	1168	0	0	940	0	0	1027	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.0	0.0	0.0	26.2	0.0	0.0	9.7	0.0	0.0	9.1	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.7	0.0	0.0	1.5	0.0	0.0	0.9	0.0	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(50%),veh/ln	8.4	0.0	0.0	6.6	0.0	0.0	6.1	0.0	0.0	4.5	0.0	0.0
LnGrp Delay(d),s/veh	31.0	0.0	0.0	26.9	0.0	0.0	11.2	0.0	0.0	9.9	0.0	0.0
LnGrp LOS	C			C			B			A		
Approach Vol, veh/h		348			311			419			339	
Approach Delay, s/veh		31.0			26.9			11.2			9.9	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		32.4		59.0		32.4				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+l1), s		15.1		23.4		11.1		15.0				
Green Ext Time (p_c), s		6.2		5.0		6.3		5.1				
Intersection Summary												
HCM 2010 Ctrl Delay				19.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2025 Background AM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	79	3	6	113	17	9	57	6	17	89	106
Future Volume (veh/h)	35	79	3	6	113	17	9	57	6	17	89	106
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	41	95	4	8	120	39	20	70	12	30	124	154
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.83	0.75	0.75	0.94	0.44	0.45	0.81	0.50	0.57	0.72	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	192	7	56	190	59	259	882	144	136	542	624
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	365	1338	50	36	1323	414	269	1179	193	110	725	835
Grp Volume(v), veh/h	140	0	0	167	0	0	102	0	0	308	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	0	1774	0	0	1641	0	0	1669	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.2	0.0	0.0	6.5	0.0	0.0	1.1	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.29		0.03	0.05		0.23	0.20		0.12	0.10		0.50
Lane Grp Cap(c), veh/h	315	0	0	306	0	0	1286	0	0	1302	0	0
V/C Ratio(X)	0.44	0.00	0.00	0.55	0.00	0.00	0.08	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	1330	0	0	1413	0	0	1286	0	0	1302	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.2	0.0	0.0	29.8	0.0	0.0	2.5	0.0	0.0	2.9	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.5	0.0	0.0	0.1	0.0	0.0	0.4	0.0	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(50%),veh/ln	2.7	0.0	0.0	3.3	0.0	0.0	0.6	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	30.2	0.0	0.0	31.3	0.0	0.0	2.6	0.0	0.0	3.3	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		140			167			102			308	
Approach Delay, s/veh		30.2			31.3			2.6			3.3	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		14.6		59.0		14.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+I1), s		3.1		7.2		6.1		8.5				
Green Ext Time (p_c), s		2.9		2.1		2.9		2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				15.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2025 Background PM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	167	8	4	208	25	120	207	12	17	103	146
Future Volume (veh/h)	106	167	8	4	208	25	120	207	12	17	103	146
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	125	204	12	4	251	29	154	225	32	21	116	203
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.82	0.67	1.00	0.83	0.86	0.78	0.92	0.38	0.80	0.89	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	274	15	43	488	56	367	519	70	76	374	604
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	456	918	50	7	1633	186	510	847	115	55	611	987
Grp Volume(v), veh/h	341	0	0	284	0	0	411	0	0	340	0	0
Grp Sat Flow(s),veh/h/ln	1424	0	0	1826	0	0	1471	0	0	1652	0	0
Q Serve(g_s), s	8.6	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	20.1	0.0	0.0	11.6	0.0	0.0	11.9	0.0	0.0	8.8	0.0	0.0
Prop In Lane	0.37		0.04	0.01		0.10	0.37		0.08	0.06		0.60
Lane Grp Cap(c), veh/h	480	0	0	586	0	0	956	0	0	1054	0	0
V/C Ratio(X)	0.71	0.00	0.00	0.48	0.00	0.00	0.43	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	975	0	0	1196	0	0	956	0	0	1054	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.1	0.0	0.0	26.2	0.0	0.0	8.9	0.0	0.0	8.5	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.6	0.0	0.0	1.4	0.0	0.0	0.8	0.0	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(50%),veh/ln	8.0	0.0	0.0	5.9	0.0	0.0	5.6	0.0	0.0	4.3	0.0	0.0
LnGrp Delay(d),s/veh	31.1	0.0	0.0	26.8	0.0	0.0	10.3	0.0	0.0	9.3	0.0	0.0
LnGrp LOS	C			C			B			A		
Approach Vol, veh/h		341			284			411				340
Approach Delay, s/veh		31.1			26.8			10.3				9.3
Approach LOS		C			C			B				A
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		30.8		59.0		30.8				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+1), s		13.9		22.1		10.8		13.6				
Green Ext Time (p_c), s		6.2		4.7		6.2		4.8				
Intersection Summary												
HCM 2010 Ctrl Delay				18.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2025 Total AM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	102	12	6	127	31	15	66	6	40	100	103
Future Volume (veh/h)	35	102	12	6	127	31	15	66	6	40	100	103
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	41	123	16	8	135	70	33	81	12	70	139	149
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.83	0.75	0.75	0.94	0.44	0.45	0.81	0.50	0.57	0.72	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	231	27	53	202	101	321	765	108	249	491	487
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.72	0.72	0.72	0.72	0.72	0.72
Sat Flow, veh/h	267	1311	154	26	1148	575	364	1063	150	267	682	677
Grp Volume(v), veh/h	180	0	0	213	0	0	126	0	0	358	0	0
Grp Sat Flow(s),veh/h/ln	1732	0	0	1749	0	0	1577	0	0	1627	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.0	0.0	0.0	8.7	0.0	0.0	1.6	0.0	0.0	5.6	0.0	0.0
Prop In Lane	0.23		0.09	0.04		0.33	0.26		0.10	0.20		0.42
Lane Grp Cap(c), veh/h	362	0	0	356	0	0	1194	0	0	1227	0	0
V/C Ratio(X)	0.50	0.00	0.00	0.60	0.00	0.00	0.11	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	1286	0	0	1342	0	0	1194	0	0	1227	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.8	0.0	0.0	29.5	0.0	0.0	3.2	0.0	0.0	3.8	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	1.6	0.0	0.0	0.2	0.0	0.0	0.6	0.0	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(50%),veh/ln	3.6	0.0	0.0	4.4	0.0	0.0	0.9	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	29.9	0.0	0.0	31.1	0.0	0.0	3.4	0.0	0.0	4.4	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		180			213			126			358	
Approach Delay, s/veh		29.9			31.1			3.4			4.4	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		17.4		59.0		17.4				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+I1), s		3.6		9.0		7.6		10.7				
Green Ext Time (p_c), s		3.6		2.8		3.6		2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			16.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2025 Total PM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	189	17	4	237	54	132	224	12	39	113	141
Future Volume (veh/h)	106	189	17	4	237	54	132	224	12	39	113	141
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	125	230	25	4	286	63	169	243	32	49	127	196
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.82	0.67	1.00	0.83	0.86	0.78	0.92	0.38	0.80	0.89	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	302	31	40	509	111	340	473	59	135	348	490
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	384	878	89	5	1477	322	505	826	103	161	607	856
Grp Volume(v), veh/h	380	0	0	353	0	0	444	0	0	372	0	0
Grp Sat Flow(s),veh/h/ln	1351	0	0	1804	0	0	1434	0	0	1624	0	0
Q Serve(g_s), s	10.2	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	25.5	0.0	0.0	15.3	0.0	0.0	18.1	0.0	0.0	11.5	0.0	0.0
Prop In Lane	0.33		0.07	0.01		0.18	0.38		0.07	0.13		0.53
Lane Grp Cap(c), veh/h	515	0	0	659	0	0	873	0	0	972	0	0
V/C Ratio(X)	0.74	0.00	0.00	0.54	0.00	0.00	0.51	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	877	0	0	1105	0	0	873	0	0	972	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.1	0.0	0.0	25.7	0.0	0.0	12.5	0.0	0.0	11.2	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.7	0.0	0.0	2.1	0.0	0.0	1.1	0.0	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(50%),veh/ln	9.6	0.0	0.0	7.8	0.0	0.0	7.7	0.0	0.0	5.7	0.0	0.0
LnGrp Delay(d),s/veh	31.2	0.0	0.0	26.3	0.0	0.0	14.6	0.0	0.0	12.4	0.0	0.0
LnGrp LOS	C			C			B			B		
Approach Vol, veh/h		380			353			444				372
Approach Delay, s/veh		31.2			26.3			14.6				12.4
Approach LOS		C			C			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		37.1		59.0		37.1				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+I1), s		20.1		27.5		13.5		17.3				
Green Ext Time (p_c), s		6.8		5.6		7.0		5.9				
Intersection Summary												
HCM 2010 Ctrl Delay				20.8								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2035 Background AM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	37	82	3	6	117	17	10	59	6	17	89	106
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	44	99	4	8	124	39	22	73	12	30	124	154
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.83	0.75	0.75	0.94	0.44	0.45	0.81	0.50	0.57	0.72	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	181	6	56	196	59	270	869	136	135	540	622
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	341	1238	44	35	1336	405	283	1167	183	110	725	834
Grp Volume(v), veh/h	147	0	0	171	0	0	107	0	0	308	0	0
Grp Sat Flow(s),veh/h/ln	1623	0	0	1776	0	0	1633	0	0	1669	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.2	0.0	0.0	6.7	0.0	0.0	1.2	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.30		0.03	0.05		0.23	0.21		0.11	0.10		0.50
Lane Grp Cap(c), veh/h	301	0	0	311	0	0	1275	0	0	1297	0	0
V/C Ratio(X)	0.49	0.00	0.00	0.55	0.00	0.00	0.08	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	1303	0	0	1410	0	0	1275	0	0	1297	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.4	0.0	0.0	29.7	0.0	0.0	2.5	0.0	0.0	2.9	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	1.5	0.0	0.0	0.1	0.0	0.0	0.4	0.0	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(50%),veh/ln	2.9	0.0	0.0	3.4	0.0	0.0	0.6	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	30.6	0.0	0.0	31.2	0.0	0.0	2.7	0.0	0.0	3.4	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		147			171			107			308	
Approach Delay, s/veh		30.6			31.2			2.7			3.4	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		14.8		59.0		14.8				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+l1), s		3.2		8.2		6.1		8.7				
Green Ext Time (p_c), s		3.0		2.2		3.0		2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			15.2									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2035 Background PM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	110	173	9	4	215	26	125	214	13	17	103	146
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	129	211	13	4	259	30	160	233	34	21	116	203
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.82	0.67	1.00	0.83	0.86	0.78	0.92	0.38	0.80	0.89	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	190	280	16	41	539	62	338	475	66	73	358	577
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	417	849	48	6	1634	187	488	813	112	54	611	986
Grp Volume(v), veh/h	353	0	0	293	0	0	427	0	0	340	0	0
Grp Sat Flow(s),veh/h/ln	1315	0	0	1827	0	0	1413	0	0	1652	0	0
Q Serve(g_s), s	12.2	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	24.2	0.0	0.0	12.0	0.0	0.0	17.7	0.0	0.0	9.9	0.0	0.0
Prop In Lane	0.37		0.04	0.01		0.10	0.37		0.08	0.06		0.60
Lane Grp Cap(c), veh/h	486	0	0	641	0	0	879	0	0	1007	0	0
V/C Ratio(X)	0.73	0.00	0.00	0.46	0.00	0.00	0.49	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	892	0	0	1143	0	0	879	0	0	1007	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.7	0.0	0.0	25.1	0.0	0.0	11.6	0.0	0.0	10.1	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.5	0.0	0.0	1.9	0.0	0.0	0.9	0.0	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(50%),veh/ln	8.7	0.0	0.0	6.1	0.0	0.0	7.1	0.0	0.0	4.8	0.0	0.0
LnGrp Delay(d),s/veh	31.8	0.0	0.0	25.6	0.0	0.0	13.6	0.0	0.0	11.0	0.0	0.0
LnGrp LOS	C			C			B			B		
Approach Vol, veh/h		353			293			427				340
Approach Delay, s/veh		31.8			25.6			13.6				11.0
Approach LOS		C			C			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		35.0		59.0		35.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+l1), s		19.7		26.2		11.9		14.0				
Green Ext Time (p_c), s		6.2		4.8		6.4		5.0				
Intersection Summary												
HCM 2010 Ctrl Delay			20.0									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2035 Total AM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	105	12	6	131	31	16	68	6	40	103	106
Future Volume (veh/h)	37	105	12	6	131	31	16	68	6	40	103	106
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	44	127	16	8	139	70	36	84	12	70	143	154
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.83	0.75	0.75	0.94	0.44	0.45	0.81	0.50	0.57	0.72	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	231	26	53	207	101	331	749	102	242	491	490
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.72	0.72	0.72	0.72	0.72	0.72
Sat Flow, veh/h	278	1292	147	25	1161	565	378	1045	142	260	685	683
Grp Volume(v), veh/h	187	0	0	217	0	0	132	0	0	367	0	0
Grp Sat Flow(s),veh/h/ln	1717	0	0	1751	0	0	1565	0	0	1628	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.4	0.0	0.0	8.9	0.0	0.0	1.7	0.0	0.0	5.8	0.0	0.0
Prop In Lane	0.24		0.09	0.04		0.32	0.27		0.09	0.19		0.42
Lane Grp Cap(c), veh/h	365	0	0	361	0	0	1182	0	0	1223	0	0
V/C Ratio(X)	0.51	0.00	0.00	0.60	0.00	0.00	0.11	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	1275	0	0	1339	0	0	1182	0	0	1223	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.8	0.0	0.0	29.5	0.0	0.0	3.3	0.0	0.0	3.9	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	1.6	0.0	0.0	0.2	0.0	0.0	0.6	0.0	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(50%),veh/ln	3.7	0.0	0.0	4.4	0.0	0.0	0.9	0.0	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	30.0	0.0	0.0	31.1	0.0	0.0	3.5	0.0	0.0	4.5	0.0	0.0
LnGrp LOS	C			C			A			A		
Approach Vol, veh/h		187			217			132			367	
Approach Delay, s/veh		30.0			31.1			3.5			4.5	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		17.7		59.0		17.7				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+I1), s		3.7		9.4		7.8		10.9				
Green Ext Time (p_c), s		3.7		2.9		3.7		2.8				
Intersection Summary												
HCM 2010 Ctrl Delay				16.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
6: Holly St & 62nd Ave

2035 Total PM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	195	18	4	244	55	137	213	13	39	116	146
Future Volume (veh/h)	110	195	18	4	244	55	137	213	13	39	116	146
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	129	238	27	4	294	64	176	232	34	49	130	203
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.82	0.67	1.00	0.83	0.86	0.78	0.92	0.38	0.80	0.89	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	309	33	39	528	114	341	434	60	129	341	486
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	382	865	92	5	1481	319	515	773	107	156	607	865
Grp Volume(v), veh/h	394	0	0	362	0	0	442	0	0	382	0	0
Grp Sat Flow(s),veh/h/ln	1339	0	0	1805	0	0	1395	0	0	1628	0	0
Q Serve(g_s), s	11.4	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	27.2	0.0	0.0	15.8	0.0	0.0	20.2	0.0	0.0	12.4	0.0	0.0
Prop In Lane	0.33		0.07	0.01		0.18	0.40		0.08	0.13		0.53
Lane Grp Cap(c), veh/h	527	0	0	681	0	0	835	0	0	955	0	0
V/C Ratio(X)	0.75	0.00	0.00	0.53	0.00	0.00	0.53	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	853	0	0	1085	0	0	835	0	0	955	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.2	0.0	0.0	25.3	0.0	0.0	13.7	0.0	0.0	12.1	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	0.6	0.0	0.0	2.4	0.0	0.0	1.2	0.0	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(50%),veh/ln	10.1	0.0	0.0	8.0	0.0	0.0	8.2	0.0	0.0	6.2	0.0	0.0
LnGrp Delay(d),s/veh	31.3	0.0	0.0	26.0	0.0	0.0	16.1	0.0	0.0	13.4	0.0	0.0
LnGrp LOS	C			C			B			B		
Approach Vol, veh/h		394			362			442				382
Approach Delay, s/veh		31.3			26.0			16.1				13.4
Approach LOS		C			C			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.0		39.0		59.0		39.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		55.0		57.0		55.0		57.0				
Max Q Clear Time (g_c+1), s		22.2		29.2		14.4		17.8				
Green Ext Time (p_c), s		6.8		5.8		7.1		6.1				
Intersection Summary												
HCM 2010 Ctrl Delay				21.5								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	6	42	212	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	30	58	82	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	20	72	259	0

