JSD Professional Services, Inc.
• Engineers • Surveyors • Planners

Madison Regional Office
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Memorandum

To:	Sean Roberts- Summit Smith, Shawn Zimny- Gilbane
From:	Tomas A. Toro, P.E., P.L.S. – JSD Professional Service, Inc.
Re:	Madison Yards Development Update to Trip Generation Calculations Kimley Horn Traffic Impact Evaluation Report
JSD Project #:	19-9366
Date:	March 4, 2020 **(Revised November 17, 2020)**
cc:	Kevin Yeska- JSD, Jessica Vaughn- JSD

The purpose of this memorandum is to provide an update to the trip generation calculations included in the Hill Farms Mixed Use Development Traffic Impact Evaluation report dated December 6, 2017, prepared by Kimley-Horn and Associates, Inc., Saint Paul, Minnesota (included as **Attachment A** to this memorandum). The estimated vehicle trips were adjusted to reflect the current development proposals for Lots 2 and 3; as well as modifications to the proposed future land uses.

The initially reported trip estimates were updated based on current development proposals for Blocks 2, 3, 4 and 6; as well as modifications to future land uses, as confirmed by the landowner/developer and as outlined below:

- The Health/Fitness Club use has been removed from the site development programing;
- The Pharmacy/Drug Store use has been removed from the site development programing;
- The Medical/Dental Office use has been decreased from 152,370 square feet to 146,689 square feet;
- The General Office use has been decreased from 225,150 square feet to 205,600 square feet;
- The Shopping Center/Retail use has been reduced from 98,050 square feet to 35,565 square feet;
- As noted in the current development plans on Block 2, the hotel use has been eliminated and replaced with a 273-unit high-rise multi-family apartment building;
- As noted in the current development plans on Block 2, the proposed grocery store floor area has been increased from 25,000 square feet to 50,000 square feet;
- The current development plans the total number of residential units has been increased from 350 to 667; and
- As noted on the current development plans on Block 4 a total of 10,000 square feet of retail space has been added.

In conducting the evaluation of estimated vehicle trips, JSD followed the same ITE methodology used by Kimley-Horn for the preparation of their December 6, 2017 report to update the trip generation calculations for the proposed development. After taking into consideration the aforementioned changes to the land uses, the revised trip generation calculations yielded a total amount of 9,219 new trips. When comparing with the 10,870 trips reported by Kimley-Horn, there was an overall ***reduction of 1,651*** in total trips. Refer to **Attachment B**, Updated Trip Generation Calculations, for the detailed set of computations.

As noted in the Conclusion and Recommendations Section of the initial Traffic Impact Evaluation, the following "…*improvements were recommended to provide acceptable LOS within the project study area through the 2041 Horizon Year,"* including:

1. Installation of a "half-signal" at the intersection of Whitney Way and Sheboygan Avenue (City/Developer);

2. Timing improvements at the intersection of Whitney Way & Old Middleton Road (City);
3. Installation of a “half-signal” along University Avenue at the project access west of Segoe Road (Developer); and
4. Develop a Travel Demand Management Plan (TDMP) (Developer).

Of the above-referenced improvements, item three (3) is currently in place, and item four (4) was updated per Madison Area Transportation Planning Board, Transportation Options Program Manager comments. The updated TDMP document is provided under seperate cover.

With regard to items one (1) and two (2), given that there is a reduction in the overall trips, any further improvements to the transportation public infrastructure surrounding the project site area are not anticipated at this time.

It is also important to point out that the first phase of the Madison Yards development; which consists of Blocks 2, 3, 4 and 6, will only generate approximately 4,676 daily trips. This represents 42% of the estimated total daily trips to be generated by the development at full build-out conditions. This also reflects on the current need for improvements to street intersections surrounding the development; more specifically, improvements to the westbound left turn lane at University Avenue and N. Segoe Road, as described in item no. 20.d of the GDP approval letter issued by the City for the development (**Attachment C**). The TIE shows that the daily turn increase between now and full build-out conditions is 12 turns per day (1 at peak hour); while the projection for the horizon year 2041 will be an increase of 45 turns per day. The increase in turns resulting from the development of Phase 1 of the project, are not anticipated to impact the operation of the intersection significantly enough to require the proposed improvements at this time. JSD recommends that the aforementioned improvements to University Avenue and N. Segoe Road not be required at this time.

Attachments

A: Hill Farms Mixed Use Development Traffic Impact Evaluation report dated December 6, 2017, prepared by Kimley-Horn and Associates, Inc.
B: Updated Trip Generation Calculations
C: City of Madison GDP Approval Letter

Traffic Impact Evaluation

HILL FARMS

MIXED USE DEVELOPMENT

Madison, Wisconsin

Prepared for:

SG Hill Farms LLC

Prepared by:

Kimley-Horn and Associates, Inc.
Saint Paul, Minnesota

I certify that this Traffic Impact Evaluation has been prepared by me or under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering.

By: _____

Brian R. Smalkoski, P.E.
Wisconsin Registration # 41505-6
Kimley-Horn and Associates, Inc.

Date: 12/6/2017

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EXHIBITS

EXECUTIVE SUMMARY

Kimley-Horn and Associates, Inc., (Kimley-Horn) was retained by SG Hill Farms, LLC, to evaluate the traffic impacts related to the proposed redevelopment of the Hill Farms Wisconsin State Department of Transportation (WisDOT) building property located in the southwest quadrant of the University Avenue/Segoe Road intersection in Madison, Wisconsin.

The development plan includes replacing the State Office Building currently on the property with a mixed-use development that includes a new 600,000-square foot building which is already under construction. The most recent version of the development plan is proposed to include the following land uses: 350 multi-family dwelling units, 200 hotel rooms, 225,150 square feet of general office space, 152,370 square feet of medical office space, 98,050 square feet of general retail space, 26,800 square feet of restaurant space, a 5,000-square foot pharmacy, a 40,650-square foot fitness club, and a 25,000-square foot grocery store. The development also includes a parking ramp located on the southwest portion of the development that has already been constructed and is currently being used by employees of the State Office Building.

Access to the site will be provided by six (6) driveway connections of the following types: one (1) full access half-signalized connection along University Avenue, one (1) unsignalized right-in/right-out connection along Old Middleton Road, one (1) unsignalized right-in/right-out connection along Segoe Road, two (2) unsignalized full access connections along Sheboygan Avenue serving the mixed-use development, and one (1) unsignalized full access connection along Sheboygan serving the government office building. Additionally, right-in/right-out access driveways are planned to facilitate movements to/from parking and loading located within specific block groups. Since these driveways only provide access only to individual block groups, the exact location and design of these supplemental driveways will be determined through the individual site design process.

Capacity analyses were performed for the study intersection for five scenarios (existing plus future years) during the weekday morning and evening peak hours. Based on the capacity analyses, the following improvements to be implemented by a combination of the City of Madison and the Developer, are recommended at the study intersections to better facilitate traffic operations for the 2041 Horizon Year:

- Installation of a “half-signal” at the intersection of Whitney Way & Sheboygan Avenue (City/Developer)
- Timing improvements at the intersection of Whitney Way & Old Middleton Road (City)
- Installation of a “half-signal” along University Avenue at the project access west of Segoe Road (Developer)
- Due to the high non-motorized mode-split anticipated for the development, it is recommended that a Travel Demand Management Plan (TDMP) be developed for the site (Developer)

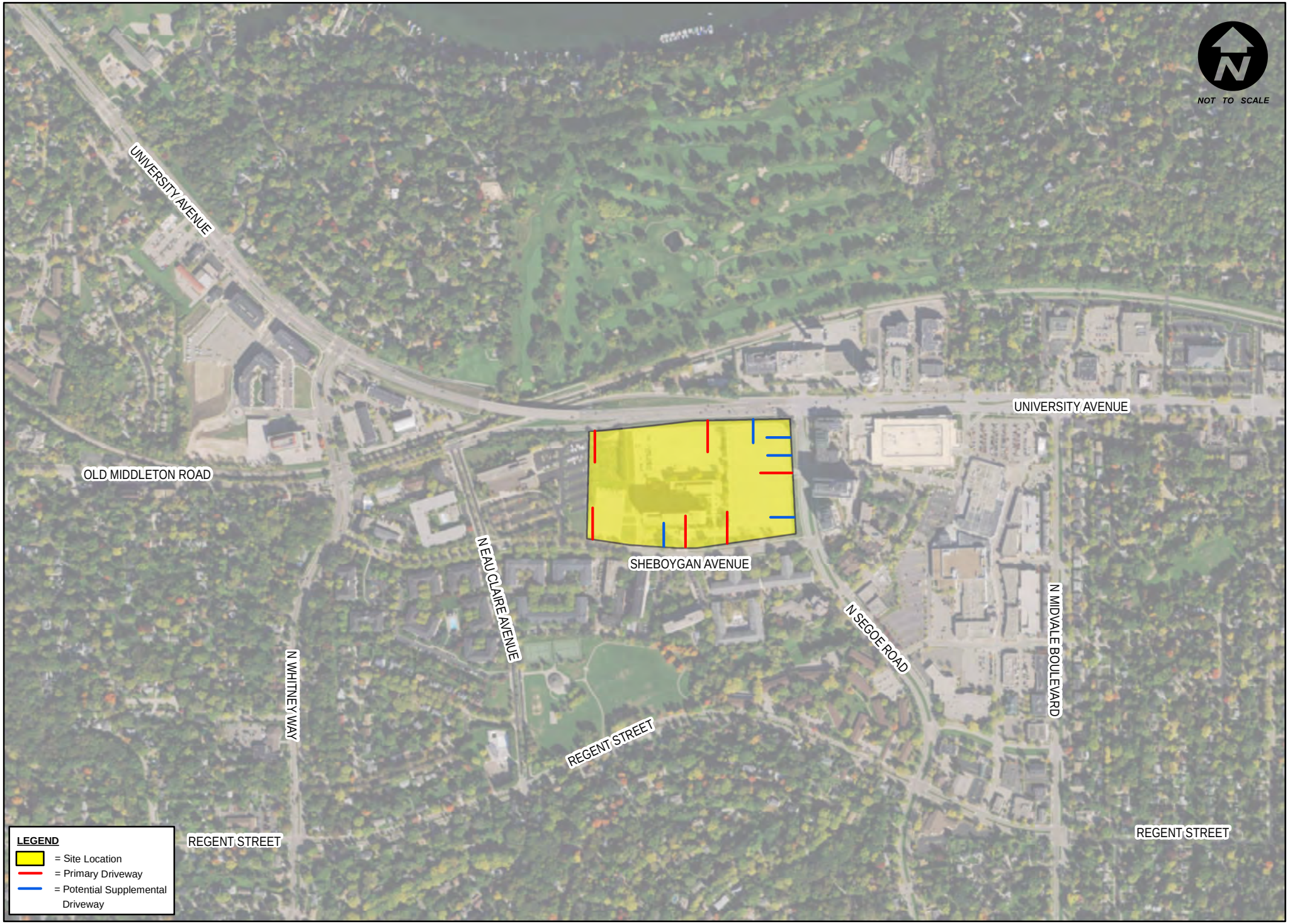
INTRODUCTION

Kimley-Horn and Associates, Inc., (Kimley-Horn) was retained by SG Hill Farms, LLC, to evaluate the traffic impacts related to the redevelopment of the Hill Farms Wisconsin State Department of Transportation (WisDOT) building property located in the southwest quadrant of the University Avenue/Segoe Road intersection in Madison, Wisconsin.

In addition to replacing the existing State Office Building with a 600,000 square foot building, which is already under construction, the most recent development plan proposes the following mix of land uses: 350 multi-family dwelling units, 200 hotel rooms, 225,150 square feet of general office space, 152,370 square feet of medical office space, 98,050 square feet of general retail space, 26,800 square feet of restaurant space, a 5,000-square foot pharmacy, a 40,650-square foot fitness club, and a 25,000-square foot grocery store. In addition, the plan includes the parking ramp newly constructed on the southwestern portion of the site. Currently, the ramp is being used by employees of the existing State Office Building. An aerial view of the study location, the surrounding roadway network, and the driveway locations is presented in **Exhibit 1**. The proposed site plan detailing the access driveways is included as an attachment.

Access to the site is proposed to be provided by six (6) driveway connections of the following types: one (1) full access half-signalized connection along University Avenue (for which off-site improvements are currently being constructed), one (1) unsignalized right-in/right-out connection along Old Middleton Road, one (1) unsignalized right-in/right-out connection along Segoe Road, two (2) unsignalized full access connections along Sheboygan Avenue serving the mixed-use development, and one (1) unsignalized full access connection along Sheboygan serving the government office building. Additionally, right-in/right-out access driveways are planned to facilitate movements to/from parking and loading located within specific block groups. Since these driveways only provide access only to individual block groups, the exact location and design of these supplemental driveways will be determined through the individual site design process.

This report presents and documents Kimley-Horn's data collection and field observations of traffic conditions in the surrounding area, summarizes the expected multimodal trip generation, and outlines an analysis of the relative transportation impacts of the proposed development.



Kimley»Horn

EXHIBIT 1: SITE LOCATION MAP
HILL FARMS MXED USE DEVELOPMENT

EXISTING CONDITIONS

Kimley-Horn conducted a field visit to collect relevant information pertaining to existing land uses in the surrounding area, the adjacent street system, current traffic volumes and operating conditions, lane configurations and traffic control at nearby intersections, and other key roadway characteristics.

Project Study Area

Based on discussion with City of Madison staff, the following intersections were included in the traffic impact analysis:

- Old Middleton Road & Eau Claire Avenue
- Old Middleton Road Ramps to/from University Avenue
- University Avenue & Segoe Road
- Sheboygan Avenue & Eau Claire Avenue
- Sheboygan Avenue & Segoe Road
- Segoe Road & Frey Street
- Whitney Way & Old Middleton Road
- Whitney Way & University Avenue
- Regent Street & Eau Claire Avenue
- Whitney Way & Sheboygan Avenue
- Whitney Way & Regent Street
- Segoe Road & Regent Street
- University Avenue & Midvale Boulevard
- Midvale Boulevard & Regent Street
- Midvale Boulevard & Heather Crest
- University Avenue & Maple Terrace / Hilldale Way
- University Avenue & Site Access to University Avenue
- Site Access Locations

Exhibit 2 provides the functional lane assignments and intersection control at each of the study intersections. At several of the study intersection approaches with shared right-turn lanes, motorists use the paved shoulder to make right-turns rather than wait in a queue with the through and/or through and left-turn vehicles. These approaches, detailed below for each intersection, functionally operate with an exclusive right-turn lane and are shown as such in Exhibit 2.

- Old Middleton Road & Eau Claire Avenue – westbound approach
- Sheboygan Avenue & Eau Claire Avenue – all approaches
- Regent Street & Eau Claire Avenue – all approaches
- Whitney Way & Sheboygan Avenue – northbound approach
- Whitney Way & Regent Street – eastbound and westbound approaches
- Segoe Road & Regent Street – eastbound and westbound approaches

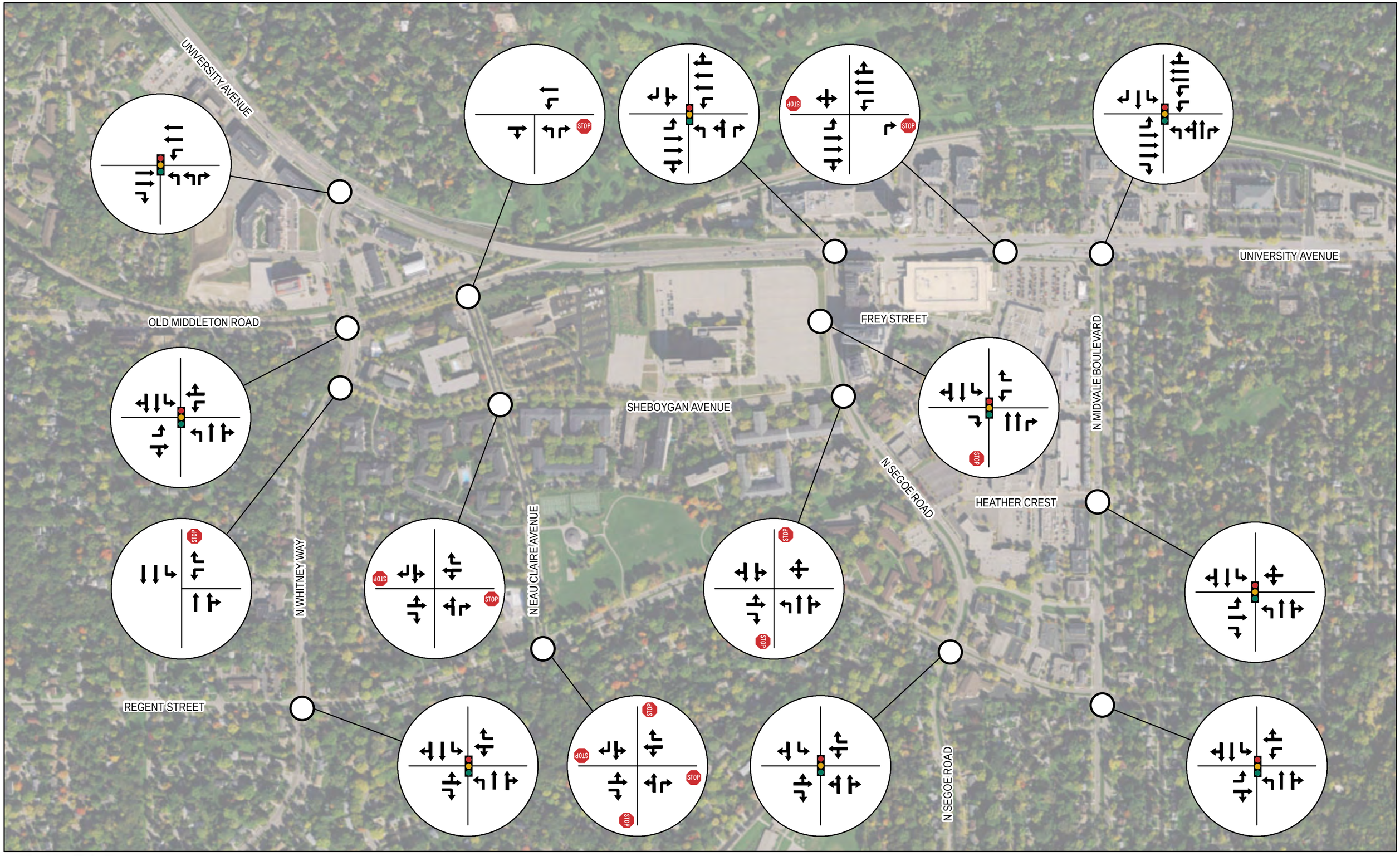


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EXHIBIT 2: EXISTING (2017) FUNCTIONAL LANE ASSIGNMENTS AND INTERSECTION CONTROL

HILL FARMS MIXED USE DEVELOPMENT

Area Land Uses

The subject site is currently occupied by the WisDOT Hill Farms State Office Building and surface parking lot. A parking ramp was recently constructed on the southwest quadrant of the property, and a new State Office Building is being constructed on the northwest quadrant of the development. The site is surrounded by single-family residential, multi-family residential, office, and retail land uses.

Existing Roadway Characteristics

A field investigation was conducted within the study area. As a result of this visit, the following information was obtained about the existing roadway network.

University Avenue is a six-lane divided east-west roadway, and is assumed to be under the jurisdiction of the City of Madison. The speed limit is posted as 35 mph within the study area. Based on the City's Comprehensive Plan, University Avenue is classified as a Primary Arterial. The average daily traffic in the study area ranged from 26,800 to 53,250 based on 2015 City data.

Segoe Road is a four-lane divided north-south roadway, and is assumed to be under the jurisdiction of the City of Madison. The speed limit is posted as 30 mph within the study area. Based on the City's Comprehensive Plan, Segoe Road is classified as a Collector Street. The average daily traffic in the study area ranged from 6,550 to 8,400 based on 2015 City data.

Sheboygan Avenue is a two-lane undivided east-west roadway, and is assumed to be under the jurisdiction of the City of Madison. The speed limit is posted as 30 mph within the study area. Based on the City's Comprehensive Plan, Sheboygan Avenue is classified as a Collector Street. The average daily traffic in the study area ranged from 4,550 to 5,250 based on 2015 City data.

Whitney Way is a four-lane divided north-south roadway, and is assumed to be under the jurisdiction of the City of Madison. The speed limit is posted as 30 mph within the study area. Based on the City's Comprehensive Plan, Whitney Way is classified as a Standard Arterial. The average daily traffic in the study area ranged from 16,100 to 17,350 based on 2015 City data.

Eau Claire Avenue is a two-lane divided north-south roadway, and is assumed to be under the jurisdiction of the City of Madison. The speed limit is posted as 25 mph within the study area. Based on the City's Comprehensive Plan, Eau Claire Avenue is classified as a Collector Street. The average daily traffic in the study area ranged from 1,350 to 1,850 based on 2015 City data.

Old Middleton Road is a two-lane undivided east-west roadway, and is assumed to be under the jurisdiction of the City of Madison. The speed limit is posted as 30 mph within the study area. Based on the City's Comprehensive Plan, Old Middleton Road is classified as a Standard Arterial. The average daily traffic in the study area was 12,700 based on 2015 City data.

Midvale Boulevard is a four-lane divided north-south roadway, and is assumed to be under the jurisdiction of the City of Madison. The speed limit is posted as 30 mph within the study area. Based on the City's Comprehensive Plan, Midvale Boulevard is classified as a Standard Arterial. The average daily traffic in the study area ranged from 19,850 to 21,500 based on 2015 City data.

Regent Street is a two-lane divided east-west roadway, and is assumed to be under the jurisdiction of the City of Madison. The speed limit is posted as 30 mph within the study area. Based on the City's Comprehensive Plan, Regent Street is classified as a Collector Street. The average daily traffic in the study area ranged from 2,950 to 5,150 based on 2015 City data.

Frey Street is a two-lane undivided east-west roadway, and is assumed to be under the jurisdiction of the City of Madison. The speed limit is unposted within the study area. Based on the City's Comprehensive Plan, Frey Street is classified as a Local Street. No average daily traffic data is available for Frey Street.

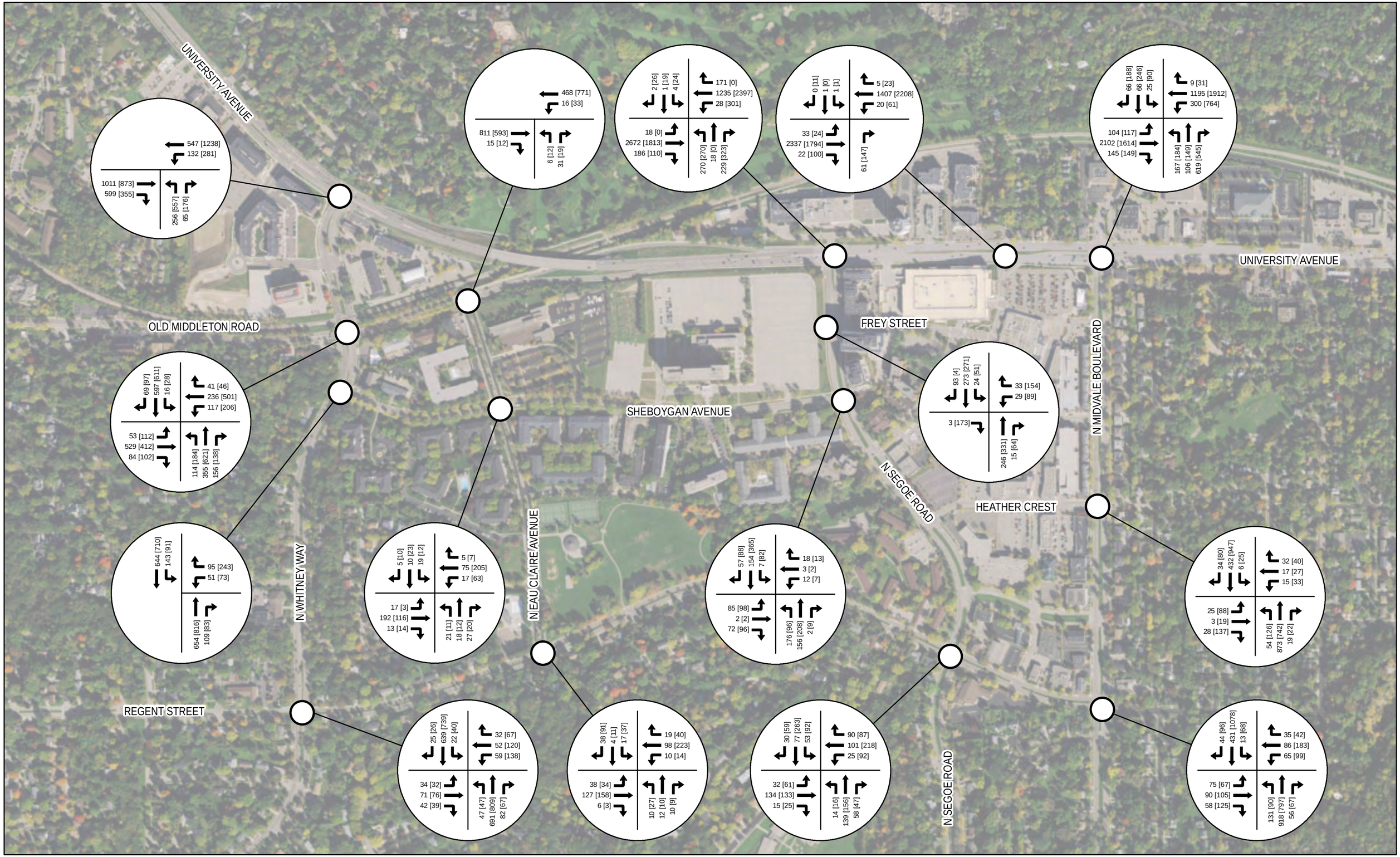
Heather Crest is a two-lane undivided east-west roadway, and is assumed to be under the jurisdiction of the City of Madison. The speed limit is posted as 30 mph within the study area. Based on the City's Comprehensive Plan, Heather Crest is classified as a Local Street. The average daily traffic in the study area was 1,650 based on 2015 City data.

Traffic Count Data

Turning movement count data was collected at the study intersections at various times ranging from 2012 to 2017. The counts were collected during the AM peak period (7:00 AM to 9:00 AM) and the PM peak period (4:00 PM to 6:00 PM). The source of the count data is as follows:

- Counts from 2012 were provided by the City of Madison for the intersections of University Avenue & Segoe Road, Whitney Way & University Avenue, and Whitney Way & Old Middleton Road. These counts were adjusted to 2017 volumes by applying a 1.0% annual growth rate for five (5) years, as agreed upon by City of Madison staff.
- Turning movement counts were collected in 2016 by Kimley-Horn for the intersections of Eau Claire Avenue & Old Middleton Road, Eau Claire Avenue & Sheboygan Avenue, Segoe Road & Sheboygan Avenue, and Segoe Road & Frey Street. These counts were adjusted to 2017 volumes by applying a 1.0% annual growth rate for one (1) year, as agreed upon by City of Madison staff.
- Turning movement counts were collected in June 2017 by Gewalt Hamilton Associates, Inc., for the remaining study intersections. Since these counts were collected while school was not in session, the counts were grown by 7.5% based on guidance from the City of Madison staff.

The existing (2017) adjusted turning movement volumes are presented in **Exhibit 3**.



Kimley»Horn

EXHIBIT 3: EXISTING (2017) PEAK HOUR TRAFFIC VOLUMES
HILL FARMS MIXED USE DEVELOPMENT

FUTURE CONDITIONS

This section of the report outlines the proposed site plan, summarizes site-specific traffic characteristics, and develops future traffic projections for the analysis.

Analysis Scenarios

Based on the City of Madison's *Traffic Impact Analysis Guidelines*, the analysis should quantify intersection operations for Existing Conditions, Build-Out Conditions, and Horizon Conditions (typically 20 years beyond Build-Out). **Table 1** provides a summary of the multiple scenarios included as part of this analysis.

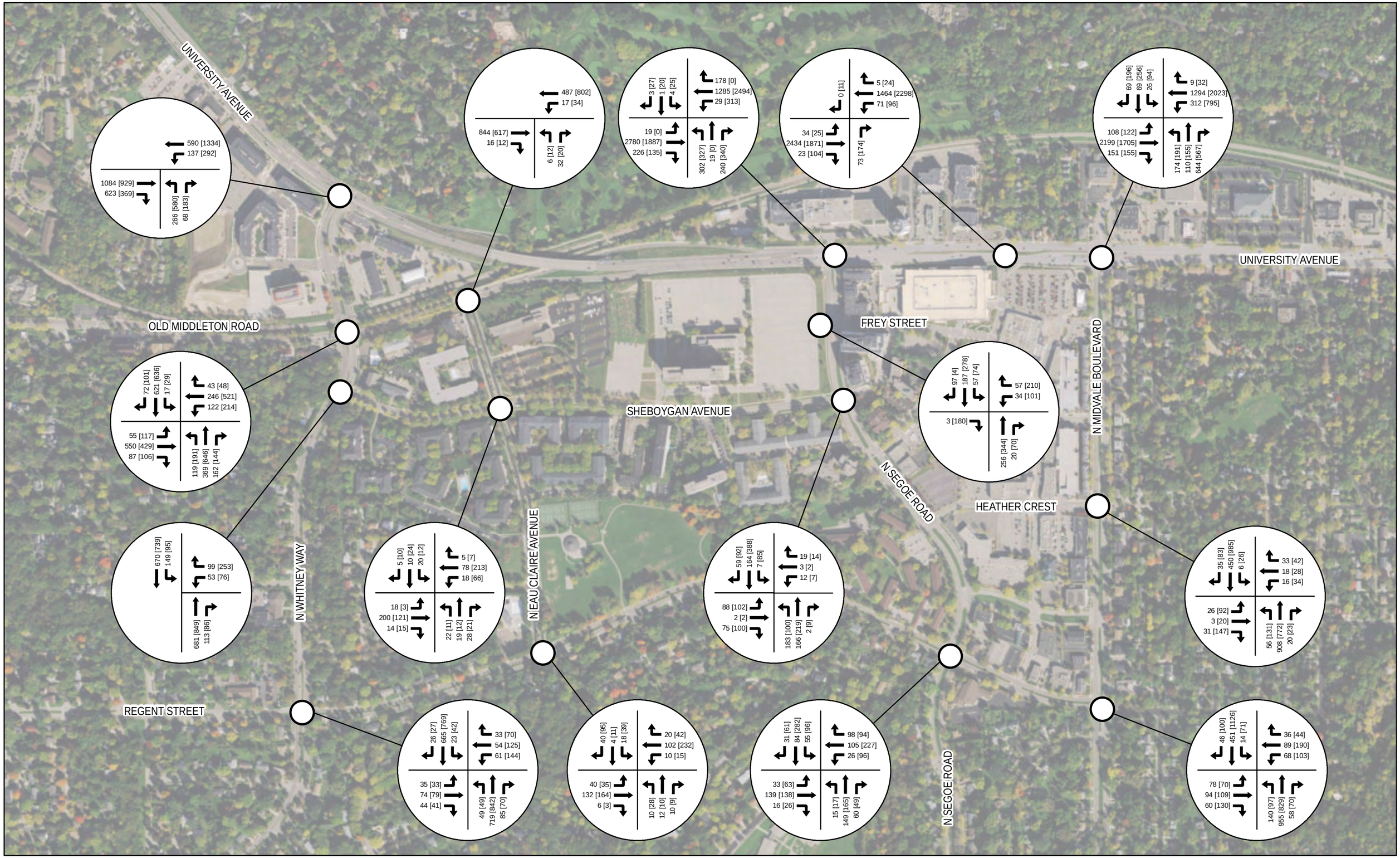
Table 1. Analysis Scenarios

Scenario	Analysis Year	Roadway Conditions	Development Assumptions	Traffic Volumes
Existing	2017	Existing	Existing	Existing
Build-Out Background	2021	Existing	Existing	Existing + 4 years of Background Growth
Build-Out Total	2021	Existing + Half Signal on University Avenue	Build-Out of Hill Farms	Existing + 4 years of Background Growth + Project Traffic
Build-Out Total with Mitigation	2021	Existing + Half Signal on University Avenue + Off-Site Mitigation	Build-Out of Hill Farms	Existing + 4 years of Background Growth + Project Traffic
Horizon Year Background	2041	Existing	Existing	Existing + 24 years of Background Growth
Horizon Year Total	2041	Existing + Half Signal on University Avenue + Build-Out Mitigation	Build-Out of Hill Farms	Existing + 24 years of Background Growth + Project Traffic
Horizon Year Total with Mitigation	2041	Existing + Half Signal on University Avenue + Build-Out Mitigation + Horizon Mitigation	Build-Out of Hill Farms	Existing + 24 years of Background Growth + Project Traffic

Background Growth

The proposed development is anticipated to be completed within four (4) years; therefore a 2021 Build-Out year was assumed. Existing traffic at the study intersections was grown at an agreed-upon rate of 0.5% annually for four (4) years to develop Build-Out Background (2021) traffic volumes. These volumes are presented in **Exhibit 4**.

Based on the City of Madison's Traffic Impact Analysis guidelines, a 20-year Horizon period is also required to be analyzed. Therefore, Horizon Background (2041) volumes were developed by applying a 0.5% annual growth rate to the Existing (2017) traffic volumes for 24 years. These volumes are presented in **Exhibit 5**.



Kimley»Horn

EXHIBIT 4: BUILD-OUT (2021) BACKGROUND PEAK HOUR TRAFFIC VOLUMES
HILL FARMS MIXED USE DEVELOPMENT

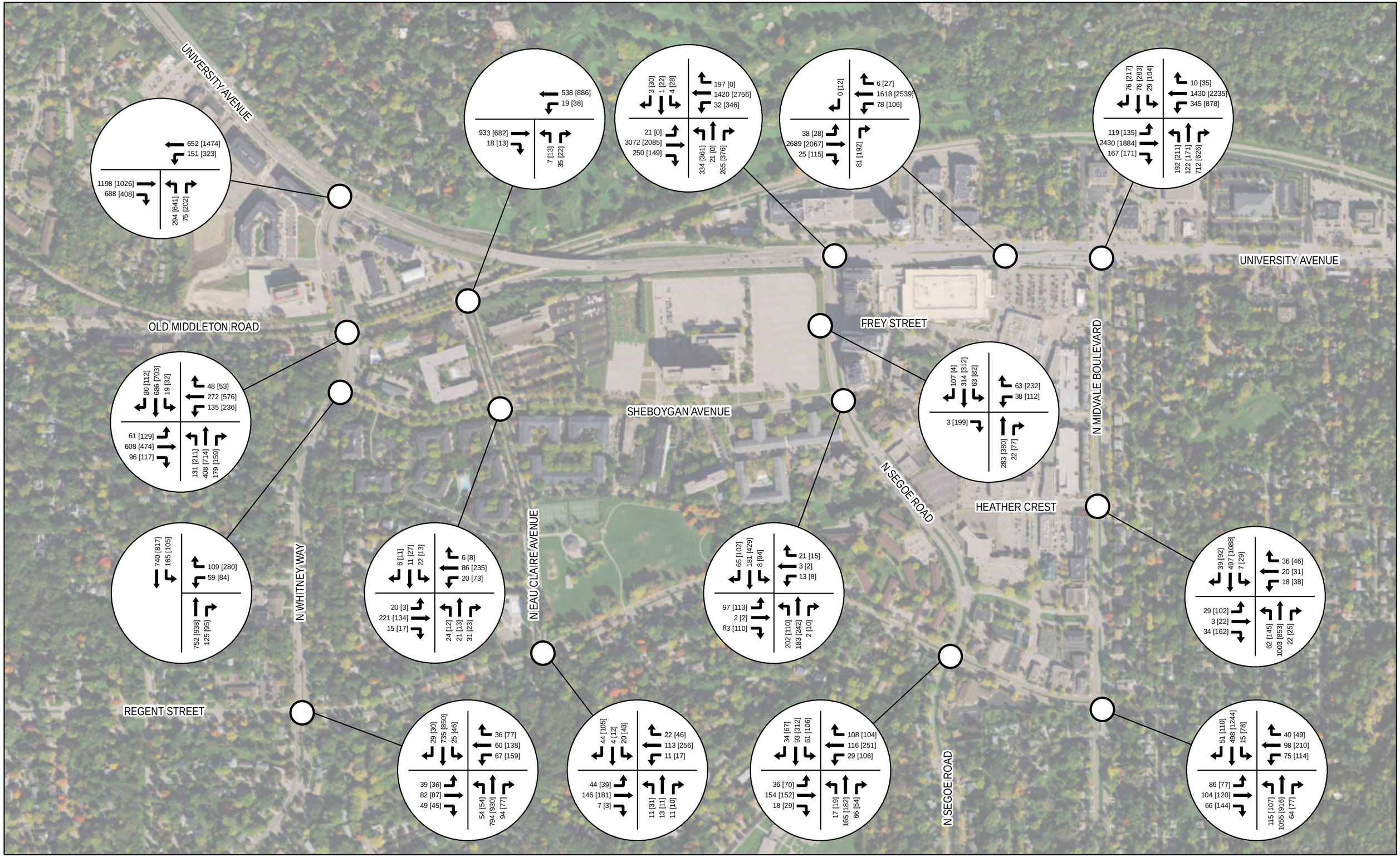


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EXHIBIT 5: HORIZON (2041) BACKGROUND PEAK HOUR TRAFFIC VOLUMES
HILL FARMS MIXED USE DEVELOPMENT

Development Characteristics & Site Access

The site is currently occupied by an approximately 432,544 square foot State Office Building and large surface parking lot and currently serves as the State Department of Transportation headquarters. As part of the site redevelopment, the following land uses are proposed:

- 600,000 square foot State Office Building
- 225,150 square feet of general office space
- 152,370 square feet of medical office space
- 98,050 square feet of general retail space
- 40,650-square foot fitness club
- 26,800 square feet of restaurant space
- 25,000-square foot grocery store
- 5,000 square foot pharmacy
- 350 multi-family dwelling units
- 200 hotel rooms

Access to the site will be provided by six (6) driveway connections of the following types: one (1) full access half-signalized connection along University Avenue, one (1) unsignalized right-in/right-out connection along Old Middleton Road, one (1) unsignalized right-in/right-out connection along Segoe Road, three (3) unsignalized full access connections along Sheboygan Avenue.

In addition, the development will be seeking additional right-in/right-out access driveways to facilitate movements to/from parking and loading located within specific block groups. The exact location and design of these supplemental driveways (to accommodate any anticipated on-site queues) will be determined through the individual site design process for the block groups as the exact location of the driveways and the land use mix for each block group have not been finalized. Analysis of these supplemental driveways were not included in this traffic study. Additional analysis, if requested by the City, will be provide at the time of the driveway permit application.

Trip Generation

To calculate the passenger vehicle trips generated by the proposed mixed-use development, data was referenced from the Institute of Transportation Engineers (ITE) manual titled *Trip Generation, 9th Edition*. Due to the availability of public transportation options in the area and the nature of the land uses planned for the site, it is assumed that more non-auto activity would occur at this location than in typical auto-oriented suburban locations. Therefore, based upon available census data, previous studies completed in the area (and for the subject development), and the travel demand features planned as part of the site design for the subject development, the City of Madison has recommended an assumption of 30 percent for non-automotive site trips. Trip generation estimates are therefore discounted accordingly to calculate projected vehicle trips generated by the proposed development.

Given the mixed-use nature of the proposed development, reductions in site traffic were included to account for internally captured and pass-by vehicles.

Internal Capture

Internal capture is defined as the practice of combined trips between an origin within the site and another on-site destination. Based upon the methodology included in the ITE *Trip Generation Handbook, 3rd Edition,* internal capture rates for the site were calculated as 21% for the morning peak hour and 26.5% for the evening peak hour. Since the State Office Building makes up a significant portion of the site trips, which will not be as integrated as a typical mixed-use site or the other areas on the site, the internal capture percentages were assumed to be 15% in the morning and 20% in the evening. This assumption indicates that a small percentage of customers would visit more than one destination within the site during the same trip, thereby reducing the number of new trips generated by the proposed uses on site. These volumes are therefore subtracted from the trip generation projections for the development.

Pass-By Reduction

Pass-by traffic reflects the travel patterns of users who visit the site en-route to another destination. For example, someone accessing the site to visit the pharmacy on their way home in the evening would represent a pass-by trip. While these are new vehicles movements entering or exiting a driveway, they do not add new traffic to the streets and adjacent intersections since they are already driving by the site to their primary destination. Data in the ITE *Trip Generation Handbook, 3rd Edition,* provides the following averages for pass-by trip percentages during the evening peak hours, which were determined to be reasonable for the proposed uses on the site.

- Shopping Center – 34%
- Supermarket – 36%
- Pharmacy/Drugstore with Drive-Through Window – 49%
- High Turnover Sit-Down Restaurant – 43%

Since data is typically provided only for evening peak hour trips, and the uses are expected to exhibit similar pass-by characteristics in the morning as in the evening, the average evening rates were applied to both periods. Primary trips make up the remainder of site traffic, which is expected to travel directly from their origin to the site and back.

Based on information provided in ITE's *Trip* Generation, 9th edition, **Table 2** provides the trip generation rates, and directionality of traffic, for Daily and the AM/PM peak hour periods.

Table 2. ITE Trip Generation Data

Land Use	Unit	Daily	Weekday	
			AM Peak	PM Peak
Multi-Family Apartment (LUC 220)	Number of Dwelling Units	T = 6.65 * X 50% in/50% out	T = 0.61 * X 20% in/80% out	T = 0.62 * X 65% in/35% out
Hotel (LUC 310)	Number of Rooms	T = 8.92 * X 50% in/50% out	T = 0.67 * X 58% in/42% out	T = 0.70 * X 49% in/51% out
General Office Building (LUC 710)	Square Footage	T = 11.03 * X 50% in/50% out	T = 1.56 * X 88% in/12% out	T = 1.49 * X 17% in/83% out
Shopping Center (LUC 820)	Square Footage	T = 42.70 * X 50% in/50% out	T = 0.96 * X 62% in/38% out	T = 3.71 * X 48% in/52% out
High-Turnover (Sit-Down) Restaurant (LUC 932)	Square Footage	T = 127.15 * X 50% in/50% out	T = 10.81 * X 55% in/45% out	T = 9.85 * X 60% in/40% out
Health/Fitness Club (LUC 492)	Square Footage	T = 32.93 * X 50% in/50% out	T = 1.41 * X 50% in/50% out	T = 3.53 * X 57% in/43% out
Pharmacy with Drive-Through (LUC 881)	Square Footage	T = 96.91 * X 50% in/50% out	T = 3.45 * X 52% in/48% out	T = 9.91 * X 50% in/50% out
Medical-Dental Office Building (LUC 720)	Square Footage	T = 36.13 * X 50% in/50% out	T = 2.39 * X 79% in/21% out	T = 3.57 * X 28% in/72% out
Supermarket (LUC 850)	Square Footage	T =102.24 * X 50% in/50% out	T = 3.40 * X 62% in/38% out	T = 9.48 * X 51% in/49% out

Table 3 provides the trip generation calculations, and takes into account internal capture and pass-by reductions. Since traffic generated from the existing State Office Building is captured in the existing turning movement counts, the trip generation calculation only accounted for the increase in square footage, which is approximately 167,456 square feet (600,000 square feet proposed minus 432,544 square feet existing). Based on the calculation, the mixed-use development is anticipated to generate approximately 10,870 net new daily trips, 885 net new trips during the AM peak hour and 1,085 net new trips during the PM peak hour.

Table 3. Trip Generation Calculation

Land Use	Unit	Weekday						
		Daily	AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
UNADJUSTED TRIPS								
Apartment (LUC 220)	350 Units	2,330	36	143	179	141	75	216
High-Turnover (Sit-Down) Restaurant (LUC 932)	26,800 sq. ft.	3,414	160	130	290	156	107	263
Medical-Dental Office Building (LUC 720)	152,370 sq. ft.	5,506	288	76	364	152	392	544
Shopping Center (LUC 820)	98,050 sq. ft.	4,190	58	36	94	173	190	363
Pharmacy/Drugstore w/ Drive-Through Window (LUC 881)	5,000 sq. ft.	486	9	8	17	25	25	50
General Office Building (LUC 710)	225,150 sq. ft.	2,486	310	42	352	57	279	336
Health/Fitness Club (LUC 492)	40,650 sq. ft.	1,340	29	28	57	82	61	143
Supermarket (LUC 850)	25,000 sq. ft.	2,556	53	32	85	121	116	237
Hotel (LUC 310)	200 Rooms	1,634	63	43	106	61	59	120
Government Office Building (LUC 710)	167,456 sq. ft.	1,848	230	31	261	43	207	250
Total Trips		*25,790*	*1,236*	*569*	*1,805*	*1,011*	*1,511*	*2,522*
TRIP REDUCTIONS								
Less 30% Non-Auto Trips		-7,737	-371	-171	-542	-303	-453	-756
Less 15% Internal Capture during AM and 20% during PM		-5,158	-185	-85	-270	-202	-302	-504
Total Driveway Trips		*12,895*	*680*	*313*	*993*	*506*	*756*	*1,262*
PASS-BY TRIPS								
Pass-by Trips (34% of Shopping Center Trips)		-712	-9	-9	-18	-31	-31	-62
Pass-by Trips (36% of Supermarket Trips)		-460	-9	-9	-18	-21	-21	-42
Pass-by Trips (49% of Pharmacy/Drug Store Trips)		-119	-2	-2	-4	-7	-7	-14
Pass-by Trips (43% of High Turn Over Restaurant Trips)		-734	-35	-35	-70	-29	-29	-58
Total Pass-by Trips		*-2,025*	*-55*	*-55*	*-110*	*-88*	*-88*	*-176*
Total New Trips		10,870	625	258	883	418	668	1,086

Directional Distribution

The estimated distribution of site-generated traffic on the surrounding roadway network as it approaches and departs the site is a function of several variables, such as the nature of surrounding land uses, prevailing traffic volumes/patterns, and the ease with which motorists can travel various sections of the area roadway network. Based on discussion with City staff, the following global distribution was assumed: 25% to/from the west along University Avenue, 20% to/from the east along University Avenue, 10% to/from the west along Old Middleton Drive, 5% to/from the southwest along Regent Street, 15% to/from the south along Whitney Way, 10% to/from the south along Segoe Road, and 15% to/from the south along Midvale Boulevard. All pass-by traffic was assumed to come from University Avenue and assigned to the main site access just west of Segoe Road.

The global trip distribution is provided in **Exhibit 6**. Two different distributions were developed at the study intersections; **Exhibit 7** provides the distribution for the State Office Building and **Exhibit 8** provides the distribution for the Mixed-Use development. This is due to the fact that the State Office Building traffic access a dedicated parking garage for parking that is not open to the mixed-use traffic.

Site Traffic Assignment

The site traffic assignment, representing traffic volumes associated with the proposed development at area intersections and the access driveways, is a function of the estimated trip generation (Table 3) and the directional distribution (Exhibit 7 and Exhibit 8). The peak hour site traffic assignment is presented in **Exhibit 9**. Pass-by traffic was assigned to the driveway access connections surrounding the site. Currently, all of the existing State Office Building employee traffic uses the parking garage access on Sheboygan Avenue. With the development of the mixed-use portion of the site, a second garage access will be provided. It is assumed that some of the existing employee traffic will use the site access on University Avenue rather than Sheboygan Avenue. This has been accounted for in the volume projections provided in **Exhibit 9**.