Major/Minor

	Minor1	Major1	
Conflicting Flow All	403	443	129
Stage 1	403	403	-
Stage 2	0	40	-
Critical Hdwy	6.84	6.54	6.94
Critical Hdwy Stg 1	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	3.52	4.02	3.32
Pot Cap-1 Maneuver	575	508	897
Stage 1	644	598	-
Stage 2	-	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	566	0	897
Mov Cap-2 Maneuver	566	0	-
Stage 1	644	0	-
Stage 2	-	0	-

Approach

	WB	NB
HCM Control Delay, s	9.1	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBL	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	897	1303	-
HCM Lane V/C Ratio	-	-	-	0.022	0.015	-
HCM Control Delay (s)	-	-	-	9.1	7.8	-
HCM Lane LOS	-	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	6	0	28
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	Free
Storage Length	160	-	0
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	30	92	44
Heavy Vehicles, %	2	2	2
Mvmt Flow	20	0	64

Major/Minor Major2

Conflicting Flow All	259	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1303	-	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %		-	
Mov Cap-1 Maneuver	1303	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s	7.8
HCM LOS	

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	6	131	655	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	50	80	83	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	12	164	789	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1117	1141	395	0 0 0
Stage 1	1117	1117	-	- - -
Stage 2	0	24	-	- - -
Critical Hdwy	6.84	6.54	6.94	- - -
Critical Hdwy Stg 1	5.84	5.54	-	- - -
Critical Hdwy Stg 2	-	-	-	- - -
Follow-up Hdwy	3.52	4.02	3.32	- - -
Pot Cap-1 Maneuver	201	199	604	- - -
Stage 1	275	281	-	- - -
Stage 2	-	-	-	- - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	198	0	604	- - -
Mov Cap-2 Maneuver	198	0	-	- - -
Stage 1	275	0	-	- - -
Stage 2	-	0	-	- - -

Approach

	WB	NB
HCM Control Delay, s	11.1	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBL	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	604	827	-
HCM Lane V/C Ratio	-	-	-	0.02	0.015	-
HCM Control Delay (s)	-	-	-	11.1	9.4	-
HCM Lane LOS	-	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	6	0	59
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	Free
Storage Length	160	-	0
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	50	92	78
Heavy Vehicles, %	2	2	2
Mvmt Flow	12	0	76

Major/Minor Major2

Conflicting Flow All	789	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	827	-	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %		-	
Mov Cap-1 Maneuver	827	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s	9.4
HCM LOS	

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	6	43	216	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	30	58	82	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	20	74	263	0

Major/Minor

	Minor1	Major1	
Conflicting Flow All	412	452	132
Stage 1	412	412	-
Stage 2	0	40	-
Critical Hdwy	6.84	6.54	6.94
Critical Hdwy Stg 1	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	3.52	4.02	3.32
Pot Cap-1 Maneuver	568	502	893
Stage 1	637	593	-
Stage 2	-	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	559	0	893
Mov Cap-2 Maneuver	559	0	-
Stage 1	637	0	-
Stage 2	-	0	-

Approach

	WB	NB
HCM Control Delay, s	9.1	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBL	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	893	1298	-
HCM Lane V/C Ratio	-	-	-	0.022	0.015	-
HCM Control Delay (s)	-	-	-	9.1	7.8	-
HCM Lane LOS	-	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	6	0	29
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	Free
Storage Length	160	-	0
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	30	92	44
Heavy Vehicles, %	2	2	2
Mvmt Flow	20	0	66

Major/Minor Major2

Conflicting Flow All	263	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1298	-	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %		-	
Mov Cap-1 Maneuver	1298	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s	7.8
HCM LOS	

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	6	134	668	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	50	80	83	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	12	168	805	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1140	1164	402	0 0 0
Stage 1	1140	1140	-	- - -
Stage 2	0	24	-	- - -
Critical Hdwy	6.84	6.54	6.94	- - -
Critical Hdwy Stg 1	5.84	5.54	-	- - -
Critical Hdwy Stg 2	-	-	-	- - -
Follow-up Hdwy	3.52	4.02	3.32	- - -
Pot Cap-1 Maneuver	194	193	598	- - -
Stage 1	267	274	-	- - -
Stage 2	-	-	-	- - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	191	0	598	- - -
Mov Cap-2 Maneuver	191	0	-	- - -
Stage 1	267	0	-	- - -
Stage 2	-	0	-	- - -

Approach

	WB	NB
HCM Control Delay, s	11.1	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBL	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	598	815	-
HCM Lane V/C Ratio	-	-	-	0.02	0.015	-
HCM Control Delay (s)	-	-	-	11.1	9.5	-
HCM Lane LOS	-	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	6	0	60
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	Free
Storage Length	160	-	0
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	50	92	78
Heavy Vehicles, %	2	2	2
Mvmt Flow	12	0	77

Major/Minor Major2

Conflicting Flow All	805	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	815	-	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %		-	
Mov Cap-1 Maneuver	815	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s	9.5
HCM LOS	

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	0	0	41	43	273	4	10	0	29
Future Vol, veh/h	0	0	0	0	0	41	43	273	4	10	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	0	-	-	-	160	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	30	58	82	92	30	92	44
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	137	74	333	4	33	0	66

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	483	550	169
Stage 1	483	483	-
Stage 2	0	67	-
Critical Hdwy	6.84	6.54	6.94
Critical Hdwy Stg 1	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	3.52	4.02	3.32
Pot Cap-1 Maneuver	513	441	845
Stage 1	586	551	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	499	0	845
Mov Cap-2 Maneuver	499	0	-
Stage 1	586	0	-
Stage 2	-	0	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1		8
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	845	1219
HCM Lane V/C Ratio	-	-	-	0.162	0.027
HCM Control Delay (s)	-	-	-	10.1	8
HCM Lane LOS	-	-	-	B	A
HCM 95th %tile Q(veh)	-	-	-	0.6	0.1

Intersection												
Int Delay, s/veh	0.8											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	0	0	22	134	705	14	20	0	60
Future Vol, veh/h	0	0	0	0	0	22	134	705	14	20	0	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	0	-	-	-	160	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	50	80	83	92	50	92	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	44	168	849	15	40	0	77

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1192	1272	432	0	0	0	865	0	0
Stage 1	1192	1192	-	-	-	-	-	-	-
Stage 2	0	80	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	180	166	572	-	-	-	774	-	0
Stage 1	250	259	-	-	-	-	-	-	0
Stage 2	-	-	-	-	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	171	0	572	-	-	-	774	-	-
Mov Cap-2 Maneuver	171	0	-	-	-	-	-	-	-
Stage 1	250	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8		9.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	572	774
HCM Lane V/C Ratio	-	-	-	0.077	0.052
HCM Control Delay (s)	-	-	-	11.8	9.9
HCM Lane LOS	-	-	-	B	A
HCM 95th %tile Q(veh)	-	-	-	0.2	0.2

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	0	0	6	44	220	0	6	0	29
Future Vol, veh/h	0	0	0	0	0	6	44	220	0	6	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	0	-	-	-	160	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	30	58	82	92	30	92	44
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	20	76	268	0	20	0	66

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	420 460 134	0 0 0	268 0 0
Stage 1	420 420 -	- - -	- - -
Stage 2	0 40 -	- - -	- - -
Critical Hdwy	6.84 6.54 6.94	- - -	4.14 - -
Critical Hdwy Stg 1	5.84 5.54 -	- - -	- - -
Critical Hdwy Stg 2	- - -	- - -	- - -
Follow-up Hdwy	3.52 4.02 3.32	- - -	2.22 - -
Pot Cap-1 Maneuver	561 497 890	- - -	1293 - 0
Stage 1	631 588 -	- - -	- - 0
Stage 2	- - -	- - -	- - 0
Platoon blocked, %		- - -	-
Mov Cap-1 Maneuver	552 0 890	- - -	1293 - -
Mov Cap-2 Maneuver	552 0 -	- - -	- - -
Stage 1	631 0 -	- - -	- - -
Stage 2	- 0 -	- - -	- - -

Approach	WB	NB	SB
HCM Control Delay, s	9.1		7.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	890	1293
HCM Lane V/C Ratio	-	-	-	0.022	0.015
HCM Control Delay (s)	-	-	-	9.1	7.8
HCM Lane LOS	-	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0.1	0

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	0	0	6	136	680	0	6	0	61
Future Vol, veh/h	0	0	0	0	0	6	136	680	0	6	0	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	0	-	-	-	160	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	50	80	83	92	50	92	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	12	170	819	0	12	0	78

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1159	1183	410	0	0	0	819	0	0
Stage 1	1159	1159	-	-	-	-	-	-	-
Stage 2	0	24	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	189	188	591	-	-	-	805	-	0
Stage 1	261	268	-	-	-	-	-	-	0
Stage 2	-	-	-	-	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	186	0	591	-	-	-	805	-	-
Mov Cap-2 Maneuver	186	0	-	-	-	-	-	-	-
Stage 1	261	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2		9.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	591	805	-
HCM Lane V/C Ratio	-	-	-	0.02	0.015	-
HCM Control Delay (s)	-	-	-	11.2	9.5	-
HCM Lane LOS	-	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0	-

Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	0	0	52	44	303	14	20	0	29
Future Vol, veh/h	0	0	0	0	0	52	44	303	14	20	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	0	-	-	-	160	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	30	58	82	92	30	92	44
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	173	76	370	15	67	0	66

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	529	662	192	0	0	0	385	0	0
Stage 1	529	529	-	-	-	-	-	-	-
Stage 2	0	133	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	479	381	817	-	-	-	1170	-	0
Stage 1	555	525	-	-	-	-	-	-	0
Stage 2	-	-	-	-	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	452	0	817	-	-	-	1170	-	-
Mov Cap-2 Maneuver	452	0	-	-	-	-	-	-	-
Stage 1	555	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6		8.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	817	1170
HCM Lane V/C Ratio	-	-	-	0.212	0.057
HCM Control Delay (s)	-	-	-	10.6	8.3
HCM Lane LOS	-	-	-	B	A
HCM 95th %tile Q(veh)	-	-	-	0.8	0.2

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	0	0	50	136	774	29	35	0	61
Future Vol, veh/h	0	0	0	0	0	50	136	774	29	35	0	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	0	-	-	-	160	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	50	80	83	92	50	92	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	100	170	933	32	70	0	78

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1288	1428	482	0	0	0	964	0	0
Stage 1	1288	1288	-	-	-	-	-	-	-
Stage 2	0	140	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	156	134	530	-	-	-	710	-	0
Stage 1	223	233	-	-	-	-	-	-	0
Stage 2	-	-	-	-	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	141	0	530	-	-	-	710	-	-
Mov Cap-2 Maneuver	141	0	-	-	-	-	-	-	-
Stage 1	223	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4		10.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	530	710
HCM Lane V/C Ratio	-	-	-	0.189	0.099
HCM Control Delay (s)	-	-	-	13.4	10.6
HCM Lane LOS	-	-	-	B	B
HCM 95th %tile Q(veh)	-	-	-	0.7	0.3

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	6	45	228	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	30	58	82	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	20	78	278	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	433	473	139	0 0 0
Stage 1	433	433	-	- - -
Stage 2	0	40	-	- - -
Critical Hdwy	6.84	6.54	6.94	- - -
Critical Hdwy Stg 1	5.84	5.54	-	- - -
Critical Hdwy Stg 2	-	-	-	- - -
Follow-up Hdwy	3.52	4.02	3.32	- - -
Pot Cap-1 Maneuver	551	488	884	- - -
Stage 1	621	580	-	- - -
Stage 2	-	-	-	- - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	542	0	884	- - -
Mov Cap-2 Maneuver	542	0	-	- - -
Stage 1	621	0	-	- - -
Stage 2	-	0	-	- - -

Approach

	WB	NB
HCM Control Delay, s	9.2	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBL	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	884	1282	-
HCM Lane V/C Ratio	-	-	-	0.023	0.016	-
HCM Control Delay (s)	-	-	-	9.2	7.9	-
HCM Lane LOS	-	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	6	0	30
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	Free
Storage Length	160	-	0
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	30	92	44
Heavy Vehicles, %	2	2	2
Mvmt Flow	20	0	68

Major/Minor Major2

Conflicting Flow All	278	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1282	-	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %		-	
Mov Cap-1 Maneuver	1282	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s	7.9
HCM LOS	

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	0	0	0	6	141	703	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	50	80	83	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	12	176	847	0

Major/Minor

	Minor1	Major1	
Conflicting Flow All	1199	1223	423
Stage 1	1199	1199	-
Stage 2	0	24	-
Critical Hdwy	6.84	6.54	6.94
Critical Hdwy Stg 1	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	3.52	4.02	3.32
Pot Cap-1 Maneuver	178	178	579
Stage 1	248	257	-
Stage 2	-	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	175	0	579
Mov Cap-2 Maneuver	175	0	-
Stage 1	248	0	-
Stage 2	-	0	-

Approach

	WB	NB
HCM Control Delay, s	11.3	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBL	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	579	786	-
HCM Lane V/C Ratio	-	-	-	0.021	0.015	-
HCM Control Delay (s)	-	-	-	11.3	9.7	-
HCM Lane LOS	-	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	6	0	63
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	Free
Storage Length	160	-	0
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	50	92	78
Heavy Vehicles, %	2	2	2
Mvmt Flow	12	0	81

Major/Minor Major2

Conflicting Flow All	847	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	786	-	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %		-	
Mov Cap-1 Maneuver	786	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s	9.7
HCM LOS	

Minor Lane/Major Mvmt

Intersection												
Int Delay, s/veh	3.4											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	0	0	52	45	311	14	20	0	30
Future Vol, veh/h	0	0	0	0	0	52	45	311	14	20	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	0	-	-	-	160	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	30	58	82	92	30	92	44
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	173	78	379	15	67	0	68

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	542	675	197	0	0	0	394	0	0
Stage 1	542	542	-	-	-	-	-	-	-
Stage 2	0	133	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	470	374	811	-	-	-	1161	-	0
Stage 1	547	518	-	-	-	-	-	-	0
Stage 2	-	-	-	-	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	443	0	811	-	-	-	1161	-	-
Mov Cap-2 Maneuver	443	0	-	-	-	-	-	-	-
Stage 1	547	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6		8.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	811	1161
HCM Lane V/C Ratio	-	-	-	0.214	0.057
HCM Control Delay (s)	-	-	-	10.6	8.3
HCM Lane LOS	-	-	-	B	A
HCM 95th %tile Q(veh)	-	-	-	0.8	0.2

Intersection												
Int Delay, s/veh	1.6											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	0	0	50	141	797	29	35	0	63
Future Vol, veh/h	0	0	0	0	0	50	141	797	29	35	0	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	0	-	-	-	160	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	50	80	83	92	50	92	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	100	176	960	32	70	0	81

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1329	1469	496	0	0	0	992	0	0
Stage 1	1329	1329	-	-	-	-	-	-	-
Stage 2	0	140	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	-	-	-	4.14	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	146	126	519	-	-	-	693	-	0
Stage 1	212	222	-	-	-	-	-	-	0
Stage 2	-	-	-	-	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	131	0	519	-	-	-	693	-	-
Mov Cap-2 Maneuver	212	0	-	-	-	-	-	-	-
Stage 1	212	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6		10.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	519	693	-
HCM Lane V/C Ratio	-	-	-	0.193	0.101	-
HCM Control Delay (s)	-	-	-	13.6	10.8	-
HCM Lane LOS	-	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	-	0.7	0.3	-