Parking Analysis

A parking analysis was completed for the proposed development site. The developer is proposing to supply approximately 2,800 parking spaces with the mixed-use development. The State Office Building parking demand is served by the parking structure on the southwestern side of the site. State Office Building visitors and employees will be restricted to this parking structure, and the structure will not serve any of the parking demand for the multi-use development. The planned amount of parking stalls (2,800) is within the parking requirements outlined in City of Madison's Code of Ordinances. Based on the City of Madison's Code of Ordinances Section 28.141(4), the maximum number of parking stalls required for the mixed-use development is 3,815. Since the proposed site is located within a Suburban Employment (SE) zoning district, a minimum parking requirement is not provided for the land uses in the proposed development.

Parking demand for the development was estimated for the site using the ITE *Parking Generation Manual, 4th Edition*. Based on the ITE manual, parking demand for the mixed-use development was calculated to be approximately 3,085 spaces. This is less than the maximum number of parking stalls required by the City Ordinance and slightly more than the amount of parking planned to be provided

for the site. The ITE estimate is based on the weekday parking generation rates for each individual land use, and does not account for shared parking between land use types. The parking rates for urban areas were used where available; however, many of the land uses only have rates for suburban or undefined area types. Because the site is located in an urban environment, with a 30 percent non-motorized mode-split, the actual parking demand for the site is anticipated to be lower than the ITE estimate. The provided parking will be refined as individual site design process progresses for each block group. Tables detailing the City's parking requirements and the parking generation analysis are provided in the **Appendix.**

Build-Out Total (2021) Traffic Volumes

Build-Out Total (2021) traffic volumes were developed for the AM and PM peak hours at the study intersections by combining the Build-Out Background (2021) traffic volumes from Exhibit 4 and the total site traffic assignment from Exhibit 9. These volumes are presented in **Exhibit 10**.

Horizon Total (2041) Traffic Volumes

Horizon Total (2041) traffic volumes were developed for the AM and PM peak hours at the study intersections by combining the Horizon Background (2041) traffic volumes from Exhibit 5 and the total site traffic assignment from Exhibit 9. These volumes are presented in **Exhibit 11**.

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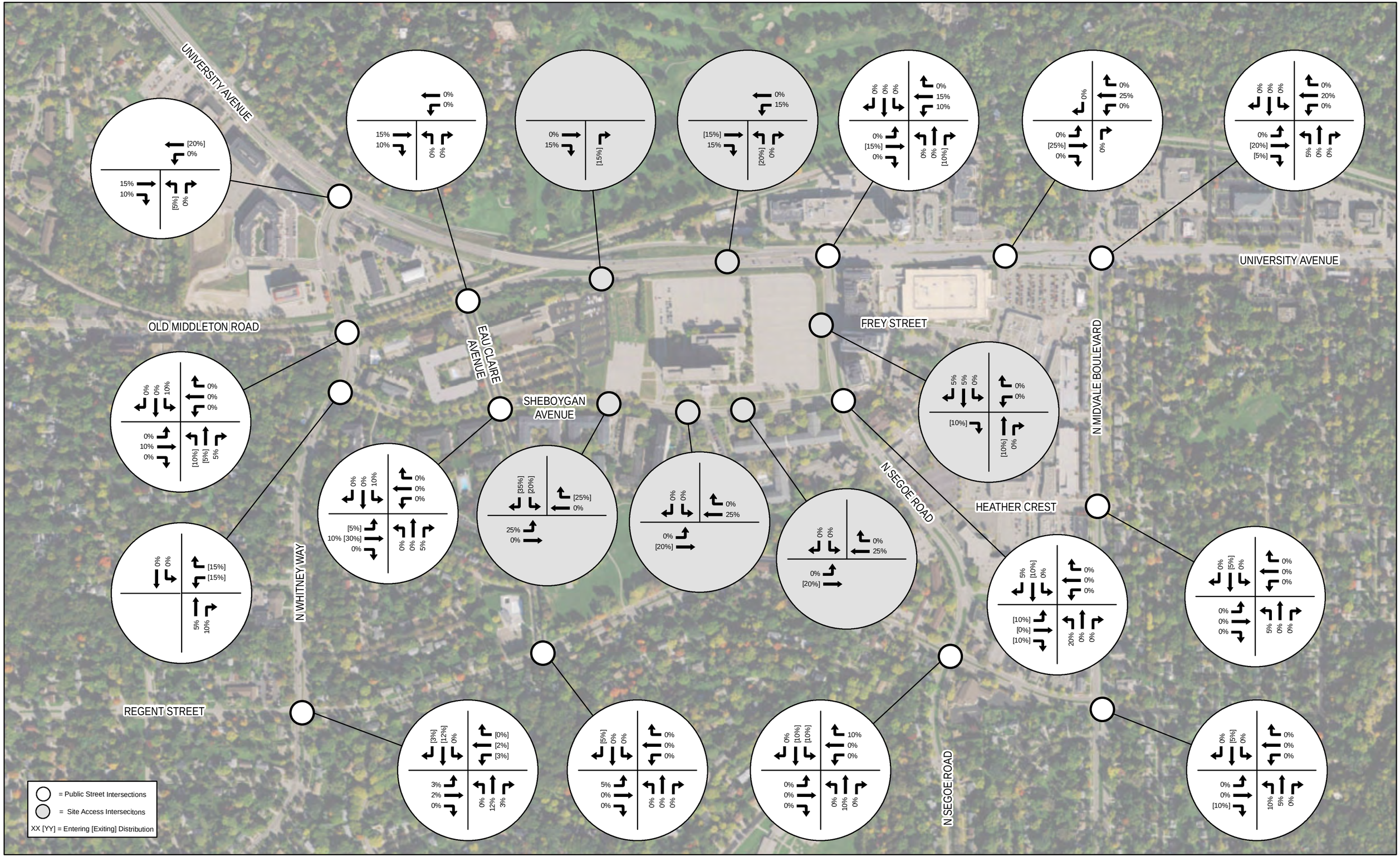
EXHIBIT 6: GLOBAL TRIP DISTRIBUTION
HILL FARMS MIXED USE DEVELOPMENT



Kimley»Horn

EXHIBIT 7: STATE OFFICE BUILDING TRIP ASSIGNMENT
HILL FARMS MIXED USE DEVELOPMENT

NOT TO SCALE

UNIVERSITY AVENUE

OLD MIDDLETON ROAD

EAU CLAIRE AVENUE

SHEBOYGAN AVENUE

FREY STREET

N MIDVALE BOULEVARD

UNIVERSITY AVENUE

N WHITNEY WAY

N SEGOE ROAD

HEATHER CREST

REGENT STREET

N SEGOE ROAD

= Public Street Intersections

= Site Access Intersecitons

XX [YY] = Entering [Exiting] Distribution

Kimley»Horn

EXHIBIT 8: MIXED-USE TRIP ASSIGNMENT

HILL FARMS MIXED USE DEVELOPMENT

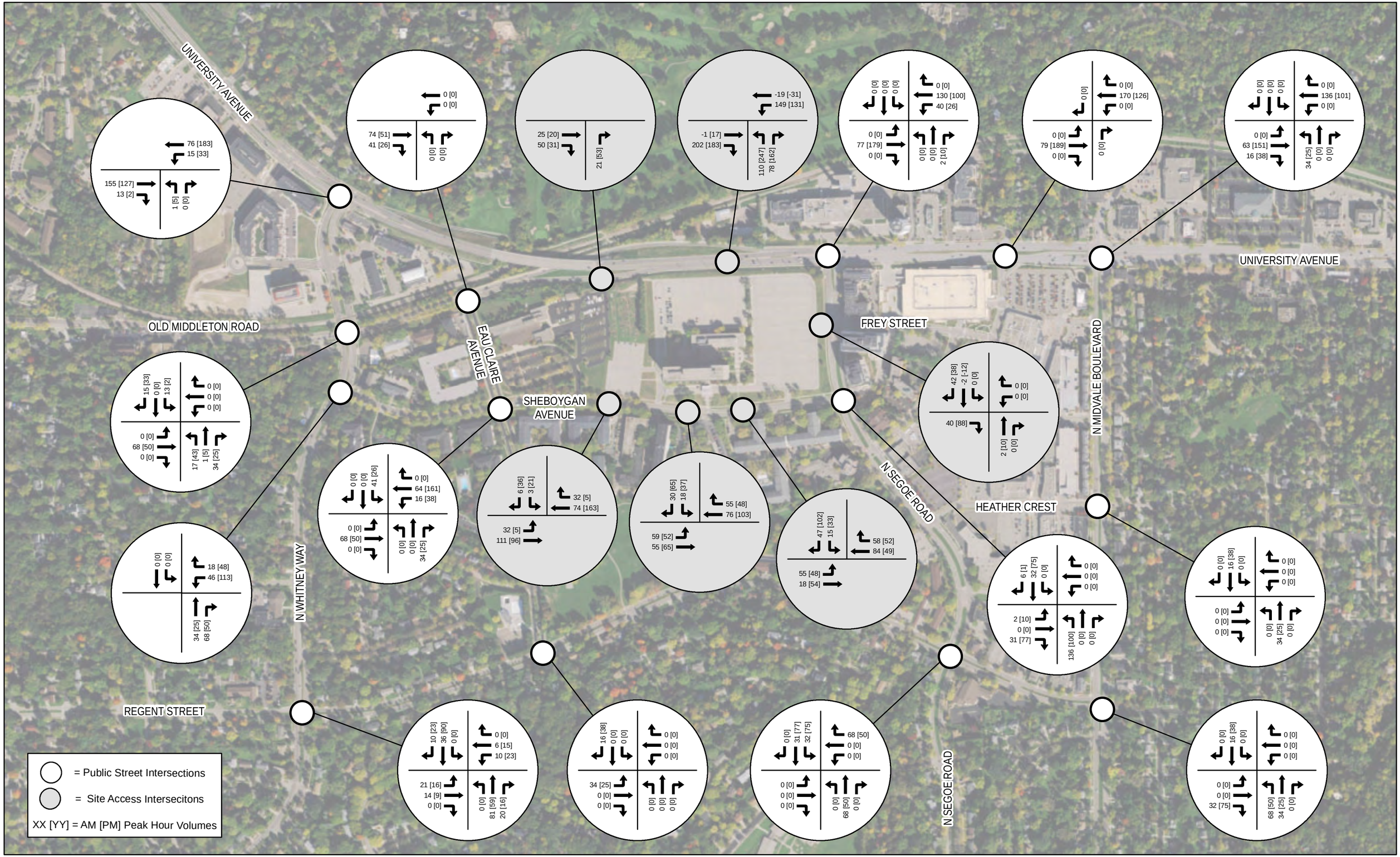


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EXHIBIT 9: TOTAL SITE TRAFFIC ASSIGNMENT
HILL FARMS MIXED USE DEVELOPMENT

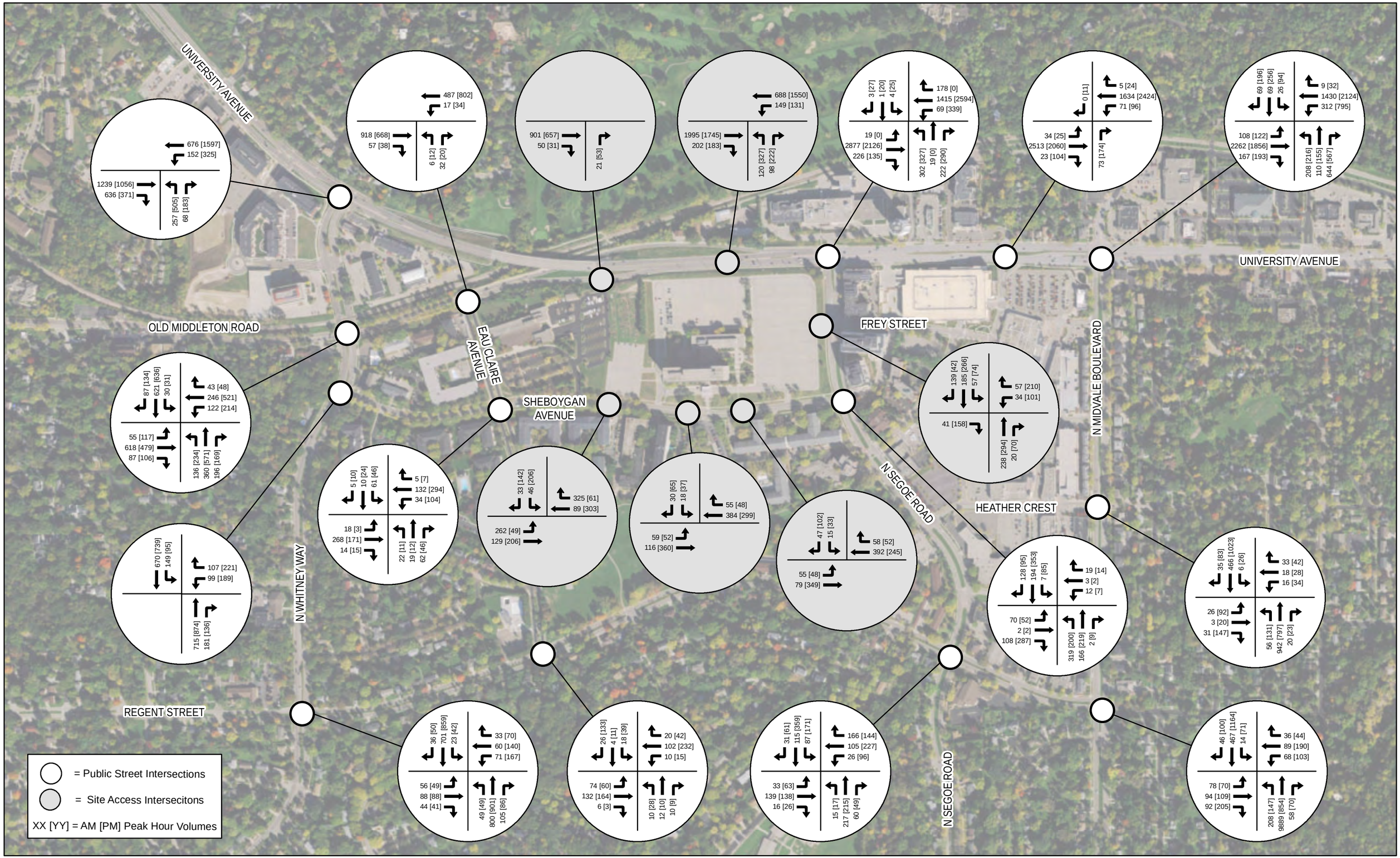

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EXHIBIT 10: BUILD-OUT (2021) TOTAL TRAFFIC VOLUMES
HILL FARMS MIXED USE DEVELOPMENT

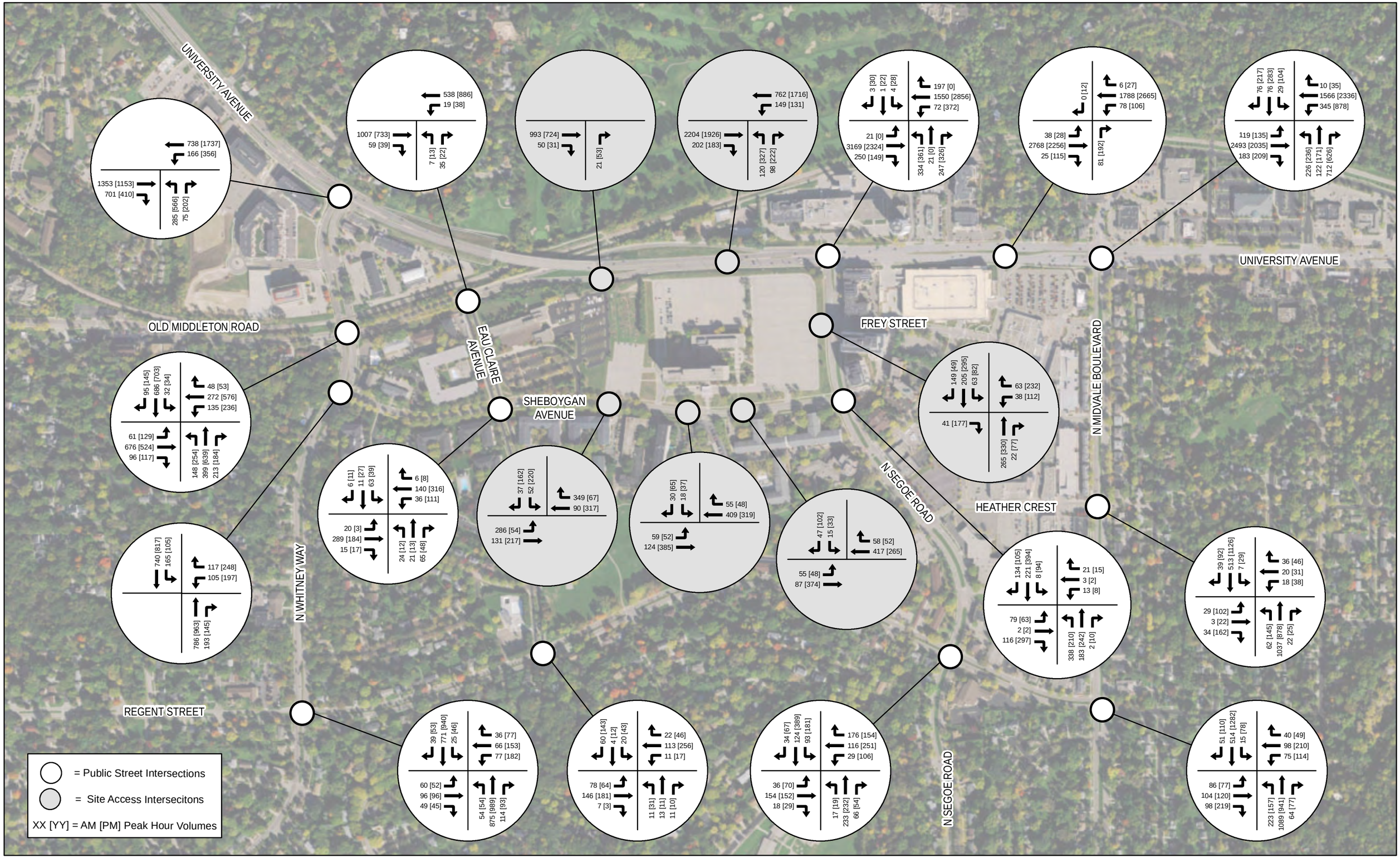

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EXHIBIT 11: HORIZON (2041) TOTAL TRAFFIC VOLUMES
HILL FARMS MIXED USE DEVELOPMENT

INTERSECTION OPERATIONAL ANALYSIS

This section of the report summarizes the analysis of existing and future traffic conditions at the study intersections and details any improvements that may be necessary to ensure acceptable level of service.

Capacity Analysis

Capacity analyses were conducted to assess existing and future background and build operating conditions of the study intersections during the weekday AM and PM peak hours. The capacity of an intersection quantifies its ability to accommodate traffic volumes and is expressed in terms of level of service (LOS), measured in average delay per vehicle. LOS grades range from A to F, with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions). In most cases, LOS D is considered the lowest acceptable threshold by the City of Madison.

The LOS grades shown below, which are provided in the Transportation Research Board's Highway Capacity Manual (HCM), quantify and categorize the driver's discomfort, frustration, fuel consumption, and travel times experienced as a result of intersection control and the resulting traffic queuing. A detailed description of each LOS rating can be found in **Table 4**. Also provided in **Table 4** is the range of control delay for each rating (as detailed in the HCM). Because signalized intersections are expected to carry a larger volume of vehicles and stopping is required during red time, higher delays are tolerated for the corresponding LOS ratings.

Table 4. Level of Service Grading Descriptions[1]

Level of Service	Average Control Delay (seconds/vehicle)		Description
	Unsignalized	Signalized	
A	0 – 10	0 – 10	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.
B	> 10 – 15	> 10 – 20	Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream.
C	> 15 – 25	> 20 – 35	Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.
D	> 25 – 35	> 35 – 55	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.
E	> 35 – 50	> 55 – 80	High control delay; average travel speed no more than 33 percent of free flow speed.
F[2]	> 50	> 80	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.

1 - Highway Capacity Manual 2010
2 - All movements with a Volume to Capacity (v/C) ratio greater than 1 receive a rating of LOS F.

Synchro software was utilized to evaluate capacity of the study for the weekday AM and PM peak hours at the study intersections. Network peak hour factors of 0.94 and 0.97 were used for the AM and PM peak hours, respectively. A default value of 2% for heavy vehicles was used at all intersections. Existing signal timings obtained from the City of Madison were used at the signalized intersections along University Avenue and Segoe Road. Signal timings at all other signalized intersections were observed in the field.

Existing (2017) Conditions Capacity Analysis

Table 5 summarizes the capacity analysis during the Existing Conditions AM and PM peak hours. The tables provide a summary of delay and LOS by approach as well as the overall intersection operations. Detailed information by movement is summarized in a table that is provided in the **Appendix**. The Synchro reports are also provided in the **Appendix**.

Table 5. Existing (2017) Conditions Capacity Summary – AM Peak Hour / PM Peak Hour

Intersection	Eastbound Approach		Westbound Approach		Northbound Approach		Southbound Approach		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
University Ave & Whitney Way	6.5 / 10.7	A / B	9.8 / 14.6	A / B	47.6 / 38.9	D / D			12.4 / 18.3	B / B
Whitney Way & Old Middleton Rd	35.5 / 35.9	D / D	15.7 / 24.9	B / C	23.4 / 21.5	C / C	38.5 / 30.7	D / C	29.9 / 27.5	C / C
Eau Claire Ave & Old Middleton Rd	--	--	--	--	19.9 / 24.3	C / C				
University Ave & Segoe Rd	39.4 / 41.3	D / D	21.6 / 21.8	C / C	51.9 / 40.4	D / D	58.0 / 75.4	E / E	35.5 / 31.7	D / C
University Ave & Hilldale Way	--	--	--	--	13.2 / 11.2	B / B	23.1 / 10.3	C / B		
University Ave & Midvale Blvd	25.3 / 52.6	C / D	22.1 / 158.7	C / F	79.2 / 163.8	E / F	51.7 / 114.7	D / F	34.9 / 122.3	C / F
Whitney Way & Sheboygan Ave			15.2 / 18.6	C / C	--	--	--	--		
Eau Claire Ave & Sheboygan Ave	--	--	--	--	10.9 / 11.2	B / B	11.6 / 12.6	B / B		
Segoe Rd & Frey St *	9.1 / 10.2	A / B	34.1 / 49.1	C / D	2.9 / 4.9	A / A	37.9 / 54.3	D / D		
Segoe Rd & Sheboygan Ave	14.0 / 16.7	B / C	12.2 / 12.5	B / B	--	--	--	--		
Midvale Blvd & Heather Crest	32.8 / 30.0	C / C	34.1 / 30.4	C / C	2.4 / 3.7	A / A	4.8 / 10.1	A / B	5.6 / 10.6	A / B
Whitway Way & Regent St	12.4 / 11.5	B / B	13.9 / 19.1	B / B	4.1 / 6.1	A / A	3.9 / 5.9	A / A	5.5 / 8.3	A / A
Eau Claire Ave & Regent St	8.3 / 9.4	A / A	7.5 / 9.5	A / A	7.3 / 8.3	A / A	7.1 / 8.0	A / A	7.8 / 9.1	A / A
Segoe Rd & Regent St	39.2 / 31.8	D / C	34.2 / 40.0	C / D	3.4 / 6.9	A / A	3.4 / 8.2	A / A	20.5 / 22.2	C / C
Midvale Blvd & Regent St	15.4 / 14.8	B / B	15.0 / 15.2	B / B	4.6 / 6.7	A / A	3.7 / 7.3	A / A	6.5 / 8.9	A / A

Note 1 - Gray boxes represent non-existent movements or that the overall intersection LOS is not applicable.
Note 2 - "—" represents free movements where delay is theoretically 0 seconds.
* - The southbound delay shown is for the southbound left only; the southbound through movement is uninterrupted

All study intersections currently operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours, with the exception of University Avenue & Midvale Boulevard during the PM peak hour. The westbound, northbound, and southbound approaches of the University Avenue & Midvale Boulevard intersection operate at LOS F during the PM peak hour and the northbound approach operates at LOS E during the AM peak hour. At the intersection of University Avenue & Segoe Road, the southbound approach operates as LOS E during both peak hours. This is likely due to the limited green time provided to the approach as a result of the coordination along University Avenue and split phasing of the signal. These conditions are consistent with field observations conducted at the study intersections.

Build-Out (2021) Conditions Capacity Analysis

The Build-Out analysis was performed for Background (without the addition of project traffic) and Total (with the addition of project traffic) conditions. Background conditions were performed using forecasted volumes provided in Exhibit 4, which represent existing turning movement volumes grown at a rate of 0.5% annually for four (4) years. Total conditions were performed using forecasted volumes provided in Exhibit 11, which represents existing turning movement volumes grown at a rate of 0.5% annually for four (4) years and the addition of project traffic provided in Exhibit 10. Based on

discussion with the City of Madison, the intersection of University Avenue & Maple Terrace (existing median opening) is planned to be converted to a signalized intersection with northbound and southbound left-turn movements prohibited as part of a safety improvement planned by the City of Madison.

Table 6 summarizes the capacity analysis during the Build-Out (2021) Background AM and PM peak hours. The table provides a summary of delay and LOS by approach as well as the overall intersection operations. Detailed information by movement is summarized in a table that is provided in the **Appendix**. The Synchro reports are also provided in the **Appendix**.

Table 6. Build-Out (2021) Background Conditions Capacity Summary – AM Peak Hour / PM Peak Hour

Intersection	Eastbound Approach		Westbound Approach		Northbound Approach		Southbound Approach		Overall Intersection	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
University Ave & Whitney Way	7.1 / 11.4	A / B	10.8 / 16.7	B / B	47.6 / 38.8	D / D			13.0 / 19.4	B / B
Whitney Way & Old Middleton Rd	37.5 / 39.2	D / D	16.9 / 32.2	B / C	24.8 / 23.2	C / C	40.8 / 31.4	D / D	31.7 / 30.7	C / C
Eau Claire Ave & Old Middleton Rd	--	--	--	--	21.5 / 26.5	C / D				
University Ave & Segoe Rd	64.0 / 46.5	E / D	17.9 / 29.2	B / C	54.1 / 46.0	D / D	58.0 / 81.6	E / F	49.4 / 38.2	D / D
University Ave & Hilldale Way	39.3 / 9.6	D / A	17.3 / 15.7	B / B	53.6 / 45.5	D / D	0.0 / 44.7	A / D	31.3 / 14.2	C / B
University Ave & Midvale Blvd	74.5 / 64.0	E / E	23.4 / 168.5	C / F	83.6 / 180.4	F / F	49.9 / 124.8	D / F	59.4 / 133.5	E / F
Whitney Way & Sheboygan Ave			15.8 / 19.8	C / C	--	--	--	--		
Eau Claire Ave & Sheboygan Ave	--	--	--	--	11.1 / 11.3	B / B	11.9 / 12.9	B / B		
Segoe Rd & Frey St *	9.2 / 10.4	A / B	32.5 / 48.9	C / D	4.2 / 5.6	A / A	35.8 / 55.7	D / E		
Segoe Rd & Sheboygan Ave	14.5 / 17.8	B / C	12.4 / 12.7	B / B	--	--	--	--		
Midvale Blvd & Heather Crest	39.5 / 37.2	D / D	41.1 / 36.4	D / D	2.4 / 3.7	A / A	4.9 / 9.7	A / A	6.2 / 11.6	A / B
Whitway Way & Regent St	12.8 / 11.7	B / B	14.7 / 21.0	B / C	4.1 / 6.3	A / A	3.9 / 6.0	A / A	5.6 / 8.7	A / A
Eau Claire Ave & Regent St	8.5 / 9.6	A / A	7.5 / 9.7	A / A	7.3 / 8.3	A / A	7.1 / 8.1	A / A	7.9 / 9.3	A / A
Segoe Rd & Regent St	39.3 / 31.3	D / C	34.4 / 39.7	C / D	3.5 / 7.4	A / A	3.6 / 8.8	A / A	20.5 / 22.2	C / C
Midvale Blvd & Regent St	16.0 / 18.3	B / B	15.6 / 19.0	B / B	4.6 / 6.8	A / A	3.7 / 7.6	A / A	6.7 / 9.7	A / A

Note 1 - Gray boxes represent non-existent movements or that the overall intersection LOS is not applicable.
Note 2 - "—" represents free movements where delay is theoretically 0 seconds.
* - The southbound delay shown is for the southbound left only; the southbound through movement is uninterrupted

For the Build-Out (2021) Background AM and PM peak hours, delay that occurs during the existing conditions increases, particularly for the University Avenue & Midvale Boulevard intersection which is shown to operate at LOS E overall during the AM peak hour. In addition, the eastbound approach is shown to operate at LOS E for both peak hours, and the northbound approach is shown to operate at LOS F in the AM peak hour. Similarly, the southbound approach of the University & Segoe Road intersection is shown to operate at LOS F during the PM peak hour, and the eastbound approach is shown to operate at LOS E during the AM peak hour. The southbound left-turn movement at the Segoe Road & Frey Street intersections are shown to decrease to LOS E.

Table 7 summarizes the capacity analysis during the Build-Out (2021) Total AM and PM peak hours. The table provides a summary of delay and LOS by approach as well as the overall intersection operations. Detailed information by movement is summarized in a table that is provided in the **Appendix**. The Synchro reports are also provided in the **Appendix**. Improvements are currently being constructed along University Avenue to accommodate the installation of a traffic signal at the main site access on University Avenue. As part of the improvement, a dedicated westbound left-turn lane into the development and a westbound acceleration lane for northbound left-turn exiting vehicles will be constructed and were assumed for future build conditions. All other site intersections were assumed to operate under minor-leg stop-control.

Table 7. Build-Out (2021) Total Conditions Capacity Summary – AM Peak Hour / PM Peak Hour

Intersection	Eastbound Approach		Westbound Approach		Northbound Approach		Southbound Approach		Overall Intersection	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
University Ave & Whitney Way	8.2 / 11.7	A / B	12.9 / 19.9	B / B	47.5 / 38.5	D / D			13.7 / 20.2	B / C
Whitney Way & Old Middleton Rd	44.1 / 45.5	D / D	18.8 / 36.6	B / D	29.1 / 39.9	C / D	44.5 / 33.7	D / C	36.2 / 38.8	D / D
Eau Claire Ave & Old Middleton Rd	--	--	--	--	26.6 / 31.3	D / D				
University Ave & Segoe Rd	98.6 / 67.7	F / E	18.9 / 33.8	B / C	54.3 / 46.1	D / D	58.0 / 81.6	E / F	69.2 / 48.7	E / D
University Ave & Hilldale Way	38.3 / 10.5	D / B	16.7 / 15.3	B / B	53.6 / 45.5	D / D	0.0 / 44.7	A / D	30.1 / 14.3	C / B
University Ave & Midvale Blvd	92.2 / 56.6	F / E	24.1 / 165.2	C / F	79.1 / 175.5	E / F	49.9 / 125.2	D / F	66.6 / 127.7	E / F
Whitney Way & Sheboygan Ave			21.2 / 70.5	C / F	--	--	--	--		
Eau Claire Ave & Sheboygan Ave	--	--	--	--	11.9 / 12.0	B / B	16.6 / 18.5	C / C		
Segoe Rd & Frey St*	9.5 / 10.3	A / B	32.5 / 48.9	C / D	4.1 / 5.5	A / A	35.8 / 55.7	D / E		
Segoe Rd & Sheboygan Ave	19.2 / 14.9	C / B	16.9 / 18.5	C / C	--	--	--	--		
Midvale Blvd & Heather Crest	39.5 / 37.2	D / D	41.1 / 36.4	D / D	2.5 / 3.8	A / A	4.9 / 9.9	A / A	6.1 / 11.6	A / B
Whitway Way & Regent St	12.7 / 11.7	B / B	12.8 / 16.8	B / B	5.3 / 8.8	A / A	4.9 / 8.4	A / A	6.5 / 10.0	A / B
Eau Claire Ave & Regent St	9.2 / 10.5	A / B	7.7 / 10.1	A / B	7.4 / 8.5	A / A	7.2 / 8.5	A / A	8.3 / 9.7	A / A
Segoe Rd & Regent St	39.3 / 30.9	D / C	33.9 / 37.7	C / D	3.6 / 7.6	A / A	3.7 / 9.6	A / A	19.2 / 20.7	B / C
Midvale Blvd & Regent St	17.8 / 23.2	B / C	16.9 / 23.5	B / C	4.7 / 16.2	A / B	3.7 / 9.9	A / A	7.1 / 15.1	A / B
PROJECT DRIVEWAYS										
Old Middleton Rd & Driveway 1	--	--	--	--	17.9 / 14.3	C / B				
University Ave & Driveway 2	19.2 / 22.6	B / C	5.4 / 1.6	A / A	41.7 / 29.7	D / C			17.2 / 15.0	B / B
Sheboygan Ave & Driveway 3	--	--	--	--			21.2 / 29.2	C / D		
Sheboygan Ave & Driveway 4	--	--	--	--			12.9 / 14.0	B / B		
Sheboygan Ave & Driveway 5	--	--	--	--			12.5 / 12.7	B / B		
Segoe Rd & Driveway 6	9.5 / 10.3	A / B			--	--	--	--		

Note 1 - Gray boxes represent non-existent movements or that the overall intersection LOS is not applicable.
Note 2 - "—" represents free movements where delay is theoretically 0 seconds.
* - The southbound delay shown is for the southbound left only; the southbound through movement is uninterrupted

Overall intersections (and approaches) are anticipated to operate at an acceptable LOS during the AM and PM peak hours, with the exception of the following:

- **University Avenue & Segoe Road** – The overall intersection is anticipated to operate at LOS E during the AM peak hour.
  - Recommendation: The critical movement is the eastbound through during the AM peak hour. Since there are three eastbound through lanes provided today, there is not much opportunity to provide additional capacity for the through travel lanes. No geometric improvements are recommended at this time.

- **University Avenue & Midvale Boulevard** – The overall intersection is anticipated to operate at LOS E during the AM peak hour and LOS F during the PM peak hour.
    - Recommendation: The critical movement is the eastbound through and westbound left-turn during the AM and PM peak hours, respectively. Since there are three eastbound through lanes and dual westbound left-turn lanes provided today, there isn't much opportunity to provide additional capacity through travel lanes. No geometric improvements are recommended at this time.

- **Whitney Way & Sheboygan Avenue** – The westbound approach is anticipated to operate at LOS F during the PM peak hour.
    - Recommendation: Consider the installation of a "half-signal", similar to what that is under construction at the main development access on University Avenue. Without the addition of site traffic, the approach operates at LOS E during the PM peak hour.

    - Based on a field review of the intersection, adequate sight distance for motorists does not appear to be available at the westbound approach of the intersection. Over the past 10 years (2007-2016) there have been 11 crashes at the intersection—7 of which involved westbound left-turning motorists and 2 of which involved westbound right-turning motorist. Additionally, 5 of the 11 crashes occurred on wet or snowy pavement. A crash diagram at the intersection for 2007-2016 is provided in the **Appendix**.

    - A traffic signal warrant analysis using the Manual on Uniform Traffic Control Devices (MUTCD) methodology was performed at the intersection using the existing AM and PM peak period turning movement volumes. Traffic signal warrants 2 and 3 are satisfied at this intersection. The traffic signal warrants analysis worksheet is provided in the **Appendix.**

    - Site traffic is projected to contribute approximately 10% of the future volume through the intersection (9% in the AM peak hour and 10% in the PM peak hour). If this recommendation were to move forward there would need to be negotiations with the City to determine what, if any, portion of the cost associated with the improvement should be the responsibility of the Hill Farms development.

Horizon (2041) Conditions Capacity Analysis

The Horizon analysis was completed for Background (without the addition of project traffic) and Total (with the addition of project traffic) conditions. Background conditions were performed using forecasted volumes provided in Exhibit 5, which represents existing turning movement volumes grown at a rate of 0.5% annually for 24 years. The Total conditions analyses were performed using forecasted volumes provided in Exhibit 12, which represent existing turning movement volumes grown at a rate of 0.5% annually for 24 years and the addition of project traffic provided in Exhibit 10.

Table 8 summarizes the capacity analysis during the Build-Out Background AM and PM peak hours. The table provides a summary of delay and LOS by approach as well as the overall intersection

operations. Detailed information by movement is summarized in a table that is provided in the **Appendix**. The Synchro reports are also provided in the **Appendix**.

Table 8. Horizon (2041) Background Conditions Capacity Summary – AM Peak Hour / PM Peak Hour

Intersection	Eastbound Approach		Westbound Approach		Northbound Approach		Southbound Approach		Overall Intersection	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
University Ave & Whitney Way	8.1 / 12.7	A / B	12.3 / 22.8	B / C	47.6 / 39.4	D / D			14.0 / 22.7	B / C
Whitney Way & Old Middleton Rd	45.5 / 49.8	D / D	21.7 / 49.0	C / D	29.0 / 33.7	C / C	48.5 / 34.7	D / C	38.0 / 41.0	D / D
Eau Claire Ave & Old Middleton Rd	--	--	--	--	28.5 / 37.4	D / E				
University Ave & Segoe Rd	118.6 / 89.6	F / F	19.3 / 41.2	B / D	57.6 / 51.2	E / D	58.0 / 93.4	E / F	82.6 / 60.7	F / E
University Ave & Hilldale Way	58.8 / 8.9	E / A	20.8 / 20.2	C / C	53.7 / 45.3	D / D	0.0 / 44.4	A / D	44.4 / 16.3	D / B
University Ave & Midvale Blvd	128.9 / 59.9	F / E	25.0 / 199.5	C / F	121.0 / 224.5	F / F	49.8 / 155.3	D / F	92.5 / 155.3	F / F
Whitney Way & Sheboygan Ave			17.7 / 24.2	C / C	--	--	--	--		
Eau Claire Ave & Sheboygan Ave	--	--	--	--	11.5 / 11.8	B / B	12.3 / 13.6	B / B		
Segoe Rd & Frey St*	9.3 / 10.7	A / B	32.5 / 48.5	C / D	4.8 / 6.1	A / A	33.4 / 56.6	C / E		
Segoe Rd & Sheboygan Ave	16.1 / 21.1	C / C	13.0 / 13.7	B / B	--	--	--	--		
Midvale Blvd & Heather Crest	39.5 / 37.3	D / D	41.2 / 35.9	D / D	2.6 / 4.8	A / A	5.0 / 11.2	A / B	6.3 / 12.7	A / B
Whitway Way & Regent St	12.1 / 11.1	B / B	12.6 / 16.2	B / B	5.3 / 8.7	A / A	4.9 / 8.0	A / A	6.2 / 9.7	A / A
Eau Claire Ave & Regent St	8.8 / 10.3	A / B	7.7 / 10.5	A / B	7.4 / 8.6	A / A	7.2 / 8.4	A / A	8.1 / 9.9	A / A
Segoe Rd & Regent St	39.1 / 30.7	D / C	34.1 / 38.9	C / D	3.9 / 8.5	A / A	3.9 / 10.4	A / B	20.6 / 22.6	C / C
Midvale Blvd & Regent St	36.1 / 49.5	D / D	35.8 / 58.8	D / E	4.6 / 7.6	A / A	3.4 / 7.8	A / A	10.7 / 18.0	B / B

Note 1 - Gray boxes represent non-existent movements or that the overall intersection LOS is not applicable.
Note 2 - "—" represents free movements where delay is theoretically 0 seconds.
* - The southbound delay shown is for the southbound left only; the southbound through movement is uninterrupted

For the Horizon (2041) Background AM and PM peak hours, delay that occurs during Build-Out background conditions increases, particularly for the University Avenue & Segoe Road intersection which is shown to operate at LOS F overall during the AM peak hour and LOS E during the PM peak hour. The intersection of University Avenue & Midvale Boulevard operates at a LOS F in both the AM and PM peak hours. The northbound approach of the Eau Claire Avenue & Old Middleton Road intersection and the westbound approach of the Midvale Boulevard & Regent Street intersection are shown to operate at LOS E for the PM peak hour.

Table 9 summarizes the capacity analysis during the Build-Out Total AM and PM peak hours. The table provides a summary of delay and LOS by approach as well as the overall intersection operations. Detailed information by movement is summarized in a table that is provided in the **Appendix**. The Synchro reports are also provided in the **Appendix**. As previously detailed, a dedicated westbound left-turn lane into the development and a westbound acceleration lane for northbound left-turn exiting vehicles are currently being constructed at the proposed half-signalized site access location along University Avenue, and were assumed for future build conditions. All other site intersections were assumed to operate under minor-leg stop-control. Geometric improvements

recommended in the Build-Out (2021) Total conditions analysis were included in the Horizon (2041) Total conditions analysis.

Table 9. Horizon (2041) Total Conditions Capacity Summary – AM Peak Hour / PM Peak Hour

Intersection	Eastbound Approach		Westbound Approach		Northbound Approach		Southbound Approach		Overall Intersection	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
University Ave & Whitney Way	9.3 / 13.1	A / B	14.5 / 35.8	B / D	47.7 / 38.6	D / D			14.9 / 28.3	B / C
Whitney Way & Old Middleton Rd	56.5 / 65.7	E / E	24.1 / 52.4	C / D	34.7 / 54.1	C / D	53.4 / 35.7	D / D	44.7 / 51.7	D / D
Eau Claire Ave & Old Middleton Rd	--	--	--	--	37.3 / 45.8	E / E				
University Ave & Segoe Rd	156.6 / 134.9	F / F	20.5 / 49.2	C / D	57.9 / 50.6	E / D	58.0 / 93.4	E / F	104.2 / 82.7	F / F
University Ave & Hilldale Way	71.2 / 9.6	E / A	20.1 / 20.0	C / B	53.7 / 45.3	D / D	0.0 / 44.4	A / D	50.9 / 16.3	D / B
University Ave & Midvale Blvd	149.4 / 57.7	F / E	26.0 / 198.4	C / F	112.7 / 220.3	F / F	49.8 / 156.1	D / F	100.0 / 151.9	F / F
Whitney Way & Sheboygan Ave			20.1 / 21.7	C / C	14.7 / 12.5	B / C	1.5 / 5.3	A / A	9.6 / 11.5	A / B
Eau Claire Ave & Sheboygan Ave	--	--	--	--	12.4 / 12.5	B / B	17.8 / 20.2	C / C		
Segoe Rd & Frey St*	9.6 / 10.7	A / B	32.5 / 48.5	C / D	4.8 / 6.0	A / A	33.4 / 56.6	C / E		
Segoe Rd & Sheboygan Ave	23.5 / 16.9	C / C	18.3 / 23.4	C / C	--	--	--	--		
Midvale Blvd & Heather Crest	39.6 / 37.3	D / D	41.2 / 35.9	D / D	2.4 / 4.5	A / A	4.5 / 11.5	A / B	6.0 / 12.5	A / B
Whitway Way & Regent St	13.9 / 11.7	B / B	14.2 / 20.3	B / C	5.6 / 9.6	A / A	5.1 / 9.0	A / A	6.8 / 11.1	A / B
Eau Claire Ave & Regent St	9.5 / 11.3	A / B	7.8 / 11.0	A / B	7.6 / 8.8	A / A	7.4 / 8.8	A / A	8.5 / 10.4	A / B
Segoe Rd & Regent St	39.1 / 30.1	D / C	33.7 / 37.5	C / D	4.0 / 8.8	A / A	4.1 / 11.5	A / B	19.4 / 21.6	B / C
Midvale Blvd & Regent St	41.3 / 45.7	D / D	34.7 / 35.9	C / D	12.2 / 21.6	B / C	13.3 / 30.0	B / C	17.8 / 29.7	B / C
PROJECT DRIVEWAYS										
Old Middleton Rd & Driveway 1	--	--	--	--	19.9 / 15.3	C / C				
University Ave & Driveway 2	22.6 / 28.8	C / C	5.0 / 1.6	A / A	41.2 / 28.9	D / C			19.2 / 17.7	B / B
Sheboygan Ave & Driveway 3	--	--	--	--			25.0 / 40.0	D / E		
Sheboygan Ave & Driveway 4	--	--	--	--			13.3 / 14.6	B / B		
Sheboygan Ave & Driveway 5	--	--	--	--			12.8 / 13.2	B / B		
Segoe Rd & Driveway 6	9.6 / 10.7	A / B			--	--	--	--		

Note 1 - Gray boxes represent non-existent movements or that the overall intersection LOS is not applicable.
Note 2 - "—" represents free movements where delay is theoretically 0 seconds.
* - The southbound delay shown is for the southbound left only; the southbound through movement is uninterrupted

With the geometric improvements recommended to mitigate Build-Out (2021) conditions, overall intersections (and approaches) are anticipated to operate at an acceptable LOS during the AM and PM peak hours, with the exception of the following:

- **Whitney Way & Old Middleton Road** – The eastbound approach is anticipated to operate at LOS E during both the AM and PM peak hours.
    - Recommendation: Review the intersection operations for signal timing improvements.

- **Eau Claire Avenue & Old Middleton Road** – The northbound approach is anticipated to operate at LOS E during the AM and PM peak hours.
    - Recommendation: The side-street stop controlled vehicles are anticipated to experience longer than desirable wait times to make a turn onto Old Middleton Road. Due to the low volume of the approach, and the fact that the volume-to-capacity ratio of the approach is low, no improvements are recommended.

- **University Avenue & Segoe Road** – The overall intersection is anticipated to operate at LOS F during the AM and PM peak hours.
    - Recommendation: As previously detailed, since there are three existing eastbound through lanes, providing additional capacity through travel lanes is not feasible at this location. No geometric improvements are recommended at this time.

- **University Avenue & Hilldale Way** – The eastbound approach is anticipated to operate at LOS E during the AM peak hour.
    - Recommendation: Continue to provide signal coordination improvements along the University Avenue corridor.

- **University Avenue & Midvale Boulevard** – The overall intersection is anticipated to operate at LOS F during the AM and PM peak hours.
    - Recommendation: As previously detailed, since there are three eastbound through lanes and dual westbound left-turn lanes provided today, there isn't much opportunity to provide additional capacity through travel lanes. No geometric improvements are recommended at this time.

- **Segoe Road & Sheboygan Avenue** – The westbound approach is anticipated to operate at LOS C during the PM peak hour.
    - Recommendation: The side-street stop controlled vehicles are anticipated to experience longer than desirable wait times to make a turn onto Segoe Road. Due to the low volume of the approach, and the fact that the volume-to-capacity ratio of the approach is low, no improvements are recommended.

    - The City has asked that an analysis be performed at this intersection for consideration of a roundabout. Based on the level of service analysis using SIDRA (assuming a multi-lane roundabout), the intersection is anticipated to operate at LOS A during the Horizon Year Total AM and PM peak hours with a roundabout.

        - Although the roundabout has the potential to improve level of service at the intersection, significant right-of-way impacts to the northwest and southwest quadrants of the intersection would be anticipated. **Exhibit A** in the Appendix provides a hand sketch of a dual-lane roundabout to show the potential right-of-way impacts using an inscribed circle diameter ranging from 150 feet to 180 feet. It should be noted that because of the location of the Venture building on the northeast corner of the intersection, the roundabout is not oriented in the center of the existing intersection, and a realignment of Segoe Road to the

west will be necessary. Right-of-way impacts from the realignment impacts are not accounted for in the hand sketch.

- If the City would like to still consider a roundabout at this location, further studies and analysis will be necessary.

- The intersection was also analyzed under traffic signal control based on a request from the City. Based on the level of service analysis using Synchro, the intersection would be anticipated to operate at LOS B during the Horizon Year Total AM and PM peak hours with a traffic signal. The Synchro reports for the intersection analysis are provided in the **Appendix**.

- This intersection should be monitored to determine if additional intersection control is warranted in the future.

- **Sheboygan Avenue & Garage Access Driveway** – The southbound approach is anticipated to operate at LOS E during the PM peak hour.
  - Recommendation: It is expected that state employee traffic will divert to the other access connections if backups start to occur. This intersection should be monitored to determine if additional intersection control is warranted in the future.

CONCLUSION & RECOMMENDATIONS

Kimley-Horn and Associates, Inc., (Kimley-Horn) was retained by SG Hill Farms, LLC, to evaluate the traffic impacts related to the proposed mixed-use development located on the south side of University Avenue, west of Segoe Road in City of Madison, Wisconsin.

The development plan includes replacing the existing 432,544 square foot State Office Building with a 600,000 square foot building which is already under construction. The development will also include the following land uses: 350 multi-family dwelling units, 200 hotel rooms, 225,150 square feet of general office space, 152,370 square feet of medical office space, 98,050 square feet of general retail space, 26,800 square feet of restaurant space, a 5,000 square foot pharmacy, a 40,650 square foot fitness club, and a 25,000 square foot grocery store. The development also includes a parking ramp located on the southwest portion of the development that has already been constructed and is being used by employees of the State Office Building.

Access to the site will be provided by six (6) driveway connections of the following types: one (1) full access signalized connection along University Avenue, one (1) unsignalized right-in/right-out connection along Old Middleton Road, one (1) unsignalized right-in/right-out connection along Segoe Road, two (2) unsignalized full access connections along Sheboygan Avenue serving the mixed-use development, and one (1) unsignalized full access connection along Sheboygan serving the government office building. Supplemental right-in/right-out access driveways are also planned to facilitate movements to/from parking and loading located within specific block groups. These driveways will only provide access to individual block groups, and are anticipated to reduce the impacts of site traffic on the primary driveways. The exact location and design of these supplemental driveways will be determined through the individual site design process.

A capacity analysis was performed for the study intersection for five (5) scenarios during the weekday AM and PM peak hours. Based on the capacity analysis, the following improvements are recommended to provide acceptable LOS at within the project study area through the 2041 Horizon Year:

- Installation of a “half-signal” at the intersection of Whitney Way & Sheboygan Avenue (City/Developer)
- Timing improvements at the intersection of Whitney Way & Old Middleton Road (City)
- Installation of a “half-signal” along University Avenue at the project access west of Segoe Road (Developer)
- Due to the high non-motorized mode-split anticipated for the development, it is recommended that a Travel Demand Management Plan (TDMP) be developed for the site. (Developer)

APPENDIX

Conceptual Site Plan

Traffic Count Data

Parking Generation Table

Existing Conditions (2017) Synchro Reports

Build-Out Conditions (2021) Synchro Reports

Crash History at Whitney Way & Sheboygan Avenue

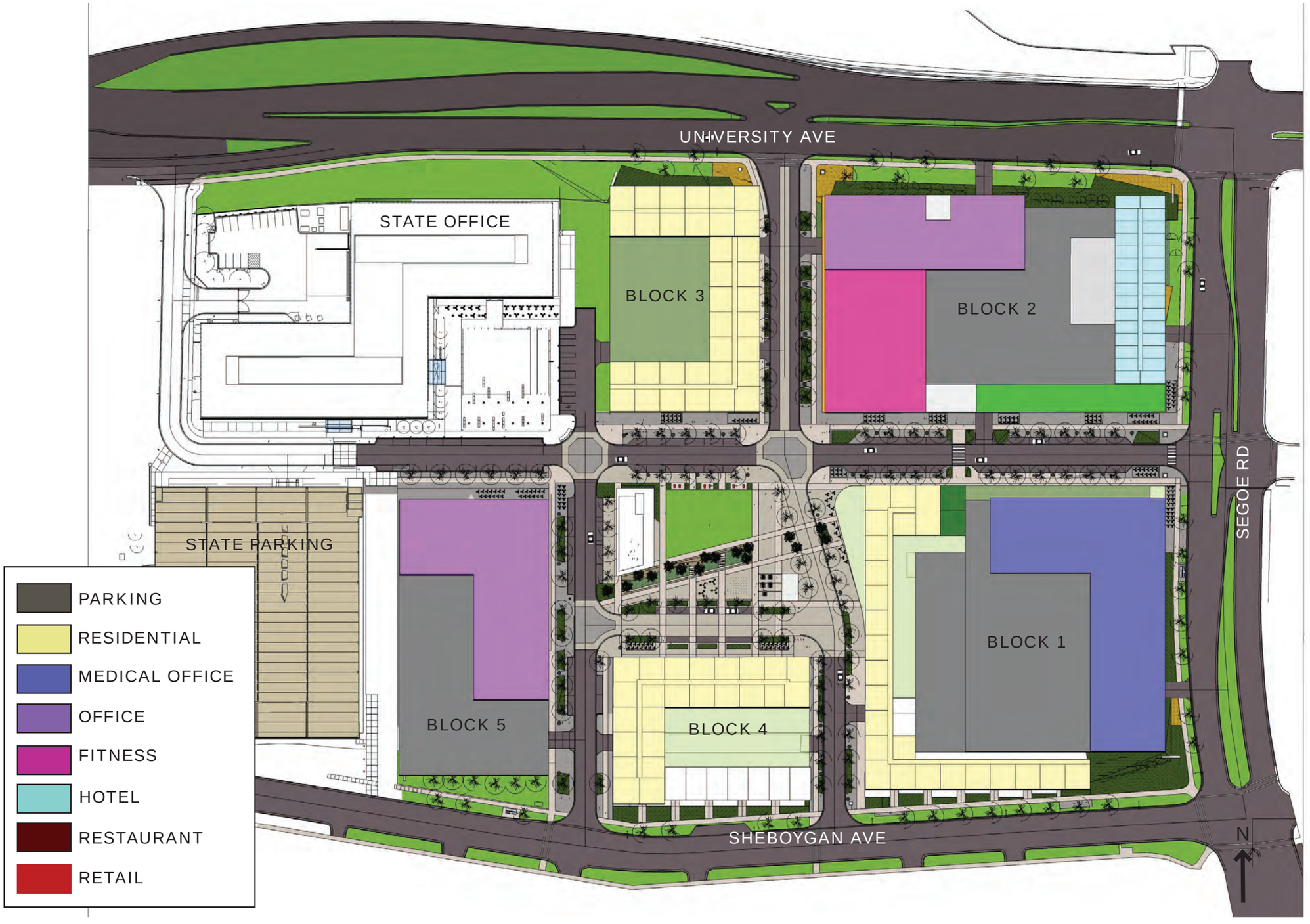
Signal Warrant Analysis at Whitney Way & Sheboygan Avenue

Horizon Conditions (2041) Synchro Reports

Roundabout Sketch at Segoe Road & Sheboygan Avenue

Synchro Traffic Signal Analysis at Segoe Road & Sheboygan Avenue

CONCEPTUAL SITE PLAN



HILL FARMS DEVELOPMENT
MASTER PLAN DIAGRAM

PLAN VIEW 7/6/2017

TRAFFIC COUNT DATA

Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350

Lisle, Illinois, United States 60532
331.481.7332 Doug.Arnold@kimley-horn.com

Count Name: Eau Claire & Sheboygan
Site Code:
Start Date: 03/02/2016

Turning Movement Data

Start Time	EB Sheboygan Eastbound						WB Sheboygan Westbound						NB Eau Claire Northbound						SB Eau Claire Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	0	2	23	1	0	26	0	11	66	2	1	79	0	1	3	4	3	8	0	4	3	2	9	9	122
4:15 PM	0	1	23	2	5	26	0	7	54	1	1	62	0	0	1	7	2	8	0	2	5	4	7	11	107
4:30 PM	0	1	19	3	8	23	0	17	62	1	0	80	0	2	3	2	1	7	2	1	5	2	10	10	120
4:45 PM	0	0	35	3	3	38	0	12	43	2	3	57	0	3	2	8	0	13	0	1	5	5	16	11	119
Hourly Total	0	4	100	9	16	113	0	47	225	6	5	278	0	6	9	21	6	36	2	8	18	13	42	41	468
5:00 PM	0	0	32	4	5	36	0	20	57	2	10	79	1	4	3	5	4	13	0	6	5	3	20	14	142
5:15 PM	0	2	29	4	4	35	0	13	41	2	4	56	0	1	4	5	2	10	1	1	8	0	13	10	111
5:30 PM	0	1	31	4	11	36	0	9	31	2	6	42	0	3	1	10	5	14	0	0	10	2	12	12	104
5:45 PM	0	2	35	3	4	40	0	12	24	0	4	36	0	2	1	7	4	10	0	2	4	4	15	10	96
Hourly Total	0	5	127	15	24	147	0	54	153	6	24	213	1	10	9	27	15	47	1	9	27	9	60	46	453
6:00 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:00 AM	0	3	42	2	2	47	0	4	12	0	3	16	0	0	1	4	11	5	1	2	1	0	3	4	72
7:15 AM	0	3	42	1	1	46	0	2	16	1	5	19	0	1	4	7	7	12	0	4	2	0	4	6	83
7:30 AM	0	3	49	1	7	53	0	3	8	2	3	13	2	1	4	5	16	12	1	3	3	0	6	7	85
7:45 AM	0	7	62	2	6	71	0	5	21	1	1	27	3	3	4	10	14	20	0	1	1	3	1	5	123
Hourly Total	0	16	195	6	16	217	0	14	57	4	12	75	5	5	13	26	48	49	2	10	7	3	14	22	363
8:00 AM	0	4	39	2	7	45	0	3	25	1	7	29	3	1	5	5	17	14	0	4	3	0	8	7	95
8:15 AM	0	3	40	8	0	51	0	6	20	1	5	27	5	3	5	7	15	20	4	6	3	2	7	15	113
8:30 AM	0	4	41	1	6	46	0	3	19	1	11	23	3	6	3	7	10	19	0	4	0	2	11	6	94
8:45 AM	0	5	41	1	3	47	0	7	21	0	5	28	3	5	7	4	15	19	0	3	1	1	5	5	99
Hourly Total	0	16	161	12	16	189	0	19	85	3	28	107	14	15	20	23	57	72	4	17	7	5	31	33	401
9:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	42	584	42	72	668	0	134	520	19	69	673	20	36	51	97	126	204	9	44	59	30	147	142	1687
Approach %	0.0	6.3	87.4	6.3	-	-	0.0	19.9	77.3	2.8	-	-	9.8	17.6	25.0	47.5	-	-	6.3	31.0	41.5	21.1	-	-	-
Total %	0.0	2.5	34.6	2.5	-	39.6	0.0	7.9	30.8	1.1	-	39.9	1.2	2.1	3.0	5.7	-	12.1	0.5	2.6	3.5	1.8	-	8.4	-
Lights	0	42	567	42	-	651	0	112	503	11	-	626	20	35	50	70	-	175	9	24	54	29	-	116	1568
% Lights	-	100.0	97.1	100.0	-	97.5	-	83.6	96.7	57.9	-	93.0	100.0	97.2	98.0	72.2	-	85.8	100.0	54.5	91.5	96.7	-	81.7	92.9
Mediums	0	0	15	0	-	15	0	22	15	7	-	44	0	1	0	27	-	28	0	16	1	1	-	18	105
% Mediums	-	0.0	2.6	0.0	-	2.2	-	16.4	2.9	36.8	-	6.5	0.0	2.8	0.0	27.8	-	13.7	0.0	36.4	1.7	3.3	-	12.7	6.2
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.2	0.0	-	0.1	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Road	0	0	2	0	-	2	0	0	1	1	-	2	0	0	1	0	-	1	0	4	4	0	-	8	13
% Bicycles on Road	-	0.0	0.3	0.0	-	0.3	-	0.0	0.2	5.3	-	0.3	0.0	0.0	2.0	0.0	-	0.5	0.0	9.1	6.8	0.0	-	5.6	0.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	72	-	-	-	-	-	69	-	-	-	-	-	126	-	-	-	-	-	147	-	-

Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350

Lisle, Illinois, United States 60532
331.481.7332 Doug.Arnold@kimley-horn.com

Count Name: Eau Claire & Sheboygan
Site Code:
Start Date: 03/02/2016

Turning Movement Peak Hour Data (4:30 PM)

Start Time	EB Sheboygan Eastbound						WB Sheboygan Westbound						NB Eau Claire Northbound						SB Eau Claire Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
4:30 PM	0	1	19	3	8	23	0	17	62	1	0	80	0	2	3	2	1	7	2	1	5	2	10	10	120
4:45 PM	0	0	35	3	3	38	0	12	43	2	3	57	0	3	2	8	0	13	0	1	5	5	16	11	119
5:00 PM	0	0	32	4	5	36	0	20	57	2	10	79	1	4	3	5	4	13	0	6	5	3	20	14	142
5:15 PM	0	2	29	4	4	35	0	13	41	2	4	56	0	1	4	5	2	10	1	1	8	0	13	10	111
Total	0	3	115	14	20	132	0	62	203	7	17	272	1	10	12	20	7	43	3	9	23	10	59	45	492
Approach %	0.0	2.3	87.1	10.6	-	-	0.0	22.8	74.6	2.6	-	-	2.3	23.3	27.9	46.5	-	-	6.7	20.0	51.1	22.2	-	-	-
Total %	0.0	0.6	23.4	2.8	-	26.8	0.0	12.6	41.3	1.4	-	55.3	0.2	2.0	2.4	4.1	-	8.7	0.6	1.8	4.7	2.0	-	9.1	-
PHF	0.000	0.375	0.821	0.875	-	0.868	0.000	0.775	0.819	0.875	-	0.850	0.250	0.625	0.750	0.625	-	0.827	0.375	0.375	0.719	0.500	-	0.804	0.866
Lights	0	3	108	14	-	125	0	53	198	4	-	255	1	10	12	15	-	38	3	8	21	10	-	42	460
% Lights	-	100.0	93.9	100.0	-	94.7	-	85.5	97.5	57.1	-	93.8	100.0	100.0	100.0	75.0	-	88.4	100.0	88.9	91.3	100.0	-	93.3	93.5
Mediums	0	0	6	0	-	6	0	9	3	3	-	15	0	0	0	5	-	5	0	1	0	0	-	1	27
% Mediums	-	0.0	5.2	0.0	-	4.5	-	14.5	1.5	42.9	-	5.5	0.0	0.0	0.0	25.0	-	11.6	0.0	11.1	0.0	0.0	-	2.2	5.5
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.5	0.0	-	0.4	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.2
Bicycles on Road	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	0	0	2	0	-	2	4
% Bicycles on Road	-	0.0	0.9	0.0	-	0.8	-	0.0	0.5	0.0	-	0.4	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	8.7	0.0	-	4.4	0.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	20	-	-	-	-	-	17	-	-	-	-	-	7	-	-	-	-	-	59	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350

Lisle, Illinois, United States 60532
331.481.7332 Doug.Arnold@kimley-horn.com

Count Name: Eau Claire & Sheboygan
Site Code:
Start Date: 03/02/2016

Turning Movement Peak Hour Data (7:45 AM)

Start Time	EB Sheboygan Eastbound						WB Sheboygan Westbound						NB Eau Claire Northbound						SB Eau Claire Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:45 AM	0	7	62	2	6	71	0	5	21	1	1	27	3	3	4	10	14	20	0	1	1	3	1	5	123
8:00 AM	0	4	39	2	7	45	0	3	25	1	7	29	3	1	5	5	17	14	0	4	3	0	8	7	95
8:15 AM	0	3	40	8	0	51	0	6	20	1	5	27	5	3	5	7	15	20	4	6	3	2	7	15	113
8:30 AM	0	4	41	1	6	46	0	3	19	1	11	23	3	6	3	7	10	19	0	4	0	2	11	6	94
Total	0	18	182	13	19	213	0	17	85	4	24	106	14	13	17	29	56	73	4	15	7	7	27	33	425
Approach %	0.0	8.5	85.4	6.1	-	-	0.0	16.0	80.2	3.8	-	-	19.2	17.8	23.3	39.7	-	-	12.1	45.5	21.2	21.2	-	-	-
Total %	0.0	4.2	42.8	3.1	-	50.1	0.0	4.0	20.0	0.9	-	24.9	3.3	3.1	4.0	6.8	-	17.2	0.9	3.5	1.6	1.6	-	7.8	-
PHF	0.000	0.643	0.734	0.406	-	0.750	0.000	0.708	0.850	1.000	-	0.914	0.700	0.542	0.850	0.725	-	0.913	0.250	0.625	0.583	0.583	-	0.550	0.864
Lights	0	18	179	13	-	210	0	15	81	4	-	100	14	12	17	21	-	64	4	6	6	7	-	23	397
% Lights	-	100.0	98.4	100.0	-	98.6	-	88.2	95.3	100.0	-	94.3	100.0	92.3	100.0	72.4	-	87.7	100.0	40.0	85.7	100.0	-	69.7	93.4
Mediums	0	0	3	0	-	3	0	2	4	0	-	6	0	1	0	8	-	9	0	6	0	0	-	6	24
% Mediums	-	0.0	1.6	0.0	-	1.4	-	11.8	4.7	0.0	-	5.7	0.0	7.7	0.0	27.6	-	12.3	0.0	40.0	0.0	0.0	-	18.2	5.6
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	3	1	0	-	4	4
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	20.0	14.3	0.0	-	12.1	0.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	19	-	-	-	-	-	24	-	-	-	-	-	56	-	-	-	-	-	27	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Hilldale Way & Maple Terrace - TMC
Thu Jun 15, 2017
Full Length (7AM-9AM, 4PM-6PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422608, Location: 43.075239, -89.453258

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	North Access						University Ave						South Access						University Ave						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2017-06-15 7:00AM	0	0	1	0	**1**	3	0	242	5	0	**247**	0	8	0	0	0	**8**	3	6	422	0	4	**432**	0	**688**
7:15AM	0	0	1	0	**1**	1	0	309	6	0	**315**	0	10	0	0	0	**10**	4	5	512	1	3	**521**	0	**847**
7:30AM	0	1	1	0	**2**	2	1	349	4	0	**354**	0	10	0	0	0	**10**	1	5	603	0	0	**608**	0	**974**
7:45AM	0	0	0	0	**0**	3	3	346	4	0	**353**	0	19	0	0	0	**19**	0	7	589	2	7	**605**	0	**977**
Hourly Total	0	1	3	0	**4**	9	4	1246	19	0	**1269**	0	47	0	0	0	**47**	8	23	2126	3	14	**2166**	0	**3486**
8:00AM	0	0	0	0	**0**	3	0	325	2	0	**327**	0	13	0	0	0	**13**	0	6	471	2	6	**485**	1	**825**
8:15AM	0	0	0	0	**0**	1	1	289	9	0	**299**	0	15	0	0	0	**15**	2	2	511	2	12	**527**	0	**841**
8:30AM	0	0	2	0	**2**	2	2	282	13	0	**297**	0	18	0	0	0	**18**	1	13	454	0	9	**476**	0	**793**
8:45AM	0	0	1	0	**1**	3	1	291	10	0	**302**	0	13	0	0	0	**13**	1	12	497	2	8	**519**	0	**835**
Hourly Total	0	0	3	0	**3**	9	4	1187	34	0	**1225**	0	59	0	0	0	**59**	4	33	1933	6	35	**2007**	1	**3294**
4:00PM	3	0	0	0	**3**	2	4	474	19	0	**497**	1	34	0	0	0	**34**	1	18	393	4	5	**420**	0	**954**
4:15PM	0	0	2	0	**2**	1	8	532	16	1	**557**	0	30	0	0	0	**30**	1	20	445	3	3	**471**	0	**1060**
4:30PM	2	0	0	0	**2**	3	4	470	20	2	**496**	0	41	0	0	0	**41**	1	36	440	6	4	**486**	0	**1025**
4:45PM	4	0	1	0	**5**	3	4	507	13	0	**524**	0	31	0	0	0	**31**	1	23	429	5	3	**460**	1	**1020**
Hourly Total	9	0	3	0	**12**	9	20	1983	68	3	**2074**	1	136	0	0	0	**136**	4	97	1707	18	15	**1837**	1	**4059**
5:00PM	2	0	0	0	**2**	1	8	524	12	0	**544**	0	36	0	0	0	**36**	3	16	388	2	0	**406**	0	**988**
5:15PM	2	0	0	0	**2**	0	5	553	10	0	**568**	0	29	0	0	0	**29**	5	18	412	2	0	**432**	0	**1031**
5:30PM	4	0	0	0	**4**	1	9	481	9	0	**499**	0	20	0	0	0	**20**	3	17	446	6	0	**469**	0	**992**
5:45PM	2	0	2	0	**4**	2	8	445	11	0	**464**	0	30	0	0	0	**30**	0	28	483	5	0	**516**	0	**1014**
Hourly Total	10	0	2	0	**12**	4	30	2003	42	0	**2075**	0	115	0	0	0	**115**	11	79	1729	15	0	**1823**	0	**4025**
Total	19	1	11	0	**31**	31	58	6419	163	3	**6643**	1	357	0	0	0	**357**	27	232	7495	42	64	**7833**	2	**14864**
% Approach	61.3%	3.2%	35.5%	0%	**-**	-	0.9%	96.6%	2.5%	0%	**-**	-	100%	0%	0%	0%	**-**	-	3.0%	95.7%	0.5%	0.8%	**-**	-	**-**
% Total	0.1%	0%	0.1%	0%	**0.2%**	-	0.4%	43.2%	1.1%	0%	**44.7%**	-	2.4%	0%	0%	0%	**2.4%**	-	1.6%	50.4%	0.3%	0.4%	**52.7%**	-	**-**
Lights	19	0	11	0	**30**	-	57	6218	159	3	**6437**	-	351	0	0	0	**351**	-	226	7307	42	64	**7639**	-	14457
% Lights	100%	0%	100%	0%	**96.8%**	-	98.3%	96.9%	97.5%	100%	**96.9%**	-	98.3%	0%	0%	0%	**98.3%**	-	97.4%	97.5%	100%	100%	**97.5%**	-	97.3%
Articulated Trucks	0	0	0	0	**0**	-	0	9	0	0	**9**	-	1	0	0	0	**1**	-	0	5	0	0	**5**	-	15
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.3%	0%	0%	0%	**0.3%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.1%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	189	4	0	**193**	-	5	0	0	0	**5**	-	5	180	0	0	**185**	-	383
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	2.9%	2.5%	0%	**2.9%**	-	1.4%	0%	0%	0%	**1.4%**	-	2.2%	2.4%	0%	0%	**2.4%**	-	2.6%
Bicycles on Road	0	1	0	0	**1**	-	1	3	0	0	**4**	-	0	0	0	0	**0**	-	1	3	0	0	**4**	-	9
% Bicycles on Road	0%	100%	0%	0%	**3.2%**	-	1.7%	0%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0.4%	0%	0%	0%	**0.1%**	-	0.1%
Pedestrians	-	-	-	-		30	-	-	-	-		1	-	-	-	-		22	-	-	-	-		2	
% Pedestrians	-	-	-	-		96.8%	-	-	-	-		100%	-	-	-	-		81.5%	-	-	-	-		100%	
Bicycles on Crosswalk	-	-	-	-		1	-	-	-	-		0	-	-	-	-		5	-	-	-	-		0	
% Bicycles on Crosswalk	-	-	-	-		3.2%	-	-	-	-		0%	-	-	-	-		18.5%	-	-	-	-		0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hilldale Way & Maple Terrace - TMC

Thu Jun 15, 2017
AM Peak (7:15AM - 8:15AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422608, Location: 43.075239, -89.453258

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	North Access						University Ave						South Access						University Ave						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 7:15AM	0	0	1	0	**1**	1	0	309	6	0	**315**	0	10	0	0	0	**10**	4	5	512	1	3	**521**	0	**847**
7:30AM	0	1	1	0	**2**	2	1	349	4	0	**354**	0	10	0	0	0	**10**	1	5	603	0	0	**608**	0	**974**
7:45AM	0	0	0	0	**0**	3	3	346	4	0	**353**	0	19	0	0	0	**19**	0	7	589	2	7	**605**	0	**977**
8:00AM	0	0	0	0	**0**	3	0	325	2	0	**327**	0	13	0	0	0	**13**	0	6	471	2	6	**485**	1	**825**
Total	0	1	2	0	**3**	9	4	1329	16	0	**1349**	0	52	0	0	0	**52**	5	23	2175	5	16	**2219**	1	**3623**
% Approach	0%	33.3%	66.7%	0%	**-**	-	0.3%	98.5%	1.2%	0%	**-**	-	100%	0%	0%	0%	**-**	-	1.0%	98.0%	0.2%	0.7%	**-**	-	**-**
% Total	0%	0%	0.1%	0%	**0.1%**	-	0.1%	36.7%	0.4%	0%	**37.2%**	-	1.4%	0%	0%	0%	**1.4%**	-	0.6%	60.0%	0.1%	0.4%	**61.2%**	-	**-**
PHF	**-**	0.250	0.500	**-**	**0.375**	-	0.333	0.952	0.667	**-**	**0.953**	-	0.684	**-**	**-**	**-**	**0.684**	-	0.821	0.902	0.625	0.571	**0.912**	-	0.927
Lights	0	0	2	0	**2**	-	4	1270	16	0	**1290**	-	51	0	0	0	**51**	-	21	2124	5	16	**2166**	-	3509
% Lights	0%	0%	100%	0%	**66.7%**	-	100%	95.6%	100%	0%	**95.6%**	-	98.1%	0%	0%	0%	**98.1%**	-	91.3%	97.7%	100%	100%	**97.6%**	-	96.9%
Articulated Trucks	0	0	0	0	**0**	-	0	3	0	0	**3**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	4
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.2%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	55	0	0	**55**	-	1	0	0	0	**1**	-	2	49	0	0	**51**	-	107
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	4.1%	0%	0%	**4.1%**	-	1.9%	0%	0%	0%	**1.9%**	-	8.7%	2.3%	0%	0%	**2.3%**	-	3.0%
Bicycles on Road	0	1	0	0	**1**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	3
% Bicycles on Road	0%	100%	0%	0%	**33.3%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-		8	-	-	-	-		0	-	-	-	-		5	-	-	-	-		1	
% Pedestrians	-	-	-	-		88.9%	-	-	-	-		-	-	-	-	-		100%	-	-	-	-		100%	
Bicycles on Crosswalk	-	-	-	-		1	-	-	-	-		0	-	-	-	-		0	-	-	-	-		0	
% Bicycles on Crosswalk	-	-	-	-		11.1%	-	-	-	-		-	-	-	-	-		0%	-	-	-	-		0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hilldale Way & Maple Terrace - TMC
Thu Jun 15, 2017
PM Peak (4:15PM - 5:15PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422608, Location: 43.075239, -89.453258

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	North Access						University Ave						South Access						University Ave						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2017-06-15 4:15PM	0	0	2	0	**2**	1	8	532	16	1	**557**	0	30	0	0	0	**30**	1	20	445	3	3	**471**	0	**1060**
4:30PM	2	0	0	0	**2**	3	4	470	20	2	**496**	0	41	0	0	0	**41**	1	36	440	6	4	**486**	0	**1025**
4:45PM	4	0	1	0	**5**	3	4	507	13	0	**524**	0	31	0	0	0	**31**	1	23	429	5	3	**460**	1	**1020**
5:00PM	2	0	0	0	**2**	1	8	524	12	0	**544**	0	36	0	0	0	**36**	3	16	388	2	0	**406**	0	**988**
Total	8	0	3	0	**11**	8	24	2033	61	3	**2121**	0	138	0	0	0	**138**	6	95	1702	16	10	**1823**	1	**4093**
% Approach	72.7%	0%	27.3%	0%	**-**	-	1.1%	95.9%	2.9%	0.1%	**-**	-	100%	0%	0%	0%	**-**	-	5.2%	93.4%	0.9%	0.5%	**-**	-	**-**
% Total	0.2%	0%	0.1%	0%	**0.3%**	-	0.6%	49.7%	1.5%	0.1%	**51.8%**	-	3.4%	0%	0%	0%	**3.4%**	-	2.3%	41.6%	0.4%	0.2%	**44.5%**	-	**-**
PHF	0.500	**-**	0.375	**-**	**0.550**	-	0.750	0.955	0.763	0.375	**0.952**	-	0.841	**-**	**-**	**-**	**0.841**	-	0.660	0.956	0.667	0.625	**0.938**	-	0.965
Lights	8	0	3	0	**11**	-	24	1987	61	3	**2075**	-	138	0	0	0	**138**	-	95	1666	16	10	**1787**	-	4011
% Lights	100%	0%	100%	0%	**100%**	-	100%	97.7%	100%	100%	**97.8%**	-	100%	0%	0%	0%	**100%**	-	100%	97.9%	100%	100%	**98.0%**	-	98.0%
Articulated Trucks	0	0	0	0	**0**	-	0	2	0	0	**2**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	3
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.1%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	43	0	0	**43**	-	0	0	0	0	**0**	-	0	35	0	0	**35**	-	78
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	2.1%	0%	0%	**2.0%**	-	0%	0%	0%	0%	**0%**	-	0%	2.1%	0%	0%	**1.9%**	-	1.9%
Bicycles on Road	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-		8	-	-	-	-		0	-	-	-	-		4	-	-	-	-		1	
% Pedestrians	-	-	-	-		100%	-	-	-	-		-	-	-	-	-		66.7%	-	-	-	-		100%	
Bicycles on Crosswalk	-	-	-	-		0	-	-	-	-		0	-	-	-	-		2	-	-	-	-		0	
% Bicycles on Crosswalk	-	-	-	-		0%	-	-	-	-		-	-	-	-	-		33.3%	-	-	-	-		0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

N Midvale Blvd & Heather Crest - TMC
Thu Jun 15, 2017
Full Length (7AM-9AM, 4PM-6PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422606, Location: 43.071363, -89.451274

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	Midvale Blvd						Heather Crest						Midvale Blvd						Heather Crest						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2017-06-15 7:00AM	4	71	2	0	**77**	1	4	5	2	0	**11**	0	5	131	6	0	**142**	1	2	0	4	0	**6**	2	**236**
7:15AM	5	74	3	0	**82**	2	10	4	3	0	**17**	3	4	159	14	0	**177**	0	1	2	4	0	**7**	1	**283**
7:30AM	4	88	2	0	**94**	0	8	4	2	0	**14**	3	4	220	6	1	**231**	1	5	2	4	0	**11**	1	**350**
7:45AM	7	99	3	0	**109**	1	2	2	2	0	**6**	2	4	223	14	0	**241**	0	9	0	5	0	**14**	0	**370**
Hourly Total	20	332	10	0	**362**	4	24	15	9	0	**48**	8	17	733	40	1	**791**	2	17	4	17	0	**38**	4	**1239**
8:00AM	11	106	1	0	**118**	1	12	7	5	0	**24**	0	6	169	10	0	**185**	0	7	1	7	0	**15**	1	**342**
8:15AM	10	109	0	0	**119**	0	8	3	5	0	**16**	1	4	200	18	1	**223**	0	5	0	7	0	**12**	3	**370**
8:30AM	7	95	0	0	**102**	0	1	6	3	0	**10**	1	3	192	8	0	**203**	0	11	2	12	0	**25**	2	**340**
8:45AM	5	107	3	0	**115**	2	4	5	8	0	**17**	0	3	187	15	0	**205**	0	11	1	7	0	**19**	0	**356**
Hourly Total	33	417	4	0	**454**	3	25	21	21	0	**67**	2	16	748	51	1	**816**	0	34	4	33	0	**71**	6	**1408**
4:00PM	18	212	4	0	**234**	1	10	8	6	0	**24**	1	2	138	25	0	**165**	0	27	3	22	0	**52**	0	**475**
4:15PM	23	203	5	0	**231**	2	6	9	5	0	**20**	0	1	165	33	0	**199**	2	31	5	24	0	**60**	1	**510**
4:30PM	22	221	2	1	**246**	1	9	5	1	0	**15**	3	7	194	30	0	**231**	0	31	8	29	0	**68**	4	**560**
4:45PM	14	223	4	1	**242**	2	13	8	10	0	**31**	1	5	171	32	0	**208**	0	28	4	15	0	**47**	1	**528**
Hourly Total	77	859	15	2	**953**	6	38	30	22	0	**90**	5	15	668	120	0	**803**	2	117	20	90	0	**227**	6	**2073**
5:00PM	17	237	8	0	**262**	2	9	6	11	0	**26**	5	5	161	27	0	**193**	4	40	3	21	0	**64**	1	**545**
5:15PM	21	200	5	0	**226**	2	6	6	9	0	**21**	1	3	164	28	0	**195**	1	28	3	17	0	**48**	2	**490**
5:30PM	13	211	18	0	**242**	0	7	3	2	0	**12**	0	6	176	27	0	**209**	1	15	11	15	0	**41**	2	**504**
5:45PM	17	171	8	0	**196**	1	3	7	4	0	**14**	3	2	171	33	0	**206**	1	26	7	12	0	**45**	2	**461**
Hourly Total	68	819	39	0	**926**	5	25	22	26	0	**73**	9	16	672	115	0	**803**	7	109	24	65	0	**198**	7	**2000**
Total	198	2427	68	2	**2695**	18	112	88	78	0	**278**	24	64	2821	326	2	**3213**	11	277	52	205	0	**534**	23	**6720**
% Approach	7.3%	90.1%	2.5%	0.1%	**-**	-	40.3%	31.7%	28.1%	0%	**-**	-	2.0%	87.8%	10.1%	0.1%	**-**	-	51.9%	9.7%	38.4%	0%	**-**	-	**-**
% Total	2.9%	36.1%	1.0%	0%	**40.1%**	-	1.7%	1.3%	1.2%	0%	**4.1%**	-	1.0%	42.0%	4.9%	0%	**47.8%**	-	4.1%	0.8%	3.1%	0%	**7.9%**	-	**-**
Lights	176	2376	67	2	**2621**	-	108	80	76	0	**264**	-	61	2757	323	2	**3143**	-	268	47	181	0	**496**	-	6524
% Lights	88.9%	97.9%	98.5%	100%	**97.3%**	-	96.4%	90.9%	97.4%	0%	**95.0%**	-	95.3%	97.7%	99.1%	100%	**97.8%**	-	96.8%	90.4%	88.3%	0%	**92.9%**	-	97.1%
Articulated Trucks	0	9	0	0	**9**	-	0	0	0	0	**0**	-	0	9	1	0	**10**	-	0	0	1	0	**1**	-	20
% Articulated Trucks	0%	0.4%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0.3%	0%	**0.3%**	-	0%	0%	0.5%	0%	**0.2%**	-	0.3%
Buses and Single-Unit Trucks	19	29	0	0	**48**	-	3	1	1	0	**5**	-	3	39	2	0	**44**	-	9	0	21	0	**30**	-	127
% Buses and Single-Unit Trucks	9.6%	1.2%	0%	0%	**1.8%**	-	2.7%	1.1%	1.3%	0%	**1.8%**	-	4.7%	1.4%	0.6%	0%	**1.4%**	-	3.2%	0%	10.2%	0%	**5.6%**	-	1.9%
Bicycles on Road	3	13	1	0	**17**	-	1	7	1	0	**9**	-	0	16	0	0	**16**	-	0	5	2	0	**7**	-	49
% Bicycles on Road	1.5%	0.5%	1.5%	0%	**0.6%**	-	0.9%	8.0%	1.3%	0%	**3.2%**	-	0%	0.6%	0%	0%	**0.5%**	-	0%	9.6%	1.0%	0%	**1.3%**	-	0.7%
Pedestrians	-	-	-	-		17	-	-	-	-		19	-	-	-	-		8	-	-	-	-		14	
% Pedestrians	-	-	-	-		94.4%	-	-	-	-		79.2%	-	-	-	-		72.7%	-	-	-	-		60.9%	
Bicycles on Crosswalk	-	-	-	-		1	-	-	-	-		5	-	-	-	-		3	-	-	-	-		9	
% Bicycles on Crosswalk	-	-	-	-		5.6%	-	-	-	-		20.8%	-	-	-	-		27.3%	-	-	-	-		39.1%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

N Midvale Blvd & Heather Crest - TMC
Thu Jun 15, 2017
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422606, Location: 43.071363, -89.451274

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	Midvale Blvd						Heather Crest						Midvale Blvd						Heather Crest						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 7:30AM	4	88	2	0	**94**	0	8	4	2	0	**14**	3	4	220	6	1	**231**	1	5	2	4	0	**11**	1	**350**
7:45AM	7	99	3	0	**109**	1	2	2	2	0	**6**	2	4	223	14	0	**241**	0	9	0	5	0	**14**	0	**370**
8:00AM	11	106	1	0	**118**	1	12	7	5	0	**24**	0	6	169	10	0	**185**	0	7	1	7	0	**15**	1	**342**
8:15AM	10	109	0	0	**119**	0	8	3	5	0	**16**	1	4	200	18	1	**223**	0	5	0	7	0	**12**	3	**370**
Total	32	402	6	0	**440**	2	30	16	14	0	**60**	6	18	812	48	2	**880**	1	26	3	23	0	**52**	5	**1432**
% Approach	7.3%	91.4%	1.4%	0%	**-**	-	50.0%	26.7%	23.3%	0%	**-**	-	2.0%	92.3%	5.5%	0.2%	**-**	-	50.0%	5.8%	44.2%	0%	**-**	-	**-**
% Total	2.2%	28.1%	0.4%	0%	**30.7%**	-	2.1%	1.1%	1.0%	0%	**4.2%**	-	1.3%	56.7%	3.4%	0.1%	**61.5%**	-	1.8%	0.2%	1.6%	0%	**3.6%**	-	**-**
PHF	0.727	0.922	0.500		**- 0.924**	-	0.625	0.571	0.700		**- 0.625**	-	0.750	0.910	0.667	0.500	**0.913**	-	0.722	0.375	0.821		**- 0.867**	-	0.968
Lights	27	387	6	0	**420**	-	28	13	14	0	**55**	-	17	789	47	2	**855**	-	22	3	18	0	**43**	-	1373
% Lights	84.4%	96.3%	100%	0%	**95.5%**	-	93.3%	81.3%	100%	0%	**91.7%**	-	94.4%	97.2%	97.9%	100%	**97.2%**	-	84.6%	100%	78.3%	0%	**82.7%**	-	95.9%
Articulated Trucks	0	5	0	0	**5**	-	0	0	0	0	**0**	-	0	6	1	0	**7**	-	0	0	0	0	**0**	-	12
% Articulated Trucks	0%	1.2%	0%	0%	**1.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0.7%	2.1%	0%	**0.8%**	-	0%	0%	0%	0%	**0%**	-	0.8%
Buses and Single-Unit Trucks	5	8	0	0	**13**	-	2	0	0	0	**2**	-	1	13	0	0	**14**	-	4	0	4	0	**8**	-	37
% Buses and Single-Unit Trucks	15.6%	2.0%	0%	0%	**3.0%**	-	6.7%	0%	0%	0%	**3.3%**	-	5.6%	1.6%	0%	0%	**1.6%**	-	15.4%	0%	17.4%	0%	**15.4%**	-	2.6%
Bicycles on Road	0	2	0	0	**2**	-	0	3	0	0	**3**	-	0	4	0	0	**4**	-	0	0	1	0	**1**	-	10
% Bicycles on Road	0%	0.5%	0%	0%	**0.5%**	-	0%	18.8%	0%	0%	**5.0%**	-	0%	0.5%	0%	0%	**0.5%**	-	0%	0%	4.3%	0%	**1.9%**	-	0.7%
Pedestrians	-	-	-	-		2	-	-	-	-		6	-	-	-	-		1	-	-	-	-		3	
% Pedestrians	-	-	-	-		100%	-	-	-	-		100%	-	-	-	-		100%	-	-	-	-		60.0%	
Bicycles on Crosswalk	-	-	-	-		0	-	-	-	-		0	-	-	-	-		0	-	-	-	-		2	
% Bicycles on Crosswalk	-	-	-	-		0%	-	-	-	-		0%	-	-	-	-		0%	-	-	-	-		40.0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

N Midvale Blvd & Heather Crest - TMC
Thu Jun 15, 2017
PM Peak (4:15PM - 5:15PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422606, Location: 43.071363, -89.451274

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	Midvale Blvd						Heather Crest						Midvale Blvd						Heather Crest						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2017-06-15 4:15PM	23	203	5	0	**231**	2	6	9	5	0	**20**	0	1	165	33	0	**199**	2	31	5	24	0	**60**	1	**510**
4:30PM	22	221	2	1	**246**	1	9	5	1	0	**15**	3	7	194	30	0	**231**	0	31	8	29	0	**68**	4	**560**
4:45PM	14	223	4	1	**242**	2	13	8	10	0	**31**	1	5	171	32	0	**208**	0	28	4	15	0	**47**	1	**528**
5:00PM	17	237	8	0	**262**	2	9	6	11	0	**26**	5	5	161	27	0	**193**	4	40	3	21	0	**64**	1	**545**
Total	76	884	19	2	**981**	7	37	28	27	0	**92**	9	18	691	122	0	**831**	6	130	20	89	0	**239**	7	**2143**
% Approach	7.7%	90.1%	1.9%	0.2%	**-**	-	40.2%	30.4%	29.3%	0%	**-**	-	2.2%	83.2%	14.7%	0%	**-**	-	54.4%	8.4%	37.2%	0%	**-**	-	**-**
% Total	3.5%	41.3%	0.9%	0.1%	**45.8%**	-	1.7%	1.3%	1.3%	0%	**4.3%**	-	0.8%	32.2%	5.7%	0%	**38.8%**	-	6.1%	0.9%	4.2%	0%	**11.2%**	-	**-**
PHF	0.826	0.932	0.594	0.500	**0.936**	-	0.712	0.778	0.614		**- 0.742**	-	0.643	0.890	0.924		**- 0.899**	-	0.813	0.625	0.767		**- 0.879**	-	0.957
Lights	68	873	19	2	**962**	-	35	28	26	0	**89**	-	17	684	122	0	**823**	-	127	17	82	0	**226**	-	2100
% Lights	89.5%	98.8%	100%	100%	**98.1%**	-	94.6%	100%	96.3%	0%	**96.7%**	-	94.4%	99.0%	100%	0%	**99.0%**	-	97.7%	85.0%	92.1%	0%	**94.6%**	-	98.0%
Articulated Trucks	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Articulated Trucks	0%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	5	4	0	0	**9**	-	1	0	1	0	**2**	-	1	6	0	0	**7**	-	3	0	6	0	**9**	-	27
% Buses and Single-Unit Trucks	6.6%	0.5%	0%	0%	**0.9%**	-	2.7%	0%	3.7%	0%	**2.2%**	-	5.6%	0.9%	0%	0%	**0.8%**	-	2.3%	0%	6.7%	0%	**3.8%**	-	1.3%
Bicycles on Road	3	6	0	0	**9**	-	1	0	0	0	**1**	-	0	1	0	0	**1**	-	0	3	1	0	**4**	-	15
% Bicycles on Road	3.9%	0.7%	0%	0%	**0.9%**	-	2.7%	0%	0%	0%	**1.1%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	15.0%	1.1%	0%	**1.7%**	-	0.7%
Pedestrians	-	-	-	-		6	-	-	-	-		6	-	-	-	-		4	-	-	-	-		5	
% Pedestrians	-	-	-	-	85.7%		-	-	-	-	66.7%		-	-	-	-	66.7%		-	-	-	-	71.4%		
Bicycles on Crosswalk	-	-	-	-		1	-	-	-	-		3	-	-	-	-		2	-	-	-	-		2	
% Bicycles on Crosswalk	-	-	-	-	14.3%		-	-	-	-	33.3%		-	-	-	-	33.3%		-	-	-	-	28.6%		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

N Whitney Way & Sheboygan Ave - TMC

Thu Jun 15, 2017
Full Length (7AM-9AM, 4PM-6PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road)
All Movements
ID: 422599, Location: 43.073189, -89.467644

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	N Whitney Way					Sheboygan Ave					N Whitney Way					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2017-06-15 7:00AM	90	25	0	**115**	0	9	9	0	**18**	0	13	106	0	**119**	0	**252**
7:15AM	113	35	1	**149**	0	22	7	0	**29**	1	26	138	0	**164**	0	**342**
7:30AM	140	28	0	**168**	1	26	11	0	**37**	1	21	155	0	**176**	1	**381**
7:45AM	144	40	0	**184**	0	23	14	0	**37**	1	39	162	0	**201**	1	**422**
Hourly Total	487	128	1	**616**	1	80	41	0	**121**	3	99	561	0	**660**	2	**1397**
8:00AM	148	25	1	**174**	1	19	12	0	**31**	0	23	148	0	**171**	0	**376**
8:15AM	167	39	0	**206**	1	20	10	0	**30**	0	18	143	0	**161**	0	**397**
8:30AM	117	30	0	**147**	0	26	11	0	**37**	0	18	142	0	**160**	1	**344**
8:45AM	137	35	0	**172**	0	18	15	0	**33**	0	15	138	0	**153**	0	**358**
Hourly Total	569	129	1	**699**	2	83	48	0	**131**	0	74	571	0	**645**	1	**1475**
4:00PM	148	27	0	**175**	1	42	16	0	**58**	0	15	168	0	**183**	0	**416**
4:15PM	150	20	0	**170**	0	47	25	0	**72**	1	13	159	0	**172**	0	**414**
4:30PM	163	20	0	**183**	0	66	19	0	**85**	0	16	182	0	**198**	0	**466**
4:45PM	143	15	0	**158**	0	57	14	0	**71**	0	19	215	0	**234**	0	**463**
Hourly Total	604	82	0	**686**	1	212	74	0	**286**	1	63	724	0	**787**	0	**1759**
5:00PM	184	25	0	**209**	0	56	16	0	**72**	0	24	176	0	**200**	0	**481**
5:15PM	170	25	0	**195**	0	47	19	0	**66**	1	18	186	0	**204**	0	**465**
5:30PM	157	31	0	**188**	0	33	8	0	**41**	2	17	148	0	**165**	0	**394**
5:45PM	152	27	0	**179**	1	25	14	0	**39**	1	15	149	0	**164**	0	**382**
Hourly Total	663	108	0	**771**	1	161	57	0	**218**	4	74	659	0	**733**	0	**1722**
Total	2323	447	2	**2772**	5	536	220	0	**756**	8	310	2515	0	**2825**	3	**6353**
% Approach	83.8%	16.1%	0.1%	-	-	70.9%	29.1%	0%	-	-	11.0%	89.0%	0%	-	-	-
% Total	36.6%	7.0%	0%	**43.6%**	-	8.4%	3.5%	0%	**11.9%**	-	4.9%	39.6%	0%	**44.5%**	-	-
Lights	2281	423	1	**2705**	-	508	218	0	**726**	-	308	2457	0	**2765**	-	6196
% Lights	98.2%	94.6%	50.0%	**97.6%**	-	94.8%	99.1%	0%	**96.0%**	-	99.4%	97.7%	0%	**97.9%**	-	97.5%
Articulated Trucks	1	0	0	**1**	-	0	0	0	**0**	-	0	2	0	**2**	-	3
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0.1%	0%	**0.1%**	-	0%
Buses and Single-Unit Trucks	35	22	0	**57**	-	22	1	0	**23**	-	0	35	0	**35**	-	115
% Buses and Single-Unit Trucks	1.5%	4.9%	0%	**2.1%**	-	4.1%	0.5%	0%	**3.0%**	-	0%	1.4%	0%	**1.2%**	-	1.8%
Bicycles on Road	6	2	1	**9**	-	6	1	0	**7**	-	2	21	0	**23**	-	39
% Bicycles on Road	0.3%	0.4%	50.0%	**0.3%**	-	1.1%	0.5%	0%	**0.9%**	-	0.6%	0.8%	0%	**0.8%**	-	0.6%
Pedestrians	-	-	-		5	-	-	-		8	-	-	-		3	
% Pedestrians	-	-	-		100%	-	-	-		100%	-	-	-		100%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