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2014 Existing AM
 7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	17	65	12	3	159	33	75	10	555
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				20	76	16	8	227	0	96	20	631
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.85	0.86	0.75	0.38	0.70	0.64	0.78	0.50	0.88
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				55	210	44	506	2378	0	913	34	1060
Arrive On Green				0.17	0.17	0.17	0.05	0.67	0.00	0.06	0.69	0.69
Sat Flow, veh/h				322	1222	257	1774	3632	0	1774	49	1542
Grp Volume(v), veh/h				112	0	0	8	227	0	96	0	651
Grp Sat Flow(s),veh/h/ln				1801	0	0	1774	1770	0	1774	0	1591
Q Serve(g_s), s				7.0	0.0	0.0	0.2	2.9	0.0	1.9	0.0	27.7
Cycle Q Clear(g_c), s				7.0	0.0	0.0	0.2	2.9	0.0	1.9	0.0	27.7
Prop In Lane				0.18		0.14	1.00		0.00	1.00		0.97
Lane Grp Cap(c), veh/h				310	0	0	506	2378	0	913	0	1094
V/C Ratio(X)				0.36	0.00	0.00	0.02	0.10	0.00	0.11	0.00	0.60
Avail Cap(c_a), veh/h				310	0	0	506	2378	0	913	0	1094
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				46.8	0.0	0.0	7.7	7.4	0.0	4.8	0.0	10.6
Incr Delay (d2), s/veh				3.3	0.0	0.0	0.1	0.1	0.0	0.2	0.0	2.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.8	0.0	0.0	0.1	1.4	0.0	1.0	0.0	12.8
LnGrp Delay(d),s/veh				50.1	0.0	0.0	7.8	7.4	0.0	5.0	0.0	13.0
LnGrp LOS				D			A	A		A		B
Approach Vol, veh/h					112			235			747	
Approach Delay, s/veh					50.1			7.5			12.0	
Approach LOS					D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	12.0	90.0			10.0	92.0		26.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	86.0			6.0	88.0		22.0				
Max Q Clear Time (g_c+l1), s	3.9	4.9			2.2	29.7		9.0				
Green Ext Time (p_c), s	0.1	7.2			0.0	7.2		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				14.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2014 Existing PM
 7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	42	102	41	17	595	67	64	24	329
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				56	128	48	28	717	0	68	32	358
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.75	0.80	0.85	0.61	0.83	0.84	0.94	0.75	0.92
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				74	168	63	720	2378	0	598	90	1012
Arrive On Green				0.17	0.17	0.17	0.05	0.67	0.00	0.06	0.69	0.69
Sat Flow, veh/h				429	980	368	1774	3632	0	1774	132	1472
Grp Volume(v), veh/h				232	0	0	28	717	0	68	0	390
Grp Sat Flow(s),veh/h/ln				1776	0	0	1774	1770	0	1774	0	1603
Q Serve(g_s), s				15.9	0.0	0.0	0.6	10.7	0.0	1.4	0.0	12.9
Cycle Q Clear(g_c), s				15.9	0.0	0.0	0.6	10.7	0.0	1.4	0.0	12.9
Prop In Lane				0.24		0.21	1.00		0.00	1.00		0.92
Lane Grp Cap(c), veh/h				305	0	0	720	2378	0	598	0	1102
V/C Ratio(X)				0.76	0.00	0.00	0.04	0.30	0.00	0.11	0.00	0.35
Avail Cap(c_a), veh/h				305	0	0	720	2378	0	598	0	1102
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				50.5	0.0	0.0	5.6	8.6	0.0	5.2	0.0	8.3
Incr Delay (d2), s/veh				16.2	0.0	0.0	0.1	0.3	0.0	0.4	0.0	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.2	0.0	0.0	0.3	5.3	0.0	0.7	0.0	5.9
LnGrp Delay(d),s/veh				66.7	0.0	0.0	5.7	9.0	0.0	5.6	0.0	9.2
LnGrp LOS				E			A	A		A		A
Approach Vol, veh/h					232			745			458	
Approach Delay, s/veh					66.7			8.8			8.6	
Approach LOS					E			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	12.0	90.0			10.0	92.0		26.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	86.0			6.0	88.0		22.0				
Max Q Clear Time (g_c+l1), s	3.4	12.7			2.6	14.9		17.9				
Green Ext Time (p_c), s	0.0	8.9			0.0	8.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				18.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
1: Vasquez Blvd & 64th Ave

2020 Background AM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	17	66	12	3	162	34	77	10	566
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				20	77	16	8	231	0	99	20	643
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.85	0.86	0.75	0.38	0.70	0.64	0.78	0.50	0.88
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				55	211	44	496	2378	0	910	33	1061
Arrive On Green				0.17	0.17	0.17	0.05	0.67	0.00	0.06	0.69	0.69
Sat Flow, veh/h				319	1228	255	1774	3632	0	1774	48	1543
Grp Volume(v), veh/h				113	0	0	8	231	0	99	0	663
Grp Sat Flow(s),veh/h/ln				1802	0	0	1774	1770	0	1774	0	1591
Q Serve(g_s), s				7.1	0.0	0.0	0.2	2.9	0.0	2.0	0.0	28.6
Cycle Q Clear(g_c), s				7.1	0.0	0.0	0.2	2.9	0.0	2.0	0.0	28.6
Prop In Lane				0.18		0.14	1.00		0.00	1.00		0.97
Lane Grp Cap(c), veh/h				310	0	0	496	2378	0	910	0	1093
V/C Ratio(X)				0.36	0.00	0.00	0.02	0.10	0.00	0.11	0.00	0.61
Avail Cap(c_a), veh/h				310	0	0	496	2378	0	910	0	1093
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				46.8	0.0	0.0	7.9	7.4	0.0	4.8	0.0	10.7
Incr Delay (d2), s/veh				3.3	0.0	0.0	0.1	0.1	0.0	0.2	0.0	2.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.8	0.0	0.0	0.1	1.4	0.0	1.0	0.0	13.1
LnGrp Delay(d),s/veh				50.1	0.0	0.0	7.9	7.5	0.0	5.1	0.0	13.2
LnGrp LOS				D			A	A		A		B
Approach Vol, veh/h					113			239			762	
Approach Delay, s/veh					50.1			7.5			12.2	
Approach LOS					D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	12.0	90.0			10.0	92.0		26.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	86.0			6.0	88.0		22.0				
Max Q Clear Time (g_c+l1), s	4.0	4.9			2.2	30.6		9.1				
Green Ext Time (p_c), s	0.1	7.4			0.0	7.4		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				15.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2020 Background PM
 7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	43	104	42	17	607	68	65	24	336
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				57	130	49	28	731	0	69	32	365
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.75	0.80	0.85	0.61	0.83	0.84	0.94	0.75	0.92
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				137	313	118	520	1797	0	469	70	794
Arrive On Green				0.32	0.32	0.32	0.05	0.51	0.00	0.08	0.54	0.54
Sat Flow, veh/h				429	978	369	1774	3632	0	1774	129	1474
Grp Volume(v), veh/h				236	0	0	28	731	0	69	0	397
Grp Sat Flow(s),veh/h/ln				1776	0	0	1774	1770	0	1774	0	1603
Q Serve(g_s), s				13.3	0.0	0.0	0.9	16.4	0.0	2.1	0.0	19.4
Cycle Q Clear(g_c), s				13.3	0.0	0.0	0.9	16.4	0.0	2.1	0.0	19.4
Prop In Lane				0.24		0.21	1.00		0.00	1.00		0.92
Lane Grp Cap(c), veh/h				569	0	0	520	1797	0	469	0	864
V/C Ratio(X)				0.41	0.00	0.00	0.05	0.41	0.00	0.15	0.00	0.46
Avail Cap(c_a), veh/h				569	0	0	520	1797	0	469	0	864
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				34.1	0.0	0.0	13.9	19.5	0.0	12.0	0.0	18.1
Incr Delay (d2), s/veh				2.2	0.0	0.0	0.2	0.7	0.0	0.7	0.0	1.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.9	0.0	0.0	0.5	8.2	0.0	1.1	0.0	9.0
LnGrp Delay(d),s/veh				36.3	0.0	0.0	14.0	20.2	0.0	12.7	0.0	19.8
LnGrp LOS				D			B	C		B		B
Approach Vol, veh/h					236			759				466
Approach Delay, s/veh					36.3			20.0				18.8
Approach LOS					D			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	14.0	69.0			10.0	73.0		45.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	10.0	65.0			6.0	69.0		41.0				
Max Q Clear Time (g_c+l1), s	4.1	18.4			2.9	21.4		15.3				
Green Ext Time (p_c), s	0.1	8.9			0.0	8.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				22.2								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2020 Total AM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	17	84	47	73	180	38	86	14	566
Future Volume (veh/h)	0	0	0	17	84	47	73	180	38	86	14	566
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				20	98	63	192	257	0	110	28	643
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.85	0.86	0.75	0.38	0.70	0.64	0.78	0.50	0.88
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				33	162	104	491	2378	0	890	46	1050
Arrive On Green				0.17	0.17	0.17	0.05	0.67	0.00	0.06	0.69	0.69
Sat Flow, veh/h				193	945	608	1774	3632	0	1774	66	1527
Grp Volume(v), veh/h				181	0	0	192	257	0	110	0	671
Grp Sat Flow(s),veh/h/ln				1746	0	0	1774	1770	0	1774	0	1593
Q Serve(g_s), s				12.3	0.0	0.0	4.4	3.3	0.0	2.2	0.0	29.1
Cycle Q Clear(g_c), s				12.3	0.0	0.0	4.4	3.3	0.0	2.2	0.0	29.1
Prop In Lane				0.11		0.35	1.00		0.00	1.00		0.96
Lane Grp Cap(c), veh/h				300	0	0	491	2378	0	890	0	1095
V/C Ratio(X)				0.60	0.00	0.00	0.39	0.11	0.00	0.12	0.00	0.61
Avail Cap(c_a), veh/h				300	0	0	491	2378	0	890	0	1095
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				49.0	0.0	0.0	9.5	7.4	0.0	4.9	0.0	10.8
Incr Delay (d2), s/veh				8.7	0.0	0.0	2.3	0.1	0.0	0.3	0.0	2.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.7	0.0	0.0	2.4	1.6	0.0	1.1	0.0	13.5
LnGrp Delay(d),s/veh				57.7	0.0	0.0	11.8	7.5	0.0	5.1	0.0	13.4
LnGrp LOS				E			B	A		A		B
Approach Vol, veh/h					181			449			781	
Approach Delay, s/veh					57.7			9.4			12.2	
Approach LOS					E			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	12.0	90.0			10.0	92.0		26.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	86.0			6.0	88.0		22.0				
Max Q Clear Time (g_c+I1), s	4.2	5.3			6.4	31.1		14.3				
Green Ext Time (p_c), s	0.1	7.8			0.0	7.7		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				17.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2020 Total PM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	43	112	58	48	615	82	92	38	336
Future Volume (veh/h)	0	0	0	43	112	58	48	615	82	92	38	336
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				57	140	68	79	741	0	98	51	365
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.75	0.80	0.85	0.61	0.83	0.84	0.94	0.75	0.92
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				127	313	152	526	1604	0	485	87	619
Arrive On Green				0.34	0.34	0.34	0.13	0.45	0.00	0.12	0.44	0.44
Sat Flow, veh/h				379	932	453	1774	3632	0	1774	198	1415
Grp Volume(v), veh/h				265	0	0	79	741	0	98	0	416
Grp Sat Flow(s),veh/h/ln				1764	0	0	1774	1770	0	1774	0	1613
Q Serve(g_s), s				15.0	0.0	0.0	2.6	18.5	0.0	3.3	0.0	25.0
Cycle Q Clear(g_c), s				15.0	0.0	0.0	2.6	18.5	0.0	3.3	0.0	25.0
Prop In Lane				0.22		0.26	1.00		0.00	1.00		0.88
Lane Grp Cap(c), veh/h				593	0	0	526	1604	0	485	0	706
V/C Ratio(X)				0.45	0.00	0.00	0.15	0.46	0.00	0.20	0.00	0.59
Avail Cap(c_a), veh/h				593	0	0	526	1604	0	485	0	706
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				33.2	0.0	0.0	15.0	24.2	0.0	14.7	0.0	27.3
Incr Delay (d2), s/veh				2.4	0.0	0.0	0.6	1.0	0.0	0.9	0.0	3.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.7	0.0	0.0	1.3	9.3	0.0	1.7	0.0	11.8
LnGrp Delay(d),s/veh				35.6	0.0	0.0	15.6	25.2	0.0	15.6	0.0	30.9
LnGrp LOS				D			B	C		B		C
Approach Vol, veh/h					265			820			514	
Approach Delay, s/veh					35.6			24.3			28.0	
Approach LOS					D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	19.0	62.0			21.0	60.0		47.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	15.0	58.0			17.0	56.0		43.0				
Max Q Clear Time (g_c+I1), s	5.3	20.5			4.6	27.0		17.0				
Green Ext Time (p_c), s	0.1	8.9			0.1	8.4		1.6				
Intersection Summary												
HCM 2010 Ctrl Delay				27.3								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2025 Background AM

11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	18	67	12	3	165	34	78	10	576
Future Volume (veh/h)	0	0	0	18	67	12	3	165	34	78	10	576
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				21	78	16	8	236	0	100	20	655
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.85	0.86	0.75	0.38	0.70	0.64	0.78	0.50	0.88
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				57	210	43	487	2378	0	906	32	1061
Arrive On Green				0.17	0.17	0.17	0.05	0.67	0.00	0.06	0.69	0.69
Sat Flow, veh/h				329	1222	251	1774	3632	0	1774	47	1543
Grp Volume(v), veh/h				115	0	0	8	236	0	100	0	675
Grp Sat Flow(s),veh/h/ln				1802	0	0	1774	1770	0	1774	0	1590
Q Serve(g_s), s				7.2	0.0	0.0	0.2	3.0	0.0	2.0	0.0	29.5
Cycle Q Clear(g_c), s				7.2	0.0	0.0	0.2	3.0	0.0	2.0	0.0	29.5
Prop In Lane				0.18		0.14	1.00		0.00	1.00		0.97
Lane Grp Cap(c), veh/h				310	0	0	487	2378	0	906	0	1093
V/C Ratio(X)				0.37	0.00	0.00	0.02	0.10	0.00	0.11	0.00	0.62
Avail Cap(c_a), veh/h				310	0	0	487	2378	0	906	0	1093
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				46.9	0.0	0.0	8.1	7.4	0.0	4.8	0.0	10.9
Incr Delay (d2), s/veh				3.4	0.0	0.0	0.1	0.1	0.0	0.2	0.0	2.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.9	0.0	0.0	0.1	1.5	0.0	1.0	0.0	13.5
LnGrp Delay(d),s/veh				50.3	0.0	0.0	8.1	7.5	0.0	5.1	0.0	13.5
LnGrp LOS				D			A	A		A		B
Approach Vol, veh/h					115			244			775	
Approach Delay, s/veh					50.3			7.5			12.4	
Approach LOS					D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	12.0	90.0			10.0	92.0		26.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	86.0			6.0	88.0		22.0				
Max Q Clear Time (g_c+I1), s	4.0	5.0			2.2	31.5		9.2				
Green Ext Time (p_c), s	0.1	7.7			0.0	7.6		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay				15.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2025 Background PM