N Whitney Way & Sheboygan Ave - TMC

Thu Jun 15, 2017
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road)
All Movements
ID: 422599, Location: 43.073189, -89.467644

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	N Whitney Way					Sheboygan Ave					N Whitney Way					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2017-06-15 7:30AM	140	28	0	**168**	1	26	11	0	**37**	1	21	155	0	**176**	1	**381**
7:45AM	144	40	0	**184**	0	23	14	0	**37**	1	39	162	0	**201**	1	**422**
8:00AM	148	25	1	**174**	1	19	12	0	**31**	0	23	148	0	**171**	0	**376**
8:15AM	167	39	0	**206**	1	20	10	0	**30**	0	18	143	0	**161**	0	**397**
Total	599	132	1	**732**	3	88	47	0	**135**	2	101	608	0	**709**	2	**1576**
% Approach	81.8%	18.0%	0.1%	-	-	65.2%	34.8%	0%	-	-	14.2%	85.8%	0%	-	-	-
% Total	38.0%	8.4%	0.1%	**46.4%**	-	5.6%	3.0%	0%	**8.6%**	-	6.4%	38.6%	0%	**45.0%**	-	-
PHF	0.897	0.825	0.250	**0.888**	-	0.846	0.839	-	**0.912**	-	0.647	0.938	-	**0.882**	-	0.934
Lights	582	128	1	**711**	-	83	46	0	**129**	-	101	589	0	**690**	-	1530
% Lights	97.2%	97.0%	100%	**97.1%**	-	94.3%	97.9%	0%	**95.6%**	-	100%	96.9%	0%	**97.3%**	-	97.1%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	2	0	**2**	-	2
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0.3%	0%	**0.3%**	-	0.1%
Buses and Single-Unit Trucks	15	4	0	**19**	-	4	1	0	**5**	-	0	8	0	**8**	-	32
% Buses and Single-Unit Trucks	2.5%	3.0%	0%	**2.6%**	-	4.5%	2.1%	0%	**3.7%**	-	0%	1.3%	0%	**1.1%**	-	2.0%
Bicycles on Road	2	0	0	**2**	-	1	0	0	**1**	-	0	9	0	**9**	-	12
% Bicycles on Road	0.3%	0%	0%	**0.3%**	-	1.1%	0%	0%	**0.7%**	-	0%	1.5%	0%	**1.3%**	-	0.8%
Pedestrians	-	-	-		3	-	-	-		2	-	-	-		2	
% Pedestrians	-	-	-		100%	-	-	-		100%	-	-	-		100%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

N Whitney Way & Sheboygan Ave - TMC

Thu Jun 15, 2017
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road)
All Movements
ID: 422599, Location: 43.073189, -89.467644

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	N Whitney Way					Sheboygan Ave					N Whitney Way					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2017-06-15 4:30PM	163	20	0	**183**	0	66	19	0	**85**	0	16	182	0	**198**	0	**466**
4:45PM	143	15	0	**158**	0	57	14	0	**71**	0	19	215	0	**234**	0	**463**
5:00PM	184	25	0	**209**	0	56	16	0	**72**	0	24	176	0	**200**	0	**481**
5:15PM	170	25	0	**195**	0	47	19	0	**66**	1	18	186	0	**204**	0	**465**
Total	660	85	0	**745**	0	226	68	0	**294**	1	77	759	0	**836**	0	**1875**
% Approach	88.6%	11.4%	0%	-	-	76.9%	23.1%	0%	-	-	9.2%	90.8%	0%	-	-	-
% Total	35.2%	4.5%	0%	**39.7%**	-	12.1%	3.6%	0%	**15.7%**	-	4.1%	40.5%	0%	**44.6%**	-	-
PHF	0.897	0.850	-	**0.891**	-	0.856	0.895	-	**0.865**	-	0.802	0.883	-	**0.893**	-	0.975
Lights	657	78	0	**735**	-	220	67	0	**287**	-	76	748	0	**824**	-	1846
% Lights	99.5%	91.8%	0%	**98.7%**	-	97.3%	98.5%	0%	**97.6%**	-	98.7%	98.6%	0%	**98.6%**	-	98.5%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	3	7	0	**10**	-	4	0	0	**4**	-	0	9	0	**9**	-	23
% Buses and Single-Unit Trucks	0.5%	8.2%	0%	**1.3%**	-	1.8%	0%	0%	**1.4%**	-	0%	1.2%	0%	**1.1%**	-	1.2%
Bicycles on Road	0	0	0	**0**	-	2	1	0	**3**	-	1	2	0	**3**	-	6
% Bicycles on Road	0%	0%	0%	**0%**	-	0.9%	1.5%	0%	**1.0%**	-	1.3%	0.3%	0%	**0.4%**	-	0.3%
Pedestrians	-	-	-		0	-	-	-		1	-	-	-		0	
% Pedestrians	-	-	-		-	-	-	-		100%	-	-	-		-	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350

Lisle, Illinois, United States 60532
331.481.7332 Doug.Arnold@kimley-horn.com

Count Name: Old Middleton & Eau Claire
Site Code:
Start Date: 03/02/2016

Turning Movement Data

Start Time	EB Old Middleton Eastbound					WB Old Middleton Westbound					NB Eau Claire Northbound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
4:00 PM	0	122	3	0	125	0	3	146	0	149	1	3	6	1	10	284
4:15 PM	0	116	4	0	120	0	8	168	1	176	0	3	5	1	8	304
4:30 PM	0	137	5	4	142	0	8	162	1	170	1	6	6	3	13	325
4:45 PM	0	158	2	0	160	0	5	189	0	194	0	1	2	2	3	357
Hourly Total	0	533	14	4	547	0	24	665	2	689	2	13	19	7	34	1270
5:00 PM	0	136	4	2	140	0	12	202	2	214	1	1	3	1	5	359
5:15 PM	0	156	1	6	157	0	8	210	2	218	0	2	8	1	10	385
5:30 PM	0	124	2	6	126	0	11	189	0	200	0	0	3	1	3	329
5:45 PM	0	110	2	0	112	0	7	177	2	184	0	0	5	0	5	301
Hourly Total	0	526	9	14	535	0	38	778	6	816	1	3	19	3	23	1374
6:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
7:00 AM	0	141	0	1	141	0	4	59	1	63	0	0	2	0	2	206
7:15 AM	0	191	2	1	193	0	3	85	0	88	0	0	6	1	6	287
7:30 AM	0	232	2	1	234	0	5	113	1	118	0	0	8	0	8	360
7:45 AM	0	196	2	2	198	0	3	147	0	150	0	1	8	1	9	357
Hourly Total	0	760	6	5	766	0	15	404	2	419	0	1	24	2	25	1210
8:00 AM	0	189	4	1	193	0	3	109	0	112	0	1	6	2	7	312
8:15 AM	0	186	7	5	193	0	5	94	0	99	1	3	9	1	13	305
8:30 AM	0	167	2	1	169	0	3	97	2	100	0	0	10	3	10	279
8:45 AM	0	144	1	1	145	0	4	79	1	83	0	2	5	2	7	235
Hourly Total	0	686	14	8	700	0	15	379	3	394	1	6	30	8	37	1131
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	2505	43	31	2548	0	92	2227	13	2319	4	23	92	20	119	4986
Approach %	0.0	98.3	1.7	-	-	0.0	4.0	96.0	-	-	3.4	19.3	77.3	-	-	-
Total %	0.0	50.2	0.9	-	51.1	0.0	1.8	44.7	-	46.5	0.1	0.5	1.8	-	2.4	-
Lights	0	2438	40	-	2478	0	72	2156	-	2228	4	23	86	-	113	4819
% Lights	-	97.3	93.0	-	97.3	-	78.3	96.8	-	96.1	100.0	100.0	93.5	-	95.0	96.7
Mediums	0	62	2	-	64	0	17	61	-	78	0	0	5	-	5	147
% Mediums	-	2.5	4.7	-	2.5	-	18.5	2.7	-	3.4	0.0	0.0	5.4	-	4.2	2.9
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	5	1	-	6	0	3	10	-	13	0	0	1	-	1	20
% Bicycles on Road	-	0.2	2.3	-	0.2	-	3.3	0.4	-	0.6	0.0	0.0	1.1	-	0.8	0.4
Bicycles on Crosswalk	-	-	-	5	-	-	-	-	2	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	16.1	-	-	-	-	15.4	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	26	-	-	-	-	11	-	-	-	-	20	-	-
% Pedestrians	-	-	-	83.9	-	-	-	-	84.6	-	-	-	-	100.0	-	-

Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350

Lisle, Illinois, United States 60532
331.481.7332 Doug.Arnold@kimley-horn.com

Count Name: Old Middleton & Eau Claire
Site Code:
Start Date: 03/02/2016

Turning Movement Peak Hour Data (4:45 PM)

Start Time	EB Old Middleton Eastbound					WB Old Middleton Westbound					NB Eau Claire Northbound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
4:45 PM	0	158	2	0	160	0	5	189	0	194	0	1	2	2	3	357
5:00 PM	0	136	4	2	140	0	12	202	2	214	1	1	3	1	5	359
5:15 PM	0	156	1	6	157	0	8	210	2	218	0	2	8	1	10	385
5:30 PM	0	124	2	6	126	0	11	189	0	200	0	0	3	1	3	329
Total	0	574	9	14	583	0	36	790	4	826	1	4	16	5	21	1430
Approach %	0.0	98.5	1.5	-	-	0.0	4.4	95.6	-	-	4.8	19.0	76.2	-	-	-
Total %	0.0	40.1	0.6	-	40.8	0.0	2.5	55.2	-	57.8	0.1	0.3	1.1	-	1.5	-
PHF	0.000	0.908	0.563	-	0.911	0.000	0.750	0.940	-	0.947	0.250	0.500	0.500	-	0.525	0.929
Lights	0	559	9	-	568	0	34	776	-	810	1	4	13	-	18	1396
% Lights	-	97.4	100.0	-	97.4	-	94.4	98.2	-	98.1	100.0	100.0	81.3	-	85.7	97.6
Mediums	0	15	0	-	15	0	0	10	-	10	0	0	3	-	3	28
% Mediums	-	2.6	0.0	-	2.6	-	0.0	1.3	-	1.2	0.0	0.0	18.8	-	14.3	2.0
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	2	4	-	6	0	0	0	-	0	6
% Bicycles on Road	-	0.0	0.0	-	0.0	-	5.6	0.5	-	0.7	0.0	0.0	0.0	-	0.0	0.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	25.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	14	-	-	-	-	3	-	-	-	-	5	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	75.0	-	-	-	-	100.0	-	-

Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350

Lisle, Illinois, United States 60532
331.481.7332 Doug.Arnold@kimley-horn.com

Count Name: Old Middleton & Eau Claire
Site Code:
Start Date: 03/02/2016

Turning Movement Peak Hour Data (7:30 AM)

Start Time	EB Old Middleton Eastbound					WB Old Middleton Westbound					NB Eau Claire Northbound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
7:30 AM	0	232	2	1	234	0	5	113	1	118	0	0	8	0	8	360
7:45 AM	0	196	2	2	198	0	3	147	0	150	0	1	8	1	9	357
8:00 AM	0	189	4	1	193	0	3	109	0	112	0	1	6	2	7	312
8:15 AM	0	186	7	5	193	0	5	94	0	99	1	3	9	1	13	305
Total	0	803	15	9	818	0	16	463	1	479	1	5	31	4	37	1334
Approach %	0.0	98.2	1.8	-	-	0.0	3.3	96.7	-	-	2.7	13.5	83.8	-	-	-
Total %	0.0	60.2	1.1	-	61.3	0.0	1.2	34.7	-	35.9	0.1	0.4	2.3	-	2.8	-
PHF	0.000	0.865	0.536	-	0.874	0.000	0.800	0.787	-	0.798	0.250	0.417	0.861	-	0.712	0.926
Lights	0	781	15	-	796	0	9	442	-	451	1	5	29	-	35	1282
% Lights	-	97.3	100.0	-	97.3	-	56.3	95.5	-	94.2	100.0	100.0	93.5	-	94.6	96.1
Mediums	0	21	0	-	21	0	7	20	-	27	0	0	1	-	1	49
% Mediums	-	2.6	0.0	-	2.6	-	43.8	4.3	-	5.6	0.0	0.0	3.2	-	2.7	3.7
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	1	0	-	1	0	0	1	-	1	0	0	1	-	1	3
% Bicycles on Road	-	0.1	0.0	-	0.1	-	0.0	0.2	-	0.2	0.0	0.0	3.2	-	2.7	0.2
Bicycles on Crosswalk	-	-	-	4	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	44.4	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	5	-	-	-	-	1	-	-	-	-	4	-	-
% Pedestrians	-	-	-	55.6	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Regent St & N Segoe Rd - TMC
Thu Jun 15, 2017
Full Length (7AM-9AM, 4PM-6PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422602, Location: 43.068979, -89.454494

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	N Segoe Rd						Regent St						N Segoe Rd						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 7:00AM	9	12	12	0	**33**	2	18	17	1	0	**36**	3	10	19	2	0	**31**	2	3	25	12	0	**40**	1	**140**
7:15AM	7	14	4	0	**25**	0	15	18	5	0	**38**	2	10	21	2	0	**33**	1	0	34	8	0	**42**	0	**138**
7:30AM	8	14	12	0	**34**	0	20	16	5	0	**41**	1	14	27	3	0	**44**	0	3	36	12	0	**51**	2	**170**
7:45AM	6	13	16	0	**35**	3	23	26	5	0	**54**	2	19	43	3	0	**65**	3	3	29	8	0	**40**	4	**194**
Hourly Total	30	53	44	0	**127**	5	76	77	16	0	**169**	8	53	110	10	0	**173**	6	9	124	40	0	**173**	7	**642**
8:00AM	8	17	10	1	**36**	2	24	26	10	0	**60**	0	9	32	3	0	**44**	0	5	34	4	0	**43**	2	**183**
8:15AM	6	28	9	1	**44**	1	17	26	3	0	**46**	3	12	27	4	0	**43**	0	3	26	6	0	**35**	2	**168**
8:30AM	6	23	6	0	**35**	1	18	26	3	0	**47**	2	12	44	4	0	**60**	4	2	40	5	0	**47**	4	**189**
8:45AM	8	28	10	0	**46**	3	21	20	9	0	**50**	1	17	44	3	0	**64**	2	5	22	5	0	**32**	0	**192**
Hourly Total	28	96	35	2	**161**	7	80	98	25	0	**203**	6	50	147	14	0	**211**	6	15	122	20	0	**157**	8	**732**
4:00PM	13	44	16	0	**73**	1	17	19	15	0	**51**	1	8	27	4	0	**39**	1	2	29	16	0	**47**	1	**210**
4:15PM	18	66	21	0	**105**	1	23	33	16	0	**72**	2	5	43	5	0	**53**	1	11	17	9	0	**37**	3	**267**
4:30PM	7	60	19	0	**86**	0	22	38	26	0	**86**	2	14	27	2	0	**43**	0	7	27	16	0	**50**	1	**265**
4:45PM	13	63	21	0	**97**	3	19	53	16	0	**88**	1	7	35	2	0	**44**	0	6	19	15	0	**40**	1	**269**
Hourly Total	51	233	77	0	**361**	5	81	143	73	0	**297**	6	34	132	13	0	**179**	2	26	92	56	0	**174**	6	**1011**
5:00PM	19	65	18	0	**102**	1	23	56	27	0	**106**	2	14	40	7	0	**61**	0	4	40	13	0	**57**	0	**326**
5:15PM	16	57	28	0	**101**	1	17	56	17	0	**90**	1	9	43	4	0	**56**	0	6	38	13	0	**57**	1	**304**
5:30PM	12	63	28	1	**104**	1	19	42	15	0	**76**	1	8	39	4	0	**51**	0	2	49	13	0	**64**	0	**295**
5:45PM	14	49	10	0	**73**	1	13	39	12	0	**64**	1	8	39	6	0	**53**	0	3	29	5	0	**37**	2	**227**
Hourly Total	61	234	84	1	**380**	4	72	193	71	0	**336**	5	39	161	21	0	**221**	0	15	156	44	0	**215**	3	**1152**
Total	170	616	240	3	**1029**	21	309	511	185	0	**1005**	25	176	550	58	0	**784**	14	65	494	160	0	**719**	24	**3537**
% Approach	16.5%	59.9%	23.3%	0.3%	**-**	-	30.7%	50.8%	18.4%	0%	**-**	-	22.4%	70.2%	7.4%	0%	**-**	-	9.0%	68.7%	22.3%	0%	**-**	-	**-**
% Total	4.8%	17.4%	6.8%	0.1%	**29.1%**	-	8.7%	14.4%	5.2%	0%	**28.4%**	-	5.0%	15.5%	1.6%	0%	**22.2%**	-	1.8%	14.0%	4.5%	0%	**20.3%**	-	**-**
Lights	164	599	234	3	**1000**	-	302	475	165	0	**942**	-	159	531	55	0	**745**	-	55	462	157	0	**674**	-	3361
% Lights	96.5%	97.2%	97.5%	100%	**97.2%**	-	97.7%	93.0%	89.2%	0%	**93.7%**	-	90.3%	96.5%	94.8%	0%	**95.0%**	-	84.6%	93.5%	98.1%	0%	**93.7%**	-	95.0%
Articulated Trucks	0	0	1	0	**1**	-	1	0	0	0	**1**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	3
% Articulated Trucks	0%	0%	0.4%	0%	**0.1%**	-	0.3%	0%	0%	0%	**0.1%**	-	0%	0.2%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	6	6	3	0	**15**	-	1	11	5	0	**17**	-	4	4	0	0	**8**	-	2	8	0	0	**10**	-	50
% Buses and Single-Unit Trucks	3.5%	1.0%	1.3%	0%	**1.5%**	-	0.3%	2.2%	2.7%	0%	**1.7%**	-	2.3%	0.7%	0%	0%	**1.0%**	-	3.1%	1.6%	0%	0%	**1.4%**	-	1.4%
Bicycles on Road	0	11	2	0	**13**	-	5	25	15	0	**45**	-	13	14	3	0	**30**	-	8	24	3	0	**35**	-	123
% Bicycles on Road	0%	1.8%	0.8%	0%	**1.3%**	-	1.6%	4.9%	8.1%	0%	**4.5%**	-	7.4%	2.5%	5.2%	0%	**3.8%**	-	12.3%	4.9%	1.9%	0%	**4.9%**	-	3.5%
Pedestrians	-	-	-	-		15	-	-	-	-		19	-	-	-	-		12	-	-	-	-		19	
% Pedestrians	-	-	-	-		71.4%	-	-	-	-		76.0%	-	-	-	-		85.7%	-	-	-	-		79.2%	
Bicycles on Crosswalk	-	-	-	-		6	-	-	-	-		6	-	-	-	-		2	-	-	-	-		5	
% Bicycles on Crosswalk	-	-	-	-		28.6%	-	-	-	-		24.0%	-	-	-	-		14.3%	-	-	-	-		20.8%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Regent St & N Segoe Rd - TMC
Thu Jun 15, 2017
AM Peak (7:45AM - 8:45AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422602, Location: 43.068979, -89.454494

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	N Segoe Rd						Regent St						N Segoe Rd						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2017-06-15 7:45AM	6	13	16	0	**35**	3	23	26	5	0	**54**	2	19	43	3	0	**65**	3	3	29	8	0	**40**	4	**194**
8:00AM	8	17	10	1	**36**	2	24	26	10	0	**60**	0	9	32	3	0	**44**	0	5	34	4	0	**43**	2	**183**
8:15AM	6	28	9	1	**44**	1	17	26	3	0	**46**	3	12	27	4	0	**43**	0	3	26	6	0	**35**	2	**168**
8:30AM	6	23	6	0	**35**	1	18	26	3	0	**47**	2	12	44	4	0	**60**	4	2	40	5	0	**47**	4	**189**
Total	26	81	41	2	**150**	7	82	104	21	0	**207**	7	52	146	14	0	**212**	7	13	129	23	0	**165**	12	**734**
% Approach	17.3%	54.0%	27.3%	1.3%	**-**	-	39.6%	50.2%	10.1%	0%	**-**	-	24.5%	68.9%	6.6%	0%	**-**	-	7.9%	78.2%	13.9%	0%	**-**	-	**-**
% Total	3.5%	11.0%	5.6%	0.3%	**20.4%**	-	11.2%	14.2%	2.9%	0%	**28.2%**	-	7.1%	19.9%	1.9%	0%	**28.9%**	-	1.8%	17.6%	3.1%	0%	**22.5%**	-	**-**
PHF	0.813	0.723	0.641	0.500	**0.852**	-	0.854	1.000	0.525	**-**	**0.863**	-	0.684	0.830	0.875	**-**	**0.815**	-	0.650	0.806	0.719	**-**	**0.878**	-	0.946
Lights	24	75	39	2	**140**	-	81	96	20	0	**197**	-	46	142	14	0	**202**	-	11	117	23	0	**151**	-	690
% Lights	92.3%	92.6%	95.1%	100%	**93.3%**	-	98.8%	92.3%	95.2%	0%	**95.2%**	-	88.5%	97.3%	100%	0%	**95.3%**	-	84.6%	90.7%	100%	0%	**91.5%**	-	94.0%
Articulated Trucks	0	0	1	0	**1**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	2
% Articulated Trucks	0%	0%	2.4%	0%	**0.7%**	-	0%	0%	0%	0%	**0%**	-	0%	0.7%	0%	0%	**0.5%**	-	0%	0%	0%	0%	**0%**	-	0.3%
Buses and Single-Unit Trucks	2	2	0	0	**4**	-	1	3	0	0	**4**	-	2	0	0	0	**2**	-	1	2	0	0	**3**	-	13
% Buses and Single-Unit Trucks	7.7%	2.5%	0%	0%	**2.7%**	-	1.2%	2.9%	0%	0%	**1.9%**	-	3.8%	0%	0%	0%	**0.9%**	-	7.7%	1.6%	0%	0%	**1.8%**	-	1.8%
Bicycles on Road	0	4	1	0	**5**	-	0	5	1	0	**6**	-	4	3	0	0	**7**	-	1	10	0	0	**11**	-	29
% Bicycles on Road	0%	4.9%	2.4%	0%	**3.3%**	-	0%	4.8%	4.8%	0%	**2.9%**	-	7.7%	2.1%	0%	0%	**3.3%**	-	7.7%	7.8%	0%	0%	**6.7%**	-	4.0%
Pedestrians	-	-	-	-		5	-	-	-	-		7	-	-	-	-		7	-	-	-	-		9	
% Pedestrians	-	-	-	-	71.4%		-	-	-	-	100%		-	-	-	-	100%		-	-	-	-	75.0%		
Bicycles on Crosswalk	-	-	-	-	2		-	-	-	-	0		-	-	-	-	0		-	-	-	-	3		
% Bicycles on Crosswalk	-	-	-	-	28.6%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	25.0%		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Regent St & N Segoe Rd - TMC
Thu Jun 15, 2017
PM Peak (4:45PM - 5:45PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422602, Location: 43.068979, -89.454494

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	N Segoe Rd						Regent St						N Segoe Rd						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 4:45PM	13	63	21	0	**97**	3	19	53	16	0	**88**	1	7	35	2	0	**44**	0	6	19	15	0	**40**	1	**269**
5:00PM	19	65	18	0	**102**	1	23	56	27	0	**106**	2	14	40	7	0	**61**	0	4	40	13	0	**57**	0	**326**
5:15PM	16	57	28	0	**101**	1	17	56	17	0	**90**	1	9	43	4	0	**56**	0	6	38	13	0	**57**	1	**304**
5:30PM	12	63	28	1	**104**	1	19	42	15	0	**76**	1	8	39	4	0	**51**	0	2	49	13	0	**64**	0	**295**
Total	60	248	95	1	**404**	6	78	207	75	0	**360**	5	38	157	17	0	**212**	0	18	146	54	0	**218**	2	**1194**
% Approach	14.9%	61.4%	23.5%	0.2%	**-**	-	21.7%	57.5%	20.8%	0%	**-**	-	17.9%	74.1%	8.0%	0%	**-**	-	8.3%	67.0%	24.8%	0%	**-**	-	**-**
% Total	5.0%	20.8%	8.0%	0.1%	**33.8%**	-	6.5%	17.3%	6.3%	0%	**30.2%**	-	3.2%	13.1%	1.4%	0%	**17.8%**	-	1.5%	12.2%	4.5%	0%	**18.3%**	-	**-**
PHF	0.789	0.954	0.848	0.250	**0.971**	-	0.848	0.924	0.694		**- 0.849**	-	0.679	0.913	0.607		**- 0.869**	-	0.750	0.745	0.900		**- 0.852**	-	0.916
Lights	60	244	93	1	**398**	-	75	188	68	0	**331**	-	36	151	16	0	**203**	-	14	138	53	0	**205**	-	1137
% Lights	100%	98.4%	97.9%	100%	**98.5%**	-	96.2%	90.8%	90.7%	0%	**91.9%**	-	94.7%	96.2%	94.1%	0%	**95.8%**	-	77.8%	94.5%	98.1%	0%	**94.0%**	-	95.2%
Articulated Trucks	0	0	0	0	**0**	-	1	0	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	1.3%	0%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	0	1	1	0	**2**	-	0	4	2	0	**6**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	9
% Buses and Single-Unit Trucks	0%	0.4%	1.1%	0%	**0.5%**	-	0%	1.9%	2.7%	0%	**1.7%**	-	0%	0%	0%	0%	**0%**	-	0%	0.7%	0%	0%	**0.5%**	-	0.8%
Bicycles on Road	0	3	1	0	**4**	-	2	15	5	0	**22**	-	2	6	1	0	**9**	-	4	7	1	0	**12**	-	47
% Bicycles on Road	0%	1.2%	1.1%	0%	**1.0%**	-	2.6%	7.2%	6.7%	0%	**6.1%**	-	5.3%	3.8%	5.9%	0%	**4.2%**	-	22.2%	4.8%	1.9%	0%	**5.5%**	-	3.9%
Pedestrians	-	-	-	-		5	-	-	-	-		3	-	-	-	-		0	-	-	-	-		2	
% Pedestrians	-	-	-	-	83.3%		-	-	-	-	60.0%		-	-	-	-		-	-	-	-	-	100%		
Bicycles on Crosswalk	-	-	-	-		1	-	-	-	-		2	-	-	-	-		0	-	-	-	-		0	
% Bicycles on Crosswalk	-	-	-	-	16.7%		-	-	-	-	40.0%		-	-	-	-		-	-	-	-	-	0%		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Regent St & N Whitney Way - TMC
Thu Jun 15, 2017
Full Length (7AM-9AM, 4PM-6PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422601, Location: 43.068003, -89.468323

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	Whitney Way						Regent St						Whitney Way						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 7:00AM	2	93	3	1	**99**	0	5	3	12	0	**20**	2	20	105	1	0	**126**	0	1	19	4	0	**24**	0	**269**
7:15AM	4	114	4	0	**122**	0	12	6	12	2	**32**	1	20	155	5	0	**180**	0	3	20	5	0	**28**	0	**362**
7:30AM	4	141	1	0	**146**	0	8	11	8	0	**27**	2	27	154	11	0	**192**	2	10	14	8	0	**32**	0	**397**
7:45AM	2	159	5	0	**166**	3	8	11	14	0	**33**	2	15	175	7	0	**197**	0	9	18	11	0	**38**	0	**434**
Hourly Total	12	507	13	1	**533**	3	33	31	46	2	**112**	7	82	589	24	0	**695**	2	23	71	28	0	**122**	0	**1462**
8:00AM	7	137	10	0	**154**	1	7	10	16	0	**33**	1	17	170	12	0	**199**	1	15	15	6	0	**36**	1	**422**
8:15AM	10	157	4	0	**171**	2	7	16	16	1	**40**	4	17	144	14	0	**175**	2	5	19	7	0	**31**	0	**417**
8:30AM	4	113	0	0	**117**	1	10	14	15	0	**39**	3	9	140	14	0	**163**	2	11	19	16	0	**46**	1	**365**
8:45AM	3	145	1	0	**149**	0	8	9	10	0	**27**	0	13	170	11	0	**194**	0	14	20	5	1	**40**	1	**410**
Hourly Total	24	552	15	0	**591**	4	32	49	57	1	**139**	8	56	624	51	0	**731**	5	45	73	34	1	**153**	3	**1614**
4:00PM	3	164	3	0	**170**	1	13	13	22	0	**48**	0	12	169	6	0	**187**	0	7	14	3	0	**24**	0	**429**
4:15PM	5	168	10	0	**183**	0	8	13	25	0	**46**	1	13	166	4	0	**183**	1	8	14	6	0	**28**	0	**440**
4:30PM	7	174	4	0	**185**	1	15	24	25	0	**64**	0	15	182	17	0	**214**	0	2	21	4	0	**27**	0	**490**
4:45PM	4	159	8	0	**171**	1	19	29	30	0	**78**	0	11	214	7	0	**232**	3	17	12	5	0	**34**	5	**515**
Hourly Total	19	665	25	0	**709**	3	55	79	102	0	**236**	1	51	731	34	0	**816**	4	34	61	18	0	**113**	5	**1874**
5:00PM	8	179	13	0	**200**	0	18	30	38	0	**86**	2	16	175	9	0	**200**	3	6	18	9	0	**33**	0	**519**
5:15PM	5	175	12	0	**192**	1	10	29	32	3	**74**	1	20	182	11	0	**213**	0	11	20	12	0	**43**	1	**522**
5:30PM	2	155	13	0	**170**	1	13	18	20	1	**52**	0	24	143	5	0	**172**	2	9	25	6	0	**40**	1	**434**
5:45PM	9	140	4	0	**153**	1	17	20	29	0	**66**	1	11	140	3	0	**154**	2	4	20	3	0	**27**	2	**400**
Hourly Total	24	649	42	0	**715**	3	58	97	119	4	**278**	4	71	640	28	0	**739**	7	30	83	30	0	**143**	4	**1875**
Total	79	2373	95	1	**2548**	13	178	256	324	7	**765**	20	260	2584	137	0	**2981**	18	132	288	110	1	**531**	12	**6825**
% Approach	3.1%	93.1%	3.7%	0%	**-**	-	23.3%	33.5%	42.4%	0.9%	**-**	-	8.7%	86.7%	4.6%	0%	**-**	-	24.9%	54.2%	20.7%	0.2%	**-**	-	**-**
% Total	1.2%	34.8%	1.4%	0%	**37.3%**	-	2.6%	3.8%	4.7%	0.1%	**11.2%**	-	3.8%	37.9%	2.0%	0%	**43.7%**	-	1.9%	4.2%	1.6%	0%	**7.8%**	-	**-**
Lights	75	2332	95	1	**2503**	-	175	223	302	6	**706**	-	234	2533	132	0	**2899**	-	127	256	103	1	**487**	-	6595
% Lights	94.9%	98.3%	100%	100%	**98.2%**	-	98.3%	87.1%	93.2%	85.7%	**92.3%**	-	90.0%	98.0%	96.4%	0%	**97.2%**	-	96.2%	88.9%	93.6%	100%	**91.7%**	-	96.6%
Articulated Trucks	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	2
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	33	0	0	**33**	-	2	10	22	0	**34**	-	25	34	5	0	**64**	-	4	10	0	0	**14**	-	145
% Buses and Single-Unit Trucks	0%	1.4%	0%	0%	**1.3%**	-	1.1%	3.9%	6.8%	0%	**4.4%**	-	9.6%	1.3%	3.6%	0%	**2.1%**	-	3.0%	3.5%	0%	0%	**2.6%**	-	2.1%
Bicycles on Road	4	7	0	0	**11**	-	1	23	0	1	**25**	-	1	16	0	0	**17**	-	1	22	7	0	**30**	-	83
% Bicycles on Road	5.1%	0.3%	0%	0%	**0.4%**	-	0.6%	9.0%	0%	14.3%	**3.3%**	-	0.4%	0.6%	0%	0%	**0.6%**	-	0.8%	7.6%	6.4%	0%	**5.6%**	-	1.2%
Pedestrians	-	-	-	-		13	-	-	-	-		18	-	-	-	-		17	-	-	-	-		12	
% Pedestrians	-	-	-	-		100%	-	-	-	-		90.0%	-	-	-	-		94.4%	-	-	-	-		100%	
Bicycles on Crosswalk	-	-	-	-		0	-	-	-	-		2	-	-	-	-		1	-	-	-	-		0	
% Bicycles on Crosswalk	-	-	-	-		0%	-	-	-	-		10.0%	-	-	-	-		5.6%	-	-	-	-		0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Regent St & N Whitney Way - TMC
Thu Jun 15, 2017
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422601, Location: 43.068003, -89.468323

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	Whitney Way						Regent St						Whitney Way						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 7:30AM	4	141	1	0	**146**	0	8	11	8	0	**27**	2	27	154	11	0	**192**	2	10	14	8	0	**32**	0	**397**
7:45AM	2	159	5	0	**166**	3	8	11	14	0	**33**	2	15	175	7	0	**197**	0	9	18	11	0	**38**	0	**434**
8:00AM	7	137	10	0	**154**	1	7	10	16	0	**33**	1	17	170	12	0	**199**	1	15	15	6	0	**36**	1	**422**
8:15AM	10	157	4	0	**171**	2	7	16	16	1	**40**	4	17	144	14	0	**175**	2	5	19	7	0	**31**	0	**417**
Total	23	594	20	0	**637**	6	30	48	54	1	**133**	9	76	643	44	0	**763**	5	39	66	32	0	**137**	1	**1670**
% Approach	3.6%	93.2%	3.1%	0%	**-**	-	22.6%	36.1%	40.6%	0.8%	**-**	-	10.0%	84.3%	5.8%	0%	**-**	-	28.5%	48.2%	23.4%	0%	**-**	-	**-**
% Total	1.4%	35.6%	1.2%	0%	**38.1%**	-	1.8%	2.9%	3.2%	0.1%	**8.0%**	-	4.6%	38.5%	2.6%	0%	**45.7%**	-	2.3%	4.0%	1.9%	0%	**8.2%**	-	**-**
PHF	0.575	0.934	0.500	**-**	**0.931**	-	0.938	0.750	0.844	0.250	**0.831**	-	0.704	0.919	0.786	**-**	**0.959**	-	0.650	0.868	0.727	**-**	**0.901**	-	0.962
Lights	22	576	20	0	**618**	-	30	44	51	1	**126**	-	66	627	42	0	**735**	-	36	60	28	0	**124**	-	1603
% Lights	95.7%	97.0%	100%	0%	**97.0%**	-	100%	91.7%	94.4%	100%	**94.7%**	-	86.8%	97.5%	95.5%	0%	**96.3%**	-	92.3%	90.9%	87.5%	0%	**90.5%**	-	96.0%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.2%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	0	16	0	0	**16**	-	0	2	3	0	**5**	-	9	9	2	0	**20**	-	2	2	0	0	**4**	-	45
% Buses and Single-Unit Trucks	0%	2.7%	0%	0%	**2.5%**	-	0%	4.2%	5.6%	0%	**3.8%**	-	11.8%	1.4%	4.5%	0%	**2.6%**	-	5.1%	3.0%	0%	0%	**2.9%**	-	2.7%
Bicycles on Road	1	2	0	0	**3**	-	0	2	0	0	**2**	-	1	6	0	0	**7**	-	1	4	4	0	**9**	-	21
% Bicycles on Road	4.3%	0.3%	0%	0%	**0.5%**	-	0%	4.2%	0%	0%	**1.5%**	-	1.3%	0.9%	0%	0%	**0.9%**	-	2.6%	6.1%	12.5%	0%	**6.6%**	-	1.3%
Pedestrians	-	-	-	-		6	-	-	-	-		9	-	-	-	-		5	-	-	-	-			1
% Pedestrians	-	-	-	-		100%	-	-	-	-		100%	-	-	-	-		100%	-	-	-	-		100%	
Bicycles on Crosswalk	-	-	-	-		0	-	-	-	-		0	-	-	-	-		0	-	-	-	-		0	
% Bicycles on Crosswalk	-	-	-	-		0%	-	-	-	-		0%	-	-	-	-		0%	-	-	-	-		0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Regent St & N Whitney Way - TMC
Thu Jun 15, 2017
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422601, Location: 43.068003, -89.468323

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	Whitney Way						Regent St						Whitney Way						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 4:30PM	7	174	4	0	**185**	1	15	24	25	0	**64**	0	15	182	17	0	**214**	0	2	21	4	0	**27**	0	**490**
4:45PM	4	159	8	0	**171**	1	19	29	30	0	**78**	0	11	214	7	0	**232**	3	17	12	5	0	**34**	5	**515**
5:00PM	8	179	13	0	**200**	0	18	30	38	0	**86**	2	16	175	9	0	**200**	3	6	18	9	0	**33**	0	**519**
5:15PM	5	175	12	0	**192**	1	10	29	32	3	**74**	1	20	182	11	0	**213**	0	11	20	12	0	**43**	1	**522**
Total	24	687	37	0	**748**	3	62	112	125	3	**302**	3	62	753	44	0	**859**	6	36	71	30	0	**137**	6	**2046**
% Approach	3.2%	91.8%	4.9%	0%	**-**	-	20.5%	37.1%	41.4%	1.0%	**-**	-	7.2%	87.7%	5.1%	0%	**-**	-	26.3%	51.8%	21.9%	0%	**-**	-	**-**
% Total	1.2%	33.6%	1.8%	0%	**36.6%**	-	3.0%	5.5%	6.1%	0.1%	**14.8%**	-	3.0%	36.8%	2.2%	0%	**42.0%**	-	1.8%	3.5%	1.5%	0%	**6.7%**	-	**-**
PHF	0.750	0.959	0.712		**0.935**	-	0.816	0.933	0.822	0.250	**0.878**	-	0.775	0.880	0.647		**0.926**	-	0.529	0.845	0.625		**0.797**	-	0.980
Lights	22	684	37	0	**743**	-	61	97	117	2	**277**	-	57	743	42	0	**842**	-	35	69	29	0	**133**	-	1995
% Lights	91.7%	99.6%	100%	0%	**99.3%**	-	98.4%	86.6%	93.6%	66.7%	**91.7%**	-	91.9%	98.7%	95.5%	0%	**98.0%**	-	97.2%	97.2%	96.7%	0%	**97.1%**	-	97.5%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	1	0	0	**1**	-	1	1	8	0	**10**	-	5	7	2	0	**14**	-	1	2	0	0	**3**	-	28
% Buses and Single-Unit Trucks	0%	0.1%	0%	0%	**0.1%**	-	1.6%	0.9%	6.4%	0%	**3.3%**	-	8.1%	0.9%	4.5%	0%	**1.6%**	-	2.8%	2.8%	0%	0%	**2.2%**	-	1.4%
Bicycles on Road	2	2	0	0	**4**	-	0	14	0	1	**15**	-	0	3	0	0	**3**	-	0	0	1	0	**1**	-	23
% Bicycles on Road	8.3%	0.3%	0%	0%	**0.5%**	-	0%	12.5%	0%	33.3%	**5.0%**	-	0%	0.4%	0%	0%	**0.3%**	-	0%	0%	3.3%	0%	**0.7%**	-	1.1%
Pedestrians	-	-	-	-		3	-	-	-	-		3	-	-	-	-		5	-	-	-	-		6	
% Pedestrians	-	-	-	-		100%	-	-	-	-		100%	-	-	-	-		83.3%	-	-	-	-		100%	
Bicycles on Crosswalk	-	-	-	-		0	-	-	-	-		0	-	-	-	-		1	-	-	-	-		0	
% Bicycles on Crosswalk	-	-	-	-		0%	-	-	-	-		0%	-	-	-	-		16.7%	-	-	-	-		0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Regent St & S Eau Claire Ave - TMC
Thu Jun 15, 2017
Full Length (7AM-9AM, 4PM-6PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422597, Location: 43.069028, -89.46334

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	S Eau Claire Ave						Regent St						S Eau Claire Ave						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 7:00AM	3	3	10	0	16	3	7	19	0	0	26	0	1	1	2	0	4	3	0	30	6	4	40	24	86
7:15AM	8	3	7	0	18	5	1	20	0	0	21	3	2	3	2	0	7	3	0	32	6	4	42	7	88
7:30AM	7	1	4	0	12	4	4	19	0	0	23	0	0	3	3	0	6	6	1	30	7	0	38	3	79
7:45AM	11	0	4	0	15	4	4	21	3	1	29	2	3	3	1	0	7	1	1	28	5	0	34	4	85
Hourly Total	29	7	25	0	61	16	16	79	3	1	99	13	6	10	8	0	24	13	2	120	24	8	154	38	338
8:00AM	5	2	6	0	13	0	3	24	3	0	30	7	1	2	1	0	4	3	2	32	9	2	45	5	92
8:15AM	12	1	2	0	15	2	7	27	2	0	36	1	6	3	4	0	12	1	2	28	11	1	42	6	105
8:30AM	8	4	15	0	27	6	1	35	1	0	37	3	1	0	11	0	12	5	1	23	6	1	31	13	107
8:45AM	5	2	9	0	16	3	4	22	2	0	28	6	2	4	1	0	7	2	1	15	8	5	29	13	80
Hourly Total	30	9	32	0	71	13	15	108	8	0	131	17	9	9	17	0	35	11	6	98	34	9	147	36	384
4:00PM	16	8	9	2	35	1	4	30	2	0	36	0	3	3	3	0	9	0	1	23	5	1	30	8	110
4:15PM	13	10	10	0	33	3	6	36	0	0	42	1	3	0	3	0	6	0	4	27	3	1	35	9	116
4:30PM	18	4	7	0	29	2	8	41	3	0	52	0	2	1	5	0	8	2	1	34	7	3	45	6	134
4:45PM	26	3	7	0	36	3	10	51	6	0	67	0	2	3	7	0	12	3	1	27	3	0	31	16	146
Hourly Total	73	25	33	2	133	9	28	158	11	0	197	1	10	7	18	0	35	11	7	111	18	5	141	39	506
5:00PM	20	1	8	0	29	3	8	64	1	0	73	3	4	1	7	0	12	0	0	40	8	1	49	8	163
5:15PM	21	2	12	0	35	3	11	51	3	0	65	0	0	4	6	0	10	2	1	46	7	3	57	13	167
5:30PM	12	5	7	0	24	3	12	36	5	2	55	1	2	2	8	0	12	3	2	37	17	3	62	21	153
5:45PM	19	1	5	0	25	1	8	43	2	0	53	6	1	3	3	0	7	3	0	30	9	0	39	13	124
Hourly Total	72	9	32	0	113	10	39	194	11	2	246	8	7	10	24	0	41	0	6	153	41	7	207	55	607
Total	204	50	122	2	378	59	98	539	33	3	673	40	32	36	67	0	135	49	21	482	117	29	649	163	1835
% Approach	54.0%	13.2%	32.3%	0.5%	-	-	14.6%	80.1%	4.9%	0.4%	-	-	23.7%	26.7%	49.6%	0%	-	-	3.2%	74.3%	18.0%	4.5%	-	-	-
% Total	11.1%	2.7%	6.6%	0.1%	20.6%	-	5.3%	29.4%	1.8%	0.2%	36.7%	-	1.7%	2.0%	3.7%	0%	7.4%	-	1.1%	26.3%	6.4%	1.6%	35.4%	-	-
Lights	169	39	108	2	318	-	87	514	31	3	635	-	29	27	66	0	122	-	20	459	83	28	590	-	1665
% Lights	82.8%	78.0%	88.5%	100%	84.1%	-	88.8%	95.4%	93.9%	100%	94.4%	-	90.6%	75.0%	98.5%	0%	90.4%	-	95.2%	95.2%	70.9%	96.6%	90.9%	-	90.7%
Articulated Trucks	1	0	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Articulated Trucks	0.5%	0%	0%	0%	0.3%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.1%
Buses and Single-Unit Trucks	22	0	0	0	22	-	7	12	0	0	19	-	0	0	0	0	0	-	1	12	25	0	38	-	79
% Buses and Single-Unit Trucks	10.8%	0%	0%	0%	5.8%	-	7.1%	2.2%	0%	0%	2.8%	-	0%	0%	0%	0%	0%	-	4.8%	2.5%	21.4%	0%	5.9%	-	4.3%
Bicycles on Road	12	11	14	0	37	-	4	13	2	0	19	-	3	9	1	0	13	-	0	11	9	1	21	-	90
% Bicycles on Road	5.9%	22.0%	11.5%	0%	9.8%	-	4.1%	2.4%	6.1%	0%	2.8%	-	9.4%	25.0%	1.5%	0%	9.6%	-	0%	2.3%	7.7%	3.4%	3.2%	-	4.9%
Pedestrians	-	-	-	-	43		-	-	-	-	35		-	-	-	-	40		-	-	-	-	97		
% Pedestrians	-	-	-	-	72.9%		-	-	-	-	87.5%		-	-	-	-	81.6%		-	-	-	-	59.5%		
Bicycles on Crosswalk	-	-	-	-	16		-	-	-	-	5		-	-	-	-	9		-	-	-	-	66		
% Bicycles on Crosswalk	-	-	-	-	27.1%		-	-	-	-	12.5%		-	-	-	-	18.4%		-	-	-	-	40.5%		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Regent St & S Eau Claire Ave - TMC

Thu Jun 15, 2017
AM Peak (7:45AM - 8:45AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422597, Location: 43.069028, -89.46334