11/2/2016

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	44	106	43	18	618	70	66	25	342	
Future Volume (veh/h)	0	0	0	44	106	43	18	618	70	66	25	342	
Number				3	8	18	5	2	12	1	6	16	
Initial Q (Qb), veh				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	
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900	
Adj Flow Rate, veh/h				59	132	51	30	745	0	70	33	372	
Adj No. of Lanes				0	1	0	1	2	0	1	1	0	
Peak Hour Factor				0.75	0.80	0.85	0.61	0.83	0.84	0.94	0.75	0.92	
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2	
Cap, veh/h				139	310	120	514	1797	0	463	70	794	
Arrive On Green				0.32	0.32	0.32	0.05	0.51	0.00	0.08	0.54	0.54	
Sat Flow, veh/h				433	968	374	1774	3632	0	1774	131	1472	
Grp Volume(v), veh/h				242	0	0	30	745	0	70	0	405	
Grp Sat Flow(s),veh/h/ln				1775	0	0	1774	1770	0	1774	0	1603	
Q Serve(g_s), s				13.7	0.0	0.0	1.0	16.8	0.0	2.1	0.0	19.9	
Cycle Q Clear(g_c), s				13.7	0.0	0.0	1.0	16.8	0.0	2.1	0.0	19.9	
Prop In Lane				0.24		0.21	1.00		0.00	1.00		0.92	
Lane Grp Cap(c), veh/h				569	0	0	514	1797	0	463	0	864	
V/C Ratio(X)				0.43	0.00	0.00	0.06	0.41	0.00	0.15	0.00	0.47	
Avail Cap(c_a), veh/h				569	0	0	514	1797	0	463	0	864	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	
Uniform Delay (d), s/veh				34.2	0.0	0.0	13.9	19.6	0.0	12.1	0.0	18.2	
Incr Delay (d2), s/veh				2.3	0.0	0.0	0.2	0.7	0.0	0.7	0.0	1.8	
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln				7.1	0.0	0.0	0.5	8.4	0.0	1.1	0.0	9.2	
LnGrp Delay(d),s/veh				36.6	0.0	0.0	14.2	20.3	0.0	12.8	0.0	20.0	
LnGrp LOS				D			B	C		B		C	
Approach Vol, veh/h					242			775				475	
Approach Delay, s/veh					36.6			20.1				19.0	
Approach LOS					D			C				B	
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	1	2			5	6		8					
Phs Duration (G+Y+Rc), s	14.0	69.0			10.0	73.0		45.0					
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0					
Max Green Setting (Gmax), s	10.0	65.0			6.0	69.0		41.0					
Max Q Clear Time (g_c+I1), s	4.1	18.8			3.0	21.9		15.7					
Green Ext Time (p_c), s	0.1	9.2			0.0	9.2		1.4					
Intersection Summary													
HCM 2010 Ctrl Delay				22.4									
HCM 2010 LOS				C									

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2025 Total AM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	18	90	58	95	188	48	107	24	576
Future Volume (veh/h)	0	0	0	18	90	58	95	188	48	107	24	576
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				21	105	77	250	269	0	137	48	655
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.85	0.86	0.75	0.38	0.70	0.64	0.78	0.50	0.88
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				31	154	113	467	2378	0	880	75	1025
Arrive On Green				0.17	0.17	0.17	0.05	0.67	0.00	0.06	0.69	0.69
Sat Flow, veh/h				180	899	659	1774	3632	0	1774	109	1490
Grp Volume(v), veh/h				203	0	0	250	269	0	137	0	703
Grp Sat Flow(s),veh/h/ln				1737	0	0	1774	1770	0	1774	0	1600
Q Serve(g_s), s				14.0	0.0	0.0	5.9	3.5	0.0	2.8	0.0	31.4
Cycle Q Clear(g_c), s				14.0	0.0	0.0	5.9	3.5	0.0	2.8	0.0	31.4
Prop In Lane				0.10		0.38	1.00		0.00	1.00		0.93
Lane Grp Cap(c), veh/h				299	0	0	467	2378	0	880	0	1100
V/C Ratio(X)				0.68	0.00	0.00	0.53	0.11	0.00	0.16	0.00	0.64
Avail Cap(c_a), veh/h				299	0	0	467	2378	0	880	0	1100
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				49.7	0.0	0.0	11.0	7.5	0.0	4.9	0.0	11.1
Incr Delay (d2), s/veh				11.8	0.0	0.0	4.3	0.1	0.0	0.4	0.0	2.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.7	0.0	0.0	3.5	1.7	0.0	1.4	0.0	14.5
LnGrp Delay(d),s/veh				61.5	0.0	0.0	15.3	7.6	0.0	5.3	0.0	14.0
LnGrp LOS				E			B	A		A		B
Approach Vol, veh/h					203			519			840	
Approach Delay, s/veh					61.5			11.3			12.6	
Approach LOS					E			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	12.0	90.0			10.0	92.0		26.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	86.0			6.0	88.0		22.0				
Max Q Clear Time (g_c+I1), s	4.8	5.5			7.9	33.4		16.0				
Green Ext Time (p_c), s	0.1	8.4			0.0	8.3		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				18.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2025 Total PM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	44	128	87	105	640	99	124	54	342
Future Volume (veh/h)	0	0	0	44	128	87	105	640	99	124	54	342
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				59	160	102	172	771	0	132	72	372
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.75	0.80	0.85	0.61	0.83	0.84	0.94	0.75	0.92
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				108	293	187	504	1604	0	473	115	595
Arrive On Green				0.34	0.34	0.34	0.13	0.45	0.00	0.12	0.44	0.44
Sat Flow, veh/h				321	872	556	1774	3632	0	1774	263	1360
Grp Volume(v), veh/h				321	0	0	172	771	0	132	0	444
Grp Sat Flow(s),veh/h/ln				1749	0	0	1774	1770	0	1774	0	1623
Q Serve(g_s), s				19.1	0.0	0.0	5.9	19.5	0.0	4.6	0.0	27.1
Cycle Q Clear(g_c), s				19.1	0.0	0.0	5.9	19.5	0.0	4.6	0.0	27.1
Prop In Lane				0.18		0.32	1.00		0.00	1.00		0.84
Lane Grp Cap(c), veh/h				587	0	0	504	1604	0	473	0	710
V/C Ratio(X)				0.55	0.00	0.00	0.34	0.48	0.00	0.28	0.00	0.63
Avail Cap(c_a), veh/h				587	0	0	504	1604	0	473	0	710
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				34.6	0.0	0.0	16.6	24.5	0.0	15.2	0.0	27.9
Incr Delay (d2), s/veh				3.6	0.0	0.0	1.8	1.0	0.0	1.5	0.0	4.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.8	0.0	0.0	3.1	9.8	0.0	2.4	0.0	12.9
LnGrp Delay(d),s/veh				38.2	0.0	0.0	18.4	25.5	0.0	16.7	0.0	32.0
LnGrp LOS				D			B	C		B		C
Approach Vol, veh/h					321			943			576	
Approach Delay, s/veh					38.2			24.2			28.5	
Approach LOS					D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	19.0	62.0			21.0	60.0		47.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	15.0	58.0			17.0	56.0		43.0				
Max Q Clear Time (g_c+1), s	6.6	21.5			7.9	29.1		21.1				
Green Ext Time (p_c), s	0.2	9.5			0.3	8.8		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				28.0								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2035 Background AM
 7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	18	70	13	3	171	35	81	11	596
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				21	81	17	8	244	0	104	22	677
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.85	0.86	0.75	0.38	0.70	0.64	0.78	0.50	0.88
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				55	211	44	469	2378	0	900	34	1059
Arrive On Green				0.17	0.17	0.17	0.05	0.67	0.00	0.06	0.69	0.69
Sat Flow, veh/h				318	1226	257	1774	3632	0	1774	50	1541
Grp Volume(v), veh/h				119	0	0	8	244	0	104	0	699
Grp Sat Flow(s),veh/h/ln				1801	0	0	1774	1770	0	1774	0	1591
Q Serve(g_s), s				7.5	0.0	0.0	0.2	3.1	0.0	2.1	0.0	31.4
Cycle Q Clear(g_c), s				7.5	0.0	0.0	0.2	3.1	0.0	2.1	0.0	31.4
Prop In Lane				0.18		0.14	1.00		0.00	1.00		0.97
Lane Grp Cap(c), veh/h				310	0	0	469	2378	0	900	0	1094
V/C Ratio(X)				0.38	0.00	0.00	0.02	0.10	0.00	0.12	0.00	0.64
Avail Cap(c_a), veh/h				310	0	0	469	2378	0	900	0	1094
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				47.0	0.0	0.0	8.5	7.4	0.0	4.8	0.0	11.1
Incr Delay (d2), s/veh				3.6	0.0	0.0	0.1	0.1	0.0	0.3	0.0	2.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.0	0.0	0.0	0.1	1.6	0.0	1.1	0.0	14.5
LnGrp Delay(d),s/veh				50.6	0.0	0.0	8.6	7.5	0.0	5.1	0.0	14.0
LnGrp LOS				D			A	A		A		B
Approach Vol, veh/h					119			252			803	
Approach Delay, s/veh					50.6			7.5			12.9	
Approach LOS					D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	12.0	90.0			10.0	92.0		26.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	86.0			6.0	88.0		22.0				
Max Q Clear Time (g_c+l1), s	4.1	5.1			2.2	33.4		9.5				
Green Ext Time (p_c), s	0.1	8.1			0.0	8.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				15.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2035 Background PM
 7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	45	110	44	18	639	72	69	26	353
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				60	138	52	30	770	0	73	35	384
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.75	0.80	0.85	0.61	0.83	0.84	0.94	0.75	0.92
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				133	306	115	512	1908	0	439	73	804
Arrive On Green				0.31	0.31	0.31	0.05	0.54	0.00	0.05	0.55	0.55
Sat Flow, veh/h				426	980	369	1774	3632	0	1774	134	1469
Grp Volume(v), veh/h				250	0	0	30	770	0	73	0	419
Grp Sat Flow(s),veh/h/ln				1776	0	0	1774	1770	0	1774	0	1603
Q Serve(g_s), s				14.4	0.0	0.0	0.9	16.4	0.0	2.2	0.0	20.5
Cycle Q Clear(g_c), s				14.4	0.0	0.0	0.9	16.4	0.0	2.2	0.0	20.5
Prop In Lane				0.24		0.21	1.00		0.00	1.00		0.92
Lane Grp Cap(c), veh/h				555	0	0	512	1908	0	439	0	877
V/C Ratio(X)				0.45	0.00	0.00	0.06	0.40	0.00	0.17	0.00	0.48
Avail Cap(c_a), veh/h				555	0	0	512	1908	0	439	0	877
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				35.2	0.0	0.0	12.7	17.4	0.0	12.2	0.0	17.8
Incr Delay (d2), s/veh				2.6	0.0	0.0	0.2	0.6	0.0	0.8	0.0	1.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.5	0.0	0.0	0.5	8.2	0.0	1.2	0.0	9.5
LnGrp Delay(d),s/veh				37.8	0.0	0.0	12.9	18.0	0.0	13.0	0.0	19.7
LnGrp LOS				D			B	B		B		B
Approach Vol, veh/h					250			800				492
Approach Delay, s/veh					37.8			17.8				18.7
Approach LOS					D			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	11.0	73.0			10.0	74.0		44.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	69.0			6.0	70.0		40.0				
Max Q Clear Time (g_c+l1), s	4.2	18.4			2.9	22.5		16.4				
Green Ext Time (p_c), s	0.0	9.7			0.0	9.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				21.3								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2035 Total AM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	18	93	59	95	194	49	110	25	596
Future Volume (veh/h)	0	0	0	18	93	59	95	194	49	110	25	596
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				21	108	79	250	277	0	141	50	677
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.85	0.86	0.75	0.38	0.70	0.64	0.78	0.50	0.88
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				30	155	113	449	2378	0	874	76	1024
Arrive On Green				0.17	0.17	0.17	0.05	0.67	0.00	0.06	0.69	0.69
Sat Flow, veh/h				175	902	660	1774	3632	0	1774	110	1490
Grp Volume(v), veh/h				208	0	0	250	277	0	141	0	727
Grp Sat Flow(s),veh/h/ln				1738	0	0	1774	1770	0	1774	0	1600
Q Serve(g_s), s				14.4	0.0	0.0	5.9	3.6	0.0	2.9	0.0	33.3
Cycle Q Clear(g_c), s				14.4	0.0	0.0	5.9	3.6	0.0	2.9	0.0	33.3
Prop In Lane				0.10		0.38	1.00		0.00	1.00		0.93
Lane Grp Cap(c), veh/h				299	0	0	449	2378	0	874	0	1100
V/C Ratio(X)				0.70	0.00	0.00	0.56	0.12	0.00	0.16	0.00	0.66
Avail Cap(c_a), veh/h				299	0	0	449	2378	0	874	0	1100
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				49.9	0.0	0.0	11.7	7.5	0.0	5.0	0.0	11.5
Incr Delay (d2), s/veh				12.7	0.0	0.0	4.9	0.1	0.0	0.4	0.0	3.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.0	0.0	0.0	3.9	1.8	0.0	1.5	0.0	15.5
LnGrp Delay(d),s/veh				62.5	0.0	0.0	16.7	7.6	0.0	5.4	0.0	14.6
LnGrp LOS				E			B	A		A		B
Approach Vol, veh/h					208			527			868	
Approach Delay, s/veh					62.5			11.9			13.1	
Approach LOS					E			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	12.0	90.0			10.0	92.0		26.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	86.0			6.0	88.0		22.0				
Max Q Clear Time (g_c+I1), s	4.9	5.6			7.9	35.3		16.4				
Green Ext Time (p_c), s	0.1	8.8			0.0	8.7		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				19.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 1: Vasquez Blvd & 64th Ave

2035 Total PM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	45	123	88	105	661	101	127	55	353
Future Volume (veh/h)	0	0	0	45	123	88	105	661	101	127	55	353
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h				60	154	104	172	796	0	135	73	384
Adj No. of Lanes				0	1	0	1	2	0	1	1	0
Peak Hour Factor				0.75	0.80	0.85	0.61	0.83	0.84	0.94	0.75	0.92
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				108	277	187	485	1714	0	450	126	660
Arrive On Green				0.33	0.33	0.33	0.09	0.48	0.00	0.09	0.48	0.48
Sat Flow, veh/h				329	845	571	1774	3632	0	1774	259	1363
Grp Volume(v), veh/h				318	0	0	172	796	0	135	0	457
Grp Sat Flow(s),veh/h/ln				1746	0	0	1774	1770	0	1774	0	1622
Q Serve(g_s), s				19.2	0.0	0.0	5.8	19.2	0.0	4.4	0.0	25.9
Cycle Q Clear(g_c), s				19.2	0.0	0.0	5.8	19.2	0.0	4.4	0.0	25.9
Prop In Lane				0.19		0.33	1.00		0.00	1.00		0.84
Lane Grp Cap(c), veh/h				573	0	0	485	1714	0	450	0	786
V/C Ratio(X)				0.56	0.00	0.00	0.35	0.46	0.00	0.30	0.00	0.58
Avail Cap(c_a), veh/h				573	0	0	485	1714	0	450	0	786
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh				35.3	0.0	0.0	15.8	22.0	0.0	14.1	0.0	23.7
Incr Delay (d2), s/veh				3.8	0.0	0.0	2.0	0.9	0.0	1.7	0.0	3.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.8	0.0	0.0	3.0	9.5	0.0	2.4	0.0	12.2
LnGrp Delay(d),s/veh				39.2	0.0	0.0	17.8	22.9	0.0	15.8	0.0	26.8
LnGrp LOS				D			B	C		B		C
Approach Vol, veh/h					318			968			592	
Approach Delay, s/veh					39.2			22.0			24.3	
Approach LOS					D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	16.0	66.0			16.0	66.0		46.0				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s	12.0	62.0			12.0	62.0		42.0				
Max Q Clear Time (g_c+I1), s	6.4	21.2			7.8	27.9		21.2				
Green Ext Time (p_c), s	0.1	10.2			0.2	9.8		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay				25.6								
HCM 2010 LOS				C								

Intersection												
Int Delay, s/veh	2.7											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	110	9	4	81	3	35	5	18	5	5	5
Future Vol, veh/h	3	110	9	4	81	3	35	5	18	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	120	10	4	88	3	38	5	20	5	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	91	0	0	129	0	0	186	231	65	167	234	46
Stage 1	-	-	-	-	-	-	131	131	-	98	98	-
Stage 2	-	-	-	-	-	-	55	100	-	69	136	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1502	-	-	1454	-	-	758	668	986	781	665	1014
Stage 1	-	-	-	-	-	-	859	787	-	898	813	-
Stage 2	-	-	-	-	-	-	951	811	-	933	783	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1502	-	-	1454	-	-	746	665	986	758	662	1014
Mov Cap-2 Maneuver	-	-	-	-	-	-	746	665	-	758	662	-
Stage 1	-	-	-	-	-	-	857	785	-	896	811	-
Stage 2	-	-	-	-	-	-	937	809	-	906	781	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	9.9	9.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	798	1502	-	-	1454	-	-	786
HCM Lane V/C Ratio	0.079	0.002	-	-	0.003	-	-	0.021
HCM Control Delay (s)	9.9	7.4	0	-	7.5	0	-	9.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	2											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	15	134	27	14	187	15	16	5	8	15	5	15
Future Vol, veh/h	15	134	27	14	187	15	16	5	8	15	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	146	29	15	203	16	17	5	9	16	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	220	0	0	175	0	0	328	443	88	350	450	110
Stage 1	-	-	-	-	-	-	193	193	-	242	242	-
Stage 2	-	-	-	-	-	-	135	250	-	108	208	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1346	-	-	1399	-	-	601	508	953	580	503	922
Stage 1	-	-	-	-	-	-	790	740	-	740	704	-
Stage 2	-	-	-	-	-	-	854	699	-	886	729	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1346	-	-	1399	-	-	574	495	953	559	491	922
Mov Cap-2 Maneuver	-	-	-	-	-	-	574	495	-	559	491	-
Stage 1	-	-	-	-	-	-	780	730	-	730	696	-
Stage 2	-	-	-	-	-	-	822	691	-	860	720	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.5	11.1	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	625	1346	-	-	1399	-	-	657
HCM Lane V/C Ratio	0.05	0.012	-	-	0.011	-	-	0.058
HCM Control Delay (s)	11.1	7.7	0	-	7.6	0	-	10.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection												
Int Delay, s/veh	3.2											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	112	29	14	82	3	46	5	23	5	5	5
Future Vol, veh/h	3	112	29	14	82	3	46	5	23	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	122	32	15	89	3	50	5	25	5	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	92	0	0	153	0	0	222	267	77	191	281	46
Stage 1	-	-	-	-	-	-	144	144	-	121	121	-
Stage 2	-	-	-	-	-	-	78	123	-	70	160	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1501	-	-	1425	-	-	715	638	968	752	626	1014
Stage 1	-	-	-	-	-	-	844	777	-	870	795	-
Stage 2	-	-	-	-	-	-	922	793	-	932	764	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1501	-	-	1425	-	-	699	630	968	721	618	1014
Mov Cap-2 Maneuver	-	-	-	-	-	-	699	630	-	721	618	-
Stage 1	-	-	-	-	-	-	842	775	-	868	786	-
Stage 2	-	-	-	-	-	-	901	784	-	900	762	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.1	10.3	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	759	1501	-	-	1425	-	-	752
HCM Lane V/C Ratio	0.106	0.002	-	-	0.011	-	-	0.022
HCM Control Delay (s)	10.3	7.4	0	-	7.6	0	-	9.9
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	2.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	15	136	58	29	190	15	44	5	22	15	5	15
Future Vol, veh/h	15	136	58	29	190	15	44	5	22	15	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	148	63	32	207	16	48	5	24	16	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	223	0	0	211	0	0	381	498	105	387	521	111
Stage 1	-	-	-	-	-	-	212	212	-	278	278	-
Stage 2	-	-	-	-	-	-	169	286	-	109	243	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1343	-	-	1357	-	-	552	472	929	546	458	921
Stage 1	-	-	-	-	-	-	770	726	-	705	679	-
Stage 2	-	-	-	-	-	-	816	674	-	885	703	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1343	-	-	1357	-	-	520	453	929	511	439	921
Mov Cap-2 Maneuver	-	-	-	-	-	-	520	453	-	511	439	-
Stage 1	-	-	-	-	-	-	759	716	-	695	661	-
Stage 2	-	-	-	-	-	-	773	656	-	844	693	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1	12	11.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	595	1343	-	-	1357	-	-	614
HCM Lane V/C Ratio	0.13	0.012	-	-	0.023	-	-	0.062
HCM Control Delay (s)	12	7.7	0	-	7.7	0.1	-	11.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.2

Intersection												
Int Delay, s/veh	3.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	116	29	14	85	3	46	5	23	5	5	5
Future Vol, veh/h	3	116	29	14	85	3	46	5	23	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	126	32	15	92	3	50	5	25	5	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	96	0	0	158	0	0	227	274	79	196	288	48
Stage 1	-	-	-	-	-	-	148	148	-	124	124	-
Stage 2	-	-	-	-	-	-	79	126	-	72	164	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1496	-	-	1419	-	-	709	632	965	745	621	1011
Stage 1	-	-	-	-	-	-	840	774	-	867	792	-
Stage 2	-	-	-	-	-	-	921	791	-	929	761	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1496	-	-	1419	-	-	693	624	965	714	613	1011
Mov Cap-2 Maneuver	-	-	-	-	-	-	693	624	-	714	613	-
Stage 1	-	-	-	-	-	-	838	772	-	865	783	-
Stage 2	-	-	-	-	-	-	900	782	-	897	759	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1	10.4	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	753	1496	-	-	1419	-	-	746
HCM Lane V/C Ratio	0.107	0.002	-	-	0.011	-	-	0.022
HCM Control Delay (s)	10.4	7.4	0	-	7.6	0	-	9.9
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	2.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	16	141	58	29	197	16	44	5	22	16	5	16
Future Vol, veh/h	16	141	58	29	197	16	44	5	22	16	5	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	153	63	32	214	17	48	5	24	17	5	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	232	0	0	216	0	0	393	515	108	400	537	116
Stage 1	-	-	-	-	-	-	220	220	-	286	286	-
Stage 2	-	-	-	-	-	-	173	295	-	114	251	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1333	-	-	1351	-	-	541	462	925	535	449	914
Stage 1	-	-	-	-	-	-	762	720	-	697	674	-
Stage 2	-	-	-	-	-	-	812	668	-	879	698	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1333	-	-	1351	-	-	509	443	925	500	430	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	509	443	-	500	430	-
Stage 1	-	-	-	-	-	-	751	709	-	687	656	-
Stage 2	-	-	-	-	-	-	769	650	-	837	688	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1	12.1	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	584	1333	-	-	1351	-	-	605
HCM Lane V/C Ratio	0.132	0.013	-	-	0.023	-	-	0.066
HCM Control Delay (s)	12.1	7.7	0	-	7.7	0.1	-	11.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.2

HCM 2010 Signalized Intersection Summary
2: Holly St & 64th Ave

2014 Existing AM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	39	92	17	59	22	15	52	12	26	69	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	8	68	148	24	80	36	20	60	16	40	88	8
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.63	0.57	0.62	0.71	0.74	0.61	0.75	0.87	0.75	0.65	0.78	0.63
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	696	279	607	598	650	292	153	445	112	213	453	39
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1271	523	1139	1161	1218	548	292	1113	281	436	1132	98
Grp Volume(v), veh/h	8	0	216	24	0	116	96	0	0	136	0	0
Grp Sat Flow(s),veh/h/ln	1271	0	1662	1161	0	1766	1685	0	0	1665	0	0
Q Serve(g_s), s	0.4	0.0	8.4	1.4	0.0	3.9	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	4.3	0.0	8.4	9.7	0.0	3.9	4.0	0.0	0.0	5.9	0.0	0.0
Prop In Lane	1.00		0.69	1.00		0.31	0.21		0.17	0.29		0.06
Lane Grp Cap(c), veh/h	696	0	886	598	0	942	710	0	0	705	0	0
V/C Ratio(X)	0.01	0.00	0.24	0.04	0.00	0.12	0.14	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	696	0	886	598	0	942	710	0	0	705	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.1	0.0	15.0	17.6	0.0	14.0	22.8	0.0	0.0	23.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.1	0.0	0.3	0.4	0.0	0.0	0.6	0.0	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(50%),veh/ln	0.1	0.0	4.0	0.5	0.0	2.0	2.1	0.0	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	15.1	0.0	15.7	17.8	0.0	14.3	23.2	0.0	0.0	23.9	0.0	0.0
LnGrp LOS	B		B	B		B	C			C		
Approach Vol, veh/h		224			140			96			136	
Approach Delay, s/veh		15.7			14.9			23.2			23.9	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		68.0		52.0		68.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		48.0		64.0		48.0		64.0				
Max Q Clear Time (g_c+l1), s		6.0		10.4		7.9		11.7				
Green Ext Time (p_c), s		1.5		2.3		1.5		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			18.6									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
2: Holly St & 64th Ave

2014 Existing PM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	47	60	61	138	69	40	160	50	46	86	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	8	64	68	80	168	88	48	184	64	64	100	12
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.50	0.73	0.88	0.76	0.82	0.78	0.83	0.87	0.78	0.72	0.86	0.42
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	568	442	469	679	615	322	121	449	148	223	335	38
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1119	828	880	1253	1153	604	215	1123	369	456	838	95
Grp Volume(v), veh/h	8	0	132	80	0	256	296	0	0	176	0	0
Grp Sat Flow(s),veh/h/ln	1119	0	1708	1253	0	1756	1707	0	0	1388	0	0
Q Serve(g_s), s	0.5	0.0	4.7	4.1	0.0	9.6	1.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.0	0.0	4.7	8.8	0.0	9.6	14.3	0.0	0.0	12.7	0.0	0.0
Prop In Lane	1.00		0.52	1.00		0.34	0.16		0.22	0.36		0.07
Lane Grp Cap(c), veh/h	568	0	911	679	0	937	717	0	0	596	0	0
V/C Ratio(X)	0.01	0.00	0.14	0.12	0.00	0.27	0.41	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	568	0	911	679	0	937	717	0	0	596	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	0.0	14.2	16.4	0.0	15.3	25.9	0.0	0.0	24.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.4	0.0	0.7	1.8	0.0	0.0	1.3	0.0	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(50%),veh/ln	0.2	0.0	2.3	1.5	0.0	4.8	7.4	0.0	0.0	4.3	0.0	0.0
LnGrp Delay(d),s/veh	18.1	0.0	14.5	16.7	0.0	16.0	27.6	0.0	0.0	26.0	0.0	0.0
LnGrp LOS	B		B	B		B	C			C		
Approach Vol, veh/h		140			336			296			176	
Approach Delay, s/veh		14.7			16.2			27.6			26.0	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		68.0		52.0		68.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		48.0		64.0		48.0		64.0				
Max Q Clear Time (g_c+l1), s		16.3		12.0		14.7		11.6				
Green Ext Time (p_c), s		3.2		2.8		3.3		2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			21.4									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
2: Holly St & 64th Ave

2020 Background AM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	40	94	17	60	22	15	53	12	27	70	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	8	70	152	24	81	36	20	61	16	42	90	8
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.63	0.57	0.62	0.71	0.74	0.61	0.75	0.87	0.75	0.65	0.78	0.63
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	684	275	597	581	642	285	154	457	114	221	458	39
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1270	524	1138	1154	1223	544	289	1119	278	446	1121	95
Grp Volume(v), veh/h	8	0	222	24	0	117	97	0	0	140	0	0
Grp Sat Flow(s),veh/h/ln	1270	0	1662	1154	0	1767	1686	0	0	1661	0	0
Q Serve(g_s), s	0.4	0.0	8.8	1.4	0.0	4.0	0.0	0.0	0.0	1.3	0.0	0.0
Cycle Q Clear(g_c), s	4.4	0.0	8.8	10.2	0.0	4.0	4.0	0.0	0.0	6.0	0.0	0.0
Prop In Lane	1.00		0.68	1.00		0.31	0.21		0.16	0.30		0.06
Lane Grp Cap(c), veh/h	684	0	873	581	0	928	725	0	0	717	0	0
V/C Ratio(X)	0.01	0.00	0.25	0.04	0.00	0.13	0.13	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	684	0	873	581	0	928	725	0	0	717	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.6	0.0	15.6	18.4	0.0	14.5	22.2	0.0	0.0	22.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.1	0.0	0.3	0.4	0.0	0.0	0.6	0.0	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(50%),veh/ln	0.1	0.0	4.2	0.5	0.0	2.0	2.1	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	15.7	0.0	16.3	18.5	0.0	14.8	22.6	0.0	0.0	23.3	0.0	0.0
LnGrp LOS	B		B	B		B	C			C		
Approach Vol, veh/h		230			141			97			140	
Approach Delay, s/veh		16.3			15.4			22.6			23.3	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.0		67.0		53.0		67.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		49.0		63.0		49.0		63.0				
Max Q Clear Time (g_c+l1), s		6.0		10.8		8.0		12.2				
Green Ext Time (p_c), s		1.5		2.3		1.5		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			18.7									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
2: Holly St & 64th Ave

2020 Background PM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	48	61	62	141	70	41	163	51	47	88	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	8	66	69	82	172	90	49	187	65	65	102	12
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.50	0.73	0.88	0.76	0.82	0.78	0.83	0.87	0.78	0.72	0.86	0.42
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	421	355	371	529	490	256	150	560	186	288	438	49
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1113	835	873	1249	1153	603	227	1101	366	486	861	97
Grp Volume(v), veh/h	8	0	135	82	0	262	301	0	0	179	0	0
Grp Sat Flow(s),veh/h/ln	1113	0	1709	1249	0	1756	1693	0	0	1444	0	0
Q Serve(g_s), s	0.6	0.0	5.9	5.3	0.0	12.1	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.7	0.0	5.9	11.2	0.0	12.1	12.0	0.0	0.0	9.1	0.0	0.0
Prop In Lane	1.00		0.51	1.00		0.34	0.16		0.22	0.36		0.07
Lane Grp Cap(c), veh/h	421	0	726	529	0	746	896	0	0	775	0	0
V/C Ratio(X)	0.02	0.00	0.19	0.15	0.00	0.35	0.34	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	421	0	726	529	0	746	896	0	0	775	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.6	0.0	21.5	25.0	0.0	23.3	17.4	0.0	0.0	16.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.6	0.0	1.3	1.0	0.0	0.0	0.7	0.0	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(50%),veh/ln	0.2	0.0	2.9	1.9	0.0	6.1	6.1	0.0	0.0	3.5	0.0	0.0
LnGrp Delay(d),s/veh	27.7	0.0	22.1	25.7	0.0	24.6	18.4	0.0	0.0	17.1	0.0	0.0
LnGrp LOS	C		C	C		C	B			B		
Approach Vol, veh/h		143			344			301			179	
Approach Delay, s/veh		22.4			24.9			18.4			17.1	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.0		55.0		65.0		55.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		61.0		51.0		61.0		51.0				
Max Q Clear Time (g_c+l1), s		14.0		14.7		11.1		14.1				
Green Ext Time (p_c), s		3.4		2.9		3.4		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			21.1									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
2: Holly St & 64th Ave

2020 Total AM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	51	94	19	63	22	15	64	19	27	73	7
Future Volume (veh/h)	12	51	94	19	63	22	15	64	19	27	73	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	89	152	27	85	36	20	74	25	42	94	11
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.63	0.57	0.62	0.71	0.74	0.61	0.75	0.87	0.75	0.65	0.78	0.63
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	691	330	564	576	663	281	125	447	143	206	445	50
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1265	619	1057	1134	1243	527	224	1118	357	418	1114	124
Grp Volume(v), veh/h	19	0	241	27	0	121	119	0	0	147	0	0
Grp Sat Flow(s),veh/h/ln	1265	0	1676	1134	0	1770	1699	0	0	1656	0	0
Q Serve(g_s), s	0.9	0.0	9.4	1.6	0.0	4.1	0.0	0.0	0.0	1.3	0.0	0.0
Cycle Q Clear(g_c), s	5.0	0.0	9.4	11.0	0.0	4.1	5.1	0.0	0.0	6.4	0.0	0.0
Prop In Lane	1.00		0.63	1.00		0.30	0.17		0.21	0.29		0.07
Lane Grp Cap(c), veh/h	691	0	894	576	0	944	715	0	0	701	0	0
V/C Ratio(X)	0.03	0.00	0.27	0.05	0.00	0.13	0.17	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	691	0	894	576	0	944	715	0	0	701	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.3	0.0	15.3	18.3	0.0	14.0	23.1	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.2	0.0	0.3	0.5	0.0	0.0	0.7	0.0	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(50%),veh/ln	0.3	0.0	4.5	0.5	0.0	2.1	2.6	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	15.4	0.0	16.0	18.4	0.0	14.3	23.6	0.0	0.0	24.2	0.0	0.0
LnGrp LOS	B		B	B		B	C			C		
Approach Vol, veh/h		260			148			119			147	
Approach Delay, s/veh		16.0			15.1			23.6			24.2	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		68.0		52.0		68.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		48.0		64.0		48.0		64.0				
Max Q Clear Time (g_c+I1), s		7.1		11.4		8.4		13.0				
Green Ext Time (p_c), s		1.7		2.5		1.7		2.5				
Intersection Summary												
HCM 2010 Ctrl Delay				18.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
2: Holly St & 64th Ave