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	S Eau Claire Ave						Regent St						S Eau Claire Ave						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 7:45AM	11	0	4	0	**15**	4	4	21	3	1	**29**	2	3	3	1	0	**7**	1	1	28	5	0	**34**	4	**85**
8:00AM	5	2	6	0	**13**	0	3	24	3	0	**30**	7	1	2	1	0	**4**	3	2	32	9	2	**45**	5	**92**
8:15AM	12	1	2	0	**15**	1	7	27	2	0	**36**	1	5	3	4	0	**12**	1	2	28	11	1	**42**	5	**105**
8:30AM	8	4	15	0	**27**	6	1	35	1	0	**37**	3	1	0	11	0	**12**	5	1	23	6	1	**31**	13	**107**
Total	36	7	27	0	**70**	12	15	107	9	1	**132**	13	10	8	17	0	**35**	10	6	111	31	4	**152**	27	**389**
% Approach	51.4%	10.0%	38.6%	0%	-	-	11.4%	81.1%	6.8%	0.8%	-	-	28.6%	22.9%	48.6%	0%	-	-	3.9%	73.0%	20.4%	2.6%	-	-	-
% Total	9.3%	1.8%	6.9%	0%	**18.0%**	-	3.9%	27.5%	2.3%	0.3%	**33.9%**	-	2.6%	2.1%	4.4%	0%	**9.0%**	-	1.5%	28.5%	8.0%	1.0%	**39.1%**	-	-
PHF	0.750	0.438	0.450	-	**0.648**	-	0.536	0.764	0.750	0.250	**0.892**	-	0.500	0.667	0.386	-	**0.729**	-	0.750	0.867	0.705	0.500	**0.844**	-	0.909
Lights	32	7	25	0	**64**	-	12	102	8	1	**123**	-	8	7	17	0	**32**	-	6	106	21	3	**136**	-	355
% Lights	88.9%	100%	92.6%	0%	**91.4%**	-	80.0%	95.3%	88.9%	100%	**93.2%**	-	80.0%	87.5%	100%	0%	**91.4%**	-	100%	95.5%	67.7%	75.0%	**89.5%**	-	91.3%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	4	0	0	0	**4**	-	2	3	0	0	**5**	-	0	0	0	0	**0**	-	0	3	8	0	**11**	-	20
% Buses and Single-Unit Trucks	11.1%	0%	0%	0%	**5.7%**	-	13.3%	2.8%	0%	0%	**3.8%**	-	0%	0%	0%	0%	**0%**	-	0%	2.7%	25.8%	0%	**7.2%**	-	5.1%
Bicycles on Road	0	0	2	0	**2**	-	1	2	1	0	**4**	-	2	1	0	0	**3**	-	0	2	2	1	**5**	-	14
% Bicycles on Road	0%	0%	7.4%	0%	**2.9%**	-	6.7%	1.9%	11.1%	0%	**3.0%**	-	20.0%	12.5%	0%	0%	**8.6%**	-	0%	1.8%	6.5%	25.0%	**3.3%**	-	3.6%
Pedestrians	-	-	-	-		8	-	-	-	-		13	-	-	-	-		10	-	-	-	-		13	
% Pedestrians	-	-	-	-		66.7%	-	-	-	-		100%	-	-	-	-		100%	-	-	-	-		48.1%	
Bicycles on Crosswalk	-	-	-	-		4	-	-	-	-		0	-	-	-	-		0	-	-	-	-		14	
% Bicycles on Crosswalk	-	-	-	-		33.3%	-	-	-	-		0%	-	-	-	-		0%	-	-	-	-		51.9%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Regent St & S Eau Claire Ave - TMC

Thu Jun 15, 2017
PM Peak (4:45PM - 5:45PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422597, Location: 43.069028, -89.46334

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	S Eau Claire Ave						Regent St						S Eau Claire Ave						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 4:45PM	26	3	7	0	**36**	3	10	51	6	0	**67**	0	2	3	7	0	**12**	3	1	27	3	0	**31**	16	**146**
5:00PM	20	1	8	0	**29**	8	8	64	1	0	**73**	2	4	1	7	0	**12**	0	0	40	8	1	**49**	8	**163**
5:15PM	21	2	12	0	**35**	3	11	51	3	0	**65**	0	0	4	6	0	**10**	2	1	46	7	3	**57**	13	**167**
5:30PM	12	5	7	0	**24**	5	12	36	5	2	**55**	1	2	2	8	0	**12**	3	5	37	17	3	**62**	21	**153**
Total	79	11	34	0	**124**	19	41	202	15	2	**260**	3	8	10	28	0	**46**	8	7	150	35	7	**199**	58	**629**
% Approach	63.7%	8.9%	27.4%	0%	-	-	15.8%	77.7%	5.8%	0.8%	-	-	17.4%	21.7%	60.9%	0%	-	-	3.5%	75.4%	17.6%	3.5%	-	-	-
% Total	12.6%	1.7%	5.4%	0%	**19.7%**	-	6.5%	32.1%	2.4%	0.3%	**41.3%**	-	1.3%	1.6%	4.5%	0%	**7.3%**	-	1.1%	23.8%	5.6%	1.1%	**31.6%**	-	-
PHF	0.760	0.550	0.708	-	**0.861**	-	0.864	0.789	0.625	0.250	**0.890**	-	0.500	0.625	0.875	-	**0.958**	-	0.350	0.815	0.515	0.583	**0.802**	-	0.942
Lights	64	9	27	0	**100**	-	38	190	14	2	**244**	-	8	6	27	0	**41**	-	7	145	31	7	**190**	-	575
% Lights	81.0%	81.8%	79.4%	0%	**80.6%**	-	92.7%	94.1%	93.3%	100%	**93.8%**	-	100%	60.0%	96.4%	0%	**89.1%**	-	100%	96.7%	88.6%	100%	**95.5%**	-	91.4%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	8	0	0	0	**8**	-	1	8	0	0	**4**	-	0	0	0	0	**0**	-	0	3	4	0	**7**	-	19
% Buses and Single-Unit Trucks	10.1%	0%	0%	0%	**6.5%**	-	2.4%	1.5%	0%	0%	**1.5%**	-	0%	0%	0%	0%	**0%**	-	0%	2.0%	11.4%	0%	**3.5%**	-	3.0%
Bicycles on Road	7	2	7	0	**16**	-	2	9	1	0	**12**	-	0	4	1	0	**5**	-	0	2	0	0	**2**	-	35
% Bicycles on Road	8.9%	18.2%	20.6%	0%	**12.9%**	-	4.9%	4.5%	6.7%	0%	**4.6%**	-	0%	40.0%	3.6%	0%	**10.9%**	-	0%	1.3%	0%	0%	**1.0%**	-	5.6%
Pedestrians	-	-	-	-		16	-	-	-	-		3	-	-	-	-		6	-	-	-	-		41	
% Pedestrians	-	-	-	-		84.2%	-	-	-	-		100%	-	-	-	-		75.0%	-	-	-	-		70.7%	
Bicycles on Crosswalk	-	-	-	-		3	-	-	-	-		0	-	-	-	-		2	-	-	-	-		17	
% Bicycles on Crosswalk	-	-	-	-		15.8%	-	-	-	-		0%	-	-	-	-		25.0%	-	-	-	-		29.3%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

S Midvale Blvd & Regent St - TMC
Thu Jun 15, 2017
Full Length (7AM-9AM, 4PM-6PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422605, Location: 43.068152, -89.451254

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	S Midvale Blvd						Regent St						S Midvale Blvd						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 7:00AM	11	62	2	0	**75**	1	4	7	14	0	**25**	0	12	132	24	0	**168**	0	14	15	12	0	**41**	5	**309**
7:15AM	6	71	3	0	**80**	2	1	11	12	0	**24**	3	14	193	26	0	**233**	1	12	14	12	0	**38**	3	**375**
7:30AM	8	95	2	0	**105**	1	4	22	14	0	**40**	1	14	225	29	0	**268**	0	10	22	20	0	**52**	1	**465**
7:45AM	10	85	1	0	**96**	1	10	22	17	0	**49**	1	17	236	34	0	**287**	3	18	24	23	0	**65**	2	**497**
Hourly Total	35	313	8	0	**356**	5	19	62	57	0	**138**	5	57	786	113	0	**956**	4	54	75	67	0	**196**	11	**1646**
8:00AM	13	114	7	0	**134**	2	9	21	10	0	**40**	1	11	187	28	0	**226**	0	13	19	16	0	**48**	1	**448**
8:15AM	10	107	2	0	**119**	3	10	15	19	0	**44**	1	10	206	31	0	**247**	1	13	19	11	0	**43**	6	**453**
8:30AM	5	105	4	0	**114**	2	8	23	20	0	**51**	2	12	196	30	0	**238**	1	17	27	11	0	**55**	1	**458**
8:45AM	15	106	2	0	**123**	0	5	17	15	0	**37**	0	20	174	16	0	**210**	0	14	14	20	0	**48**	0	**418**
Hourly Total	43	432	15	0	**490**	7	32	76	64	0	**172**	4	53	763	105	0	**921**	2	57	79	58	0	**194**	8	**1777**
4:00PM	15	248	11	0	**274**	1	11	18	11	0	**40**	1	10	146	16	0	**172**	1	19	19	15	0	**53**	0	**539**
4:15PM	17	236	12	0	**265**	0	11	33	20	0	**64**	0	12	186	21	0	**219**	1	24	14	11	0	**49**	3	**597**
4:30PM	22	244	13	0	**279**	1	6	31	28	0	**65**	0	12	208	22	0	**242**	0	31	14	14	0	**59**	2	**645**
4:45PM	20	252	17	0	**289**	0	13	40	17	0	**70**	1	22	194	27	0	**243**	0	30	18	13	0	**61**	4	**663**
Hourly Total	74	980	53	0	**1107**	2	41	122	76	0	**239**	2	56	734	86	0	**876**	2	104	65	53	0	**222**	9	**2444**
5:00PM	31	271	17	0	**319**	3	10	52	29	0	**91**	4	14	172	19	0	**205**	1	26	32	19	0	**77**	2	**692**
5:15PM	16	236	16	0	**268**	0	10	47	18	0	**75**	0	14	167	16	0	**197**	0	29	34	16	0	**79**	3	**619**
5:30PM	17	214	11	0	**242**	2	9	30	19	0	**58**	1	22	186	24	0	**232**	0	30	38	20	0	**88**	2	**620**
5:45PM	11	213	12	0	**236**	0	13	28	18	0	**59**	2	22	188	18	0	**228**	0	10	19	18	0	**47**	1	**570**
Hourly Total	75	934	56	0	**1065**	5	42	157	84	0	**283**	7	72	713	77	0	**862**	1	95	123	73	0	**291**	8	**2501**
Total	227	2659	132	0	**3018**	19	134	417	281	0	**832**	18	238	2996	381	0	**3615**	9	310	342	251	0	**903**	36	**8368**
% Approach	7.5%	88.1%	4.4%	0%	**-**	-	16.1%	50.1%	33.8%	0%	**-**	-	6.6%	82.9%	10.5%	0%	**-**	-	34.3%	37.9%	27.8%	0%	**-**	-	**-**
% Total	2.7%	31.8%	1.6%	0%	**36.1%**	-	1.6%	5.0%	3.4%	0%	**9.9%**	-	2.8%	35.8%	4.6%	0%	**43.2%**	-	3.7%	4.1%	3.0%	0%	**10.8%**	-	**-**
Lights	221	2596	131	0	**2948**	-	129	367	277	0	**773**	-	225	2934	377	0	**3536**	-	303	293	246	0	**842**	-	8099
% Lights	97.4%	97.6%	99.2%	0%	**97.7%**	-	96.3%	88.0%	98.6%	0%	**92.9%**	-	94.5%	97.9%	99.0%	0%	**97.8%**	-	97.7%	85.7%	98.0%	0%	**93.2%**	-	96.8%
Articulated Trucks	0	9	0	0	**9**	-	0	0	0	0	**0**	-	0	10	1	0	**11**	-	1	0	0	0	**1**	-	21
% Articulated Trucks	0%	0.3%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0.3%	0%	**0.3%**	-	0.3%	0%	0%	0%	**0.1%**	-	0.3%
Buses and Single-Unit Trucks	5	38	0	0	**43**	-	4	9	0	0	**13**	-	4	36	2	0	**42**	-	2	8	5	0	**15**	-	113
% Buses and Single-Unit Trucks	2.2%	1.4%	0%	0%	**1.4%**	-	3.0%	2.2%	0%	0%	**1.6%**	-	1.7%	1.2%	0.5%	0%	**1.2%**	-	0.6%	2.3%	2.0%	0%	**1.7%**	-	1.4%
Bicycles on Road	1	16	1	0	**18**	-	1	41	4	0	**46**	-	9	16	1	0	**26**	-	4	41	0	0	**45**	-	135
% Bicycles on Road	0.4%	0.6%	0.8%	0%	**0.6%**	-	0.7%	9.8%	1.4%	0%	**5.5%**	-	3.8%	0.5%	0.3%	0%	**0.7%**	-	1.3%	12.0%	0%	0%	**5.0%**	-	1.6%
Pedestrians	-	-	-	-	14		-	-	-	-	12		-	-	-	-	8		-	-	-	-	29		
% Pedestrians	-	-	-	-	73.7%		-	-	-	-	66.7%		-	-	-	-	88.9%		-	-	-	-	80.6%		
Bicycles on Crosswalk	-	-	-	-	5		-	-	-	-	6		-	-	-	-	1		-	-	-	-	7		
% Bicycles on Crosswalk	-	-	-	-	26.3%		-	-	-	-	33.3%		-	-	-	-	11.1%		-	-	-	-	19.4%		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

S Midvale Blvd & Regent St - TMC
Thu Jun 15, 2017
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422605, Location: 43.068152, -89.451254

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	S Midvale Blvd						Regent St						S Midvale Blvd						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 7:30AM	8	95	2	0	**105**	1	4	22	14	0	**40**	1	14	225	29	0	**268**	0	10	22	20	0	**52**	1	**465**
7:45AM	10	85	1	0	**96**	1	10	22	17	0	**49**	1	17	236	34	0	**287**	3	18	24	23	0	**65**	2	**497**
8:00AM	13	114	7	0	**134**	2	9	21	10	0	**40**	1	11	187	28	0	**226**	0	13	19	16	0	**48**	1	**448**
8:15AM	10	107	2	0	**119**	3	10	15	19	0	**44**	1	10	206	31	0	**247**	1	13	19	11	0	**43**	6	**453**
Total	41	401	12	0	**454**	7	33	80	60	0	**173**	4	52	854	122	0	**1028**	4	54	84	70	0	**208**	10	**1863**
% Approach	9.0%	88.3%	2.6%	0%	**-**	-	19.1%	46.2%	34.7%	0%	**-**	-	5.1%	83.1%	11.9%	0%	**-**	-	26.0%	40.4%	33.7%	0%	**-**	-	**-**
% Total	2.2%	21.5%	0.6%	0%	**24.4%**	-	1.8%	4.3%	3.2%	0%	**9.3%**	-	2.8%	45.8%	6.5%	0%	**55.2%**	-	2.9%	4.5%	3.8%	0%	**11.2%**	-	**-**
PHF	0.788	0.879	0.429		**0.847**	-	0.825	0.909	0.789		**0.883**	-	0.765	0.905	0.897		**0.895**	-	0.750	0.875	0.761		**0.800**	-	0.937
Lights	41	379	12	0	**432**	-	32	69	60	0	**161**	-	47	828	122	0	**997**	-	51	68	68	0	**187**	-	1777
% Lights	100%	94.5%	100%	0%	**95.2%**	-	97.0%	86.3%	100%	0%	**93.1%**	-	90.4%	97.0%	100%	0%	**97.0%**	-	94.4%	81.0%	97.1%	0%	**89.9%**	-	95.4%
Articulated Trucks	0	5	0	0	**5**	-	0	0	0	0	**0**	-	0	7	0	0	**7**	-	1	0	0	0	**1**	-	13
% Articulated Trucks	0%	1.2%	0%	0%	**1.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0.8%	0%	0%	**0.7%**	-	1.9%	0%	0%	0%	**0.5%**	-	0.7%
Buses and Single-Unit Trucks	0	14	0	0	**14**	-	1	2	0	0	**3**	-	2	14	0	0	**16**	-	1	2	2	0	**5**	-	38
% Buses and Single-Unit Trucks	0%	3.5%	0%	0%	**3.1%**	-	3.0%	2.5%	0%	0%	**1.7%**	-	3.8%	1.6%	0%	0%	**1.6%**	-	1.9%	2.4%	2.9%	0%	**2.4%**	-	2.0%
Bicycles on Road	0	3	0	0	**3**	-	0	9	0	0	**9**	-	3	5	0	0	**8**	-	1	14	0	0	**15**	-	35
% Bicycles on Road	0%	0.7%	0%	0%	**0.7%**	-	0%	11.3%	0%	0%	**5.2%**	-	5.8%	0.6%	0%	0%	**0.8%**	-	1.9%	16.7%	0%	0%	**7.2%**	-	1.9%
Pedestrians	-	-	-	-	5		-	-	-	-	4		-	-	-	-	4		-	-	-	-	10		
% Pedestrians	-	-	-	-	71.4%		-	-	-	-	100%		-	-	-	-	100%		-	-	-	-	100%		
Bicycles on Crosswalk	-	-	-	-	2		-	-	-	-	0		-	-	-	-	0		-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	28.6%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

S Midvale Blvd & Regent St - TMC
Thu Jun 15, 2017
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422605, Location: 43.068152, -89.451254

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	S Midvale Blvd						Regent St						S Midvale Blvd						Regent St						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 4:30PM	22	244	13	0	**279**	1	6	31	28	0	**65**	0	12	208	22	0	**242**	0	31	14	14	0	**59**	2	**645**
4:45PM	20	252	17	0	**289**	0	13	40	17	0	**70**	1	22	194	27	0	**243**	0	30	18	13	0	**61**	4	**663**
5:00PM	31	271	17	0	**319**	3	10	52	29	0	**91**	4	14	172	19	0	**205**	1	26	32	19	0	**77**	2	**692**
5:15PM	16	236	16	0	**268**	0	10	47	18	0	**75**	0	14	167	16	0	**197**	0	29	34	16	0	**79**	3	**619**
Total	89	1003	63	0	**1155**	4	39	170	92	0	**301**	5	62	741	84	0	**887**	1	116	98	62	0	**276**	11	**2619**
% Approach	7.7%	86.8%	5.5%	0%	**-**	-	13.0%	56.5%	30.6%	0%	**-**	-	7.0%	83.5%	9.5%	0%	**-**	-	42.0%	35.5%	22.5%	0%	**-**	-	**-**
% Total	3.4%	38.3%	2.4%	0%	**44.1%**	-	1.5%	6.5%	3.5%	0%	**11.5%**	-	2.4%	28.3%	3.2%	0%	**33.9%**	-	4.4%	3.7%	2.4%	0%	**10.5%**	-	**-**
PHF	0.718	0.925	0.926		**0.905**	-	0.750	0.817	0.793		**0.827**	-	0.705	0.891	0.778		**0.913**	-	0.935	0.721	0.816		**0.873**	-	0.946
Lights	86	986	62	0	**1134**	-	37	149	90	0	**276**	-	59	735	82	0	**876**	-	114	88	62	0	**264**	-	2550
% Lights	96.6%	98.3%	98.4%	0%	**98.2%**	-	94.9%	87.6%	97.8%	0%	**91.7%**	-	95.2%	99.2%	97.6%	0%	**98.8%**	-	98.3%	89.8%	100%	0%	**95.7%**	-	97.4%
Articulated Trucks	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	1	0	**1**	-	0	0	0	0	**0**	-	2
% Articulated Trucks	0%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	1.2%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	2	7	0	0	**9**	-	2	2	0	0	**4**	-	1	5	1	0	**7**	-	1	2	0	0	**3**	-	23
% Buses and Single-Unit Trucks	2.2%	0.7%	0%	0%	**0.8%**	-	5.1%	1.2%	0%	0%	**1.3%**	-	1.6%	0.7%	1.2%	0%	**0.8%**	-	0.9%	2.0%	0%	0%	**1.1%**	-	0.9%
Bicycles on Road	1	9	1	0	**11**	-	0	19	2	0	**21**	-	2	1	0	0	**3**	-	1	8	0	0	**9**	-	44
% Bicycles on Road	1.1%	0.9%	1.6%	0%	**1.0%**	-	0%	11.2%	2.2%	0%	**7.0%**	-	3.2%	0.1%	0%	0%	**0.3%**	-	0.9%	8.2%	0%	0%	**3.3%**	-	1.7%
Pedestrians	-	-	-	-		3	-	-	-	-		3	-	-	-	-		1	-	-	-	-		5	
% Pedestrians	-	-	-	-	75.0%		-	-	-	-	60.0%		-	-	-	-	100%		-	-	-	-	45.5%		
Bicycles on Crosswalk	-	-	-	-		1	-	-	-	-		2	-	-	-	-		0	-	-	-	-		6	
% Bicycles on Crosswalk	-	-	-	-	25.0%		-	-	-	-	40.0%		-	-	-	-	0%		-	-	-	-	54.5%		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350

Lisle, Illinois, United States 60532
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Count Name: Segoe & Frey
Site Code:
Start Date: 03/02/2016

Turning Movement Data

Start Time	EB Frey Eastbound						WB Frey Westbound						NB Segoe Northbound						SB Segoe Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	0	0	0	52	0	52	0	18	0	37	2	55	0	0	70	8	4	78	0	12	51	4	0	67	252
4:15 PM	0	0	0	40	1	40	0	15	0	28	1	43	0	0	76	13	3	89	0	13	67	2	2	82	254
4:30 PM	0	0	0	68	3	68	0	17	0	36	0	53	0	0	93	13	4	106	0	9	57	1	4	67	294
4:45 PM	0	0	0	31	1	31	0	19	0	39	2	58	0	0	70	17	6	87	0	10	70	0	0	80	256
Hourly Total	0	0	0	191	5	191	0	69	0	140	5	209	0	0	309	51	17	360	0	44	245	7	6	296	1056
5:00 PM	0	0	0	47	5	47	0	35	0	43	4	78	0	0	89	15	1	104	0	13	71	0	4	84	313
5:15 PM	0	0	0	27	1	27	0	17	0	34	3	51	0	0	76	18	4	94	0	18	66	3	1	87	259
5:30 PM	0	0	0	17	0	17	0	25	0	30	0	55	0	0	73	16	1	89	0	15	71	0	1	86	247
5:45 PM	0	0	0	13	1	13	0	24	0	44	3	68	0	0	52	10	2	62	0	12	67	1	2	80	223
Hourly Total	0	0	0	104	7	104	0	101	0	151	10	252	0	0	290	59	8	349	0	58	275	4	8	337	1042
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	2	0	7	1	9	0	0	43	2	0	45	0	3	45	27	0	75	129
7:15 AM	0	0	0	1	0	1	0	7	0	11	6	18	0	0	70	1	3	71	2	2	67	30	1	101	191
7:30 AM	1	0	0	1	0	2	0	2	0	6	2	8	0	0	72	4	3	76	1	4	46	18	1	69	155
7:45 AM	0	0	0	1	1	1	0	12	0	7	1	19	0	0	63	3	5	66	1	5	49	27	1	82	168
Hourly Total	1	0	0	3	1	4	0	23	0	31	10	54	0	0	248	10	11	258	4	14	207	102	3	327	643
8:00 AM	0	0	0	0	1	0	0	5	0	8	0	13	0	0	43	5	2	48	1	6	40	29	1	76	137
8:15 AM	0	0	0	1	1	1	0	10	0	12	4	22	0	0	66	3	4	69	0	6	43	19	0	68	160
8:30 AM	0	0	0	0	1	0	0	4	0	8	0	12	0	0	52	4	1	56	1	5	34	14	1	54	122
8:45 AM	0	0	0	5	0	5	0	16	0	16	0	32	0	0	49	8	1	57	0	11	46	13	0	70	164
Hourly Total	0	0	0	6	3	6	0	35	0	44	4	79	0	0	210	20	8	230	2	28	163	75	2	268	583
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	0	304	16	305	0	228	0	366	29	594	0	0	1057	140	44	1197	6	144	890	188	19	1228	3324
Approach %	0.3	0.0	0.0	99.7	-	-	0.0	38.4	0.0	61.6	-	-	0.0	0.0	88.3	11.7	-	-	0.5	11.7	72.5	15.3	-	-	-
Total %	0.0	0.0	0.0	9.1	-	9.2	0.0	6.9	0.0	11.0	-	17.9	0.0	0.0	31.8	4.2	-	36.0	0.2	4.3	26.8	5.7	-	36.9	-
Lights	1	0	0	303	-	304	0	226	0	359	-	585	0	0	1000	139	-	1139	6	142	851	185	-	1184	3212
% Lights	100.0	-	-	99.7	-	99.7	-	99.1	-	98.1	-	98.5	-	-	94.6	99.3	-	95.2	100.0	98.6	95.6	98.4	-	96.4	96.6
Mediums	0	0	0	0	-	0	0	1	0	7	-	8	0	0	52	1	-	53	0	1	37	1	-	39	100
% Mediums	0.0	-	-	0.0	-	0.0	-	0.4	-	1.9	-	1.3	-	-	4.9	0.7	-	4.4	0.0	0.7	4.2	0.5	-	3.2	3.0
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	5	0	-	5	0	1	2	0	-	3	8
% Articulated Trucks	0.0	-	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	-	0.5	0.0	-	0.4	0.0	0.7	0.2	0.0	-	0.2	0.2
Bicycles on Road	0	0	0	1	-	1	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	2	-	2	4
% Bicycles on Road	0.0	-	-	0.3	-	0.3	-	0.4	-	0.0	-	0.2	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	1.1	-	0.2	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	5.3	-	-
Pedestrians	-	-	-	-	16	-	-	-	-	-	29	-	-	-	-	-	44	-	-	-	-	-	18	-	-

Kimley-Horn : Lisle (IL)
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Count Name: Segoe & Frey
Site Code:
Start Date: 03/02/2016

Turning Movement Peak Hour Data (4:30 PM)

Start Time	EB Frey Eastbound						WB Frey Westbound						NB Segoe Northbound						SB Segoe Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
4:30 PM	0	0	0	68	3	68	0	17	0	36	0	53	0	0	93	13	4	106	0	9	57	1	4	67	294
4:45 PM	0	0	0	31	1	31	0	19	0	39	2	58	0	0	70	17	6	87	0	10	70	0	0	80	256
5:00 PM	0	0	0	47	5	47	0	35	0	43	4	78	0	0	89	15	1	104	0	13	71	0	4	84	313
5:15 PM	0	0	0	27	1	27	0	17	0	34	3	51	0	0	76	18	4	94	0	18	66	3	1	87	259
Total	0	0	0	173	10	173	0	88	0	152	9	240	0	0	328	63	15	391	0	50	264	4	9	318	1122
Approach %	0.0	0.0	0.0	100.0	-	-	0.0	36.7	0.0	63.3	-	-	0.0	0.0	83.9	16.1	-	-	0.0	15.7	83.0	1.3	-	-	-
Total %	0.0	0.0	0.0	15.4	-	15.4	0.0	7.8	0.0	13.5	-	21.4	0.0	0.0	29.2	5.6	-	34.8	0.0	4.5	23.5	0.4	-	28.3	-
PHF	0.000	0.000	0.000	0.636	-	0.636	0.000	0.629	0.000	0.884	-	0.769	0.000	0.000	0.882	0.875	-	0.922	0.000	0.694	0.930	0.333	-	0.914	0.896
Lights	0	0	0	172	-	172	0	87	0	152	-	239	0	0	321	63	-	384	0	50	250	4	-	304	1099
% Lights	-	-	-	99.4	-	99.4	-	98.9	-	100.0	-	99.6	-	-	97.9	100.0	-	98.2	-	100.0	94.7	100.0	-	95.6	98.0
Mediums	0	0	0	0	-	0	0	0	0	0	-	0	0	0	7	0	-	7	0	0	14	0	-	14	21
% Mediums	-	-	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	-	2.1	0.0	-	1.8	-	0.0	5.3	0.0	-	4.4	1.9
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	-	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	-	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	0	0	1	-	1	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Bicycles on Road	-	-	-	0.6	-	0.6	-	1.1	-	0.0	-	0.4	-	-	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	10	-	-	-	-	-	9	-	-	-	-	-	15	-	-	-	-	-	9	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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Count Name: Segoe & Frey
Site Code:
Start Date: 03/02/2016

Turning Movement Peak Hour Data (7:15 AM)

Start Time	EB Frey Eastbound						WB Frey Westbound						NB Segoe Northbound						SB Segoe Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:15 AM	0	0	0	1	0	1	0	7	0	11	6	18	0	0	70	1	3	71	2	2	67	30	1	101	191
7:30 AM	1	0	0	1	0	2	0	2	0	6	2	8	0	0	72	4	3	76	1	4	46	18	1	69	155
7:45 AM	0	0	0	1	1	1	0	12	0	7	1	19	0	0	63	3	5	66	1	5	49	27	1	82	168
8:00 AM	0	0	0	0	1	0	0	5	0	8	0	13	0	0	43	5	2	48	1	6	40	29	1	76	137
Total	1	0	0	3	2	4	0	26	0	32	9	58	0	0	248	13	13	261	5	17	202	104	4	328	651
Approach %	25.0	0.0	0.0	75.0	-	-	0.0	44.8	0.0	55.2	-	-	0.0	0.0	95.0	5.0	-	-	1.5	5.2	61.6	31.7	-	-	-
Total %	0.2	0.0	0.0	0.5	-	0.6	0.0	4.0	0.0	4.9	-	8.9	0.0	0.0	38.1	2.0	-	40.1	0.8	2.6	31.0	16.0	-	50.4	-
PHF	0.250	0.000	0.000	0.750	-	0.500	0.000	0.542	0.000	0.727	-	0.763	0.000	0.000	0.861	0.650	-	0.859	0.625	0.708	0.754	0.867	-	0.812	0.852
Lights	1	0	0	3	-	4	0	25	0	29	-	54	0	0	231	13	-	244	5	17	194	102	-	318	620
% Lights	100.0	-	-	100.0	-	100.0	-	96.2	-	90.6	-	93.1	-	-	93.1	100.0	-	93.5	100.0	100.0	96.0	98.1	-	97.0	95.2
Mediums	0	0	0	0	-	0	0	1	0	3	-	4	0	0	13	0	-	13	0	0	8	1	-	9	26
% Mediums	0.0	-	-	0.0	-	0.0	-	3.8	-	9.4	-	6.9	-	-	5.2	0.0	-	5.0	0.0	0.0	4.0	1.0	-	2.7	4.0
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	4	0	-	4	0	0	0	0	-	0	4
% Articulated Trucks	0.0	-	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	-	1.6	0.0	-	1.5	0.0	0.0	0.0	0.0	-	0.0	0.6
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	1	-	1	1
% Bicycles on Road	0.0	-	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	1.0	-	0.3	0.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	9	-	-	-	-	-	13	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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Count Name: Segoe & Sheboygan
Site Code:
Start Date: 03/02/2016

Turning Movement Data

Start Time	EB Sheboygan Eastbound						WB Sheboygan Westbound						NB Segoe Northbound						SB Segoe Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:00 PM	0	20	0	21	2	41	0	1	1	4	0	6	3	22	38	2	0	65	18	3	83	29	3	133	245
4:15 PM	0	28	0	24	2	52	0	2	2	5	0	9	3	15	41	5	2	64	14	3	79	19	3	115	240
4:30 PM	0	22	0	32	3	54	0	3	0	1	2	4	4	17	55	1	1	77	23	4	92	28	2	147	282
4:45 PM	0	24	0	21	0	45	0	1	1	2	4	4	3	20	47	4	4	74	14	2	89	15	2	120	243
Hourly Total	0	94	0	98	7	192	0	7	4	12	6	23	13	74	181	12	7	280	69	12	343	91	10	515	1010
5:00 PM	0	23	1	21	10	45	0	2	1	9	4	12	5	23	51	2	3	81	22	2	98	22	4	144	282
5:15 PM	0	28	1	21	6	50	0	1	0	1	2	2	3	20	53	2	1	78	11	3	82	22	2	118	248
5:30 PM	0	27	1	17	6	45	0	1	0	4	3	5	1	10	45	6	6	62	10	4	68	32	2	114	226
5:45 PM	0	24	0	17	3	41	0	4	0	2	1	6	0	7	31	4	3	42	6	3	67	29	3	105	194
Hourly Total	0	102	3	76	25	181	0	8	1	16	10	25	9	60	180	14	13	263	49	12	315	105	11	481	950
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	10	0	14	0	24	0	2	0	8	6	10	1	33	25	1	3	60	2	1	35	8	2	46	140
7:15 AM	0	15	0	16	2	31	0	5	1	8	5	14	2	35	47	1	2	85	1	1	62	13	1	77	207
7:30 AM	0	23	0	15	1	38	0	3	0	5	1	8	0	37	46	2	2	85	3	1	37	12	0	53	184
7:45 AM	0	19	0	19	1	38	0	3	1	6	1	10	2	41	41	0	1	84	1	0	41	17	0	59	191
Hourly Total	0	67	0	64	4	131	0	13	2	27	13	42	5	146	159	4	8	314	7	3	175	50	3	235	722
8:00 AM	0	14	0	21	1	35	0	3	0	2	2	5	1	42	30	0	3	73	0	1	34	13	1	48	161
8:15 AM	0	28	2	16	2	46	0	3	2	5	4	10	3	48	37	0	5	88	1	0	40	14	2	55	199
8:30 AM	0	24	1	13	2	38	0	6	1	4	1	11	0	27	27	8	1	62	0	1	23	13	1	37	148
8:45 AM	0	27	1	18	1	46	0	4	1	2	0	7	6	15	22	0	1	43	3	0	45	19	1	67	163
Hourly Total	0	93	4	68	6	165	0	16	4	13	7	33	10	132	116	8	10	266	4	2	142	59	5	207	671
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	356	7	306	42	669	0	44	11	68	36	123	37	412	636	38	38	1123	129	29	975	305	29	1438	3353
Approach %	0.0	53.2	1.0	45.7	-	-	0.0	35.8	8.9	55.3	-	-	3.3	36.7	56.6	3.4	-	-	9.0	2.0	67.8	21.2	-	-	-
Total %	0.0	10.6	0.2	9.1	-	20.0	0.0	1.3	0.3	2.0	-	3.7	1.1	12.3	19.0	1.1	-	33.5	3.8	0.9	29.1	9.1	-	42.9	-
Lights	0	312	7	282	-	601	0	44	11	68	-	123	37	396	623	38	-	1094	129	29	969	271	-	1398	3216
% Lights	-	87.6	100.0	92.2	-	89.8	-	100.0	100.0	100.0	-	100.0	100.0	96.1	98.0	100.0	-	97.4	100.0	100.0	99.4	88.9	-	97.2	95.9
Mediums	0	41	0	19	-	60	0	0	0	0	-	0	0	14	12	0	-	26	0	0	5	32	-	37	123
% Mediums	-	11.5	0.0	6.2	-	9.0	-	0.0	0.0	0.0	-	0.0	0.0	3.4	1.9	0.0	-	2.3	0.0	0.0	0.5	10.5	-	2.6	3.7
Articulated Trucks	0	3	0	0	-	3	0	0	0	0	-	0	0	1	1	0	-	2	0	0	0	2	-	2	7
% Articulated Trucks	-	0.8	0.0	0.0	-	0.4	-	0.0	0.0	0.0	-	0.0	0.0	0.2	0.2	0.0	-	0.2	0.0	0.0	0.0	0.7	-	0.1	0.2
Bicycles on Road	0	0	0	5	-	5	0	0	0	0	-	0	0	1	0	0	-	1	0	0	1	0	-	1	7
% Bicycles on Road	-	0.0	0.0	1.6	-	0.7	-	0.0	0.0	0.0	-	0.0	0.0	0.2	0.0	0.0	-	0.1	0.0	0.0	0.1	0.0	-	0.1	0.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	42	-	-	-	-	-	36	-	-	-	-	-	38	-	-	-	-	-	29	-	-

Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350

Lisle, Illinois, United States 60532
331.481.7332 Doug.Arnold@kimley-horn.com

Count Name: Segoe & Sheboygan
Site Code:
Start Date: 03/02/2016

Turning Movement Peak Hour Data (4:30 PM)

Start Time	EB Sheboygan Eastbound						WB Sheboygan Westbound						NB Segoe Northbound						SB Segoe Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:30 PM	0	22	0	32	3	54	0	3	0	1	2	4	4	17	55	1	1	77	23	4	92	28	2	147	282
4:45 PM	0	24	0	21	0	45	0	1	1	2	4	4	3	20	47	4	4	74	14	2	89	15	2	120	243
5:00 PM	0	23	1	21	10	45	0	2	1	9	4	12	5	23	51	2	3	81	22	2	98	22	4	144	282
5:15 PM	0	28	1	21	6	50	0	1	0	1	2	2	3	20	53	2	1	78	11	3	82	22	2	118	248
Total	0	97	2	95	19	194	0	7	2	13	12	22	15	80	206	9	9	310	70	11	361	87	10	529	1055
Approach %	0.0	50.0	1.0	49.0	-	-	0.0	31.8	9.1	59.1	-	-	4.8	25.8	66.5	2.9	-	-	13.2	2.1	68.2	16.4	-	-	-
Total %	0.0	9.2	0.2	9.0	-	18.4	0.0	0.7	0.2	1.2	-	2.1	1.4	7.6	19.5	0.9	-	29.4	6.6	1.0	34.2	8.2	-	50.1	-
PHF	0.000	0.866	0.500	0.742	-	0.898	0.000	0.583	0.500	0.361	-	0.458	0.750	0.870	0.936	0.563	-	0.957	0.761	0.688	0.921	0.777	-	0.900	0.935
Lights	0	91	2	90	-	183	0	7	2	13	-	22	15	76	206	9	-	306	70	11	359	75	-	515	1026
% Lights	-	93.8	100.0	94.7	-	94.3	-	100.0	100.0	100.0	-	100.0	100.0	95.0	100.0	100.0	-	98.7	100.0	100.0	99.4	86.2	-	97.4	97.3
Mediums	0	6	0	5	-	11	0	0	0	0	-	0	0	4	0	0	-	4	0	0	1	12	-	13	28
% Mediums	-	6.2	0.0	5.3	-	5.7	-	0.0	0.0	0.0	-	0.0	0.0	5.0	0.0	0.0	-	1.3	0.0	0.0	0.3	13.8	-	2.5	2.7
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	1
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.3	0.0	-	0.2	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	19	-	-	-	-	-	12	-	-	-	-	-	9	-	-	-	-	-	10	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350

Lisle, Illinois, United States 60532
331.481.7332 Doug.Arnold@kimley-horn.com

Count Name: Segoe & Sheboygan
Site Code:
Start Date: 03/02/2016

Turning Movement Peak Hour Data (7:15 AM)

Start Time	EB Sheboygan Eastbound						WB Sheboygan Westbound						NB Segoe Northbound						SB Segoe Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:15 AM	0	15	0	16	2	31	0	5	1	8	5	14	2	35	47	1	2	85	1	1	62	13	1	77	207
7:30 AM	0	23	0	15	1	38	0	3	0	5	1	8	0	37	46	2	2	85	3	1	37	12	0	53	184
7:45 AM	0	19	0	19	1	38	0	3	1	6	1	10	2	41	41	0	1	84	1	0	41	17	0	59	191
8:00 AM	0	14	0	21	1	35	0	3	0	2	2	5	1	42	30	0	3	73	0	1	34	13	1	48	161
Total	0	71	0	71	5	142	0	14	2	21	9	37	5	155	164	3	8	327	5	3	174	55	2	237	743
Approach %	0.0	50.0	0.0	50.0	-	-	0.0	37.8	5.4	56.8	-	-	1.5	47.4	50.2	0.9	-	-	2.1	1.3	73.4	23.2	-	-	-
Total %	0.0	9.6	0.0	9.6	-	19.1	0.0	1.9	0.3	2.8	-	5.0	0.7	20.9	22.1	0.4	-	44.0	0.7	0.4	23.4	7.4	-	31.9	-
PHF	0.000	0.772	0.000	0.845	-	0.934	0.000	0.700	0.500	0.656	-	0.661	0.625	0.923	0.872	0.375	-	0.962	0.417	0.750	0.702	0.809	-	0.769	0.897
Lights	0	59	0	64	-	123	0	14	2	21	-	37	5	153	160	3	-	321	5	3	174	47	-	229	710
% Lights	-	83.1	-	90.1	-	86.6	-	100.0	100.0	100.0	-	100.0	100.0	98.7	97.6	100.0	-	98.2	100.0	100.0	100.0	85.5	-	96.6	95.6
Mediums	0	9	0	6	-	15	0	0	0	0	-	0	0	1	3	0	-	4	0	0	0	8	-	8	27
% Mediums	-	12.7	-	8.5	-	10.6	-	0.0	0.0	0.0	-	0.0	0.0	0.6	1.8	0.0	-	1.2	0.0	0.0	0.0	14.5	-	3.4	3.6
Articulated Trucks	0	3	0	0	-	3	0	0	0	0	-	0	0	1	1	0	-	2	0	0	0	0	-	0	5
% Articulated Trucks	-	4.2	-	0.0	-	2.1	-	0.0	0.0	0.0	-	0.0	0.0	0.6	0.6	0.0	-	0.6	0.0	0.0	0.0	0.0	-	0.0	0.7
Bicycles on Road	0	0	0	1	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	-	0.0	-	1.4	-	0.7	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	5	-	-	-	-	-	9	-	-	-	-	-	8	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Hilldale Way & Maple Terrace - TMC
Thu Jun 15, 2017
Full Length (7AM-9AM, 4PM-6PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422608, Location: 43.075239, -89.453258

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	North Access						University Ave						South Access						University Ave						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2017-06-15 7:00AM	0	0	1	0	**1**	3	0	242	5	0	**247**	0	8	0	0	0	**8**	3	6	422	0	4	**432**	0	**688**
7:15AM	0	0	1	0	**1**	1	0	309	6	0	**315**	0	10	0	0	0	**10**	4	5	512	1	3	**521**	0	**847**
7:30AM	0	1	1	0	**2**	2	1	349	4	0	**354**	0	10	0	0	0	**10**	1	5	603	0	0	**608**	0	**974**
7:45AM	0	0	0	0	**0**	3	3	346	4	0	**353**	0	19	0	0	0	**19**	0	7	589	2	7	**605**	0	**977**
Hourly Total	0	1	3	0	**4**	9	4	1246	19	0	**1269**	0	47	0	0	0	**47**	8	23	2126	3	14	**2166**	0	**3486**
8:00AM	0	0	0	0	**0**	3	0	325	2	0	**327**	0	13	0	0	0	**13**	0	6	471	2	6	**485**	1	**825**
8:15AM	0	0	0	0	**0**	1	1	289	9	0	**299**	0	15	0	0	0	**15**	2	2	511	2	12	**527**	0	**841**
8:30AM	0	0	2	0	**2**	2	2	282	13	0	**297**	0	18	0	0	0	**18**	1	13	454	0	9	**476**	0	**793**
8:45AM	0	0	1	0	**1**	3	1	291	10	0	**302**	0	13	0	0	0	**13**	1	12	497	2	8	**519**	0	**835**
Hourly Total	0	0	3	0	**3**	9	4	1187	34	0	**1225**	0	59	0	0	0	**59**	4	33	1933	6	35	**2007**	1	**3294**
4:00PM	3	0	0	0	**3**	2	4	474	19	0	**497**	1	34	0	0	0	**34**	1	18	393	4	5	**420**	0	**954**
4:15PM	0	0	2	0	**2**	1	8	532	16	1	**557**	0	30	0	0	0	**30**	1	20	445	3	3	**471**	0	**1060**
4:30PM	2	0	0	0	**2**	3	4	470	20	2	**496**	0	41	0	0	0	**41**	1	36	440	6	4	**486**	0	**1025**
4:45PM	4	0	1	0	**5**	3	4	507	13	0	**524**	0	31	0	0	0	**31**	1	23	429	5	3	**460**	1	**1020**
Hourly Total	9	0	3	0	**12**	9	20	1983	68	3	**2074**	1	136	0	0	0	**136**	4	97	1707	18	15	**1837**	1	**4059**
5:00PM	2	0	0	0	**2**	1	8	524	12	0	**544**	0	36	0	0	0	**36**	3	16	388	2	0	**406**	0	**988**
5:15PM	2	0	0	0	**2**	0	5	553	10	0	**568**	0	29	0	0	0	**29**	5	18	412	2	0	**432**	0	**1031**
5:30PM	4	0	0	0	**4**	1	9	481	9	0	**499**	0	20	0	0	0	**20**	3	17	446	6	0	**469**	0	**992**
5:45PM	2	0	2	0	**4**	2	8	445	11	0	**464**	0	30	0	0	0	**30**	0	28	483	5	0	**516**	0	**1014**
Hourly Total	10	0	2	0	**12**	4	30	2003	42	0	**2075**	0	115	0	0	0	**115**	11	79	1729	15	0	**1823**	0	**4025**
Total	19	1	11	0	**31**	31	58	6419	163	3	**6643**	1	357	0	0	0	**357**	27	232	7495	42	64	**7833**	2	**14864**
% Approach	61.3%	3.2%	35.5%	0%	**-**	-	0.9%	96.6%	2.5%	0%	**-**	-	100%	0%	0%	0%	**-**	-	3.0%	95.7%	0.5%	0.8%	**-**	-	**-**
% Total	0.1%	0%	0.1%	0%	**0.2%**	-	0.4%	43.2%	1.1%	0%	**44.7%**	-	2.4%	0%	0%	0%	**2.4%**	-	1.6%	50.4%	0.3%	0.4%	**52.7%**	-	**-**
Lights	19	0	11	0	**30**	-	57	6218	159	3	**6437**	-	351	0	0	0	**351**	-	226	7307	42	64	**7639**	-	14457
% Lights	100%	0%	100%	0%	**96.8%**	-	98.3%	96.9%	97.5%	100%	**96.9%**	-	98.3%	0%	0%	0%	**98.3%**	-	97.4%	97.5%	100%	100%	**97.5%**	-	97.3%
Articulated Trucks	0	0	0	0	**0**	-	0	9	0	0	**9**	-	1	0	0	0	**1**	-	0	5	0	0	**5**	-	15
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.3%	0%	0%	0%	**0.3%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.1%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	189	4	0	**193**	-	5	0	0	0	**5**	-	5	180	0	0	**185**	-	383
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	2.9%	2.5%	0%	**2.9%**	-	1.4%	0%	0%	0%	**1.4%**	-	2.2%	2.4%	0%	0%	**2.4%**	-	2.6%
Bicycles on Road	0	1	0	0	**1**	-	1	3	0	0	**4**	-	0	0	0	0	**0**	-	1	3	0	0	**4**	-	9
% Bicycles on Road	0%	100%	0%	0%	**3.2%**	-	1.7%	0%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0.4%	0%	0%	0%	**0.1%**	-	0.1%
Pedestrians	-	-	-	-		30	-	-	-	-		1	-	-	-	-		22	-	-	-	-		2	
% Pedestrians	-	-	-	-		96.8%	-	-	-	-		100%	-	-	-	-		81.5%	-	-	-	-		100%	
Bicycles on Crosswalk	-	-	-	-		1	-	-	-	-		0	-	-	-	-		5	-	-	-	-		0	
% Bicycles on Crosswalk	-	-	-	-		3.2%	-	-	-	-		0%	-	-	-	-		18.5%	-	-	-	-		0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hilldale Way & Maple Terrace - TMC

Thu Jun 15, 2017
AM Peak (7:15AM - 8:15AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422608, Location: 43.075239, -89.453258

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	North Access						University Ave						South Access						University Ave						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 7:15AM	0	0	1	0	**1**	1	0	309	6	0	**315**	0	10	0	0	0	**10**	4	5	512	1	3	**521**	0	**847**
7:30AM	0	1	1	0	**2**	2	1	349	4	0	**354**	0	10	0	0	0	**10**	1	5	603	0	0	**608**	0	**974**
7:45AM	0	0	0	0	**0**	3	3	346	4	0	**353**	0	19	0	0	0	**19**	0	7	589	2	7	**605**	0	**977**
8:00AM	0	0	0	0	**0**	3	0	325	2	0	**327**	0	13	0	0	0	**13**	0	6	471	2	6	**485**	1	**825**
Total	0	1	2	0	**3**	9	4	1329	16	0	**1349**	0	52	0	0	0	**52**	5	23	2175	5	16	**2219**	1	**3623**
% Approach	0%	33.3%	66.7%	0%	**-**	-	0.3%	98.5%	1.2%	0%	**-**	-	100%	0%	0%	0%	**-**	-	1.0%	98.0%	0.2%	0.7%	**-**	-	**-**
% Total	0%	0%	0.1%	0%	**0.1%**	-	0.1%	36.7%	0.4%	0%	**37.2%**	-	1.4%	0%	0%	0%	**1.4%**	-	0.6%	60.0%	0.1%	0.4%	**61.2%**	-	**-**
PHF	**-**	0.250	0.500	**-**	**0.375**	-	0.333	0.952	0.667	**-**	**0.953**	-	0.684	**-**	**-**	**-**	**0.684**	-	0.821	0.902	0.625	0.571	**0.912**	-	0.927
Lights	0	0	2	0	**2**	-	4	1270	16	0	**1290**	-	51	0	0	0	**51**	-	21	2124	5	16	**2166**	-	3509
% Lights	0%	0%	100%	0%	**66.7%**	-	100%	95.6%	100%	0%	**95.6%**	-	98.1%	0%	0%	0%	**98.1%**	-	91.3%	97.7%	100%	100%	**97.6%**	-	96.9%
Articulated Trucks	0	0	0	0	**0**	-	0	3	0	0	**3**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	4
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.2%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	55	0	0	**55**	-	1	0	0	0	**1**	-	2	49	0	0	**51**	-	107
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	4.1%	0%	0%	**4.1%**	-	1.9%	0%	0%	0%	**1.9%**	-	8.7%	2.3%	0%	0%	**2.3%**	-	3.0%
Bicycles on Road	0	1	0	0	**1**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	3
% Bicycles on Road	0%	100%	0%	0%	**33.3%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-		8	-	-	-	-		0	-	-	-	-		5	-	-	-	-		1	
% Pedestrians	-	-	-	-		88.9%	-	-	-	-		-	-	-	-	-		100%	-	-	-	-		100%	
Bicycles on Crosswalk	-	-	-	-		1	-	-	-	-		0	-	-	-	-		0	-	-	-	-		0	
% Bicycles on Crosswalk	-	-	-	-		11.1%	-	-	-	-		-	-	-	-	-		0%	-	-	-	-		0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hilldale Way & Maple Terrace - TMC
Thu Jun 15, 2017
PM Peak (4:15PM - 5:15PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422608, Location: 43.075239, -89.453258

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	North Access						University Ave						South Access						University Ave						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2017-06-15 4:15PM	0	0	2	0	**2**	1	8	532	16	1	**557**	0	30	0	0	0	**30**	1	20	445	3	3	**471**	0	**1060**
4:30PM	2	0	0	0	**2**	3	4	470	20	2	**496**	0	41	0	0	0	**41**	1	36	440	6	4	**486**	0	**1025**
4:45PM	4	0	1	0	**5**	3	4	507	13	0	**524**	0	31	0	0	0	**31**	1	23	429	5	3	**460**	1	**1020**
5:00PM	2	0	0	0	**2**	1	8	524	12	0	**544**	0	36	0	0	0	**36**	3	16	388	2	0	**406**	0	**988**
Total	8	0	3	0	**11**	8	24	2033	61	3	**2121**	0	138	0	0	0	**138**	6	95	1702	16	10	**1823**	1	**4093**
% Approach	72.7%	0%	27.3%	0%	**-**	-	1.1%	95.9%	2.9%	0.1%	**-**	-	100%	0%	0%	0%	**-**	-	5.2%	93.4%	0.9%	0.5%	**-**	-	**-**
% Total	0.2%	0%	0.1%	0%	**0.3%**	-	0.6%	49.7%	1.5%	0.1%	**51.8%**	-	3.4%	0%	0%	0%	**3.4%**	-	2.3%	41.6%	0.4%	0.2%	**44.5%**	-	**-**
PHF	0.500	**-**	0.375	**-**	**0.550**	-	0.750	0.955	0.763	0.375	**0.952**	-	0.841	**-**	**-**	**-**	**0.841**	-	0.660	0.956	0.667	0.625	**0.938**	-	0.965
Lights	8	0	3	0	**11**	-	24	1987	61	3	**2075**	-	138	0	0	0	**138**	-	95	1666	16	10	**1787**	-	4011
% Lights	100%	0%	100%	0%	**100%**	-	100%	97.7%	100%	100%	**97.8%**	-	100%	0%	0%	0%	**100%**	-	100%	97.9%	100%	100%	**98.0%**	-	98.0%
Articulated Trucks	0	0	0	0	**0**	-	0	2	0	0	**2**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	3
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.1%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	43	0	0	**43**	-	0	0	0	0	**0**	-	0	35	0	0	**35**	-	78
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	2.1%	0%	0%	**2.0%**	-	0%	0%	0%	0%	**0%**	-	0%	2.1%	0%	0%	**1.9%**	-	1.9%
Bicycles on Road	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-		8	-	-	-	-		0	-	-	-	-		4	-	-	-	-		1	
% Pedestrians	-	-	-	-		100%	-	-	-	-		-	-	-	-	-		66.7%	-	-	-	-		100%	
Bicycles on Crosswalk	-	-	-	-		0	-	-	-	-		0	-	-	-	-		2	-	-	-	-		0	
% Bicycles on Crosswalk	-	-	-	-		0%	-	-	-	-		-	-	-	-	-		33.3%	-	-	-	-		0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Co Hwy MS & N Midvale Blvd - TMC
Thu Jun 15, 2017
Full Length (7AM-9AM, 4PM-6PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422603, Location: 43.075233, -89.451262

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	N Midvale Blvd						Co Hwy MS						N Midvale Blvd						Co Hwy MS						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2017-06-15 7:00AM	7	7	8	0	**22**	0	4	215	55	0	**274**	2	96	9	21	0	**126**	0	25	378	19	0	**422**	4	**844**
7:15AM	12	16	3	0	**31**	1	8	264	46	0	**318**	7	118	23	34	0	**175**	8	23	471	16	0	**510**	3	**1034**
7:30AM	13	9	7	0	**29**	1	1	297	60	0	**358**	1	144	28	46	0	**218**	7	30	530	27	0	**587**	5	**1192**
7:45AM	17	12	3	0	**32**	2	1	296	73	0	**370**	3	157	28	32	0	**217**	6	40	541	28	0	**609**	4	**1228**
Hourly Total	49	44	21	0	**114**	4	14	1072	234	0	**1320**	13	515	88	133	0	**736**	21	118	1920	90	0	**2128**	16	**4298**
8:00AM	11	18	7	0	**36**	1	3	272	85	0	**360**	3	135	23	38	0	**196**	4	27	428	21	0	**476**	3	**1068**
8:15AM	20	22	6	0	**48**	0	3	247	61	0	**311**	1	140	20	39	0	**199**	4	38	456	21	0	**515**	1	**1073**
8:30AM	14	11	11	0	**36**	2	1	246	79	0	**326**	2	149	24	28	1	**202**	5	25	408	17	0	**450**	5	**1014**
8:45AM	12	16	9	0	**37**	4	8	255	71	0	**334**	5	135	22	33	0	**190**	1	31	445	23	0	**499**	3	**1060**
Hourly Total	57	67	33	0	**157**	7	15	1020	296	0	**1331**	11	559	89	138	1	**787**	14	121	1737	82	0	**1940**	12	**4215**
4:00PM	38	35	17	0	**90**	1	13	422	162	0	**597**	1	109	28	34	0	**171**	4	46	352	29	0	**427**	7	**1285**
4:15PM	36	43	17	0	**96**	0	8	472	153	0	**633**	2	113	29	48	0	**190**	5	51	367	31	1	**450**	9	**1369**
4:30PM	44	46	16	0	**106**	2	7	421	182	0	**610**	2	142	41	37	0	**220**	7	50	381	36	0	**467**	17	**1403**
4:45PM	41	66	22	0	**129**	5	9	422	154	0	**585**	1	130	38	33	0	**201**	11	30	381	30	0	**441**	13	**1356**
Hourly Total	159	190	72	0	**421**	8	37	1737	651	0	**2425**	6	494	136	152	0	**782**	27	177	1481	126	1	**1785**	46	**5413**
5:00PM	47	68	20	0	**135**	3	6	466	205	0	**677**	7	121	27	49	0	**197**	7	26	359	26	0	**411**	36	**1420**
5:15PM	43	49	26	0	**118**	2	7	470	170	0	**647**	4	114	33	52	0	**199**	11	33	380	17	0	**430**	18	**1394**
5:30PM	43	59	10	0	**112**	4	0	402	165	0	**567**	6	142	30	38	0	**210**	6	37	379	25	0	**441**	15	**1330**
5:45PM	38	28	19	0	**85**	4	6	382	135	0	**523**	2	129	29	48	1	**207**	5	50	423	34	0	**507**	13	**1322**
Hourly Total	171	204	75	0	**450**	13	19	1720	675	0	**2414**	19	506	119	187	1	**813**	29	146	1541	102	0	**1789**	82	**5466**
Total	436	505	201	0	**1142**	32	85	5549	1856	0	**7490**	49	2074	432	610	2	**3118**	91	562	6679	400	1	**7642**	156	**19392**
% Approach	38.2%	44.2%	17.6%	0%	**-**	-	1.1%	74.1%	24.8%	0%	**-**	-	66.5%	13.9%	19.6%	0.1%	**-**	-	7.4%	87.4%	5.2%	0%	**-**	-	**-**
% Total	2.2%	2.6%	1.0%	0%	**5.9%**	-	0.4%	28.6%	9.6%	0%	**38.6%**	-	10.7%	2.2%	3.1%	0%	**16.1%**	-	2.9%	34.4%	2.1%	0%	**39.4%**	-	**-**
Lights	432	483	200	0	**1115**	-	84	5367	1817	0	**7268**	-	2023	420	595	2	**3040**	-	544	6512	393	1	**7450**	-	18873
% Lights	99.1%	95.6%	99.5%	0%	**97.6%**	-	98.8%	96.7%	97.9%	0%	**97.0%**	-	97.5%	97.2%	97.5%	100%	**97.5%**	-	96.8%	97.5%	98.3%	100%	**97.5%**	-	97.3%
Articulated Trucks	1	1	1	0	**3**	-	1	6	4	0	**11**	-	3	6	1	0	**10**	-	3	3	0	0	**6**	-	30
% Articulated Trucks	0.2%	0.2%	0.5%	0%	**0.3%**	-	1.2%	0.1%	0.2%	0%	**0.1%**	-	0.1%	1.4%	0.2%	0%	**0.3%**	-	0.5%	0%	0%	0%	**0.1%**	-	0.2%
Buses and Single-Unit Trucks	3	6	0	0	**9**	-	0	175	35	0	**210**	-	44	4	14	0	**62**	-	15	162	7	0	**184**	-	465
% Buses and Single-Unit Trucks	0.7%	1.2%	0%	0%	**0.8%**	-	0%	3.2%	1.9%	0%	**2.8%**	-	2.1%	0.9%	2.3%	0%	**2.0%**	-	2.7%	2.4%	1.8%	0%	**2.4%**	-	2.4%
Bicycles on Road	0	15	0	0	**15**	-	0	1	0	0	**1**	-	4	2	0	0	**6**	-	0	2	0	0	**2**	-	24
% Bicycles on Road	0%	3.0%	0%	0%	**1.3%**	-	0%	0%	0%	0%	**0%**	-	0.2%	0.5%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-		29	-	-	-	-		47	-	-	-	-		86	-	-	-	-		134	
% Pedestrians	-	-	-	-		90.6%	-	-	-	-		95.9%	-	-	-	-		94.5%	-	-	-	-		85.9%	
Bicycles on Crosswalk	-	-	-	-		3	-	-	-	-		2	-	-	-	-		5	-	-	-	-		22	
% Bicycles on Crosswalk	-	-	-	-		9.4%	-	-	-	-		4.1%	-	-	-	-		5.5%	-	-	-	-		14.1%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Co Hwy MS & N Midvale Blvd - TMC
Thu Jun 15, 2017
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422603, Location: 43.075233, -89.451262

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	N Midvale Blvd						Co Hwy MS						N Midvale Blvd						Co Hwy MS						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2017-06-15 7:30AM	13	9	7	0	**29**	1	1	297	60	0	**358**	1	144	28	46	0	**218**	7	30	530	27	0	**587**	5	**1192**
7:45AM	17	12	3	0	**32**	2	1	296	73	0	**370**	3	157	28	32	0	**217**	6	40	541	28	0	**609**	4	**1228**
8:00AM	11	18	7	0	**36**	1	3	272	85	0	**360**	3	135	23	38	0	**196**	4	27	428	21	0	**476**	3	**1068**
8:15AM	20	22	6	0	**48**	0	3	247	61	0	**311**	1	140	20	39	0	**199**	4	38	456	21	0	**515**	1	**1073**
Total	61	61	23	0	**145**	4	8	1112	279	0	**1399**	8	576	99	155	0	**830**	21	135	1955	97	0	**2187**	13	**4561**
% Approach	42.1%	42.1%	15.9%	0%	**-**	-	0.6%	79.5%	19.9%	0%	**-**	-	69.4%	11.9%	18.7%	0%	**-**	-	6.2%	89.4%	4.4%	0%	**-**	-	**-**
% Total	1.3%	1.3%	0.5%	0%	**3.2%**	-	0.2%	24.4%	6.1%	0%	**30.7%**	-	12.6%	2.2%	3.4%	0%	**18.2%**	-	3.0%	42.9%	2.1%	0%	**48.0%**	-	**-**
PHF	0.763	0.693	0.821		**0.755**	-	0.667	0.936	0.821		**0.945**	-	0.917	0.884	0.842		**0.952**	-	0.844	0.903	0.866		**0.898**	-	0.929
Lights	58	55	23	0	**136**	-	8	1056	268	0	**1332**	-	563	93	149	0	**805**	-	126	1908	96	0	**2130**	-	4403
% Lights	95.1%	90.2%	100%	0%	**93.8%**	-	100%	95.0%	96.1%	0%	**95.2%**	-	97.7%	93.9%	96.1%	0%	**97.0%**	-	93.3%	97.6%	99.0%	0%	**97.4%**	-	96.5%
Articulated Trucks	1	1	0	0	**2**	-	0	1	3	0	**4**	-	1	5	0	0	**6**	-	1	1	0	0	**2**	-	14
% Articulated Trucks	1.6%	1.6%	0%	0%	**1.4%**	-	0%	0.1%	1.1%	0%	**0.3%**	-	0.2%	5.1%	0%	0%	**0.7%**	-	0.7%	0.1%	0%	0%	**0.1%**	-	0.3%
Buses and Single-Unit Trucks	2	3	0	0	**5**	-	0	55	8	0	**63**	-	12	1	6	0	**19**	-	8	45	1	0	**54**	-	141
% Buses and Single-Unit Trucks	3.3%	4.9%	0%	0%	**3.4%**	-	0%	4.9%	2.9%	0%	**4.5%**	-	2.1%	1.0%	3.9%	0%	**2.3%**	-	5.9%	2.3%	1.0%	0%	**2.5%**	-	3.1%
Bicycles on Road	0	2	0	0	**2**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	3
% Bicycles on Road	0%	3.3%	0%	0%	**1.4%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-		4	-	-	-	-		8	-	-	-	-		21	-	-	-	-		10	
% Pedestrians	-	-	-	-		100%	-	-	-	-		100%	-	-	-	-		100%	-	-	-	-		76.9%	
Bicycles on Crosswalk	-	-	-	-		0	-	-	-	-		0	-	-	-	-		0	-	-	-	-		3	
% Bicycles on Crosswalk	-	-	-	-		0%	-	-	-	-		0%	-	-	-	-		0%	-	-	-	-		23.1%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Co Hwy MS & N Midvale Blvd - TMC
Thu Jun 15, 2017
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 422603, Location: 43.075233, -89.451262

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive,
Vernon Hills, IL, 60061, US

Leg	N Midvale Blvd						Co Hwy MS						N Midvale Blvd						Co Hwy MS						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2017-06-15 4:30PM	44	46	16	0	**106**	2	7	421	182	0	**610**	2	142	41	37	0	**220**	7	50	381	36	0	**467**	17	**1403**
4:45PM	41	66	22	0	**129**	5	9	422	154	0	**585**	1	130	38	33	0	**201**	11	30	381	30	0	**441**	13	**1356**
5:00PM	47	68	20	0	**135**	3	6	466	205	0	**677**	7	121	27	49	0	**197**	7	26	359	26	0	**411**	36	**1420**
5:15PM	43	49	26	0	**118**	2	7	470	170	0	**647**	4	114	33	52	0	**199**	11	33	380	17	0	**430**	18	**1394**
Total	175	229	84	0	**488**	12	29	1779	711	0	**2519**	14	507	139	171	0	**817**	36	139	1501	109	0	**1749**	84	**5573**
% Approach	35.9%	46.9%	17.2%	0%	**-**	-	1.2%	70.6%	28.2%	0%	**-**	-	62.1%	17.0%	20.9%	0%	**-**	-	7.9%	85.8%	6.2%	0%	**-**	-	**-**
% Total	3.1%	4.1%	1.5%	0%	**8.8%**	-	0.5%	31.9%	12.8%	0%	**45.2%**	-	9.1%	2.5%	3.1%	0%	**14.7%**	-	2.5%	26.9%	2.0%	0%	**31.4%**	-	**-**
PHF	0.931	0.842	0.808		**0.904**	-	0.806	0.946	0.867		**0.930**	-	0.893	0.848	0.822		**0.928**	-	0.695	0.985	0.757		**0.936**	-	0.981
Lights	175	220	84	0	**479**	-	29	1741	702	0	**2472**	-	496	138	169	0	**803**	-	137	1469	109	0	**1715**	-	5469
% Lights	100%	96.1%	100%	0%	**98.2%**	-	100%	97.9%	98.7%	0%	**98.1%**	-	97.8%	99.3%	98.8%	0%	**98.3%**	-	98.6%	97.9%	100%	0%	**98.1%**	-	98.1%
Articulated Trucks	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	1	0	0	0	**1**	-	2
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.7%	0%	0%	0%	**0.1%**	-	0%
Buses and Single-Unit Trucks	0	2	0	0	**2**	-	0	37	9	0	**46**	-	11	0	2	0	**13**	-	1	32	0	0	**33**	-	94
% Buses and Single-Unit Trucks	0%	0.9%	0%	0%	**0.4%**	-	0%	2.1%	1.3%	0%	**1.8%**	-	2.2%	0%	1.2%	0%	**1.6%**	-	0.7%	2.1%	0%	0%	**1.9%**	-	1.7%
Bicycles on Road	0	7	0	0	**7**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	8
% Bicycles on Road	0%	3.1%	0%	0%	**1.4%**	-	0%	0%	0%	0%	**0%**	-	0%	0.7%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-		11	-	-	-	-		13	-	-	-	-		33	-	-	-	-		75	
% Pedestrians	-	-	-	-		91.7%	-	-	-	-		92.9%	-	-	-	-		91.7%	-	-	-	-		89.3%	
Bicycles on Crosswalk	-	-	-	-		1	-	-	-	-		1	-	-	-	-		3	-	-	-	-		9	
% Bicycles on Crosswalk	-	-	-	-		8.3%	-	-	-	-		7.1%	-	-	-	-		8.3%	-	-	-	-		10.7%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

PARKING GENERATION TABLE

ITE Parking Generation

Code	Land Use Description	Units	No.	Weekday - Suburban	Weekday - Urban	Saturday - Suburban
220	Apartment	Units	350	679	564	532
932	High-Turnover Restaurant	1 ksf	27	437	171	552
720	Medical-Dental Office	1 ksf	152	651		-
820	Shopping Center	1 ksf	98	382		333
881	Pharmacy/Drug Store w. Drive Thru	1 ksf	5	15		15
710	General Office Building	1 ksf	225	777	671	-
492	Health/Fitness Club	1ksf	41	344		137
850	Supermarket	1ksf	25	126	71	124
310	Hotel	Rooms	200	216		308

Madison Parking Requirments

Land Use	Madison Parking Requirements
	Maximum
Retail	5.0 spaces per 1,000 square feet
General Office	4.0 spaces per 1,000 square feet
Medical Office	5.0 spaces per 1,000 square feet
Residential	2.5 spaced per dwelling units
Hotel	1.5 spaces per room

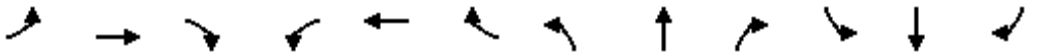
From the City of Madison Code of Ordinances, Section 28.141(4)

Land Use	No.	Units	Maximum
Retail	196	ksf	980
General Office	225	ksf	900
Medical Office	152	ksf	760
Residential	350	Units	875
Hotel	200	Rooms	300
		Total	**3815**

EXISTING CONDITIONS (2017) SYNCHRO REPORTS

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1011	599	132	547	256	65
Future Volume (vph)	1011	599	132	547	256	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.22	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	413	3539	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1076	637	140	582	272	69
RTOR Reduction (vph)	0	0	0	0	0	60
Lane Group Flow (vph)	1076	637	140	582	272	9
Confl. Peds. (#/hr)					2	
Turn Type	NA	Free	pm+pt	NA	Prot	Perm
Protected Phases	1		2	1 2	4	
Permitted Phases		Free	1 2			4
Actuated Green, G (s)	76.4	115.0	84.5	89.5	15.5	15.5
Effective Green, g (s)	76.4	115.0	84.5	89.5	15.5	15.5
Actuated g/C Ratio	0.66	1.00	0.73	0.78	0.13	0.13
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	2351	1583	399	2754	462	213
v/s Ratio Prot	c0.30		0.02	0.16	c0.08	
v/s Ratio Perm		c0.40	0.23			0.01
v/c Ratio	0.46	0.40	0.35	0.21	0.59	0.04
Uniform Delay, d1	9.3	0.0	11.3	3.4	46.8	43.3
Progression Factor	1.00	1.00	2.44	1.57	1.00	1.00
Incremental Delay, d2	0.6	0.8	0.5	0.0	1.9	0.1
Delay (s)	10.0	0.8	28.1	5.3	48.7	43.4
Level of Service	A	A	C	A	D	D
Approach Delay (s)	6.5			9.8	47.6	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	529	84	117	236	41	114	355	156	16	597	69
Future Volume (vph)	53	529	84	117	236	41	114	355	156	16	597	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1825		1770	1821		1770	3377		1770	3484	
Flt Permitted	0.58	1.00		0.11	1.00		0.14	1.00		0.45	1.00	
Satd. Flow (perm)	1080	1825		206	1821		257	3377		836	3484	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	56	563	89	124	251	44	121	378	166	17	635	73
RTOR Reduction (vph)	0	5	0	0	6	0	0	43	0	0	7	0
Lane Group Flow (vph)	56	647	0	124	289	0	121	501	0	17	701	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.9	40.9		52.8	52.8		37.8	37.8		25.7	25.7	
Effective Green, g (s)	40.9	40.9		52.8	52.8		37.8	37.8		25.7	25.7	
Actuated g/C Ratio	0.41	0.41		0.53	0.53		0.38	0.38		0.26	0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	443	749		225	965		212	1281		215	898	
v/s Ratio Prot		c0.35		c0.04	0.16		c0.04	0.15			c0.20	
v/s Ratio Perm	0.05			0.25			0.17			0.02		
v/c Ratio	0.13	0.86		0.55	0.30		0.57	0.39		0.08	0.78	
Uniform Delay, d1	18.2	26.8		18.5	13.1		22.8	22.5		28.0	34.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	10.1		2.9	0.2		3.7	0.2		0.2	4.4	
Delay (s)	18.4	36.9		21.4	13.2		26.5	22.7		28.1	38.8	
Level of Service	B	D		C	B		C	C		C	D	
Approach Delay (s)		35.5			15.7			23.4			38.5	
Approach LOS		D			B			C			D	

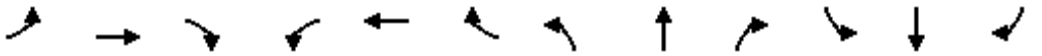
Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	99.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	811	15	16	468	6	31
Future Volume (Veh/h)	811	15	16	468	6	31
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	863	16	17	498	6	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	719					
pX, platoon unblocked			0.68		0.68	0.68
vC, conflicting volume			879		1403	871
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			588		1358	577
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		94	91
cM capacity (veh/h)			672		109	352

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	879	17	498	39
Volume Left	0	17	0	6
Volume Right	16	0	0	33
cSH	1700	672	1700	416
Volume to Capacity	0.52	0.03	0.29	0.09
Queue Length 95th (ft)	0	2	0	8
Control Delay (s)	0.0	10.5	0.0	19.9
Lane LOS		B		C
Approach Delay (s)	0.0	0.3		19.9
Approach LOS				C

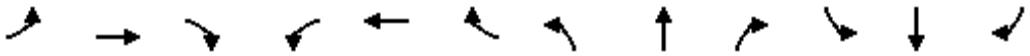
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	2672	186	28	1235	171	270	18	229	4	1	3
Future Volume (vph)	18	2672	186	28	1235	171	270	18	229	4	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00		0.96	1.00
Satd. Flow (prot)	1770	5036		1770	4992		1681	1695	1583		1791	1583
Flt Permitted	0.16	1.00		0.05	1.00		0.75	0.75	1.00		1.00	1.00
Satd. Flow (perm)	303	5036		102	4992		1335	1325	1583		1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	2843	198	30	1314	182	287	19	244	4	1	3
RTOR Reduction (vph)	0	4	0	0	10	0	0	0	194	0	0	3
Lane Group Flow (vph)	19	3037	0	30	1486	0	152	154	50	0	5	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	Perm
Protected Phases		2		1	6			4	1		3	
Permitted Phases	2			6			4		4	3		3
Actuated Green, G (s)	68.3	68.3		79.5	79.5		17.3	17.3	23.5		1.7	1.7
Effective Green, g (s)	68.3	68.3		79.5	79.5		17.3	17.3	23.5		1.7	1.7
Actuated g/C Ratio	0.59	0.59		0.69	0.69		0.15	0.15	0.20		0.01	0.01
Clearance Time (s)	5.5	5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	179	2990		160	3450		200	199	323		27	23
v/s Ratio Prot		c0.60		0.01	c0.30				0.01			
v/s Ratio Perm	0.06			0.12			0.11	c0.12	0.02		c0.00	0.00
v/c Ratio	0.11	1.02		0.19	0.43		0.76	0.77	0.15		0.19	0.00
Uniform Delay, d1	10.1	23.4		26.8	7.8		46.9	47.0	37.6		56.0	55.8
Progression Factor	0.71	0.82		2.09	2.63		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	20.4		0.5	0.4		15.5	16.9	0.2		3.3	0.0
Delay (s)	8.4	39.6		56.6	20.9		62.4	63.9	37.8		59.3	55.8
Level of Service	A	D		E	C		E	E	D		E	E
Approach Delay (s)		39.4			21.6			51.9			58.0	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		

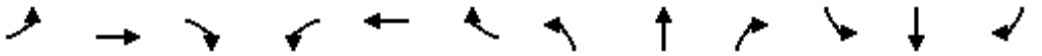
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	2337	22	20	1407	5	0	0	61	1	1	0
Future Volume (Veh/h)	33	2337	22	20	1407	5	0	0	61	1	1	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	35	2486	23	21	1497	5	0	0	65	1	1	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		1000			542							
pX, platoon unblocked	0.85			0.46			0.54	0.54	0.46	0.54	0.54	0.85
vC, conflicting volume	1502			2509			3109	4112	840	2440	4120	502
vC1, stage 1 conf vol							2568	2568		1542	1542	
vC2, stage 2 conf vol							542	1544		899	2579	
vCu, unblocked vol	979			217			61	1921	0	0	1937	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			97			100	100	87	100	99	100
cM capacity (veh/h)	596			628			74	127	504	447	130	923

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	35	994	994	520	21	599	599	304	65	2
Volume Left	35	0	0	0	21	0	0	0	0	1
Volume Right	0	0	0	23	0	0	0	5	65	0
cSH	596	1700	1700	1700	628	1700	1700	1700	504	201
Volume to Capacity	0.06	0.58	0.58	0.31	0.03	0.35	0.35	0.18	0.13	0.01
Queue Length 95th (ft)	5	0	0	0	3	0	0	0	11	1
Control Delay (s)	11.4	0.0	0.0	0.0	10.9	0.0	0.0	0.0	13.2	23.1
Lane LOS	B				B				B	C
Approach Delay (s)	0.2				0.2				13.2	23.1
Approach LOS									B	C

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	62.8%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	2102	145	300	1195	9	167	106	619	25	66	66
Future Volume (vph)	104	2102	145	300	1195	9	167	106	619	25	66	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5079		1610	3319	1583	1770	1863	1583
Flt Permitted	0.20	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.62	1.00	1.00
Satd. Flow (perm)	372	5085	1583	3433	5079		1610	3319	1583	1160	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	111	2236	154	319	1271	10	178	113	659	27	70	70
RTOR Reduction (vph)	0	0	86	0	0	0	0	0	197	0	0	65
Lane Group Flow (vph)	111	2236	68	319	1281	0	94	197	462	27	70	5
Turn Type	pm+pt	NA	Perm	Prot	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6		3	3	1		4	
Permitted Phases	2		2						3	4		4
Actuated Green, G (s)	59.0	51.0	51.0	19.7	62.7		12.9	12.9	32.6	8.9	8.9	8.9
Effective Green, g (s)	59.0	51.0	51.0	19.7	62.7		12.9	12.9	32.6	8.9	8.9	8.9
Actuated g/C Ratio	0.51	0.44	0.44	0.17	0.55		0.11	0.11	0.28	0.08	0.08	0.08
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.5	3.5	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	288	2255	702	588	2769		180	372	448	89	144	122
v/s Ratio Prot	0.03	c0.44		0.09	0.25		0.06	0.06	c0.18		c0.04	
v/s Ratio Perm	0.17		0.04						0.12	0.02		0.00
v/c Ratio	0.39	0.99	0.10	0.54	0.46		0.52	0.53	1.03	0.30	0.49	0.04
Uniform Delay, d1	14.6	31.8	18.6	43.5	15.9		48.1	48.2	41.2	50.1	50.9	49.1
Progression Factor	1.08	0.49	0.69	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	10.9	0.1	1.0	0.6		3.1	1.6	50.8	2.3	3.0	0.2
Delay (s)	16.1	26.6	12.9	44.6	16.5		51.2	49.7	92.0	52.4	53.9	49.3
Level of Service	B	C	B	D	B		D	D	F	D	D	D
Approach Delay (s)		25.3			22.1			79.2			51.7	
Approach LOS		C			C			E			D	

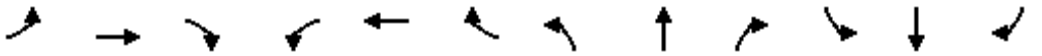
Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	51	95	654	109	143	644
Future Volume (Veh/h)	51	95	654	109	143	644
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	54	101	696	116	152	685
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		2				
Median type			None			Raised
Median storage veh)						1
Upstream signal (ft)						315
pX, platoon unblocked	0.84					
vC, conflicting volume	1400	406			812	
vC1, stage 1 conf vol	754					
vC2, stage 2 conf vol	646					
vCu, unblocked vol	1097	406			812	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	83			81	
cM capacity (veh/h)	283	594			810	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	155	464	348	152	342	342
Volume Left	54	0	0	152	0	0
Volume Right	101	0	116	0	0	0
cSH	812	1700	1700	810	1700	1700
Volume to Capacity	0.19	0.27	0.20	0.19	0.20	0.20
Queue Length 95th (ft)	18	0	0	17	0	0
Control Delay (s)	15.2	0.0	0.0	10.5	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	15.2	0.0		1.9		
Approach LOS	C					

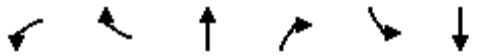
Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	42.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	192	13	17	75	5	21	18	27	19	10	5
Future Volume (Veh/h)	17	192	13	17	75	5	21	18	27	19	10	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	18	204	14	18	80	5	22	19	29	20	11	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									1			1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	85			218			364	361	204	380	370	80
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	85			218			364	361	204	380	370	80
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			96	97	97	96	98	99
cM capacity (veh/h)	1512			1352			569	552	837	533	546	980

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	222	14	98	5	70	36
Volume Left	18	0	18	0	22	20
Volume Right	0	14	0	5	29	5
cSH	1512	1700	1352	1700	958	624
Volume to Capacity	0.01	0.01	0.01	0.00	0.07	0.06
Queue Length 95th (ft)	1	0	1	0	6	5
Control Delay (s)	0.7	0.0	1.5	0.0	10.9	11.6
Lane LOS	A		A		B	B
Approach Delay (s)	0.7		1.4		10.9	11.6
Approach LOS					B	B

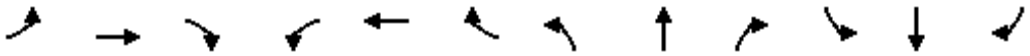
Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	34.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	33	246	15	24	0
Future Volume (vph)	29	33	246	15	24	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frt	1.00	0.85	0.99		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	1583	3509		1770	
Flt Permitted	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1770	1583	3509		1770	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	31	35	262	16	26	0
RTOR Reduction (vph)	0	33	2	0	0	0
Lane Group Flow (vph)	31	2	276	0	26	0
Turn Type	Perm	Perm	NA		Prot	
Protected Phases			2		1	
Permitted Phases	8	8				
Actuated Green, G (s)	4.6	4.6	55.3		3.1	
Effective Green, g (s)	4.6	4.6	55.3		3.1	
Actuated g/C Ratio	0.06	0.06	0.74		0.04	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	108	97	2587		73	
v/s Ratio Prot			c0.08		c0.01	
v/s Ratio Perm	c0.02	0.00				
v/c Ratio	0.29	0.02	0.11		0.36	
Uniform Delay, d1	33.6	33.1	2.8		35.0	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.5	0.1	0.1		3.0	
Delay (s)	35.1	33.2	2.9		37.9	
Level of Service	D	C	A		D	
Approach Delay (s)	34.1		2.9			37.9
Approach LOS	C		A			D

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.13		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

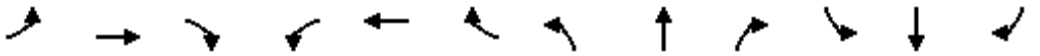
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	2	72	12	3	18	176	156	2	7	154	57
Future Volume (Veh/h)	85	2	72	12	3	18	176	156	2	7	154	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	90	2	77	13	3	19	187	166	2	7	164	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			7									
Median type								None			Raised	
Median storage veh)											1	
Upstream signal (ft)											430	
pX, platoon unblocked												
vC, conflicting volume	686	750	112	638	780	84	225			168		
vC1, stage 1 conf vol	208	208		541	541							
vC2, stage 2 conf vol	478	542		97	239							
vCu, unblocked vol	686	750	112	638	780	84	225			168		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	76	99	92	96	99	98	86			100		
cM capacity (veh/h)	371	366	919	354	344	958	1341			1407		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	169	35	187	111	57	89	143
Volume Left	90	13	187	0	0	7	0
Volume Right	77	19	0	0	2	0	61
cSH	680	536	1341	1700	1700	1407	1700
Volume to Capacity	0.25	0.07	0.14	0.07	0.03	0.00	0.08
Queue Length 95th (ft)	24	5	12	0	0	0	0
Control Delay (s)	14.0	12.2	8.1	0.0	0.0	0.6	0.0
Lane LOS	B	B	A			A	
Approach Delay (s)	14.0	12.2	4.3			0.2	
Approach LOS	B	B					

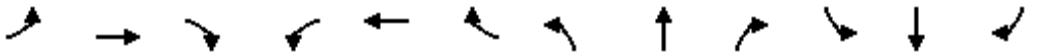
Intersection Summary				
Average Delay	5.5			
Intersection Capacity Utilization	37.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	3	28	15	17	32	54	873	19	6	432	34
Future Volume (vph)	25	3	28	15	17	32	54	873	19	6	432	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1717		1770	3528		1770	3501	
Flt Permitted	0.86	1.00	1.00		0.92		0.43	1.00		0.30	1.00	
Satd. Flow (perm)	1595	1863	1583		1595		806	3528		562	3501	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	3	30	16	18	34	57	929	20	6	460	36
RTOR Reduction (vph)	0	0	28	0	31	0	0	1	0	0	4	0
Lane Group Flow (vph)	27	3	2	0	37	0	57	948	0	6	492	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	6.2	6.2	6.2		6.2		61.0	61.0		51.5	51.5	
Effective Green, g (s)	6.2	6.2	6.2		6.2		61.0	61.0		51.5	51.5	
Actuated g/C Ratio	0.08	0.08	0.08		0.08		0.80	0.80		0.68	0.68	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	129	151	128		129		708	2824		379	2366	
v/s Ratio Prot		0.00					0.01	c0.27			0.14	
v/s Ratio Perm	0.02		0.00		c0.02		0.06			0.01		
v/c Ratio	0.21	0.02	0.02		0.29		0.08	0.34		0.02	0.21	
Uniform Delay, d1	32.7	32.2	32.2		32.9		1.7	2.1		4.0	4.7	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.1	0.1		1.2		0.0	0.3		0.1	0.2	
Delay (s)	33.5	32.3	32.3		34.1		1.8	2.4		4.1	4.9	
Level of Service	C	C	C		C		A	A		A	A	
Approach Delay (s)		32.8			34.1			2.4			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	76.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

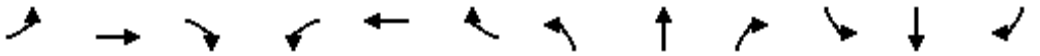
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	71	42	59	52	32	47	691	82	22	639	25
Future Volume (vph)	34	71	42	59	52	32	47	691	82	22	639	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1833	1583		1814	1583	1770	3483		1770	3519	
Flt Permitted		0.85	1.00		0.77	1.00	0.38	1.00		0.34	1.00	
Satd. Flow (perm)		1579	1583		1440	1583	713	3483		637	3519	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	36	76	45	63	55	34	50	735	87	23	680	27
RTOR Reduction (vph)	0	0	38	0	0	29	0	17	0	0	5	0
Lane Group Flow (vph)	0	112	7	0	118	5	50	805	0	23	702	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		4.4	4.4		4.4	4.4	16.2	16.2		16.2	16.2	
Effective Green, g (s)		4.4	4.4		4.4	4.4	16.2	16.2		16.2	16.2	
Actuated g/C Ratio		0.15	0.15		0.15	0.15	0.55	0.55		0.55	0.55	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		234	235		214	235	390	1906		348	1925	
v/s Ratio Prot								c0.23			0.20	
v/s Ratio Perm		0.07	0.00		c0.08	0.00	0.07			0.04		
v/c Ratio		0.48	0.03		0.55	0.02	0.13	0.42		0.07	0.36	
Uniform Delay, d1		11.5	10.8		11.7	10.8	3.3	3.9		3.1	3.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.5	0.0		3.1	0.0	0.1	0.2		0.1	0.1	
Delay (s)		13.1	10.8		14.7	10.8	3.4	4.1		3.2	3.9	
Level of Service		B	B		B	B	A	A		A	A	
Approach Delay (s)		12.4			13.9			4.1			3.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	29.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	38	127	6	10	98	19	10	12	10	17	4	38
Future Volume (vph)	38	127	6	10	98	19	10	12	10	17	4	38
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	40	135	6	11	104	20	11	13	11	18	4	40

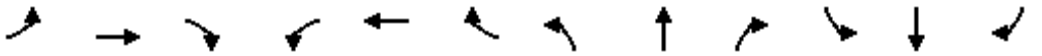
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	175	6	115	20	24	11	22	40
Volume Left (vph)	40	0	11	0	11	0	18	0
Volume Right (vph)	0	6	0	20	0	11	0	40
Hadj (s)	0.15	-0.67	0.08	-0.67	0.26	-0.67	0.44	-0.67
Departure Headway (s)	5.0	4.2	5.0	4.2	5.6	4.7	5.7	4.6
Degree Utilization, x	0.24	0.01	0.16	0.02	0.04	0.01	0.04	0.05
Capacity (veh/h)	706	831	700	823	607	720	590	727
Control Delay (s)	8.4	6.0	7.7	6.1	7.6	6.5	7.7	6.7
Approach Delay (s)	8.3		7.5		7.3		7.1	
Approach LOS	A		A		A		A	

Intersection Summary				
Delay	7.8			
Level of Service	A			
Intersection Capacity Utilization	30.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	134	15	25	101	90	14	139	58	53	77	30
Future Volume (vph)	32	134	15	25	101	90	14	139	58	53	77	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		0.96		1.00	0.96	
Flt Protected		0.99	1.00		0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1845	1583		1844	1583		3382		1770	1784	
Flt Permitted		0.91	1.00		0.86	1.00		0.94		0.61	1.00	
Satd. Flow (perm)		1703	1583		1611	1583		3189		1139	1784	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	34	143	16	27	107	96	15	148	62	56	82	32
RTOR Reduction (vph)	0	0	13	0	0	80	0	16	0	0	7	0
Lane Group Flow (vph)	0	177	3	0	134	16	0	209	0	56	107	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		14.7	14.7		14.7	14.7		66.3		66.3	66.3	
Effective Green, g (s)		14.7	14.7		14.7	14.7		66.3		66.3	66.3	
Actuated g/C Ratio		0.16	0.16		0.16	0.16		0.74		0.74	0.74	
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		278	258		263	258		2349		839	1314	
v/s Ratio Prot											0.06	
v/s Ratio Perm		c0.10	0.00		0.08	0.01		c0.07		0.05		
v/c Ratio		0.64	0.01		0.51	0.06		0.09		0.07	0.08	
Uniform Delay, d1		35.2	31.6		34.4	31.8		3.3		3.3	3.3	
Progression Factor		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		4.7	0.0		1.6	0.1		0.1		0.2	0.1	
Delay (s)		39.9	31.6		35.9	31.9		3.4		3.4	3.4	
Level of Service		D	C		D	C		A		A	A	
Approach Delay (s)		39.2			34.2			3.4			3.4	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

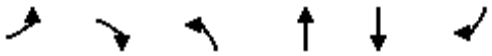
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	90	58	65	86	35	131	918	56	13	431	44
Future Volume (vph)	75	90	58	65	86	35	131	918	56	13	431	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.96		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1753		1770	1782		1770	3508		1770	3490	
Flt Permitted	0.67	1.00		0.66	1.00		0.47	1.00		0.25	1.00	
Satd. Flow (perm)	1257	1753		1223	1782		868	3508		464	3490	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	80	96	62	69	91	37	139	977	60	14	459	47
RTOR Reduction (vph)	0	29	0	0	18	0	0	7	0	0	12	0
Lane Group Flow (vph)	80	129	0	69	110	0	139	1030	0	14	494	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	6.6	6.6		6.6	6.6		23.1	23.1		23.1	23.1	
Effective Green, g (s)	6.6	6.6		6.6	6.6		23.1	23.1		23.1	23.1	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.60	0.60		0.60	0.60	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	214	298		208	303		518	2093		276	2083	
v/s Ratio Prot		c0.07			0.06			c0.29			0.14	
v/s Ratio Perm	0.06			0.06			0.16			0.03		
v/c Ratio	0.37	0.43		0.33	0.36		0.27	0.49		0.05	0.24	
Uniform Delay, d1	14.2	14.4		14.1	14.2		3.7	4.5		3.2	3.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	1.0		0.9	0.7		0.3	0.2		0.1	0.1	
Delay (s)	15.3	15.4		15.1	14.9		4.0	4.6		3.3	3.7	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		15.4			15.0			4.6			3.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	38.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	3	0	0	180	93
Future Volume (Veh/h)	0	3	0	0	180	93
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	3	0	0	191	99
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	240	145	290			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	240	145	290			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	727	876	1269			

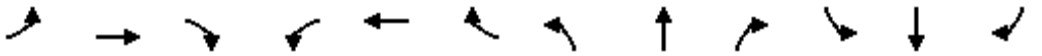
Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	3	127	163
Volume Left	0	0	0
Volume Right	3	0	99
cSH	876	1700	1700
Volume to Capacity	0.00	0.07	0.10
Queue Length 95th (ft)	0	0	0
Control Delay (s)	9.1	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.1	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	873	355	281	1238	557	176
Future Volume (vph)	873	355	281	1238	557	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.25	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	465	3539	3433	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	900	366	290	1276	574	181
RTOR Reduction (vph)	0	0	0	0	0	141
Lane Group Flow (vph)	900	366	290	1276	574	40
Confl. Peds. (#/hr)					2	
Turn Type	NA	Free	pm+pt	NA	Prot	Perm
Protected Phases	1		2	1 2	4	
Permitted Phases		Free	1 2			4
Actuated Green, G (s)	54.1	100.0	63.1	68.1	21.9	21.9
Effective Green, g (s)	54.1	100.0	63.1	68.1	21.9	21.9
Actuated g/C Ratio	0.54	1.00	0.63	0.68	0.22	0.22
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	1914	1583	410	2410	751	346
v/s Ratio Prot	0.25		c0.06	0.36	c0.17	
v/s Ratio Perm		0.23	c0.38			0.03
v/c Ratio	0.47	0.23	0.71	0.53	0.76	0.11
Uniform Delay, d1	14.1	0.0	22.2	8.0	36.6	31.3
Progression Factor	1.00	1.00	1.18	1.38	1.00	1.00
Incremental Delay, d2	0.8	0.3	3.6	0.1	4.6	0.1
Delay (s)	15.0	0.3	29.9	11.1	41.3	31.4
Level of Service	B	A	C	B	D	C
Approach Delay (s)	10.7			14.6	38.9	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	412	102	206	501	46	184	621	138	28	611	97
Future Volume (vph)	112	412	102	206	501	46	184	621	138	28	611	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1807		1770	1839		1770	3443		1770	3466	
Flt Permitted	0.39	1.00		0.13	1.00		0.16	1.00		0.36	1.00	
Satd. Flow (perm)	719	1807		250	1839		294	3443		662	3466	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	115	425	105	212	516	47	190	640	142	29	630	100
RTOR Reduction (vph)	0	9	0	0	3	0	0	20	0	0	14	0
Lane Group Flow (vph)	115	521	0	212	560	0	190	762	0	29	716	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.6	29.6		41.7	41.7		37.1	37.1		25.0	25.0	
Effective Green, g (s)	29.6	29.6		41.7	41.7		37.1	37.1		25.0	25.0	
Actuated g/C Ratio	0.34	0.34		0.47	0.47		0.42	0.42		0.28	0.28	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	242	609		250	873		251	1454		188	986	
v/s Ratio Prot		0.29		c0.07	0.30		c0.07	0.22			0.21	
v/s Ratio Perm	0.16			c0.33			c0.25			0.04		
v/c Ratio	0.48	0.86		0.85	0.64		0.76	0.52		0.15	0.73	
Uniform Delay, d1	23.0	27.1		18.2	17.4		18.7	18.8		23.5	28.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	11.3		22.5	1.6		12.3	0.3		0.4	2.7	
Delay (s)	24.4	38.4		40.7	19.0		30.9	19.1		23.9	31.0	
Level of Service	C	D		D	B		C	B		C	C	
Approach Delay (s)		35.9			24.9			21.5			30.7	
Approach LOS		D			C			C			C	

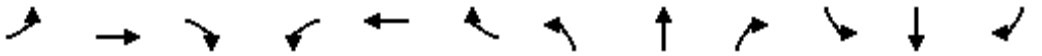
Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	87.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	593	12	33	771	12	19
Future Volume (Veh/h)	593	12	33	771	12	19
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	611	12	34	795	12	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	719					
pX, platoon unblocked			0.76		0.76	0.76
vC, conflicting volume			623		1480	617
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			347		1474	339
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		88	96
cM capacity (veh/h)			922		102	535

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	623	34	795	32
Volume Left	0	34	0	12
Volume Right	12	0	0	20
cSH	1700	922	1700	272
Volume to Capacity	0.37	0.04	0.47	0.12
Queue Length 95th (ft)	0	3	0	10
Control Delay (s)	0.0	9.1	0.0	24.3
Lane LOS		A		C
Approach Delay (s)	0.0	0.4		24.3
Approach LOS				C