2020 Total PM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	53	61	67	149	70	41	168	54	47	96	10
Future Volume (veh/h)	7	53	61	67	149	70	41	168	54	47	96	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	14	73	69	88	182	90	49	193	69	65	112	24
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.50	0.73	0.88	0.76	0.82	0.78	0.83	0.87	0.78	0.72	0.86	0.42
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	402	367	347	512	491	243	147	567	194	272	456	93
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1103	882	834	1241	1178	582	218	1097	375	449	882	180
Grp Volume(v), veh/h	14	0	142	88	0	272	311	0	0	201	0	0
Grp Sat Flow(s),veh/h/ln	1103	0	1716	1241	0	1760	1689	0	0	1511	0	0
Q Serve(g_s), s	1.1	0.0	6.3	5.8	0.0	12.8	1.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.9	0.0	6.3	12.1	0.0	12.8	12.3	0.0	0.0	8.3	0.0	0.0
Prop In Lane	1.00		0.49	1.00		0.33	0.16		0.22	0.32		0.12
Lane Grp Cap(c), veh/h	402	0	715	512	0	733	908	0	0	820	0	0
V/C Ratio(X)	0.03	0.00	0.20	0.17	0.00	0.37	0.34	0.00	0.00	0.25	0.00	0.00
Avail Cap(c_a), veh/h	402	0	715	512	0	733	908	0	0	820	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.9	0.0	22.3	26.1	0.0	24.1	17.0	0.0	0.0	15.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.6	0.7	0.0	1.4	1.0	0.0	0.0	0.7	0.0	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(50%),veh/ln	0.3	0.0	3.1	2.1	0.0	6.5	6.3	0.0	0.0	3.8	0.0	0.0
LnGrp Delay(d),s/veh	29.1	0.0	22.9	26.8	0.0	25.6	18.0	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	C		C	C		C	B			B		
Approach Vol, veh/h		156			360			311			201	
Approach Delay, s/veh		23.4			25.9			18.0			16.6	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.0		54.0		66.0		54.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		62.0		50.0		62.0		50.0				
Max Q Clear Time (g_c+l1), s		14.3		15.9		10.3		14.8				
Green Ext Time (p_c), s		3.7		3.0		3.7		3.0				
Intersection Summary												
HCM 2010 Ctrl Delay				21.3								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary
 2: Holly St & 64th Ave

2025 Background AM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	40	95	18	61	23	16	54	12	27	72	5
Future Volume (veh/h)	5	40	95	18	61	23	16	54	12	27	72	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	8	70	153	25	82	38	21	62	16	42	92	8
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.63	0.57	0.62	0.71	0.74	0.61	0.75	0.87	0.75	0.65	0.78	0.63
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	681	274	598	581	633	293	158	454	111	218	462	38
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1266	522	1140	1153	1206	559	299	1111	272	439	1131	94
Grp Volume(v), veh/h	8	0	223	25	0	120	99	0	0	142	0	0
Grp Sat Flow(s),veh/h/ln	1266	0	1662	1153	0	1764	1682	0	0	1664	0	0
Q Serve(g_s), s	0.4	0.0	8.8	1.5	0.0	4.2	0.0	0.0	0.0	1.3	0.0	0.0
Cycle Q Clear(g_c), s	4.5	0.0	8.8	10.3	0.0	4.2	4.1	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.69	1.00		0.32	0.21		0.16	0.30		0.06
Lane Grp Cap(c), veh/h	681	0	872	581	0	926	723	0	0	718	0	0
V/C Ratio(X)	0.01	0.00	0.26	0.04	0.00	0.13	0.14	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	681	0	872	581	0	926	723	0	0	718	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.7	0.0	15.6	18.5	0.0	14.5	22.2	0.0	0.0	22.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.1	0.0	0.3	0.4	0.0	0.0	0.6	0.0	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(50%),veh/ln	0.1	0.0	4.2	0.5	0.0	2.1	2.1	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	15.7	0.0	16.3	18.6	0.0	14.8	22.6	0.0	0.0	23.4	0.0	0.0
LnGrp LOS	B		B	B		B	C			C		
Approach Vol, veh/h		231			145			99			142	
Approach Delay, s/veh		16.3			15.5			22.6			23.4	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.0		67.0		53.0		67.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		49.0		63.0		49.0		63.0				
Max Q Clear Time (g_c+I1), s		6.1		10.8		8.1		12.3				
Green Ext Time (p_c), s		1.5		2.4		1.5		2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			18.8									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
2: Holly St & 64th Ave

2025 Background PM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	49	62	63	143	72	42	166	52	48	89	5
Future Volume (veh/h)	4	49	62	63	143	72	42	166	52	48	89	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	8	67	70	83	174	92	51	191	67	67	103	12
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.50	0.73	0.88	0.76	0.82	0.78	0.83	0.87	0.78	0.72	0.86	0.42
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	355	371	527	488	258	152	556	186	297	443	49
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1109	836	873	1247	1148	607	230	1094	367	504	872	97
Grp Volume(v), veh/h	8	0	137	83	0	266	309	0	0	182	0	0
Grp Sat Flow(s),veh/h/ln	1109	0	1709	1247	0	1756	1691	0	0	1473	0	0
Q Serve(g_s), s	0.6	0.0	6.0	5.3	0.0	12.3	2.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.9	0.0	6.0	11.4	0.0	12.3	12.5	0.0	0.0	8.0	0.0	0.0
Prop In Lane	1.00		0.51	1.00		0.35	0.17		0.22	0.37		0.07
Lane Grp Cap(c), veh/h	417	0	726	527	0	746	895	0	0	790	0	0
V/C Ratio(X)	0.02	0.00	0.19	0.16	0.00	0.36	0.35	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	417	0	726	527	0	746	895	0	0	790	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.8	0.0	21.6	25.1	0.0	23.4	17.5	0.0	0.0	16.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.6	0.0	1.3	1.1	0.0	0.0	0.7	0.0	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(50%),veh/ln	0.2	0.0	2.9	1.9	0.0	6.3	6.4	0.0	0.0	3.5	0.0	0.0
LnGrp Delay(d),s/veh	27.8	0.0	22.1	25.8	0.0	24.7	18.6	0.0	0.0	17.0	0.0	0.0
LnGrp LOS	C		C	C		C	B			B		
Approach Vol, veh/h		145			349			309			182	
Approach Delay, s/veh		22.5			25.0			18.6			17.0	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.0		55.0		65.0		55.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		61.0		51.0		61.0		51.0				
Max Q Clear Time (g_c+l1), s		14.5		14.9		10.0		14.3				
Green Ext Time (p_c), s		3.5		2.9		3.5		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			21.1									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
2: Holly St & 64th Ave

2025 Total AM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	54	95	24	70	23	16	68	21	27	81	11
Future Volume (veh/h)	14	54	95	24	70	23	16	68	21	27	81	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	22	95	153	34	95	38	21	78	28	42	104	17
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.63	0.57	0.62	0.71	0.74	0.61	0.75	0.87	0.75	0.65	0.78	0.63
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	680	343	553	570	676	270	122	441	149	187	447	69
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1252	643	1036	1127	1267	507	219	1102	373	372	1118	174
Grp Volume(v), veh/h	22	0	248	34	0	133	127	0	0	163	0	0
Grp Sat Flow(s),veh/h/ln	1252	0	1680	1127	0	1773	1694	0	0	1664	0	0
Q Serve(g_s), s	1.1	0.0	9.7	2.0	0.0	4.5	0.0	0.0	0.0	1.5	0.0	0.0
Cycle Q Clear(g_c), s	5.6	0.0	9.7	11.7	0.0	4.5	5.5	0.0	0.0	7.2	0.0	0.0
Prop In Lane	1.00		0.62	1.00		0.29	0.17		0.22	0.26		0.10
Lane Grp Cap(c), veh/h	680	0	896	570	0	946	712	0	0	703	0	0
V/C Ratio(X)	0.03	0.00	0.28	0.06	0.00	0.14	0.18	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	680	0	896	570	0	946	712	0	0	703	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.5	0.0	15.3	18.5	0.0	14.1	23.2	0.0	0.0	23.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.8	0.2	0.0	0.3	0.5	0.0	0.0	0.8	0.0	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(50%),veh/ln	0.4	0.0	4.7	0.7	0.0	2.3	2.8	0.0	0.0	3.7	0.0	0.0
LnGrp Delay(d),s/veh	15.6	0.0	16.1	18.7	0.0	14.4	23.8	0.0	0.0	24.5	0.0	0.0
LnGrp LOS	B		B	B		B	C			C		
Approach Vol, veh/h		270			167			127			163	
Approach Delay, s/veh		16.1			15.3			23.8			24.5	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		68.0		52.0		68.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		48.0		64.0		48.0		64.0				
Max Q Clear Time (g_c+I1), s		7.5		11.7		9.2		13.7				
Green Ext Time (p_c), s		1.9		2.7		1.9		2.7				
Intersection Summary												
HCM 2010 Ctrl Delay				19.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 2: Holly St & 64th Ave

2025 Total PM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	62	62	75	160	72	42	179	61	48	106	17
Future Volume (veh/h)	13	62	62	75	160	72	42	179	61	48	106	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	26	85	70	99	195	92	51	206	78	67	123	40
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.50	0.73	0.88	0.76	0.82	0.78	0.83	0.87	0.78	0.72	0.86	0.42
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	390	394	325	501	499	235	142	560	203	245	440	136
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1088	946	779	1227	1198	565	208	1084	392	400	851	263
Grp Volume(v), veh/h	26	0	155	99	0	287	335	0	0	230	0	0
Grp Sat Flow(s),veh/h/ln	1088	0	1725	1227	0	1763	1684	0	0	1513	0	0
Q Serve(g_s), s	2.0	0.0	6.9	6.8	0.0	13.6	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.7	0.0	6.9	13.7	0.0	13.6	13.6	0.0	0.0	9.7	0.0	0.0
Prop In Lane	1.00		0.45	1.00		0.32	0.15		0.23	0.29		0.17
Lane Grp Cap(c), veh/h	390	0	719	501	0	735	904	0	0	821	0	0
V/C Ratio(X)	0.07	0.00	0.22	0.20	0.00	0.39	0.37	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	390	0	719	501	0	735	904	0	0	821	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.8	0.0	22.4	26.8	0.0	24.4	17.3	0.0	0.0	16.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.7	0.9	0.0	1.6	1.2	0.0	0.0	0.9	0.0	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(50%),veh/ln	0.6	0.0	3.4	2.4	0.0	6.9	6.9	0.0	0.0	4.5	0.0	0.0
LnGrp Delay(d),s/veh	30.2	0.0	23.1	27.7	0.0	25.9	18.4	0.0	0.0	17.0	0.0	0.0
LnGrp LOS	C		C	C		C	B			B		
Approach Vol, veh/h		181			386			335			230	
Approach Delay, s/veh		24.1			26.4			18.4			17.0	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.0		54.0		66.0		54.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		62.0		50.0		62.0		50.0				
Max Q Clear Time (g_c+I1), s		15.6		17.7		11.7		15.7				
Green Ext Time (p_c), s		4.2		3.3		4.2		3.3				
Intersection Summary												
HCM 2010 Ctrl Delay				21.8								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary
2: Holly St & 64th Ave

2035 Background AM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	42	99	18	63	24	16	56	13	28	74	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	8	74	160	25	85	39	21	64	17	43	95	8
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.63	0.57	0.62	0.71	0.74	0.61	0.75	0.87	0.75	0.65	0.78	0.63
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	688	280	606	582	645	296	151	447	112	213	455	36
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1262	526	1137	1142	1210	555	287	1117	281	436	1137	91
Grp Volume(v), veh/h	8	0	234	25	0	124	102	0	0	146	0	0
Grp Sat Flow(s),veh/h/ln	1262	0	1662	1142	0	1765	1684	0	0	1664	0	0
Q Serve(g_s), s	0.4	0.0	9.2	1.5	0.0	4.2	0.0	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	9.2	10.6	0.0	4.2	4.3	0.0	0.0	6.4	0.0	0.0
Prop In Lane	1.00		0.68	1.00		0.31	0.21		0.17	0.29		0.05
Lane Grp Cap(c), veh/h	688	0	886	582	0	941	710	0	0	704	0	0
V/C Ratio(X)	0.01	0.00	0.26	0.04	0.00	0.13	0.14	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	688	0	886	582	0	941	710	0	0	704	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.2	0.0	15.2	18.1	0.0	14.1	22.9	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.1	0.0	0.3	0.4	0.0	0.0	0.7	0.0	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(50%),veh/ln	0.1	0.0	4.4	0.5	0.0	2.1	2.2	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	15.2	0.0	15.9	18.2	0.0	14.3	23.3	0.0	0.0	24.1	0.0	0.0
LnGrp LOS	B		B	B		B	C			C		
Approach Vol, veh/h		242			149			102			146	
Approach Delay, s/veh		15.9			15.0			23.3			24.1	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		68.0		52.0		68.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		48.0		64.0		48.0		64.0				
Max Q Clear Time (g_c+l1), s		6.3		11.2		8.4		12.6				
Green Ext Time (p_c), s		1.6		2.5		1.6		2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			18.8									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
2: Holly St & 64th Ave

2035 Background PM
7/24/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	50	64	66	148	74	43	172	54	49	92	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	8	68	73	87	180	95	52	198	69	68	107	12
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.50	0.73	0.88	0.76	0.82	0.78	0.83	0.87	0.78	0.72	0.86	0.42
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	399	343	368	512	479	253	152	567	189	289	441	47
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1100	823	884	1243	1149	607	227	1098	366	481	854	92
Grp Volume(v), veh/h	8	0	141	87	0	275	319	0	0	187	0	0
Grp Sat Flow(s),veh/h/ln	1100	0	1707	1243	0	1756	1691	0	0	1426	0	0
Q Serve(g_s), s	0.6	0.0	6.3	5.7	0.0	13.0	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.6	0.0	6.3	12.0	0.0	13.0	12.8	0.0	0.0	9.8	0.0	0.0
Prop In Lane	1.00		0.52	1.00		0.35	0.16		0.22	0.36		0.06
Lane Grp Cap(c), veh/h	399	0	711	512	0	732	909	0	0	778	0	0
V/C Ratio(X)	0.02	0.00	0.20	0.17	0.00	0.38	0.35	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	399	0	711	512	0	732	909	0	0	778	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.9	0.0	22.3	26.1	0.0	24.2	17.1	0.0	0.0	16.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.7	0.0	1.5	1.1	0.0	0.0	0.7	0.0	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(50%),veh/ln	0.2	0.0	3.1	2.1	0.0	6.6	6.5	0.0	0.0	3.6	0.0	0.0
LnGrp Delay(d),s/veh	29.0	0.0	22.9	26.8	0.0	25.7	18.1	0.0	0.0	16.7	0.0	0.0
LnGrp LOS	C		C	C		C	B			B		
Approach Vol, veh/h		149			362			319			187	
Approach Delay, s/veh		23.2			26.0			18.1			16.7	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.0		54.0		66.0		54.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		62.0		50.0		62.0		50.0				
Max Q Clear Time (g_c+l1), s		14.8		15.6		11.8		15.0				
Green Ext Time (p_c), s		3.7		3.0		3.7		3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			21.4									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
2: Holly St & 64th Ave