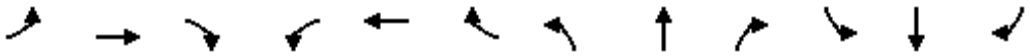
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1813	110	301	2397	0	270	0	323	24	19	26
Future Volume (vph)	0	1813	110	301	2397	0	270	0	323	24	19	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Lane Util. Factor		0.91		1.00	0.91		0.95	0.95	1.00		1.00	1.00
Frt		0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00		0.95	0.95	1.00		0.97	1.00
Satd. Flow (prot)		5042		1770	5085		1681	1681	1583		1812	1583
Flt Permitted		1.00		0.08	1.00		0.95	0.95	1.00		0.37	1.00
Satd. Flow (perm)		5042		150	5085		1681	1681	1583		690	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1869	113	310	2471	0	278	0	333	25	20	27
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	122	0	0	25
Lane Group Flow (vph)	0	1976	0	310	2471	0	139	139	211	0	45	2
Turn Type	Perm	NA		pm+pt	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases		2		1	6		4	4	1		3	
Permitted Phases	2			6					4	3		3
Actuated Green, G (s)		44.7		62.7	62.7		12.4	12.4	25.4		8.4	8.4
Effective Green, g (s)		44.7		62.7	62.7		12.4	12.4	25.4		8.4	8.4
Actuated g/C Ratio		0.45		0.63	0.63		0.12	0.12	0.25		0.08	0.08
Clearance Time (s)		5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Vehicle Extension (s)		4.0		1.5	4.0		3.0	3.0	1.5		3.0	3.0
Lane Grp Cap (vph)		2253		304	3188		208	208	402		57	132
v/s Ratio Prot		0.39		c0.13	0.49		c0.08	0.08	0.07			
v/s Ratio Perm				c0.51					0.06		c0.07	0.00
v/c Ratio		0.88		1.02	0.78		0.67	0.67	0.52		0.79	0.02
Uniform Delay, d1		25.1		31.2	13.5		41.8	41.8	32.1		44.9	42.0
Progression Factor		1.44		1.41	0.82		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		5.1		51.0	1.5		7.9	7.9	0.6		50.4	0.1
Delay (s)		41.3		95.0	12.6		49.7	49.7	32.7		95.3	42.1
Level of Service		D		F	B		D	D	C		F	D
Approach Delay (s)		41.3			21.8			40.4			75.4	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

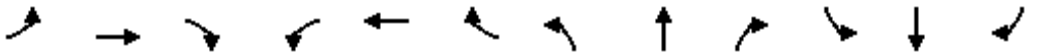
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1794	100	61	2208	23	0	0	147	1	0	11
Future Volume (Veh/h)	24	1794	100	61	2208	23	0	0	147	1	0	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	25	1849	103	63	2276	24	0	0	152	1	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		1000			542							
pX, platoon unblocked	0.67			0.68			0.83	0.83	0.68	0.83	0.83	0.67
vC, conflicting volume	2300			1952			2846	4376	668	3080	4416	771
vC1, stage 1 conf vol							1950	1950		2414	2414	
vC2, stage 2 conf vol							896	2426		666	2002	
vCu, unblocked vol	1230			742			0	1745	0	190	1792	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			89			100	100	79	100	100	98
cM capacity (veh/h)	378			584			732	83	735	412	91	729

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	25	740	740	473	63	910	910	479	152	12
Volume Left	25	0	0	0	63	0	0	0	0	1
Volume Right	0	0	0	103	0	0	0	24	152	11
cSH	378	1700	1700	1700	584	1700	1700	1700	735	685
Volume to Capacity	0.07	0.44	0.44	0.28	0.11	0.54	0.54	0.28	0.21	0.02
Queue Length 95th (ft)	5	0	0	0	9	0	0	0	19	1
Control Delay (s)	15.2	0.0	0.0	0.0	11.9	0.0	0.0	0.0	11.2	10.3
Lane LOS	C				B				B	B
Approach Delay (s)	0.2				0.3				11.2	10.3
Approach LOS									B	B

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	59.8%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	1614	149	764	1912	31	184	149	545	90	246	188
Future Volume (vph)	117	1614	149	764	1912	31	184	149	545	90	246	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5073		1610	3334	1583	1770	1863	1583
Flt Permitted	0.09	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.60	1.00	1.00
Satd. Flow (perm)	169	5085	1583	3433	5073		1610	3334	1583	1120	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	121	1664	154	788	1971	32	190	154	562	93	254	194
RTOR Reduction (vph)	0	0	86	0	2	0	0	0	64	0	0	173
Lane Group Flow (vph)	121	1664	68	788	2002	0	112	232	498	93	254	21
Turn Type	pm+pt	NA	Perm	Prot	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6		3	3	1		4	
Permitted Phases	2		2						3	4		4
Actuated Green, G (s)	49.5	44.0	44.0	11.5	50.0		11.0	11.0	22.5	11.0	11.0	11.0
Effective Green, g (s)	49.5	44.0	44.0	11.5	50.0		11.0	11.0	22.5	11.0	11.0	11.0
Actuated g/C Ratio	0.50	0.44	0.44	0.12	0.50		0.11	0.11	0.22	0.11	0.11	0.11
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.5	3.5	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	171	2237	696	394	2536		177	366	356	123	204	174
v/s Ratio Prot	0.04	0.33		c0.23	c0.39		0.07	0.07	c0.16		c0.14	
v/s Ratio Perm	0.31		0.04						0.15	0.08		0.01
v/c Ratio	0.71	0.74	0.10	2.00	0.79		0.63	0.63	1.40	0.76	1.25	0.12
Uniform Delay, d1	17.7	23.3	16.4	44.2	20.6		42.6	42.6	38.8	43.2	44.5	40.1
Progression Factor	1.55	1.60	13.21	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.3	1.5	0.2	459.0	2.6		7.5	3.7	196.3	23.5	144.5	0.4
Delay (s)	35.7	38.7	216.5	503.2	23.2		50.1	46.3	235.0	66.7	189.0	40.5
Level of Service	D	D	F	F	C		D	D	F	E	F	D
Approach Delay (s)		52.6			158.7			163.8			114.7	
Approach LOS		D			F			F			F	

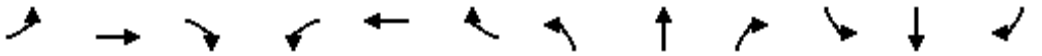
Intersection Summary			
HCM 2000 Control Delay	122.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	73	243	816	83	91	710
Future Volume (Veh/h)	73	243	816	83	91	710
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	75	251	841	86	94	732
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		2				
Median type			None			Raised
Median storage veh)						1
Upstream signal (ft)						315
pX, platoon unblocked	0.86					
vC, conflicting volume	1438	464			927	
vC1, stage 1 conf vol	884					
vC2, stage 2 conf vol	554					
vCu, unblocked vol	1178	464			927	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	72	54			87	
cM capacity (veh/h)	269	545			733	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	326	561	366	94	366	366
Volume Left	75	0	0	94	0	0
Volume Right	251	0	86	0	0	0
cSH	708	1700	1700	733	1700	1700
Volume to Capacity	0.46	0.33	0.22	0.13	0.22	0.22
Queue Length 95th (ft)	61	0	0	11	0	0
Control Delay (s)	18.6	0.0	0.0	10.6	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	18.6	0.0		1.2		
Approach LOS	C					

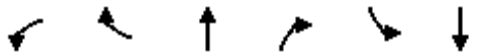
Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	46.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	116	14	63	205	7	11	12	20	12	23	10
Future Volume (Veh/h)	3	116	14	63	205	7	11	12	20	12	23	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	3	120	14	65	211	7	11	12	21	12	24	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									1			1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	218			134			484	474	120	484	481	211
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	218			134			484	474	120	484	481	211
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			98	97	98	97	95	99
cM capacity (veh/h)	1352			1451			451	466	931	456	462	829

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	123	14	276	7	44	46
Volume Left	3	0	65	0	11	12
Volume Right	0	14	0	7	21	10
cSH	1352	1700	1451	1700	878	588
Volume to Capacity	0.00	0.01	0.04	0.00	0.05	0.08
Queue Length 95th (ft)	0	0	4	0	4	6
Control Delay (s)	0.2	0.0	2.1	0.0	11.2	12.6
Lane LOS	A		A		B	B
Approach Delay (s)	0.2		2.0		11.2	12.6
Approach LOS					B	B

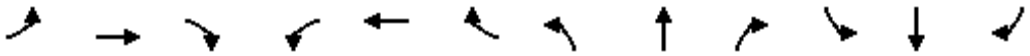
Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	36.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	89	154	331	64	51	0
Future Volume (vph)	89	154	331	64	51	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frt	1.00	0.85	0.98		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	1583	3453		1770	
Flt Permitted	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1770	1583	3453		1770	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	92	159	341	66	53	0
RTOR Reduction (vph)	0	143	7	0	0	0
Lane Group Flow (vph)	92	16	400	0	53	0
Turn Type	Perm	Perm	NA		Prot	
Protected Phases			2		1	
Permitted Phases	8	8				
Actuated Green, G (s)	11.4	11.4	83.9		7.7	
Effective Green, g (s)	11.4	11.4	83.9		7.7	
Actuated g/C Ratio	0.10	0.10	0.73		0.07	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	175	156	2519		118	
v/s Ratio Prot			c0.12		c0.03	
v/s Ratio Perm	c0.05	0.01				
v/c Ratio	0.53	0.10	0.16		0.45	
Uniform Delay, d1	49.2	47.1	4.8		51.6	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.8	0.3	0.1		2.7	
Delay (s)	52.1	47.4	4.9		54.3	
Level of Service	D	D	A		D	
Approach Delay (s)	49.1		4.9			54.3
Approach LOS	D		A			D

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	29.5%	ICU Level of Service	A
Analysis Period (min)	15		

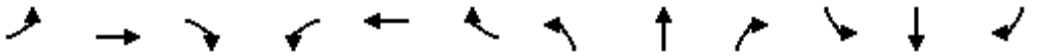
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	2	96	7	2	13	96	208	9	82	365	88
Future Volume (Veh/h)	98	2	96	7	2	13	96	208	9	82	365	88
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	101	2	99	7	2	13	99	214	9	85	376	91
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			7									
Median type								None			Raised	
Median storage veh)											1	
Upstream signal (ft)											430	
pX, platoon unblocked												
vC, conflicting volume	910	1012	234	776	1054	112	467			223		
vC1, stage 1 conf vol	592	592		416	416							
vC2, stage 2 conf vol	319	421		359	637							
vCu, unblocked vol	910	1012	234	776	1054	112	467			223		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	67	99	87	98	99	99	91			94		
cM capacity (veh/h)	303	300	768	310	270	920	1091			1343		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	202	22	99	143	80	273	279
Volume Left	101	7	99	0	0	85	0
Volume Right	99	13	0	0	9	0	91
cSH	594	499	1091	1700	1700	1343	1700
Volume to Capacity	0.34	0.04	0.09	0.08	0.05	0.06	0.16
Queue Length 95th (ft)	37	3	7	0	0	5	0
Control Delay (s)	16.7	12.5	8.6	0.0	0.0	2.8	0.0
Lane LOS	C	B	A			A	
Approach Delay (s)	16.7	12.5	2.7			1.4	
Approach LOS	C	B					

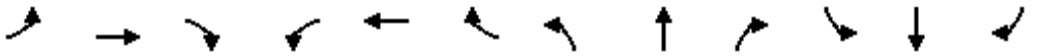
Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	43.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	19	137	33	27	40	126	742	22	25	947	80
Future Volume (vph)	88	19	137	33	27	40	126	742	22	25	947	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1734		1770	3524		1770	3498	
Flt Permitted	0.70	1.00	1.00		0.89		0.19	1.00		0.35	1.00	
Satd. Flow (perm)	1298	1863	1583		1569		360	3524		659	3498	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	91	20	141	34	28	41	130	765	23	26	976	82
RTOR Reduction (vph)	0	0	121	0	32	0	0	2	0	0	5	0
Lane Group Flow (vph)	91	20	20	0	71	0	130	786	0	26	1053	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	10.5	10.5	10.5		10.5		56.3	56.3		44.5	44.5	
Effective Green, g (s)	10.5	10.5	10.5		10.5		56.3	56.3		44.5	44.5	
Actuated g/C Ratio	0.14	0.14	0.14		0.14		0.74	0.74		0.59	0.59	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	179	258	219		217		403	2617		386	2053	
v/s Ratio Prot		0.01					0.03	c0.22			c0.30	
v/s Ratio Perm	c0.07		0.01		0.05		0.21			0.04		
v/c Ratio	0.51	0.08	0.09		0.33		0.32	0.30		0.07	0.51	
Uniform Delay, d1	30.3	28.4	28.5		29.5		4.5	3.2		6.7	9.2	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.3	0.1	0.2		0.9		0.5	0.3		0.3	0.9	
Delay (s)	32.5	28.6	28.7		30.4		4.9	3.5		7.1	10.2	
Level of Service	C	C	C		C		A	A		A	B	
Approach Delay (s)		30.0			30.4			3.7			10.1	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	75.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

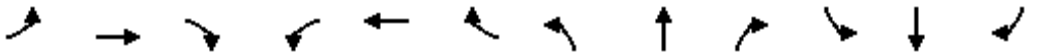
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	76	39	138	120	67	47	809	67	40	739	26
Future Volume (vph)	32	76	39	138	120	67	47	809	67	40	739	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1835	1583		1814	1583	1770	3499		1770	3521	
Flt Permitted		0.84	1.00		0.77	1.00	0.34	1.00		0.28	1.00	
Satd. Flow (perm)		1556	1583		1441	1583	625	3499		525	3521	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	33	78	40	142	124	69	48	834	69	41	762	27
RTOR Reduction (vph)	0	0	30	0	0	41	0	12	0	0	5	0
Lane Group Flow (vph)	0	111	10	0	266	28	48	891	0	41	784	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		9.2	9.2		9.2	9.2	19.0	19.0		19.0	19.0	
Effective Green, g (s)		9.2	9.2		9.2	9.2	19.0	19.0		19.0	19.0	
Actuated g/C Ratio		0.25	0.25		0.25	0.25	0.51	0.51		0.51	0.51	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		384	391		356	391	319	1787		268	1798	
v/s Ratio Prot								c0.25			0.22	
v/s Ratio Perm		0.07	0.01		c0.18	0.02	0.08			0.08		
v/c Ratio		0.29	0.03		0.75	0.07	0.15	0.50		0.15	0.44	
Uniform Delay, d1		11.3	10.6		12.9	10.7	4.8	6.0		4.8	5.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4	0.0		8.3	0.1	0.2	0.2		0.3	0.2	
Delay (s)		11.8	10.6		21.2	10.8	5.0	6.2		5.1	5.9	
Level of Service		B	B		C	B	A	A		A	A	
Approach Delay (s)		11.5			19.1			6.1			5.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	37.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

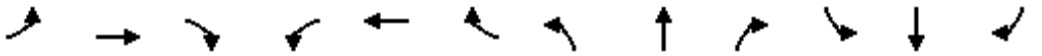
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	34	158	3	14	223	40	27	10	9	37	11	91
Future Volume (vph)	34	158	3	14	223	40	27	10	9	37	11	91
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	35	163	3	14	230	41	28	10	9	38	11	94

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	198	3	244	41	38	9	49	94
Volume Left (vph)	35	0	14	0	28	0	38	0
Volume Right (vph)	0	3	0	41	0	9	0	94
Hadj (s)	0.12	-0.67	0.06	-0.67	0.40	-0.67	0.42	-0.67
Departure Headway (s)	5.4	4.6	5.3	4.5	6.3	5.2	6.2	5.1
Degree Utilization, x	0.30	0.00	0.36	0.05	0.07	0.01	0.08	0.13
Capacity (veh/h)	636	740	658	756	529	627	542	654
Control Delay (s)	9.5	6.4	10.0	6.6	8.5	7.1	8.5	7.7
Approach Delay (s)	9.4		9.5		8.3		8.0	
Approach LOS	A		A		A		A	

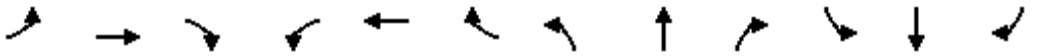
Intersection Summary				
Delay	9.1			
Level of Service	A			
Intersection Capacity Utilization	42.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	133	25	92	218	87	16	156	47	92	263	59
Future Volume (vph)	61	133	25	92	218	87	16	156	47	92	263	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		0.97		1.00	0.97	
Flt Protected		0.98	1.00		0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1834	1583		1835	1583		3414		1770	1811	
Flt Permitted		0.61	1.00		0.75	1.00		0.93		0.61	1.00	
Satd. Flow (perm)		1140	1583		1401	1583		3175		1139	1811	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	63	137	26	95	225	90	16	161	48	95	271	61
RTOR Reduction (vph)	0	0	15	0	0	33	0	17	0	0	6	0
Lane Group Flow (vph)	0	200	11	0	320	57	0	208	0	95	326	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		24.8	24.8		24.8	24.8		56.2		56.2	56.2	
Effective Green, g (s)		24.8	24.8		24.8	24.8		56.2		56.2	56.2	
Actuated g/C Ratio		0.28	0.28		0.28	0.28		0.62		0.62	0.62	
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		314	436		386	436		1982		711	1130	
v/s Ratio Prot											c0.18	
v/s Ratio Perm		0.18	0.01		c0.23	0.04		0.07		0.08		
v/c Ratio		0.64	0.02		0.83	0.13		0.10		0.13	0.29	
Uniform Delay, d1		28.6	23.8		30.6	24.5		6.8		6.9	7.7	
Progression Factor		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		4.2	0.0		13.7	0.1		0.1		0.4	0.6	
Delay (s)		32.8	23.8		44.3	24.6		6.9		7.3	8.4	
Level of Service		C	C		D	C		A		A	A	
Approach Delay (s)		31.8			40.0			6.9			8.2	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

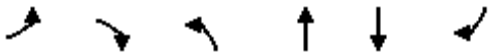
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	105	125	99	183	42	90	797	67	68	1078	0
Future Volume (vph)	67	105	125	99	183	42	90	797	67	68	1078	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.97		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1711		1770	1811		1770	3498		1770	3539	
Flt Permitted	0.58	1.00		0.57	1.00		0.20	1.00		0.28	1.00	
Satd. Flow (perm)	1087	1711		1070	1811		372	3498		526	3539	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	69	108	129	102	189	43	93	822	69	70	1111	0
RTOR Reduction (vph)	0	46	0	0	9	0	0	10	0	0	0	0
Lane Group Flow (vph)	69	191	0	102	223	0	93	881	0	70	1111	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.1	12.1		12.1	12.1		25.5	25.5		25.5	25.5	
Effective Green, g (s)	12.1	12.1		12.1	12.1		25.5	25.5		25.5	25.5	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.55	0.55		0.55	0.55	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	282	444		277	470		203	1914		287	1936	
v/s Ratio Prot		0.11			c0.12			0.25			c0.31	
v/s Ratio Perm	0.06			0.10			0.25			0.13		
v/c Ratio	0.24	0.43		0.37	0.47		0.46	0.46		0.24	0.57	
Uniform Delay, d1	13.6	14.4		14.1	14.6		6.4	6.4		5.5	7.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.7		0.8	0.8		1.6	0.2		0.4	0.4	
Delay (s)	14.1	15.0		15.0	15.3		8.0	6.6		6.0	7.4	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		14.8			15.2			6.7			7.3	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	46.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	173	0	0	267	4
Future Volume (Veh/h)	0	173	0	0	267	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	188	0	0	290	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	292	147	294			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	292	147	294			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	100			
cM capacity (veh/h)	675	873	1264			

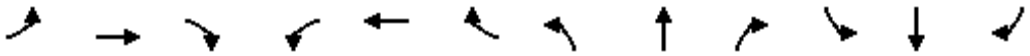
Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	188	193	101
Volume Left	0	0	0
Volume Right	188	0	4
cSH	873	1700	1700
Volume to Capacity	0.22	0.11	0.06
Queue Length 95th (ft)	20	0	0
Control Delay (s)	10.2	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.2	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	24.9%	ICU Level of Service	A
Analysis Period (min)	15		

BUILD-OUT CONDITIONS (2021) SYNCHRO REPORTS

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1084	623	137	590	266	68
Future Volume (vph)	1084	623	137	590	266	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.20	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	367	3539	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1153	663	146	628	283	72
RTOR Reduction (vph)	0	0	0	0	0	62
Lane Group Flow (vph)	1153	663	146	628	283	10
Confl. Peds. (#/hr)					2	
Turn Type	NA	Free	pm+pt	NA	Prot	Perm
Protected Phases	1		2	1 2	4	
Permitted Phases		Free	1 2			4
Actuated Green, G (s)	75.6	115.0	84.2	89.2	15.8	15.8
Effective Green, g (s)	75.6	115.0	84.2	89.2	15.8	15.8
Actuated g/C Ratio	0.66	1.00	0.73	0.78	0.14	0.14
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	2326	1583	373	2745	471	217
v/s Ratio Prot	c0.33		0.03	0.18	c0.08	
v/s Ratio Perm		c0.42	0.26			0.01
v/c Ratio	0.50	0.42	0.39	0.23	0.60	0.05
Uniform Delay, d1	10.0	0.0	13.4	3.5	46.6	43.1
Progression Factor	1.00	1.00	2.42	1.58	1.00	1.00
Incremental Delay, d2	0.8	0.8	0.6	0.0	2.2	0.1
Delay (s)	10.8	0.8	33.1	5.6	48.8	43.1
Level of Service	B	A	C	A	D	D
Approach Delay (s)	7.1			10.8	47.6	
Approach LOS	A			B	D	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	550	87	122	246	43	119	369	162	17	621	72
Future Volume (vph)	55	550	87	122	246	43	119	369	162	17	621	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1824		1770	1821		1770	3378		1770	3484	
Flt Permitted	0.57	1.00		0.10	1.00		0.13	1.00		0.44	1.00	
Satd. Flow (perm)	1067	1824		182	1821		240	3378		819	3484	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	585	93	130	262	46	127	393	172	18	661	77
RTOR Reduction (vph)	0	5	0	0	6	0	0	42	0	0	8	0
Lane Group Flow (vph)	59	673	0	130	302	0	127	523	0	18	730	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	43.0	43.0		54.9	54.9		38.8	38.8		26.6	26.6	
Effective Green, g (s)	43.0	43.0		54.9	54.9		38.8	38.8		26.6	26.6	
Actuated g/C Ratio	0.42	0.42		0.53	0.53		0.38	0.38		0.26	0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	446	763		211	973		205	1276		212	902	
v/s Ratio Prot		c0.37		c0.04	0.17		c0.05	0.15			c0.21	
v/s Ratio Perm	0.06			0.28			0.19			0.02		
v/c Ratio	0.13	0.88		0.62	0.31		0.62	0.41		0.08	0.81	
Uniform Delay, d1	18.4	27.5		19.7	13.3		24.0	23.5		28.8	35.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	11.7		5.3	0.2		5.5	0.2		0.2	5.4	
Delay (s)	18.5	39.2		24.9	13.5		29.5	23.7		29.0	41.1	
Level of Service	B	D		C	B		C	C		C	D	
Approach Delay (s)		37.5			16.9			24.8			40.8	
Approach LOS		D			B			C			D	

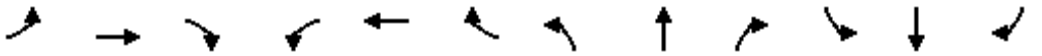
Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	844	16	17	487	6	32
Future Volume (Veh/h)	844	16	17	487	6	32
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	898	17	18	518	6	34
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	719					
pX, platoon unblocked			0.66		0.66	0.66
vC, conflicting volume			915		1460	906
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			618		1440	605
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		94	90
cM capacity (veh/h)			638		94	330

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	915	18	518	40
Volume Left	0	18	0	6
Volume Right	17	0	0	34
cSH	1700	638	1700	388
Volume to Capacity	0.54	0.03	0.30	0.10
Queue Length 95th (ft)	0	2	0	9
Control Delay (s)	0.0	10.8	0.0	21.5
Lane LOS		B		C
Approach Delay (s)	0.0	0.4		21.5
Approach LOS				C

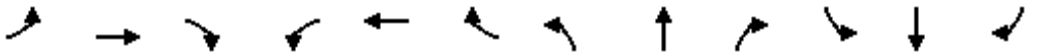
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	2780	226	29	1285	178	302	19	240	4	1	3
Future Volume (vph)	19	2780	226	29	1285	178	302	19	240	4	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00		0.96	1.00
Satd. Flow (prot)	1770	5028		1770	4993		1681	1695	1583		1791	1583
Flt Permitted	0.15	1.00		0.06	1.00		0.75	0.75	1.00		1.00	1.00
Satd. Flow (perm)	284	5028		103	4993		1335	1323	1583		1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	20	2957	240	31	1367	189	321	20	255	4	1	3
RTOR Reduction (vph)	0	5	0	0	11	0	0	0	201	0	0	3
Lane Group Flow (vph)	20	3192	0	31	1545	0	170	171	54	0	5	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	Perm
Protected Phases		2		1	6			4	1		3	
Permitted Phases	2			6			4		4	3		3
Actuated Green, G (s)	67.3	67.3		78.5	78.5		18.3	18.3	24.5		1.7	1.7
Effective Green, g (s)	67.3	67.3		78.5	78.5		18.3	18.3	24.5		1.7	1.7
Actuated g/C Ratio	0.59	0.59		0.68	0.68		0.16	0.16	0.21		0.01	0.01
Clearance Time (s)	5.5	5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	166	2942		160	3408		212	210	337		27	23
v/s Ratio Prot		c0.63		0.01	c0.31				0.01			
v/s Ratio Perm	0.07			0.12			0.13	c0.13	0.03		c0.00	0.00
v/c Ratio	0.12	1.08		0.19	0.45		0.80	0.81	0.16		0.19	0.00
Uniform Delay, d1	10.6	23.9		26.5	8.4		46.6	46.7	36.9		56.0	55.8
Progression Factor	0.71	0.82		1.09	2.06		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.5	44.9		0.5	0.4		19.2	20.9	0.2		3.3	0.0
Delay (s)	9.0	64.4		29.4	17.6		65.8	67.6	37.1		59.3	55.8
Level of Service	A	E		C	B		E	E	D		E	E
Approach Delay (s)		64.0			17.9			54.1			58.0	
Approach LOS		E			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		

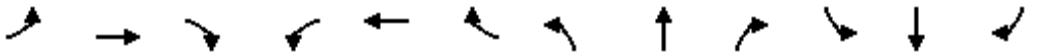
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	2434	23	71	1464	5	0	0	73	0	0	0
Future Volume (vph)	34	2434	23	71	1464	5	0	0	73	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5				5.0			
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00			
Frt	1.00	1.00		1.00	1.00				0.86			
Flt Protected	0.95	1.00		0.95	1.00				1.00			
Satd. Flow (prot)	1770	5078		1770	5083				1611			
Flt Permitted	0.17	1.00		0.12	1.00				1.00			
Satd. Flow (perm)	325	5078		232	5083				1611			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	36	2589	24	76	1557	5	0	0	78	0	0	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	75	0	0	0
Lane Group Flow (vph)	36	2612	0	76	1562	0	0	0	3	0	0	0
Turn Type	custom	NA		custom	NA				Perm			Perm
Protected Phases		2			6							
Permitted Phases	5			1					4			4
Actuated Green, G (s)	22.9	62.5		32.1	71.7				4.4			
Effective Green, g (s)	22.9	62.5		32.1	71.7				4.4			
Actuated g/C Ratio	0.20	0.54		0.28	0.62				0.04			
Clearance Time (s)	5.5	5.5		5.5	5.5				5.0			
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			
Lane Grp Cap (vph)	64	2759		64	3169				61			
v/s Ratio Prot		c0.51			0.31							
v/s Ratio Perm	0.11			c0.33					c0.00			
v/c Ratio	0.56	0.95		1.19	0.49				0.05			
Uniform Delay, d1	41.5	24.7		41.5	11.8				53.3			
Progression Factor	0.92	1.47		1.54	0.55				1.00			
Incremental Delay, d2	3.4	3.1		165.1	0.5				0.3			
Delay (s)	41.8	39.3		228.9	7.0				53.6			
Level of Service	D	D		F	A				D			
Approach Delay (s)		39.3			17.3			53.6			0.0	
Approach LOS		D			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	2199	151	312	1294	9	174	110	644	26	69	69
Future Volume (vph)	108	2199	151	312	1294	9	174	110	644	26	69	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5080		1610	3319	1583	1770	1863	1583
Flt Permitted	0.17	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.62	1.00	1.00
Satd. Flow (perm)	316	5085	1583	3433	5080		1610	3319	1583	1152	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	115	2339	161	332	1377	10	185	117	685	28	73	73
RTOR Reduction (vph)	0	0	94	0	0	0	0	0	192	0	0	66
Lane Group Flow (vph)	115	2339	67	332	1387	0	98	204	493	28	73	7
Turn Type	pm+pt	NA	Perm	Prot	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6		3	3	1		4	
Permitted Phases	2		2						3	4		4
Actuated Green, G (s)	56.3	48.2	48.2	20.5	60.6		13.4	13.4	33.9	10.4	10.4	10.4
Effective Green, g (s)	56.3	48.2	48.2	20.5	60.6		13.4	13.4	33.9	10.4	10.4	10.4
Actuated g/C Ratio	0.49	0.42	0.42	0.18	0.53		0.12	0.12	0.29	0.09	0.09	0.09
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.5	3.5	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	257	2131	663	611	2676		187	386	466	104	168	143
v/s Ratio Prot	0.03	c0.46		0.10	0.27		0.06	0.06	c0.19		c0.04	
v/s Ratio Perm	0.19		0.04						0.12	0.02		0.00
v/c Ratio	0.45	1.10	0.10	0.54	0.52		0.52	0.53	1.06	0.27	0.43	0.05
Uniform Delay, d1	16.1	33.4	20.3	43.0	17.7		47.8	47.8	40.5	48.8	49.5	47.8
Progression Factor	1.37	0.93	2.56	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	47.4	0.1	1.0	0.7		3.0	1.5	58.0	1.6	2.1	0.2
Delay (s)	22.5	78.6	51.9	44.0	18.4		50.8	49.3	98.5	50.4	51.6	47.9
Level of Service	C	E	D	D	B		D	D	F	D	D	D
Approach Delay (s)		74.5			23.4			83.6			49.9	
Approach LOS		E			C			F			D	

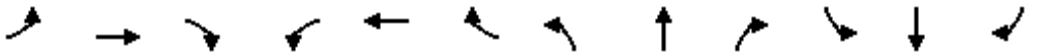
Intersection Summary			
HCM 2000 Control Delay	59.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	53	99	681	113	149	670
Future Volume (Veh/h)	53	99	681	113	149	670
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	56	105	724	120	159	713
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		2				
Median type			None			Raised
Median storage veh)						1
Upstream signal (ft)						315
pX, platoon unblocked	0.83					
vC, conflicting volume	1458	422			844	
vC1, stage 1 conf vol	784					
vC2, stage 2 conf vol	674					
vCu, unblocked vol	1143	422			844	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	79	82			80	
cM capacity (veh/h)	270	580			788	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	161	483	361	159	356	356
Volume Left	56	0	0	159	0	0
Volume Right	105	0	120	0	0	0
cSH	776	1700	1700	788	1700	1700
Volume to Capacity	0.21	0.28	0.21	0.20	0.21	0.21
Queue Length 95th (ft)	19	0	0	19	0	0
Control Delay (s)	15.8	0.0	0.0	10.7	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	15.8	0.0		2.0		
Approach LOS	C					

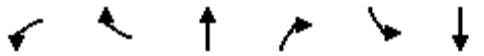
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	200	14	18	78	5	22	19	28	20	10	5
Future Volume (Veh/h)	18	200	14	18	78	5	22	19	28	20	10	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	19	213	15	19	83	5	23	20	30	21	11	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									1			1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	88			228			380	377	213	397	387	83
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	88			228			380	377	213	397	387	83
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			96	96	96	96	98	99
cM capacity (veh/h)	1508			1340			554	540	827	517	533	976

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	232	15	102	5	73	37
Volume Left	19	0	19	0	23	21
Volume Right	0	15	0	5	30	5
cSH	1508	1700	1340	1700	930	604
Volume to Capacity	0.01	0.01	0.01	0.00	0.08	0.06
Queue Length 95th (ft)	1	0	1	0	6	5
Control Delay (s)	0.7	0.0	1.5	0.0	11.1	11.9
Lane LOS	A		A		B	B
Approach Delay (s)	0.7		1.5		11.1	11.9
Approach LOS					B	B

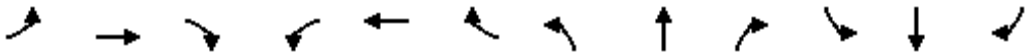
Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	35.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	34	57	256	20	57	0
Future Volume (vph)	34	57	256	20	57	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frt	1.00	0.85	0.99		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	1583	3501		1770	
Flt Permitted	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1770	1583	3501		1770	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	36	61	272	21	61	0
RTOR Reduction (vph)	0	56	4	0	0	0
Lane Group Flow (vph)	36	5	289	0	61	0
Turn Type	Perm	Perm	NA		Prot	
Protected Phases			2		1	
Permitted Phases	8	8				
Actuated Green, G (s)	6.0	6.0	51.4		5.6	
Effective Green, g (s)	6.0	6.0	51.4		5.6	
Actuated g/C Ratio	0.08	0.08	0.69		0.07	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	141	126	2399		132	
v/s Ratio Prot			c0.08		c0.03	
v/s Ratio Perm	c0.02	0.00				
v/c Ratio	0.26	0.04	0.12		0.46	
Uniform Delay, d1	32.4	31.8	4.0		33.3	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.0	0.1	0.1		2.6	
Delay (s)	33.4	32.0	4.2		35.8	
Level of Service	C	C	A		D	
Approach Delay (s)	32.5		4.2			35.8
Approach LOS	C		A			D

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

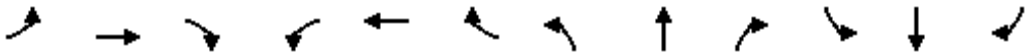
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	2	75	12	3	19	183	166	2	7	164	59
Future Volume (Veh/h)	88	2	75	12	3	19	183	166	2	7	164	59
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	94	2	80	13	3	20	195	177	2	7	174	63
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			7									
Median type								None			Raised	
Median storage veh)											1	
Upstream signal (ft)											430	
pX, platoon unblocked												
vC, conflicting volume	720	788	118	670	819	90	237			179		
vC1, stage 1 conf vol	220	220		568	568							
vC2, stage 2 conf vol	500	569		102	251							
vCu, unblocked vol	720	788	118	670	819	90	237			179		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	73	99	91	96	99	98	85			99		
cM capacity (veh/h)	354	351	911	337	329	951	1327			1394		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	176	36	195	118	61	94	150
Volume Left	94	13	195	0	0	7	0
Volume Right	80	20	0	0	2	0	63
cSH	650	524	1327	1700	1700	1394	1700
Volume to Capacity	0.27	0.07	0.15	0.07	0.04	0.01	0.09
Queue Length 95th (ft)	27	6	13	0	0	0	0
Control Delay (s)	14.5	12.4	8.2	0.0	0.0	0.6	0.0
Lane LOS	B	B	A			A	
Approach Delay (s)	14.5	12.4	4.3			0.2	
Approach LOS	B	B					

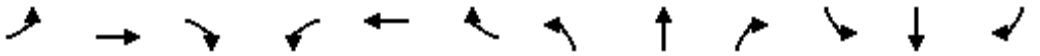
Intersection Summary				
Average Delay	5.6			
Intersection Capacity Utilization	38.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	3	31	16	18	33	56	908	20	6	450	35
Future Volume (vph)	26	3	31	16	18	33	56	908	20	6	450	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1718		1770	3528		1770	3501	
Flt Permitted	0.79	1.00	1.00		0.92		0.43	1.00		0.29	1.00	
Satd. Flow (perm)	1477	1863	1583		1594		796	3528		541	3501	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	28	3	33	17	19	35	60	966	21	6	479	37
RTOR Reduction (vph)	0	0	31	0	32	0	0	1	0	0	3	0
Lane Group Flow (vph)	28	3	2	0	39	0	60	986	0	6	513	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	6.7	6.7	6.7		6.7		73.3	73.3		63.2	63.2	
Effective Green, g (s)	6.7	6.7	6.7		6.7		73.3	73.3		63.2	63.2	
Actuated g/C Ratio	0.07	0.07	0.07		0.07		0.81	0.81		0.70	0.70	
Clearance Time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	109	138	117		118		703	2873		379	2458	
v/s Ratio Prot		0.00					0.00	c0.28			0.15	
v/s Ratio Perm	0.02		0.00		c0.02		0.06			0.01		
v/c Ratio	0.26	0.02	0.02		0.33		0.09	0.34		0.02	0.21	
Uniform Delay, d1	39.3	38.6	38.6		39.5		1.8	2.2		4.0	4.7	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.1	0.1		1.6		0.1	0.3		0.1	0.2	
Delay (s)	40.6	38.7	38.7		41.1		1.8	2.5		4.1	4.9	
Level of Service	D	D	D		D		A	A		A	A	
Approach Delay (s)		39.5			41.1			2.4			4.9	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

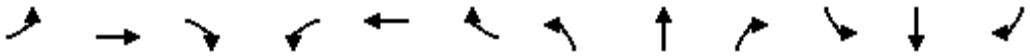
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	74	44	61	54	33	49	719	85	23	665	26
Future Volume (vph)	35	74	44	61	54	33	49	719	85	23	665	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1834	1583		1814	1583	1770	3483		1770	3519	
Flt Permitted		0.85	1.00		0.77	1.00	0.37	1.00		0.33	1.00	
Satd. Flow (perm)		1578	1583		1437	1583	694	3483		616	3519	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	79	47	65	57	35	52	765	90	24	707	28
RTOR Reduction (vph)	0	0	40	0	0	30	0	16	0	0	5	0
Lane Group Flow (vph)	0	116	7	0	122	5	52	839	0	24	730	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		4.5	4.5		4.5	4.5	16.8	16.8		16.8	16.8	
Effective Green, g (s)		4.5	4.5		4.5	4.5	16.8	16.8		16.8	16.8	
Actuated g/C Ratio		0.15	0.15		0.15	0.15	0.55	0.55		0.55	0.55	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		234	235		213	235	384	1931		341	1951	
v/s Ratio Prot								c0.24			0.21	
v/s Ratio Perm		0.07	0.00		c0.08	0.00	0.07			0.04		
v/c Ratio		0.50	0.03		0.57	0.02	0.14	0.43		0.07	0.37	
Uniform Delay, d1		11.9	11.0		12.0	11.0	3.3	4.0		3.1	3.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.7	0.1		3.7	0.0	0.2	0.2		0.1	0.1	
Delay (s)		13.5	11.1		15.7	11.1	3.4	4.1		3.2	3.9	
Level of Service		B	B		B	B	A	A		A	A	
Approach Delay (s)		12.8			14.7			4.1			3.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	30.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

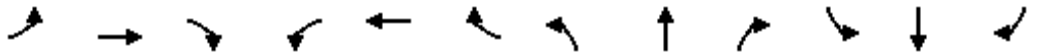
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	40	132	6	10	102	20	10	12	10	18	4	40
Future Volume (vph)	40	132	6	10	102	20	10	12	10	18	4	40
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	43	140	6	11	109	21	11	13	11	19	4	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	183	6	120	21	24	11	23	43
Volume Left (vph)	43	0	11	0	11	0	19	0
Volume Right (vph)	0	6	0	21	0	11	0	43
Hadj (s)	0.15	-0.67	0.08	-0.67	0.26	-0.67	0.45	-0.67
Departure Headway (s)	5.0	4.2	5.0	4.2	5.6	4.7	5.8	4.7
Degree Utilization, x	0.26	0.01	0.17	0.02	0.04	0.01	0.04	0.06
Capacity (veh/h)	703	827	697	817	602	713	585	720
Control Delay (s)	8.5	6.0	7.8	6.2	7.6	6.6	7.8	6.7
Approach Delay (s)	8.5		7.5		7.3		7.1	
Approach LOS	A		A		A		A	

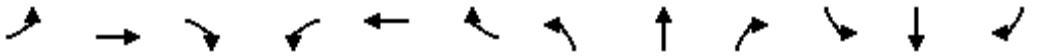
Intersection Summary				
Delay	7.9			
Level of Service	A			
Intersection Capacity Utilization	30.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	139	16	26	105	98	15	149	60	55	84	31
Future Volume (vph)	33	139	16	26	105	98	15	149	60	55	84	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		0.96		1.00	0.96	
Flt Protected		0.99	1.00		0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1845	1583		1844	1583		3386		1770	1787	
Flt Permitted		0.91	1.00		0.85	1.00		0.94		0.60	1.00	
Satd. Flow (perm)		1702	1583		1584	1583		3190		1124	1787	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	35	148	17	28	112	104	16	159	64	59	89	33
RTOR Reduction (vph)	0	0	14	0	0	87	0	17	0	0	7	0
Lane Group Flow (vph)	0	183	3	0	140	17	0	222	0	59	115	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		15.0	15.0		15.0	15.0		66.0		66.0	66.0	
Effective Green, g (s)		15.0	15.0		15.0	15.0		66.0		66.0	66.0	
Actuated g/C Ratio		0.17	0.17		0.17	0.17		0.73		0.73	0.73	
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		283	263		264	263		2339		824	1310	
v/s Ratio Prot											0.06	
v/s Ratio Perm		c0.11	0.00		0.09	0.01		c0.07		0.05		
v/c Ratio		0.65	0.01		0.53	0.07		0.09		0.07	0.09	
Uniform Delay, d1		35.0	31.3		34.3	31.6		3.4		3.4	3.4	
Progression Factor		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		5.0	0.0		2.0	0.1		0.1		0.2	0.1	
Delay (s)		40.0	31.3		36.3	31.7		3.5		3.5	3.6	
Level of Service		D	C		D	C		A		A	A	
Approach Delay (s)		39.3			34.4			3.5			3.6	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

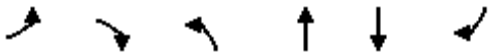
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	94	60	68	89	36	140	955	58	14	451	46
Future Volume (vph)	78	94	60	68	89	36	140	955	58	14	451	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.96		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1754		1770	1783		1770	3509		1770	3490	
Flt Permitted	0.67	1.00		0.65	1.00		0.46	1.00		0.23	1.00	
Satd. Flow (perm)	1252	1754		1217	1783		849	3509		438	3490	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	83	100	64	72	95	38	149	1016	62	15	480	49
RTOR Reduction (vph)	0	30	0	0	18	0	0	7	0	0	12	0
Lane Group Flow (vph)	83	134	0	72	115	0	149	1071	0	15	517	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	6.8	6.8		6.8	6.8		24.3	24.3		24.3	24.3	
Effective Green, g (s)	6.8	6.8		6.8	6.8		24.3	24.3		24.3	24.3	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.61	0.61		0.61	0.61	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	212	297		206	302		514	2126		265	2114	
v/s Ratio Prot		c0.08			0.06			c0.31			0.15	
v/s Ratio Perm	0.07			0.06			0.18			0.03		
v/c Ratio	0.39	0.45		0.35	0.38		0.29	0.50		0.06	0.24	
Uniform Delay, d1	14.8	15.0		14.7	14.8		3.8	4.5		3.2	3.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	1.1		1.0	0.8		0.3	0.2		0.1	0.1	
Delay (s)	16.0	16.1		15.7	15.6		4.1	4.7		3.3	3.7	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		16.0			15.6			4.6			3.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	40.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



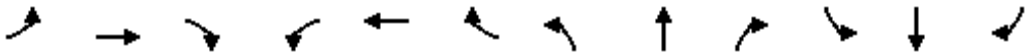
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	3	0	0	187	97
Future Volume (Veh/h)	0	3	0	0	187	97
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	3	0	0	199	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	250	151	302			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	250	151	302			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	716	868	1256			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	3	133	169
Volume Left	0	0	0
Volume Right	3	0	103
cSH	868	1700	1700
Volume to Capacity	0.00	0.08	0.10
Queue Length 95th (ft)	0	0	0
Control Delay (s)	9.2	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.2	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	18.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	929	369	292	1334	580	183
Future Volume (vph)	929	369	292	1334	580	183
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.23	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	420	3539	3433	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	958	380	301	1375	598	189
RTOR Reduction (vph)	0	0	0	0	0	146
Lane Group Flow (vph)	958	380	301	1375	598	43
Confl. Peds. (#/hr)					2	
Turn Type	NA	Free	pm+pt	NA	Prot	Perm
Protected Phases	1		2	1 2	4	
Permitted Phases		Free	1 2			4
Actuated Green, G (s)	53.5	100.0	62.5	67.5	22.5	22.5
Effective Green, g (s)	53.5	100.0	62.5	67.5	22.5	22.5
Actuated g/C Ratio	0.54	1.00	0.62	0.68	0.22	0.22
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	1893	1583	384	2388	772	356
v/s Ratio Prot	0.27		c0.07	0.39	c0.17	
v/s Ratio Perm		0.24	c0.42			0.03
v/c Ratio	0.51	0.24	0.78	0.58	0.77	0.12
Uniform Delay, d1	14.8	0.0	23.5	8.6	36.4	30.9
Progression Factor	1.00	1.00	1.20	1.46	1.00	1.00
Incremental Delay, d2	1.0	0.4	6.2	0.2	4.9	0.2
Delay (s)	15.8	0.4	34.3	12.8	41.2	31.0
Level of Service	B	A	C	B	D	C
Approach Delay (s)	11.4			16.7	38.8	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	429	106	214	521	48	191	646	144	29	636	101
Future Volume (vph)	117	429	106	214	521	48	191	646	144	29	636	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1807		1770	1839		1770	3443		1770	3467	
Flt Permitted	0.35	1.00		0.12	1.00		0.15	1.00		0.34	1.00	
Satd. Flow (perm)	657	1807		217	1839		276	3443		642	3467	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	121	442	109	221	537	49	197	666	148	30	656	104
RTOR Reduction (vph)	0	9	0	0	3	0	0	20	0	0	13	0
Lane Group Flow (vph)	121	542	0	221	583	0	197	794	0	30	747	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	30.7	30.7		42.8	42.8		38.4	38.4		26.3	26.3	
Effective Green, g (s)	30.7	30.7		42.8	42.8		38.4	38.4		26.3	26.3	
Actuated g/C Ratio	0.34	0.34		0.47	0.47		0.43	0.43		0.29	0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	223	615		233	872		243	1465		187	1010	
v/s Ratio Prot		0.30		c0.08	0.32		c0.07	0.23			0.22	
v/s Ratio Perm	0.18			c0.37			c0.28			0.05		
v/c Ratio	0.54	0.88		0.95	0.67		0.81	0.54		0.16	0.74	
Uniform Delay, d1	24.1	28.0		19.8	18.2		19.3	19.3		23.7	28.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	13.9		44.2	2.0		18.2	0.4		0.4	2.9	
Delay (s)	26.8	41.9		64.0	20.2		37.5	19.8		24.1	31.7	
Level of Service	C	D		E	C		D	B		C	C	
Approach Delay (s)		39.2			32.2			23.2			31.4	
Approach LOS		D			C			C			C	