2035 Total AM
11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	56	99	24	72	24	16	70	22	28	83	11
Future Volume (veh/h)	14	56	99	24	72	24	16	70	22	28	83	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	22	98	160	34	97	39	21	80	29	43	106	17
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.63	0.57	0.62	0.71	0.74	0.61	0.75	0.87	0.75	0.65	0.78	0.63
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	677	340	555	561	674	271	120	442	151	187	447	68
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1248	638	1041	1117	1265	508	212	1105	378	374	1118	170
Grp Volume(v), veh/h	22	0	258	34	0	136	130	0	0	166	0	0
Grp Sat Flow(s),veh/h/ln	1248	0	1679	1117	0	1773	1695	0	0	1662	0	0
Q Serve(g_s), s	1.1	0.0	10.2	2.1	0.0	4.7	0.0	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	5.7	0.0	10.2	12.2	0.0	4.7	5.6	0.0	0.0	7.4	0.0	0.0
Prop In Lane	1.00		0.62	1.00		0.29	0.16		0.22	0.26		0.10
Lane Grp Cap(c), veh/h	677	0	895	561	0	946	713	0	0	703	0	0
V/C Ratio(X)	0.03	0.00	0.29	0.06	0.00	0.14	0.18	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	677	0	895	561	0	946	713	0	0	703	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.6	0.0	15.4	18.8	0.0	14.2	23.3	0.0	0.0	23.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.8	0.2	0.0	0.3	0.6	0.0	0.0	0.8	0.0	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(50%),veh/ln	0.4	0.0	4.9	0.7	0.0	2.4	2.9	0.0	0.0	3.8	0.0	0.0
LnGrp Delay(d),s/veh	15.7	0.0	16.3	19.0	0.0	14.5	23.9	0.0	0.0	24.6	0.0	0.0
LnGrp LOS	B		B	B		B	C			C		
Approach Vol, veh/h		280			170			130			166	
Approach Delay, s/veh		16.2			15.4			23.9			24.6	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		68.0		52.0		68.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		48.0		64.0		48.0		64.0				
Max Q Clear Time (g_c+I1), s		7.6		12.2		9.4		14.2				
Green Ext Time (p_c), s		1.9		2.8		1.9		2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			19.2									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 2: Holly St & 64th Ave

2035 Total PM
 11/2/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	63	64	78	165	74	43	185	63	49	109	17
Future Volume (veh/h)	13	63	64	78	165	74	43	185	63	49	109	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	26	86	73	103	201	95	52	213	81	68	127	40
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.50	0.73	0.88	0.76	0.82	0.78	0.83	0.87	0.78	0.72	0.86	0.42
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	381	323	486	489	231	142	569	207	246	449	135
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1079	932	791	1222	1197	566	205	1084	394	396	856	257
Grp Volume(v), veh/h	26	0	159	103	0	296	346	0	0	235	0	0
Grp Sat Flow(s),veh/h/ln	1079	0	1723	1222	0	1763	1683	0	0	1509	0	0
Q Serve(g_s), s	2.1	0.0	7.2	7.2	0.0	14.3	2.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.4	0.0	7.2	14.4	0.0	14.3	13.9	0.0	0.0	9.9	0.0	0.0
Prop In Lane	1.00		0.46	1.00		0.32	0.15		0.23	0.29		0.17
Lane Grp Cap(c), veh/h	372	0	704	486	0	720	918	0	0	831	0	0
V/C Ratio(X)	0.07	0.00	0.23	0.21	0.00	0.41	0.38	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	372	0	704	486	0	720	918	0	0	831	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.1	0.0	23.1	27.8	0.0	25.2	16.8	0.0	0.0	15.7	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.7	1.0	0.0	1.7	1.2	0.0	0.0	0.9	0.0	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(50%),veh/ln	0.7	0.0	3.6	2.6	0.0	7.3	7.0	0.0	0.0	4.5	0.0	0.0
LnGrp Delay(d),s/veh	31.4	0.0	23.9	28.8	0.0	27.0	18.0	0.0	0.0	16.5	0.0	0.0
LnGrp LOS	C		C	C		C	B			B		
Approach Vol, veh/h		185			399			346			235	
Approach Delay, s/veh		24.9			27.5			18.0			16.5	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.0		53.0		67.0		53.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		63.0		49.0		63.0		49.0				
Max Q Clear Time (g_c+I1), s		15.9		18.4		11.9		16.4				
Green Ext Time (p_c), s		4.3		3.4		4.4		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				22.0								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	24	7	2	19	4	2
Future Vol, veh/h	24	7	2	19	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	44	50	95	50	25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	16	4	20	8	8

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	64
Stage 1	-	-	36
Stage 2	-	-	28
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1564	942
Stage 1	-	-	986
Stage 2	-	-	995
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1564	939
Mov Cap-2 Maneuver	-	-	939
Stage 1	-	-	986
Stage 2	-	-	992

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	986	-	-	1564	-
HCM Lane V/C Ratio	0.016	-	-	0.003	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh	2.5
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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	35	24	5	24	14	5
Future Vol, veh/h	35	24	5	24	14	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	60	42	67	58	42
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	40	12	36	24	12

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	84
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1513
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1513
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	905	-	-	1513	-
HCM Lane V/C Ratio	0.04	-	-	0.008	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Queuing Analysis Worksheets



Queues

2020 Total AM

1: Vasquez Blvd & 64th Ave

11/3/2016



Lane Group	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	181	192	316	110	671
v/c Ratio	0.60	0.39	0.14	0.14	0.61
Control Delay	58.0	6.6	7.8	4.2	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	6.6	7.8	4.2	13.8
Queue Length 50th (ft)	140	36	45	20	274
Queue Length 95th (ft)	208	21	47	29	148
Internal Link Dist (ft)	209		540		227
Turn Bay Length (ft)		170		145	
Base Capacity (vph)	303	489	2311	809	1096
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.39	0.14	0.14	0.61

Intersection Summary

Queues

2020 Total PM

1: Vasquez Blvd & 64th Ave

11/3/2016



Lane Group	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	265	79	839	98	416
v/c Ratio	0.44	0.15	0.53	0.25	0.59
Control Delay	36.1	11.4	26.8	12.6	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.1	11.4	26.8	12.6	31.5
Queue Length 50th (ft)	171	26	258	32	257
Queue Length 95th (ft)	219	32	286	57	282
Internal Link Dist (ft)	209		540		227
Turn Bay Length (ft)		170		145	
Base Capacity (vph)	597	524	1575	399	707
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.15	0.53	0.25	0.59

Intersection Summary

Queues

2025 Total AM

1: Vasquez Blvd & 64th Ave

11/3/2016



Lane Group	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	203	250	344	137	703
v/c Ratio	0.67	0.54	0.15	0.17	0.64
Control Delay	61.7	9.1	7.8	4.4	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	9.1	7.8	4.4	14.5
Queue Length 50th (ft)	159	49	50	25	296
Queue Length 95th (ft)	232	27	52	35	156
Internal Link Dist (ft)	209		540		227
Turn Bay Length (ft)		170		145	
Base Capacity (vph)	302	467	2299	787	1101
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.67	0.54	0.15	0.17	0.64

Intersection Summary

Queues

2025 Total PM

1: Vasquez Blvd & 64th Ave

11/3/2016



Lane Group	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	321	172	889	132	444
v/c Ratio	0.54	0.34	0.57	0.35	0.62
Control Delay	38.6	13.3	27.5	13.8	32.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	13.3	27.5	13.8	32.6
Queue Length 50th (ft)	215	60	280	45	280
Queue Length 95th (ft)	268	60	307	74	304
Internal Link Dist (ft)	209		540		227
Turn Bay Length (ft)		170		145	
Base Capacity (vph)	593	503	1571	381	712
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.34	0.57	0.35	0.62

Intersection Summary

Queues

2035 Total AM

1: Vasquez Blvd & 64th Ave

11/3/2016



Lane Group	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	208	250	354	141	727
v/c Ratio	0.69	0.55	0.15	0.18	0.66
Control Delay	62.7	9.6	7.9	4.4	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	9.6	7.9	4.4	15.1
Queue Length 50th (ft)	164	49	52	26	315
Queue Length 95th (ft)	238	27	53	36	162
Internal Link Dist (ft)	209		540		227
Turn Bay Length (ft)		170		145	
Base Capacity (vph)	302	451	2299	778	1101
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.69	0.55	0.15	0.18	0.66

Intersection Summary

Queues

2035 Total PM

1: Vasquez Blvd & 64th Ave

11/3/2016



Lane Group	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	318	172	916	135	457
v/c Ratio	0.55	0.36	0.55	0.38	0.58
Control Delay	39.6	13.1	24.7	13.9	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	13.1	24.7	13.9	27.4
Queue Length 50th (ft)	215	58	273	45	265
Queue Length 95th (ft)	268	59	299	74	285
Internal Link Dist (ft)	209		540		227
Turn Bay Length (ft)		170		145	
Base Capacity (vph)	579	482	1679	355	788
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.36	0.55	0.38	0.58

Intersection Summary

Queues
2: Holly St & 64th Ave

2020 Total AM
11/3/2016



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	19	241	27	121	119	147
v/c Ratio	0.03	0.27	0.05	0.13	0.17	0.22
Control Delay	13.5	16.2	13.8	14.5	24.1	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	16.2	13.8	14.5	24.1	24.9
Queue Length 50th (ft)	7	98	10	45	59	74
Queue Length 95th (ft)	13	86	19	62	98	104
Internal Link Dist (ft)		180		303	1243	365
Turn Bay Length (ft)	60		105			
Base Capacity (vph)	674	899	561	948	686	662
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	0.03	0.27	0.05	0.13	0.17	0.22

Intersection Summary

Queues
2: Holly St & 64th Ave

2020 Total PM
11/3/2016



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	14	142	88	272	311	201
v/c Ratio	0.04	0.20	0.18	0.37	0.36	0.26
Control Delay	21.3	23.2	23.3	26.0	18.7	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	23.2	23.3	26.0	18.7	17.3
Queue Length 50th (ft)	6	69	42	143	138	84
Queue Length 95th (ft)	11	90	65	191	196	126
Internal Link Dist (ft)		180		303	1243	365
Turn Bay Length (ft)	60		105			
Base Capacity (vph)	381	719	496	737	863	771
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	0.04	0.20	0.18	0.37	0.36	0.26

Intersection Summary

Queues
2: Holly St & 64th Ave

2025 Total AM
11/3/2016



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	22	248	34	133	127	163
v/c Ratio	0.03	0.28	0.06	0.14	0.19	0.25
Control Delay	13.6	16.4	14.0	14.6	24.3	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	16.4	14.0	14.6	24.3	25.2
Queue Length 50th (ft)	8	101	12	50	63	83
Queue Length 95th (ft)	14	89	23	67	103	114
Internal Link Dist (ft)		180		303	1243	365
Turn Bay Length (ft)	60		105			
Base Capacity (vph)	662	901	554	950	682	664
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	0.03	0.28	0.06	0.14	0.19	0.25

Intersection Summary

Queues
2: Holly St & 64th Ave

2025 Total PM
11/3/2016



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	26	155	99	287	335	230
v/c Ratio	0.07	0.21	0.20	0.39	0.39	0.30
Control Delay	21.8	23.4	23.8	26.3	19.3	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	23.4	23.8	26.3	19.3	17.9
Queue Length 50th (ft)	12	76	48	152	152	98
Queue Length 95th (ft)	17	98	73	201	213	145
Internal Link Dist (ft)		180		303	1243	365
Turn Bay Length (ft)	60		105			
Base Capacity (vph)	369	723	484	738	859	771
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	0.07	0.21	0.20	0.39	0.39	0.30

Intersection Summary

Queues
2: Holly St & 64th Ave

2035 Total AM
11/3/2016



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	22	258	34	136	130	166
v/c Ratio	0.03	0.29	0.06	0.14	0.19	0.25
Control Delay	13.6	16.5	14.0	14.7	24.3	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	16.5	14.0	14.7	24.3	25.3
Queue Length 50th (ft)	8	106	12	51	65	85
Queue Length 95th (ft)	14	93	23	69	106	116
Internal Link Dist (ft)		180		303	1243	365
Turn Bay Length (ft)	60		105			
Base Capacity (vph)	659	901	545	950	683	663
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	0.03	0.29	0.06	0.14	0.19	0.25

Intersection Summary

Queues
2: Holly St & 64th Ave

2035 Total PM
11/3/2016



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	26	159	103	296	346	235
v/c Ratio	0.07	0.22	0.22	0.41	0.40	0.30
Control Delay	22.6	24.2	24.7	27.4	18.8	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	24.2	24.7	27.4	18.8	17.4
Queue Length 50th (ft)	12	79	51	160	155	99
Queue Length 95th (ft)	17	102	76	211	217	145
Internal Link Dist (ft)		180		303	1243	365
Turn Bay Length (ft)	60		105			
Base Capacity (vph)	350	708	469	723	872	782
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	0.07	0.22	0.22	0.41	0.40	0.30

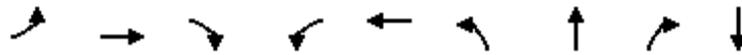
Intersection Summary

Queues

2020 Total AM

5: Parkway Drive & 62nd Ave

11/3/2016

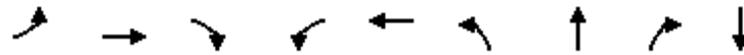


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	10	24	52	147	148	38	24	99	154
v/c Ratio	0.06	0.13	0.34	0.58	0.57	0.05	0.02	0.10	0.16
Control Delay	37.2	38.4	43.7	43.7	43.2	8.0	8.0	8.2	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	38.4	43.7	43.7	43.2	8.0	8.0	8.2	13.0
Queue Length 50th (ft)	5	12	27	78	80	7	5	20	44
Queue Length 95th (ft)	21	26	40	132	146	21	17	49	94
Internal Link Dist (ft)		1238			1194		591		178
Turn Bay Length (ft)	120		40	310		115			
Base Capacity (vph)	670	705	599	1676	1713	950	1185	1007	988
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	0.01	0.03	0.09	0.09	0.09	0.04	0.02	0.10	0.16

Intersection Summary

Queues
5: Parkway Drive & 62nd Ave

2020 Total PM
11/3/2016

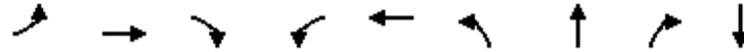


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	29	123	19	254	271	114	74	227	68
v/c Ratio	0.14	0.54	0.10	0.69	0.71	0.16	0.07	0.27	0.10
Control Delay	42.1	51.7	41.8	46.1	46.7	14.1	13.8	15.3	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	51.7	41.8	46.1	46.7	14.1	13.8	15.3	22.9
Queue Length 50th (ft)	17	74	11	155	166	34	21	73	26
Queue Length 95th (ft)	46	107	29	254	262	77	56	152	69
Internal Link Dist (ft)		1238			1194		591		178
Turn Bay Length (ft)	120		40	310		115			
Base Capacity (vph)	574	604	514	1552	1613	832	1001	851	708
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	0.05	0.20	0.04	0.16	0.17	0.14	0.07	0.27	0.10

Intersection Summary

Queues
5: Parkway Drive & 62nd Ave

2025 Total AM
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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	32	25	61	157	159	50	78	111	200
v/c Ratio	0.18	0.13	0.38	0.59	0.59	0.07	0.07	0.11	0.22
Control Delay	39.4	38.4	44.8	43.9	43.7	8.6	8.6	8.8	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	38.4	44.8	43.9	43.7	8.6	8.6	8.8	14.9
Queue Length 50th (ft)	16	13	32	86	87	10	16	24	61
Queue Length 95th (ft)	45	27	44	142	156	27	41	56	126
Internal Link Dist (ft)		1238			1194		591		178
Turn Bay Length (ft)	120		40	310		115			
Base Capacity (vph)	665	700	594	1669	1693	913	1166	991	920
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	0.05	0.04	0.10	0.09	0.09	0.05	0.07	0.11	0.22

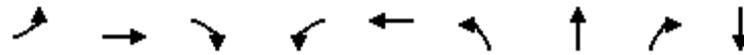
Intersection Summary

Queues

2025 Total PM

5: Parkway Drive & 62nd Ave

11/3/2016

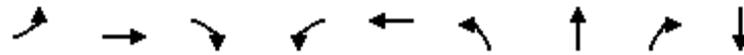


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	63	125	37	272	294	132	159	248	190
v/c Ratio	0.29	0.56	0.19	0.69	0.72	0.22	0.16	0.30	0.29
Control Delay	46.1	53.3	44.5	45.2	46.6	15.6	15.2	16.8	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	53.3	44.5	45.2	46.6	15.6	15.2	16.8	26.3
Queue Length 50th (ft)	38	77	22	169	184	41	51	86	83
Queue Length 95th (ft)	85	111	47	273	286	92	113	175	178
Internal Link Dist (ft)		1238			1194		591		178
Turn Bay Length (ft)	120		40	310		115			
Base Capacity (vph)	560	590	501	1519	1566	748	977	830	663
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	0.21	0.07	0.18	0.19	0.18	0.16	0.30	0.29

Intersection Summary

5: Parkway Drive & 62nd Ave

11/3/2016

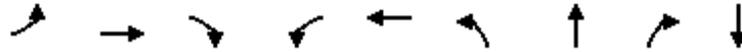


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	32	25	63	163	164	51	78	114	200
v/c Ratio	0.17	0.13	0.39	0.59	0.59	0.07	0.07	0.12	0.22
Control Delay	39.7	38.8	45.3	43.6	43.3	9.0	9.0	9.1	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	38.8	45.3	43.6	43.3	9.0	9.0	9.1	15.4
Queue Length 50th (ft)	17	13	33	89	90	11	16	25	62
Queue Length 95th (ft)	46	27	46	146	161	29	43	60	131
Internal Link Dist (ft)		1238			1194		591		178
Turn Bay Length (ft)	120		40	310		115			
Base Capacity (vph)	661	696	591	1663	1687	905	1156	983	911
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	0.05	0.04	0.11	0.10	0.10	0.06	0.07	0.12	0.22

Intersection Summary

Queues
5: Parkway Drive & 62nd Ave

2035 Total PM
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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	63	129	37	281	304	136	159	255	190
v/c Ratio	0.29	0.57	0.19	0.69	0.73	0.23	0.16	0.31	0.29
Control Delay	46.6	54.2	45.0	45.1	46.6	16.4	15.9	17.7	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	54.2	45.0	45.1	46.6	16.4	15.9	17.7	27.5
Queue Length 50th (ft)	38	80	22	176	192	44	52	91	85
Queue Length 95th (ft)	87	116	48	284	297	100	118	188	186
Internal Link Dist (ft)		1238			1194		591		178
Turn Bay Length (ft)	120		40	310		115			
Base Capacity (vph)	553	582	495	1503	1550	737	965	820	649
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	0.22	0.07	0.19	0.20	0.18	0.16	0.31	0.29

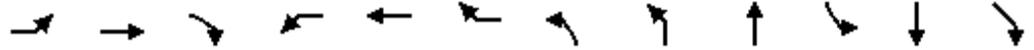
Intersection Summary

Queues

2020 Total AM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

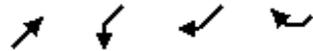
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBT	SBL	SBT	SER
Lane Group Flow (vph)	91	83	197	231	77	108	104	43	807	370	2090	4
v/c Ratio	0.46	0.35	0.98	1.30dl	0.37	0.62	1.01	0.72	0.41	0.90	0.92	0.10
Control Delay	52.2	52.5	110.1	58.8	55.4	66.9	145.9	91.1	26.3	77.9	38.1	62.2
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	52.2	52.5	110.1	58.8	55.4	66.9	145.9	91.1	26.3	77.9	38.1	62.2
Queue Length 50th (ft)	62	60	155	82	56	81	~100	29	162	148	543	3
Queue Length 95th (ft)	104	107	#263	31	81	37	#180	#80	193	#186	620	16
Internal Link Dist (ft)		361			415				409		512	
Turn Bay Length (ft)	100						200	200		200		
Base Capacity (vph)	198	237	202	340	206	175	103	61	2022	409	2329	41
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	0.46	0.35	0.98	0.68	0.37	0.62	1.01	0.70	0.40	0.90	0.90	0.10

Intersection Summary

- ~ 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.



Lane Group	NET	SWL	SWR	SWR2
Lane Group Flow (vph)	32	394	41	61
v/c Ratio	0.76	0.96	0.07	0.04
Control Delay	137.6	88.4	19.2	0.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	137.6	88.4	19.2	0.0
Queue Length 50th (ft)	25	159	20	0
Queue Length 95th (ft)	16	#262	36	0
Internal Link Dist (ft)	239			
Turn Bay Length (ft)			135	135
Base Capacity (vph)	42	409	640	1583
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.76	0.96	0.06	0.04

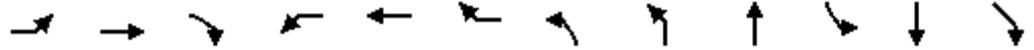
Intersection Summary

Queues

2020 Total PM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/3/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBT	SBL	SBT	SER
Lane Group Flow (vph)	163	164	143	284	142	219	78	39	1787	401	1237	28
v/c Ratio	1.00	0.81	0.83	1.83dl	0.61	1.10	0.37	0.30	0.93	1.16	0.67	1.08
Control Delay	118.6	81.0	87.9	87.1	61.4	142.0	51.9	33.2	44.3	146.0	34.7	250.5
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	118.6	81.0	87.9	87.1	61.4	142.0	51.9	33.2	44.3	146.0	34.7	250.5
Queue Length 50th (ft)	~114	126	110	101	106	~194	61	22	476	~190	316	~24
Queue Length 95th (ft)	#129	#197	#181	36	160	136	108	44	#553	#291	339	15
Internal Link Dist (ft)		361			415				409		512	
Turn Bay Length (ft)	100						200	200		200		
Base Capacity (vph)	163	203	172	298	234	199	228	131	1958	346	2065	26
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	1.00	0.81	0.83	0.95	0.61	1.10	0.34	0.30	0.91	1.16	0.60	1.08

Intersection Summary

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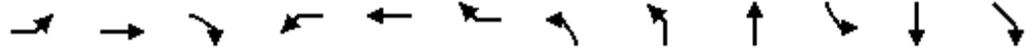


Lane Group	NET	SWL	SWR	SWR2
Lane Group Flow (vph)	36	389	54	203
v/c Ratio	1.33	0.86	0.11	0.13
Control Delay	329.1	70.1	27.7	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	329.1	70.1	27.7	0.2
Queue Length 50th (ft)	~36	153	34	0
Queue Length 95th (ft)	18	183	38	0
Internal Link Dist (ft)	239			
Turn Bay Length (ft)			135	135
Base Capacity (vph)	27	461	571	1583
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.33	0.84	0.09	0.13

Intersection Summary

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/3/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBT	SBL	SBT	SER
Lane Group Flow (vph)	91	85	200	235	79	111	105	44	951	376	2153	4
v/c Ratio	0.47	0.36	1.00	1.34dl	0.39	0.64	1.03	0.73	0.48	0.93	0.94	0.10
Control Delay	52.7	52.9	116.2	60.0	55.8	68.6	150.8	94.9	27.3	81.8	40.0	62.2
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	52.7	52.9	116.2	60.0	55.8	68.6	150.8	94.9	27.3	81.8	40.0	62.2
Queue Length 50th (ft)	62	61	~159	84	58	84	~102	30	198	151	572	3
Queue Length 95th (ft)	104	109	#268	31	83	38	#182	#82	232	#190	#670	16
Internal Link Dist (ft)		361			415				409		512	
Turn Bay Length (ft)	100						200	200		200		
Base Capacity (vph)	194	235	200	337	204	174	102	60	1989	406	2310	41
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	0.47	0.36	1.00	0.70	0.39	0.64	1.03	0.73	0.48	0.93	0.93	0.10

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
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- dl Defacto Left Lane. Recode with 1 though lane as a left lane.



Lane Group	NET	SWL	SWR	SWR2
Lane Group Flow (vph)	32	442	41	62
v/c Ratio	0.76	1.09	0.06	0.04
Control Delay	139.7	119.6	19.2	0.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	139.7	119.6	19.2	0.0
Queue Length 50th (ft)	25	~201	20	0
Queue Length 95th (ft)	16	#305	36	0
Internal Link Dist (ft)	239			
Turn Bay Length (ft)			135	135
Base Capacity (vph)	42	406	635	1583
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.76	1.09	0.06	0.04

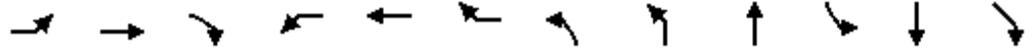
Intersection Summary

Queues

2025 Total PM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/3/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBT	SBL	SBT	SER
Lane Group Flow (vph)	166	166	146	290	145	222	79	40	2021	408	1331	28
v/c Ratio	1.04	0.83	0.85	1.91dl	0.62	1.13	0.42	0.36	1.05	1.19	0.69	1.08
Control Delay	130.7	83.5	91.9	97.0	62.6	149.9	55.6	37.1	70.0	156.9	34.0	256.4
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	130.7	83.5	91.9	97.0	62.6	149.9	55.6	37.1	70.0	156.9	34.0	256.4
Queue Length 50th (ft)	~122	128	113	103	108	~198	65	23	~623	~196	336	~24
Queue Length 95th (ft)	#136	#202	#186	37	163	138	110	48	#719	#298	367	15
Internal Link Dist (ft)		361			415				409		512	
Turn Bay Length (ft)	100						200	200		200		
Base Capacity (vph)	159	201	171	292	232	197	204	112	1930	343	2072	26
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	1.04	0.83	0.85	0.99	0.63	1.13	0.39	0.36	1.05	1.19	0.64	1.08

Intersection Summary

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Queue shown is maximum after two cycles.
- dl Defacto Left Lane. Recode with 1 though lane as a left lane.



Lane Group	NET	SWL	SWR	SWR2
Lane Group Flow (vph)	36	520	54	207
v/c Ratio	1.33	1.14	0.10	0.13
Control Delay	333.2	132.2	26.2	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	333.2	132.2	26.2	0.2
Queue Length 50th (ft)	~36	~241	32	0
Queue Length 95th (ft)	18	#291	37	0
Internal Link Dist (ft)	239			
Turn Bay Length (ft)			135	135
Base Capacity (vph)	27	457	573	1583
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.33	1.14	0.09	0.13

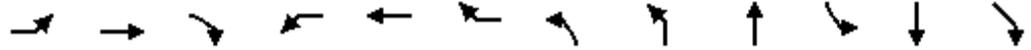
Intersection Summary

Queues

2035 Total AM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

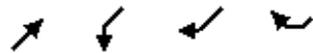
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBT	SBL	SBT	SER
Lane Group Flow (vph)	95	87	206	243	81	114	109	45	977	388	2224	4
v/c Ratio	0.47	0.37	1.03	1.23dl	0.37	0.61	1.07	0.76	0.50	0.96	0.98	0.10
Control Delay	51.8	53.1	123.5	54.6	54.2	65.1	161.0	101.1	28.3	87.9	48.2	62.2
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	51.8	53.1	123.5	54.6	54.2	65.1	161.0	101.1	28.3	87.9	48.2	62.2
Queue Length 50th (ft)	64	63	-173	86	59	85	-109	31	208	156	615	3
Queue Length 95th (ft)	106	111	#277	32	84	38	#189	#84	244	#200	#747	16
Internal Link Dist (ft)		361			415				409		512	
Turn Bay Length (ft)	100						200	200		200		
Base Capacity (vph)	203	235	200	379	220	186	102	59	1943	405	2262	40
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	0.47	0.37	1.03	0.64	0.37	0.61	1.07	0.76	0.50	0.96	0.98	0.10

Intersection Summary

- 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.



Lane Group	NET	SWL	SWR	SWR2
Lane Group Flow (vph)	34	449	42	65
v/c Ratio	0.81	1.11	0.07	0.04
Control Delay	150.3	125.6	19.8	0.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	150.3	125.6	19.8	0.1
Queue Length 50th (ft)	27	-206	20	0
Queue Length 95th (ft)	17	#312	37	0
Internal Link Dist (ft)	239			
Turn Bay Length (ft)			135	135
Base Capacity (vph)	42	405	623	1583
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.81	1.11	0.07	0.04

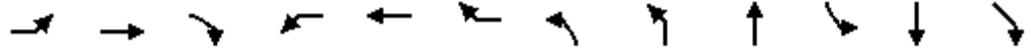
Intersection Summary

Queues

2035 Total PM

7: Dexter Street & Vasquez Blvd & 60th Avenue & Parkway Drive

11/3/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBT	SBL	SBT	SER
Lane Group Flow (vph)	171	171	151	300	151	230	81	41	2078	421	1371	30
v/c Ratio	1.73	1.01	1.04	2.45dl	0.70	1.25	0.38	0.34	0.97	1.23	0.67	2.31
Control Delay	398.1	125.1	139.0	193.0	68.5	192.9	51.7	32.5	47.7	170.3	31.8	800.1
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	398.1	125.1	139.0	193.0	68.5	192.9	51.7	32.5	47.7	170.3	31.8	800.1
Queue Length 50th (ft)	~187	~135	~127	~140	114	~222	63	22	567	~207	343	~38
Queue Length 95th (ft)	#201	#235	#217	40	171	145	110	45	#691	#310	360	#21
Internal Link Dist (ft)		361			415				409		512	
Turn Bay Length (ft)	100						200	200		200		
Base Capacity (vph)	99	170	145	235	217	184	232	121	2135	343	2282	13
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	1.73	1.01	1.04	1.28	0.70	1.25	0.35	0.34	0.97	1.23	0.60	2.31

Intersection Summary

- ~ 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.



Lane Group	NET	SWL	SWR	SWR2
Lane Group Flow (vph)	37	532	55	214
v/c Ratio	2.85	1.16	0.10	0.14
Control Delay	1027.9	141.1	24.5	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1027.9	141.1	24.5	0.2
Queue Length 50th (ft)	~49	~252	32	0
Queue Length 95th (ft)	#26	#301	36	0
Internal Link Dist (ft)	239			
Turn Bay Length (ft)			135	135
Base Capacity (vph)	13	457	631	1583
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	2.85	1.16	0.09	0.14

Intersection Summary

Conceptual Site Plan

MILE HIGH GREYHOUND PARK

SITE CONCEPT UPDATE
AUGUST 3, 2016



BLOCK 1	
RETAIL 64,000 SF	
PARKING REQUIRED	214
150 KEY HOTEL	
PARKING REQUIRED	187
TOTAL PARKING REQUIREMENTS	401
DELTA	63

BLOCK 2	
25 SF LOTS	

BLOCK 3	
24 SF LOTS	

BLOCK 4	
22 SF LOTS	
10 TOWNHOMES	

BLOCK 5	
12 TOWNHOMES	
69 MF UNITS	
TOTAL PARKING REQUIRED	87
IN GARAGE	48
SURFACE	97
DELTA	58

BLOCK 6	
158 MF UNITS	
TOTAL PARKING REQUIRED	198
IN GARAGE	41
SURFACE	143
DELTA	-14

BLOCK 7	
11 TOWNHOMES	
68 MF UNITS	
TOTAL PARKING REQUIRED	85
IN GARAGE	46
SURFACE	68
DELTA	29

BLOCK 8	
16 TOWNHOMES	
60 MF UNITS	
TOTAL PARKING REQUIRED	108
IN GARAGE	18
SURFACE	90
DELTA	0

BLOCK 9	
23 TOWNHOMES	

BLOCK 10	
23 TOWNHOMES	

BLOCK 11	
160 MF UNITS	
TOTAL PARKING REQUIRED	200
IN GARAGE	50
SURFACE	160
DELTA	10

RETAIL 6,000 SF	
PARKING REQUIRED	20
DELTA	0

BLOCK 12	
160 MF UNITS	
TOTAL PARKING REQUIRED	200
IN GARAGE	69
SURFACE	144
DELTA	13

RETAIL 8,500 SF	
PARKING REQUIRED	29
DELTA	1