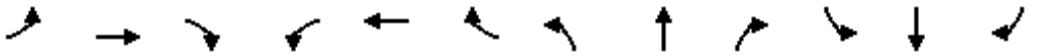
Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	617	12	34	802	12	20
Future Volume (Veh/h)	617	12	34	802	12	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	636	12	35	827	12	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	719					
pX, platoon unblocked			0.74		0.74	0.74
vC, conflicting volume			648		1539	642
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			355		1552	347
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		87	96
cM capacity (veh/h)			896		89	518

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	648	35	827	33
Volume Left	0	35	0	12
Volume Right	12	0	0	21
cSH	1700	896	1700	245
Volume to Capacity	0.38	0.04	0.49	0.13
Queue Length 95th (ft)	0	3	0	11
Control Delay (s)	0.0	9.2	0.0	26.5
Lane LOS		A		D
Approach Delay (s)	0.0	0.4		26.5
Approach LOS				D

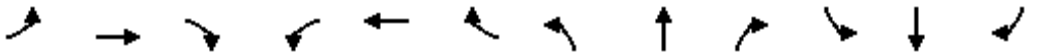
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1887	135	313	2494	0	327	0	340	25	20	27
Future Volume (vph)	0	1887	135	313	2494	0	327	0	340	25	20	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Lane Util. Factor		0.91		1.00	0.91		0.95	0.95	1.00		1.00	1.00
Frt		0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00		0.95	0.95	1.00		0.97	1.00
Satd. Flow (prot)		5034		1770	5085		1681	1681	1583		1813	1583
Flt Permitted		1.00		0.08	1.00		0.95	0.95	1.00		0.37	1.00
Satd. Flow (perm)		5034		151	5085		1681	1681	1583		689	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1945	139	323	2571	0	337	0	351	26	21	28
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	120	0	0	26
Lane Group Flow (vph)	0	2076	0	323	2571	0	168	169	231	0	47	2
Turn Type	Perm	NA		pm+pt	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases		2		1	6		4	4	1		3	
Permitted Phases	2			6					4	3		3
Actuated Green, G (s)		44.3		62.3	62.3		12.8	12.8	25.8		8.4	8.4
Effective Green, g (s)		44.3		62.3	62.3		12.8	12.8	25.8		8.4	8.4
Actuated g/C Ratio		0.44		0.62	0.62		0.13	0.13	0.26		0.08	0.08
Clearance Time (s)		5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Vehicle Extension (s)		4.0		1.5	4.0		3.0	3.0	1.5		3.0	3.0
Lane Grp Cap (vph)		2230		304	3167		215	215	408		57	132
v/s Ratio Prot		0.41		c0.14	0.51		0.10	c0.10	0.07			
v/s Ratio Perm				c0.52					0.07		c0.07	0.00
v/c Ratio		0.93		1.06	0.81		0.78	0.79	0.57		0.82	0.02
Uniform Delay, d1		26.4		31.6	14.4		42.2	42.3	32.2		45.1	42.0
Progression Factor		1.44		1.29	1.21		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		8.4		65.6	2.1		16.7	17.0	1.1		60.0	0.1
Delay (s)		46.5		106.2	19.5		58.9	59.3	33.3		105.1	42.1
Level of Service		D		F	B		E	E	C		F	D
Approach Delay (s)		46.5			29.2			46.0			81.6	
Approach LOS		D			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	38.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		

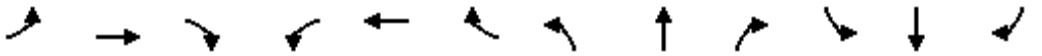
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1871	104	96	2298	24	0	0	174	0	0	11
Future Volume (vph)	25	1871	104	96	2298	24	0	0	174	0	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5				5.0			5.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00			1.00
Frt	1.00	0.99		1.00	1.00				0.86			0.86
Flt Protected	0.95	1.00		0.95	1.00				1.00			1.00
Satd. Flow (prot)	1770	5045		1770	5077				1611			1611
Flt Permitted	0.57	1.00		0.14	1.00				1.00			1.00
Satd. Flow (perm)	1064	5045		266	5077				1611			1611
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	26	1929	107	99	2369	25	0	0	179	0	0	11
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	169	0	0	10
Lane Group Flow (vph)	26	2030	0	99	2393	0	0	0	10	0	0	1
Turn Type	custom	NA		custom	NA				Perm			Perm
Protected Phases		2			6							
Permitted Phases	5			1					4			4
Actuated Green, G (s)	7.0	50.5		28.0	71.5				5.5			5.5
Effective Green, g (s)	7.0	50.5		28.0	71.5				5.5			5.5
Actuated g/C Ratio	0.07	0.50		0.28	0.72				0.06			0.06
Clearance Time (s)	5.5	5.5		5.5	5.5				5.0			5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			3.0
Lane Grp Cap (vph)	74	2547		74	3630				88			88
v/s Ratio Prot		c0.40			0.47							
v/s Ratio Perm	0.02			c0.37					c0.01			0.00
v/c Ratio	0.35	0.80		1.34	0.66				0.11			0.01
Uniform Delay, d1	44.3	20.5		36.0	7.7				44.9			44.7
Progression Factor	1.19	0.38		1.04	0.80				1.00			1.00
Incremental Delay, d2	1.4	1.3		195.6	0.6				0.6			0.0
Delay (s)	54.3	9.1		233.1	6.7				45.5			44.7
Level of Service	D	A		F	A				D			D
Approach Delay (s)		9.6			15.7			45.5			44.7	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	1705	155	795	2023	32	191	155	567	94	256	196
Future Volume (vph)	122	1705	155	795	2023	32	191	155	567	94	256	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5073		1610	3334	1583	1770	1863	1583
Flt Permitted	0.09	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.60	1.00	1.00
Satd. Flow (perm)	170	5085	1583	3433	5073		1610	3334	1583	1110	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	126	1758	160	820	2086	33	197	160	585	97	264	202
RTOR Reduction (vph)	0	0	90	0	2	0	0	0	63	0	0	180
Lane Group Flow (vph)	126	1758	70	820	2117	0	116	241	522	97	264	22
Turn Type	pm+pt	NA	Perm	Prot	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6		3	3	1		4	
Permitted Phases	2		2						3	4		4
Actuated Green, G (s)	49.4	43.9	43.9	11.5	49.9		11.1	11.1	22.6	11.0	11.0	11.0
Effective Green, g (s)	49.4	43.9	43.9	11.5	49.9		11.1	11.1	22.6	11.0	11.0	11.0
Actuated g/C Ratio	0.49	0.44	0.44	0.12	0.50		0.11	0.11	0.23	0.11	0.11	0.11
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.5	3.5	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	171	2232	694	394	2531		178	370	357	122	204	174
v/s Ratio Prot	0.04	0.35		c0.24	c0.42		0.07	0.07	c0.17		c0.14	
v/s Ratio Perm	0.32		0.04						0.16	0.09		0.01
v/c Ratio	0.74	0.79	0.10	2.08	0.84		0.65	0.65	1.46	0.80	1.29	0.13
Uniform Delay, d1	18.8	24.1	16.5	44.2	21.5		42.6	42.6	38.7	43.4	44.5	40.2
Progression Factor	1.88	1.94	15.08	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.9	1.8	0.2	495.2	3.5		8.6	4.2	222.3	29.7	163.7	0.4
Delay (s)	45.1	48.6	248.5	539.4	25.0		51.2	46.8	261.0	73.1	208.2	40.6
Level of Service	D	D	F	F	C		D	D	F	E	F	D
Approach Delay (s)		64.0			168.5			180.4			124.8	
Approach LOS		E			F			F			F	

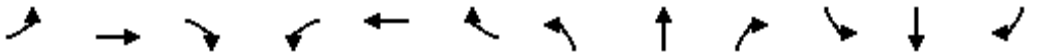
Intersection Summary			
HCM 2000 Control Delay	133.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	76	253	849	86	95	739
Future Volume (Veh/h)	76	253	849	86	95	739
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	78	261	875	89	98	762
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		2				
Median type			None			Raised
Median storage veh)						1
Upstream signal (ft)						315
pX, platoon unblocked	0.85					
vC, conflicting volume	1496	482			964	
vC1, stage 1 conf vol	920					
vC2, stage 2 conf vol	577					
vCu, unblocked vol	1227	482			964	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	51			86	
cM capacity (veh/h)	256	530			710	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	339	583	381	98	381	381
Volume Left	78	0	0	98	0	0
Volume Right	261	0	89	0	0	0
cSH	689	1700	1700	710	1700	1700
Volume to Capacity	0.49	0.34	0.22	0.14	0.22	0.22
Queue Length 95th (ft)	68	0	0	12	0	0
Control Delay (s)	19.8	0.0	0.0	10.9	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	19.8	0.0		1.2		
Approach LOS	C					

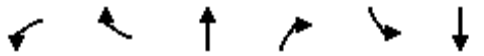
Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	48.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	121	15	66	213	7	11	12	21	12	24	10
Future Volume (Veh/h)	3	121	15	66	213	7	11	12	21	12	24	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	3	125	15	68	220	7	11	12	22	12	25	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									1			1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	227			140			504	494	125	504	502	220
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	227			140			504	494	125	504	502	220
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			97	97	98	97	94	99
cM capacity (veh/h)	1341			1443			435	453	926	440	448	820

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	128	15	288	7	45	47
Volume Left	3	0	68	0	11	12
Volume Right	0	15	0	7	22	10
cSH	1341	1700	1443	1700	869	566
Volume to Capacity	0.00	0.01	0.05	0.00	0.05	0.08
Queue Length 95th (ft)	0	0	4	0	4	7
Control Delay (s)	0.2	0.0	2.1	0.0	11.3	12.9
Lane LOS	A		A		B	B
Approach Delay (s)	0.2		2.1		11.3	12.9
Approach LOS					B	B

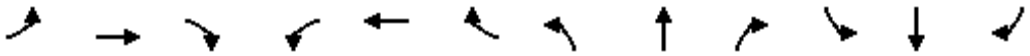
Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	40.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	101	210	344	70	74	0
Future Volume (vph)	101	210	344	70	74	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frt	1.00	0.85	0.97		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	1583	3450		1770	
Flt Permitted	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1770	1583	3450		1770	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	104	216	355	72	76	0
RTOR Reduction (vph)	0	193	8	0	0	0
Lane Group Flow (vph)	104	23	419	0	76	0
Turn Type	Perm	Perm	NA		Prot	
Protected Phases			2		1	
Permitted Phases	8	8				
Actuated Green, G (s)	12.1	12.1	81.9		9.0	
Effective Green, g (s)	12.1	12.1	81.9		9.0	
Actuated g/C Ratio	0.11	0.11	0.71		0.08	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	186	166	2457		138	
v/s Ratio Prot			c0.12		c0.04	
v/s Ratio Perm	c0.06	0.01				
v/c Ratio	0.56	0.14	0.17		0.55	
Uniform Delay, d1	48.9	46.7	5.4		51.1	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.4	0.2		4.7	
Delay (s)	52.5	47.1	5.6		55.7	
Level of Service	D	D	A		E	
Approach Delay (s)	48.9		5.6			55.7
Approach LOS	D		A			E

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

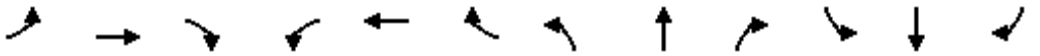
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	2	100	7	2	14	100	219	9	85	388	92
Future Volume (Veh/h)	102	2	100	7	2	14	100	219	9	85	388	92
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	105	2	103	7	2	14	103	226	9	88	400	95
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			7									
Median type								None			Raised	
Median storage veh)											1	
Upstream signal (ft)											430	
pX, platoon unblocked												
vC, conflicting volume	958	1064	248	814	1108	118	495			235		
vC1, stage 1 conf vol	624	624		436	436							
vC2, stage 2 conf vol	334	441		377	671							
vCu, unblocked vol	958	1064	248	814	1108	118	495			235		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	63	99	86	98	99	98	90			93		
cM capacity (veh/h)	286	285	753	293	254	912	1065			1329		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	210	23	103	151	84	288	295
Volume Left	105	7	103	0	0	88	0
Volume Right	103	14	0	0	9	0	95
cSH	562	488	1065	1700	1700	1329	1700
Volume to Capacity	0.37	0.05	0.10	0.09	0.05	0.07	0.17
Queue Length 95th (ft)	43	4	8	0	0	5	0
Control Delay (s)	17.8	12.7	8.7	0.0	0.0	2.8	0.0
Lane LOS	C	B	A			A	
Approach Delay (s)	17.8	12.7	2.7			1.4	
Approach LOS	C	B					

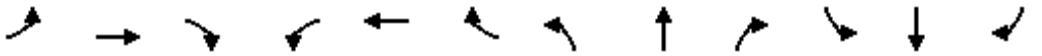
Intersection Summary				
Average Delay	5.0			
Intersection Capacity Utilization	44.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	20	147	34	28	42	131	772	23	26	985	83
Future Volume (vph)	92	20	147	34	28	42	131	772	23	26	985	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1733		1770	3524		1770	3498	
Flt Permitted	0.64	1.00	1.00		0.89		0.19	1.00		0.34	1.00	
Satd. Flow (perm)	1191	1863	1583		1572		358	3524		638	3498	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	95	21	152	35	29	43	135	796	24	27	1015	86
RTOR Reduction (vph)	0	0	132	0	33	0	0	1	0	0	4	0
Lane Group Flow (vph)	95	21	20	0	74	0	135	819	0	27	1097	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	12.1	12.1	12.1		12.1		68.9	68.9		56.7	56.7	
Effective Green, g (s)	12.1	12.1	12.1		12.1		68.9	68.9		56.7	56.7	
Actuated g/C Ratio	0.13	0.13	0.13		0.13		0.77	0.77		0.63	0.63	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	160	250	212		211		394	2697		401	2203	
v/s Ratio Prot		0.01					0.03	c0.23			c0.31	
v/s Ratio Perm	c0.08		0.01		0.05		0.23			0.04		
v/c Ratio	0.59	0.08	0.10		0.35		0.34	0.30		0.07	0.50	
Uniform Delay, d1	36.6	34.1	34.2		35.4		4.6	3.2		6.4	9.0	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.8	0.1	0.2		1.0		0.5	0.3		0.3	0.8	
Delay (s)	42.4	34.2	34.4		36.4		5.1	3.5		6.8	9.8	
Level of Service	D	C	C		D		A	A		A	A	
Approach Delay (s)		37.2			36.4			3.7			9.7	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

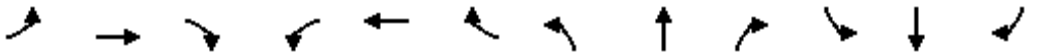
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	79	41	144	125	70	49	842	70	42	769	27
Future Volume (vph)	33	79	41	144	125	70	49	842	70	42	769	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1836	1583		1814	1583	1770	3499		1770	3521	
Flt Permitted		0.83	1.00		0.77	1.00	0.32	1.00		0.27	1.00	
Satd. Flow (perm)		1551	1583		1437	1583	595	3499		495	3521	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	34	81	42	148	129	72	51	868	72	43	793	28
RTOR Reduction (vph)	0	0	32	0	0	41	0	12	0	0	5	0
Lane Group Flow (vph)	0	115	10	0	277	31	51	928	0	43	816	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		9.4	9.4		9.4	9.4	19.5	19.5		19.5	19.5	
Effective Green, g (s)		9.4	9.4		9.4	9.4	19.5	19.5		19.5	19.5	
Actuated g/C Ratio		0.25	0.25		0.25	0.25	0.51	0.51		0.51	0.51	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		384	392		356	392	306	1800		254	1811	
v/s Ratio Prot								c0.27			0.23	
v/s Ratio Perm		0.07	0.01		c0.19	0.02	0.09			0.09		
v/c Ratio		0.30	0.03		0.78	0.08	0.17	0.52		0.17	0.45	
Uniform Delay, d1		11.6	10.8		13.3	10.9	4.9	6.1		4.9	5.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4	0.0		10.3	0.1	0.3	0.3		0.3	0.2	
Delay (s)		12.0	10.8		23.5	11.0	5.1	6.3		5.2	6.0	
Level of Service		B	B		C	B	A	A		A	A	
Approach Delay (s)		11.7			21.0			6.3			6.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	37.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	164	3	15	232	42	28	10	9	39	11	95
Future Volume (vph)	35	164	3	15	232	42	28	10	9	39	11	95
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	36	169	3	15	239	43	29	10	9	40	11	98

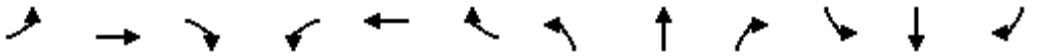
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	205	3	254	43	39	9	51	98
Volume Left (vph)	36	0	15	0	29	0	40	0
Volume Right (vph)	0	3	0	43	0	9	0	98
Hadj (s)	0.12	-0.67	0.06	-0.67	0.41	-0.67	0.43	-0.67
Departure Headway (s)	5.4	4.7	5.3	4.6	6.3	5.3	6.2	5.1
Degree Utilization, x	0.31	0.00	0.37	0.05	0.07	0.01	0.09	0.14
Capacity (veh/h)	632	733	654	750	523	618	536	645
Control Delay (s)	9.7	6.5	10.3	6.6	8.6	7.1	8.6	7.8
Approach Delay (s)	9.6		9.7		8.3		8.1	
Approach LOS	A		A		A		A	

Intersection Summary				
Delay	9.3			
Level of Service	A			
Intersection Capacity Utilization	43.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	138	26	96	227	94	17	165	49	96	282	61
Future Volume (vph)	63	138	26	96	227	94	17	165	49	96	282	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		0.97		1.00	0.97	
Flt Protected		0.98	1.00		0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1834	1583		1835	1583		3413		1770	1813	
Flt Permitted		0.61	1.00		0.75	1.00		0.92		0.60	1.00	
Satd. Flow (perm)		1130	1583		1391	1583		3158		1124	1813	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	65	142	27	99	234	97	18	170	51	99	291	63
RTOR Reduction (vph)	0	0	15	0	0	34	0	17	0	0	5	0
Lane Group Flow (vph)	0	207	12	0	333	63	0	222	0	99	349	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		25.8	25.8		25.8	25.8		55.2		55.2	55.2	
Effective Green, g (s)		25.8	25.8		25.8	25.8		55.2		55.2	55.2	
Actuated g/C Ratio		0.29	0.29		0.29	0.29		0.61		0.61	0.61	
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		323	453		398	453		1936		689	1111	
v/s Ratio Prot											c0.19	
v/s Ratio Perm		0.18	0.01		c0.24	0.04		0.07		0.09		
v/c Ratio		0.64	0.03		0.84	0.14		0.11		0.14	0.31	
Uniform Delay, d1		28.1	23.1		30.1	23.9		7.2		7.4	8.3	
Progression Factor		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		4.3	0.0		14.1	0.1		0.1		0.4	0.7	
Delay (s)		32.4	23.1		44.3	24.0		7.4		7.8	9.1	
Level of Service		C	C		D	C		A		A	A	
Approach Delay (s)		31.3			39.7			7.4			8.8	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

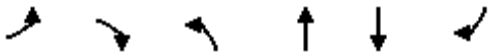
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	109	130	103	190	44	97	829	70	71	1126	100
Future Volume (vph)	70	109	130	103	190	44	97	829	70	71	1126	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1711		1770	1811		1770	3498		1770	3496	
Flt Permitted	0.52	1.00		0.51	1.00		0.16	1.00		0.27	1.00	
Satd. Flow (perm)	975	1711		958	1811		300	3498		506	3496	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	72	112	134	106	196	45	100	855	72	73	1161	103
RTOR Reduction (vph)	0	47	0	0	9	0	0	9	0	0	9	0
Lane Group Flow (vph)	72	199	0	106	232	0	100	918	0	73	1255	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.4	13.4		13.4	13.4		32.3	32.3		32.3	32.3	
Effective Green, g (s)	13.4	13.4		13.4	13.4		32.3	32.3		32.3	32.3	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.59	0.59		0.59	0.59	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	238	419		234	443		177	2065		298	2064	
v/s Ratio Prot		0.12			c0.13			0.26			c0.36	
v/s Ratio Perm	0.07			0.11			0.33			0.14		
v/c Ratio	0.30	0.48		0.45	0.52		0.56	0.44		0.24	0.61	
Uniform Delay, d1	16.8	17.6		17.5	17.9		6.9	6.2		5.4	7.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.9		1.4	1.1		4.1	0.2		0.4	0.5	
Delay (s)	17.6	18.5		18.9	19.0		11.0	6.4		5.8	7.7	
Level of Service	B	B		B	B		B	A		A	A	
Approach Delay (s)		18.3			19.0			6.8			7.6	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	54.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



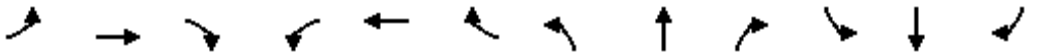
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	180	0	0	278	4
Future Volume (Veh/h)	0	180	0	0	278	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	196	0	0	302	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	304	153	306			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304	153	306			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	77	100			
cM capacity (veh/h)	664	866	1252			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	196	201	105
Volume Left	0	0	0
Volume Right	196	0	4
cSH	866	1700	1700
Volume to Capacity	0.23	0.12	0.06
Queue Length 95th (ft)	22	0	0
Control Delay (s)	10.4	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.4	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	25.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1239	636	152	676	257	68
Future Volume (vph)	1239	636	152	676	257	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.15	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	285	3539	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1318	677	162	719	273	72
RTOR Reduction (vph)	0	0	0	0	0	62
Lane Group Flow (vph)	1318	677	162	719	273	10
Confl. Peds. (#/hr)					2	
Turn Type	NA	Free	pm+pt	NA	Prot	Perm
Protected Phases	1		2	1 2	4	
Permitted Phases		Free	1 2			4
Actuated Green, G (s)	75.2	115.0	84.4	89.4	15.6	15.6
Effective Green, g (s)	75.2	115.0	84.4	89.4	15.6	15.6
Actuated g/C Ratio	0.65	1.00	0.73	0.78	0.14	0.14
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	2314	1583	327	2751	465	214
v/s Ratio Prot	c0.37		0.04	0.20	c0.08	
v/s Ratio Perm		c0.43	0.32			0.01
v/c Ratio	0.57	0.43	0.50	0.26	0.59	0.05
Uniform Delay, d1	11.0	0.0	19.1	3.6	46.7	43.2
Progression Factor	1.00	1.00	2.17	1.73	1.00	1.00
Incremental Delay, d2	1.0	0.8	1.2	0.1	1.9	0.1
Delay (s)	12.0	0.8	42.5	6.2	48.6	43.3
Level of Service	B	A	D	A	D	D
Approach Delay (s)	8.2			12.9	47.5	
Approach LOS	A			B	D	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	618	87	122	246	43	136	360	196	30	621	87
Future Volume (vph)	55	618	87	122	246	43	136	360	196	30	621	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1828		1770	1821		1770	3352		1770	3474	
Flt Permitted	0.57	1.00		0.08	1.00		0.12	1.00		0.43	1.00	
Satd. Flow (perm)	1067	1828		143	1821		231	3352		798	3474	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	657	93	130	262	46	145	383	209	32	661	93
RTOR Reduction (vph)	0	4	0	0	5	0	0	64	0	0	10	0
Lane Group Flow (vph)	59	746	0	130	303	0	145	528	0	32	744	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	47.5	47.5		59.5	59.5		39.9	39.9		27.8	27.8	
Effective Green, g (s)	47.5	47.5		59.5	59.5		39.9	39.9		27.8	27.8	
Actuated g/C Ratio	0.44	0.44		0.55	0.55		0.37	0.37		0.26	0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	467	801		191	999		192	1233		204	890	
v/s Ratio Prot		c0.41		c0.05	0.17		c0.05	0.16			c0.21	
v/s Ratio Perm	0.06			0.33			0.22			0.04		
v/c Ratio	0.13	0.93		0.68	0.30		0.76	0.43		0.16	0.84	
Uniform Delay, d1	18.1	28.9		22.2	13.2		26.5	25.7		31.2	38.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	17.3		9.6	0.2		15.5	0.2		0.4	6.9	
Delay (s)	18.2	46.1		31.7	13.4		42.0	25.9		31.6	45.0	
Level of Service	B	D		C	B		D	C		C	D	
Approach Delay (s)		44.1			18.8			29.1			44.5	
Approach LOS		D			B			C			D	

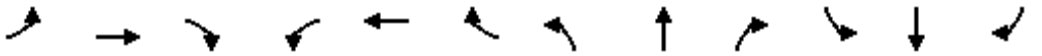
Intersection Summary			
HCM 2000 Control Delay	36.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	108.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	918	57	17	487	6	32
Future Volume (Veh/h)	918	57	17	487	6	32
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	977	61	18	518	6	34
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	719					
pX, platoon unblocked			0.61		0.61	0.61
vC, conflicting volume			1038		1562	1008
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			740		1601	690
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		91	87
cM capacity (veh/h)			527		68	271

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	1038	18	518	40
Volume Left	0	18	0	6
Volume Right	61	0	0	34
cSH	1700	527	1700	318
Volume to Capacity	0.61	0.03	0.30	0.13
Queue Length 95th (ft)	0	3	0	11
Control Delay (s)	0.0	12.1	0.0	26.6
Lane LOS		B		D
Approach Delay (s)	0.0	0.4		26.6
Approach LOS				D

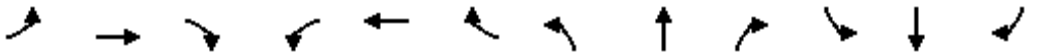
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	2877	226	69	1415	178	302	19	222	4	1	3
Future Volume (vph)	19	2877	226	69	1415	178	302	19	222	4	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00		0.96	1.00
Satd. Flow (prot)	1770	5030		1770	5000		1681	1695	1583		1791	1583
Flt Permitted	0.13	1.00		0.06	1.00		0.75	0.75	1.00		1.00	1.00
Satd. Flow (perm)	239	5030		104	5000		1335	1323	1583		1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	20	3061	240	73	1505	189	321	20	236	4	1	3
RTOR Reduction (vph)	0	5	0	0	10	0	0	0	184	0	0	3
Lane Group Flow (vph)	20	3296	0	73	1684	0	170	171	52	0	5	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	Perm
Protected Phases		2		1	6			4	1		3	
Permitted Phases	2			6			4		4	3		3
Actuated Green, G (s)	66.5	66.5		78.5	78.5		18.3	18.3	25.3		1.7	1.7
Effective Green, g (s)	66.5	66.5		78.5	78.5		18.3	18.3	25.3		1.7	1.7
Actuated g/C Ratio	0.58	0.58		0.68	0.68		0.16	0.16	0.22		0.01	0.01
Clearance Time (s)	5.5	5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	138	2908		172	3413		212	210	348		27	23
v/s Ratio Prot		c0.66		0.03	c0.34				0.01			
v/s Ratio Perm	0.08			0.26			0.13	c0.13	0.02		c0.00	0.00
v/c Ratio	0.14	1.13		0.42	0.49		0.80	0.81	0.15		0.19	0.00
Uniform Delay, d1	11.2	24.2		26.7	8.7		46.6	46.7	36.2		56.0	55.8
Progression Factor	1.55	1.43		1.09	2.05		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0	64.4		1.5	0.4		19.2	20.9	0.2		3.3	0.0
Delay (s)	19.3	99.0		30.6	18.4		65.8	67.6	36.4		59.3	55.8
Level of Service	B	F		C	B		E	E	D		E	E
Approach Delay (s)		98.6			18.9			54.3			58.0	
Approach LOS		F			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	69.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

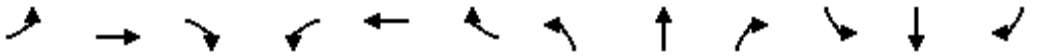
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	2513	23	71	1634	5	0	0	73	0	0	0
Future Volume (vph)	34	2513	23	71	1634	5	0	0	73	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5				5.0			
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00			
Frt	1.00	1.00		1.00	1.00				0.86			
Flt Protected	0.95	1.00		0.95	1.00				1.00			
Satd. Flow (prot)	1770	5079		1770	5083				1611			
Flt Permitted	0.17	1.00		0.12	1.00				1.00			
Satd. Flow (perm)	325	5079		232	5083				1611			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	36	2673	24	76	1738	5	0	0	78	0	0	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	75	0	0	0
Lane Group Flow (vph)	36	2696	0	76	1743	0	0	0	3	0	0	0
Turn Type	custom	NA		custom	NA				Perm			Perm
Protected Phases		2			6							
Permitted Phases	5			1					4			4
Actuated Green, G (s)	22.9	62.5		32.1	71.7				4.4			
Effective Green, g (s)	22.9	62.5		32.1	71.7				4.4			
Actuated g/C Ratio	0.20	0.54		0.28	0.62				0.04			
Clearance Time (s)	5.5	5.5		5.5	5.5				5.0			
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			
Lane Grp Cap (vph)	64	2760		64	3169				61			
v/s Ratio Prot		c0.53			0.34							
v/s Ratio Perm	0.11			c0.33					c0.00			
v/c Ratio	0.56	0.98		1.19	0.55				0.05			
Uniform Delay, d1	41.5	25.5		41.5	12.4				53.3			
Progression Factor	0.94	1.42		1.56	0.56				1.00			
Incremental Delay, d2	1.0	2.1		162.8	0.6				0.3			
Delay (s)	40.2	38.3		227.3	7.5				53.6			
Level of Service	D	D		F	A				D			
Approach Delay (s)		38.3			16.7			53.6			0.0	
Approach LOS		D			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	2262	167	312	1430	9	208	110	644	26	69	69
Future Volume (vph)	108	2262	167	312	1430	9	208	110	644	26	69	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5080		1610	3310	1583	1770	1863	1583
Flt Permitted	0.13	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.60	1.00	1.00
Satd. Flow (perm)	248	5085	1583	3433	5080		1610	3310	1583	1125	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	115	2406	178	332	1521	10	221	117	685	28	73	73
RTOR Reduction (vph)	0	0	104	0	0	0	0	0	190	0	0	66
Lane Group Flow (vph)	115	2406	74	332	1531	0	110	228	495	28	73	7
Turn Type	pm+pt	NA	Perm	Prot	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6		3	3	1		4	
Permitted Phases	2		2						3	4		4
Actuated Green, G (s)	55.8	47.6	47.6	20.5	59.9		14.0	14.0	34.5	10.4	10.4	10.4
Effective Green, g (s)	55.8	47.6	47.6	20.5	59.9		14.0	14.0	34.5	10.4	10.4	10.4
Actuated g/C Ratio	0.49	0.41	0.41	0.18	0.52		0.12	0.12	0.30	0.09	0.09	0.09
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.5	3.5	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	228	2104	655	611	2646		196	402	474	101	168	143
v/s Ratio Prot	0.04	c0.47		0.10	0.30		0.07	0.07	c0.19		c0.04	
v/s Ratio Perm	0.21		0.05						0.13	0.02		0.00
v/c Ratio	0.50	1.14	0.11	0.54	0.58		0.56	0.57	1.04	0.28	0.43	0.05
Uniform Delay, d1	16.7	33.7	20.7	43.0	18.9		47.6	47.6	40.2	48.8	49.5	47.8
Progression Factor	1.40	0.95	2.21	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	66.9	0.1	1.0	0.9		4.0	2.0	53.1	1.8	2.1	0.2
Delay (s)	24.0	98.9	45.9	44.0	19.8		51.6	49.6	93.4	50.6	51.6	47.9
Level of Service	C	F	D	D	B		D	D	F	D	D	D
Approach Delay (s)		92.2			24.1			79.1			49.9	
Approach LOS		F			C			E			D	

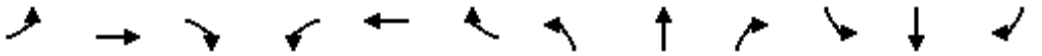
Intersection Summary			
HCM 2000 Control Delay	66.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	99	107	715	181	149	670
Future Volume (Veh/h)	99	107	715	181	149	670
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	105	114	761	193	159	713
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		2				
Median type			None			Raised
Median storage veh)						1
Upstream signal (ft)						315
pX, platoon unblocked	0.82					
vC, conflicting volume	1532	477			954	
vC1, stage 1 conf vol	858					
vC2, stage 2 conf vol	674					
vCu, unblocked vol	1219	477			954	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	58	79			78	
cM capacity (veh/h)	250	534			716	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	219	507	447	159	356	356
Volume Left	105	0	0	159	0	0
Volume Right	114	0	193	0	0	0
cSH	522	1700	1700	716	1700	1700
Volume to Capacity	0.42	0.30	0.26	0.22	0.21	0.21
Queue Length 95th (ft)	51	0	0	21	0	0
Control Delay (s)	21.2	0.0	0.0	11.5	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	21.2	0.0		2.1		
Approach LOS	C					

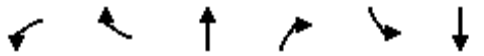
Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	49.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	268	14	34	132	5	22	19	62	61	10	5
Future Volume (Veh/h)	18	268	14	34	132	5	22	19	62	61	10	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	19	285	15	36	140	5	23	20	66	65	11	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									1			1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	145			300			543	540	285	578	550	140
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	145			300			543	540	285	578	550	140
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			95	95	91	82	97	99
cM capacity (veh/h)	1437			1261			425	430	754	364	424	908

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	304	15	176	5	109	81
Volume Left	19	0	36	0	23	65
Volume Right	0	15	0	5	66	5
cSH	1437	1700	1261	1700	1084	397
Volume to Capacity	0.01	0.01	0.03	0.00	0.10	0.20
Queue Length 95th (ft)	1	0	2	0	8	19
Control Delay (s)	0.6	0.0	1.8	0.0	11.9	16.6
Lane LOS	A		A		B	C
Approach Delay (s)	0.6		1.8		11.9	16.6
Approach LOS					B	C

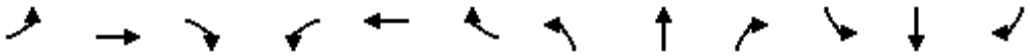
Intersection Summary				
Average Delay	4.5			
Intersection Capacity Utilization	44.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	34	57	238	20	57	0
Future Volume (vph)	34	57	238	20	57	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frt	1.00	0.85	0.99		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	1583	3499		1770	
Flt Permitted	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1770	1583	3499		1770	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	36	61	253	21	61	0
RTOR Reduction (vph)	0	56	4	0	0	0
Lane Group Flow (vph)	36	5	270	0	61	0
Turn Type	Perm	Perm	NA		Prot	
Protected Phases			2		1	
Permitted Phases	8	8				
Actuated Green, G (s)	6.0	6.0	51.4		5.6	
Effective Green, g (s)	6.0	6.0	51.4		5.6	
Actuated g/C Ratio	0.08	0.08	0.69		0.07	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	141	126	2397		132	
v/s Ratio Prot			c0.08		c0.03	
v/s Ratio Perm	c0.02	0.00				
v/c Ratio	0.26	0.04	0.11		0.46	
Uniform Delay, d1	32.4	31.8	4.0		33.3	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.0	0.1	0.1		2.6	
Delay (s)	33.4	32.0	4.1		35.8	
Level of Service	C	C	A		D	
Approach Delay (s)	32.5		4.1			35.8
Approach LOS	C		A			D

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

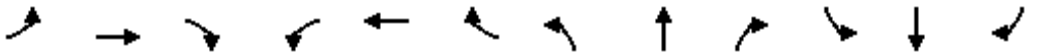
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	2	108	12	3	19	319	166	2	7	194	128
Future Volume (Veh/h)	70	2	108	12	3	19	319	166	2	7	194	128
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	74	2	115	13	3	20	339	177	2	7	206	136
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			7									
Median type								None			Raised	
Median storage veh)											1	
Upstream signal (ft)											430	
pX, platoon unblocked												
vC, conflicting volume	1076	1145	171	974	1212	90	342			179		
vC1, stage 1 conf vol	288	288		856	856							
vC2, stage 2 conf vol	788	857		118	356							
vCu, unblocked vol	1076	1145	171	974	1212	90	342			179		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	63	99	86	93	98	98	72			99		
cM capacity (veh/h)	201	218	843	189	185	951	1214			1394		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	191	36	339	118	61	110	239
Volume Left	74	13	339	0	0	7	0
Volume Right	115	20	0	0	2	0	136
cSH	507	339	1214	1700	1700	1394	1700
Volume to Capacity	0.38	0.11	0.28	0.07	0.04	0.01	0.14
Queue Length 95th (ft)	43	9	29	0	0	0	0
Control Delay (s)	19.2	16.9	9.1	0.0	0.0	0.5	0.0
Lane LOS	C	C	A			A	
Approach Delay (s)	19.2	16.9	6.0			0.2	
Approach LOS	C	C					

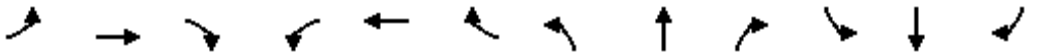
Intersection Summary				
Average Delay	6.8			
Intersection Capacity Utilization	46.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	3	31	16	18	33	56	942	20	6	466	35
Future Volume (vph)	26	3	31	16	18	33	56	942	20	6	466	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1718		1770	3528		1770	3502	
Flt Permitted	0.79	1.00	1.00		0.92		0.42	1.00		0.28	1.00	
Satd. Flow (perm)	1477	1863	1583		1594		783	3528		522	3502	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	28	3	33	17	19	35	60	1002	21	6	496	37
RTOR Reduction (vph)	0	0	31	0	32	0	0	1	0	0	3	0
Lane Group Flow (vph)	28	3	2	0	39	0	60	1022	0	6	530	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	6.7	6.7	6.7		6.7		73.3	73.3		63.2	63.2	
Effective Green, g (s)	6.7	6.7	6.7		6.7		73.3	73.3		63.2	63.2	
Actuated g/C Ratio	0.07	0.07	0.07		0.07		0.81	0.81		0.70	0.70	
Clearance Time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	109	138	117		118		693	2873		366	2459	
v/s Ratio Prot		0.00					0.00	c0.29			0.15	
v/s Ratio Perm	0.02		0.00		c0.02		0.07			0.01		
v/c Ratio	0.26	0.02	0.02		0.33		0.09	0.36		0.02	0.22	
Uniform Delay, d1	39.3	38.6	38.6		39.5		1.8	2.2		4.0	4.7	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.1	0.1		1.6		0.1	0.3		0.1	0.2	
Delay (s)	40.6	38.7	38.7		41.1		1.8	2.5		4.1	4.9	
Level of Service	D	D	D		D		A	A		A	A	
Approach Delay (s)		39.5			41.1			2.5			4.9	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

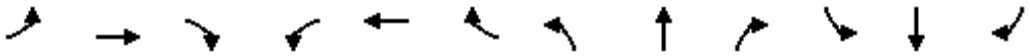
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	88	44	71	60	33	49	800	105	23	701	36
Future Volume (vph)	56	88	44	71	60	33	49	800	105	23	701	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1827	1583		1814	1583	1770	3477		1770	3513	
Flt Permitted		0.81	1.00		0.75	1.00	0.35	1.00		0.27	1.00	
Satd. Flow (perm)		1512	1583		1394	1583	652	3477		500	3513	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	60	94	47	76	64	35	52	851	112	24	746	38
RTOR Reduction (vph)	0	0	37	0	0	28	0	20	0	0	7	0
Lane Group Flow (vph)	0	154	10	0	140	7	52	943	0	24	777	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		7.0	7.0		7.0	7.0	18.1	18.1		18.1	18.1	
Effective Green, g (s)		7.0	7.0		7.0	7.0	18.1	18.1		18.1	18.1	
Actuated g/C Ratio		0.21	0.21		0.21	0.21	0.53	0.53		0.53	0.53	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		310	324		286	324	346	1845		265	1864	
v/s Ratio Prot								c0.27			0.22	
v/s Ratio Perm		c0.10	0.01		0.10	0.00	0.08			0.05		
v/c Ratio		0.50	0.03		0.49	0.02	0.15	0.51		0.09	0.42	
Uniform Delay, d1		12.0	10.8		12.0	10.8	4.1	5.2		3.9	4.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.0		1.3	0.0	0.2	0.2		0.1	0.2	
Delay (s)		13.2	10.9		13.3	10.8	4.3	5.4		4.1	5.0	
Level of Service		B	B		B	B	A	A		A	A	
Approach Delay (s)		12.7			12.8			5.3			4.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	34.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

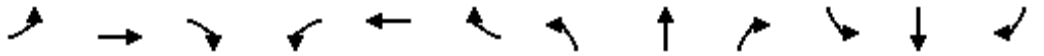
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	74	132	6	10	102	20	10	12	10	18	4	56
Future Volume (vph)	74	132	6	10	102	20	10	12	10	18	4	56
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	79	140	6	11	109	21	11	13	11	19	4	60

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	219	6	120	21	24	11	23	60
Volume Left (vph)	79	0	11	0	11	0	19	0
Volume Right (vph)	0	6	0	21	0	11	0	60
Hadj (s)	0.21	-0.67	0.08	-0.67	0.26	-0.67	0.45	-0.67
Departure Headway (s)	5.1	4.3	5.1	4.3	5.7	4.8	5.9	4.8
Degree Utilization, x	0.31	0.01	0.17	0.03	0.04	0.01	0.04	0.08
Capacity (veh/h)	687	815	684	799	586	691	573	703
Control Delay (s)	9.2	6.1	7.9	6.2	7.8	6.7	7.9	7.0
Approach Delay (s)	9.2		7.7		7.4		7.2	
Approach LOS	A		A		A		A	

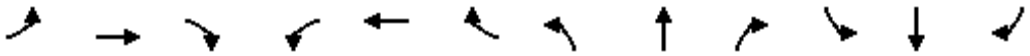
Intersection Summary				
Delay	8.3			
Level of Service	A			
Intersection Capacity Utilization	32.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	139	16	26	105	166	15	217	60	87	115	31
Future Volume (vph)	33	139	16	26	105	166	15	217	60	87	115	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		0.97		1.00	0.97	
Flt Protected		0.99	1.00		0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1845	1583		1844	1583		3421		1770	1803	
Flt Permitted		0.91	1.00		0.85	1.00		0.94		0.56	1.00	
Satd. Flow (perm)		1702	1583		1584	1583		3228		1048	1803	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	35	148	17	28	112	177	16	231	64	93	122	33
RTOR Reduction (vph)	0	0	14	0	0	148	0	12	0	0	5	0
Lane Group Flow (vph)	0	183	3	0	140	30	0	299	0	93	150	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		15.0	15.0		15.0	15.0		66.0		66.0	66.0	
Effective Green, g (s)		15.0	15.0		15.0	15.0		66.0		66.0	66.0	
Actuated g/C Ratio		0.17	0.17		0.17	0.17		0.73		0.73	0.73	
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		283	263		264	263		2367		768	1322	
v/s Ratio Prot											0.08	
v/s Ratio Perm		c0.11	0.00		0.09	0.02		c0.09		0.09		
v/c Ratio		0.65	0.01		0.53	0.11		0.13		0.12	0.11	
Uniform Delay, d1		35.0	31.3		34.3	31.8		3.5		3.5	3.5	
Progression Factor		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		5.0	0.0		2.0	0.2		0.1		0.3	0.2	
Delay (s)		40.0	31.3		36.3	32.0		3.6		3.8	3.7	
Level of Service		D	C		D	C		A		A	A	
Approach Delay (s)		39.3			33.9			3.6			3.7	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	94	92	68	89	36	208	989	58	14	467	46
Future Volume (vph)	78	94	92	68	89	36	208	989	58	14	467	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.96		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1724		1770	1783		1770	3510		1770	3492	
Flt Permitted	0.67	1.00		0.63	1.00		0.45	1.00		0.22	1.00	
Satd. Flow (perm)	1252	1724		1180	1783		835	3510		416	3492	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	83	100	98	72	95	38	221	1052	62	15	497	49
RTOR Reduction (vph)	0	46	0	0	18	0	0	6	0	0	11	0
Lane Group Flow (vph)	83	152	0	72	115	0	221	1108	0	15	535	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	7.5	7.5		7.5	7.5		27.3	27.3		27.3	27.3	
Effective Green, g (s)	7.5	7.5		7.5	7.5		27.3	27.3		27.3	27.3	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.62	0.62		0.62	0.62	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	214	295		202	305		520	2187		259	2176	
v/s Ratio Prot		c0.09			0.06			c0.32			0.15	
v/s Ratio Perm	0.07			0.06			0.26			0.04		
v/c Ratio	0.39	0.52		0.36	0.38		0.42	0.51		0.06	0.25	
Uniform Delay, d1	16.1	16.5		16.0	16.1		4.2	4.5		3.2	3.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	1.5		1.1	0.8		0.6	0.2		0.1	0.1	
Delay (s)	17.3	18.0		17.1	16.9		4.8	4.7		3.3	3.7	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		17.8			16.9			4.7			3.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	43.8	Sum of lost time (s)	9.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	901	50	0	0	0	21
Future Volume (Veh/h)	901	50	0	0	0	21
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	959	53	0	0	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1012		986	986
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1012		986	986
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	93
cM capacity (veh/h)			685		275	301

Direction, Lane #	EB 1	NB 1
Volume Total	1012	22
Volume Left	0	0
Volume Right	53	22
cSH	1700	301
Volume to Capacity	0.60	0.07
Queue Length 95th (ft)	0	6
Control Delay (s)	0.0	17.9
Lane LOS		C
Approach Delay (s)	0.0	17.9
Approach LOS		C

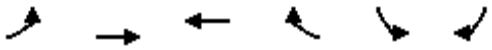
Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	60.5%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1995	202	149	688	120	98
Future Volume (vph)	1995	202	149	688	120	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		5.0	4.0	5.5	5.5
Lane Util. Factor	0.91		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5015		1770	3539	1770	1583
Flt Permitted	1.00		0.05	1.00	0.95	1.00
Satd. Flow (perm)	5015		96	3539	1770	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2122	215	159	732	128	104
RTOR Reduction (vph)	8	0	0	0	0	2
Lane Group Flow (vph)	2329	0	159	732	128	102
Turn Type	NA		custom	NA	Prot	custom
Protected Phases	2		1	6 4!	4!	4
Permitted Phases			6			1
Actuated Green, G (s)	71.5		88.7	115.0	16.8	27.5
Effective Green, g (s)	71.5		88.7	109.5	16.8	27.5
Actuated g/C Ratio	0.62		0.77	0.95	0.15	0.24
Clearance Time (s)	5.5		5.0		5.5	5.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	3118		229	3369	258	454
v/s Ratio Prot	c0.46		c0.06	0.21	c0.07	0.03
v/s Ratio Perm			0.47			0.03
v/c Ratio	0.75		0.69	0.22	0.50	0.23
Uniform Delay, d1	15.4		30.0	0.2	45.2	35.2
Progression Factor	1.14		0.72	1.00	1.00	1.00
Incremental Delay, d2	1.6		7.7	0.0	1.5	0.3
Delay (s)	19.2		29.4	0.2	46.7	35.4
Level of Service	B		C	A	D	D
Approach Delay (s)	19.2			5.4	41.7	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

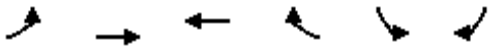
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	262	129	89	325	46	33
Future Volume (Veh/h)	262	129	89	325	46	33
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	279	137	95	346	49	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	441				963	268
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	441				963	268
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	75				77	95
cM capacity (veh/h)	1119				213	771

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	416	441	84
Volume Left	279	0	49
Volume Right	0	346	35
cSH	1119	1700	305
Volume to Capacity	0.25	0.26	0.28
Queue Length 95th (ft)	25	0	27
Control Delay (s)	7.1	0.0	21.2
Lane LOS	A		C
Approach Delay (s)	7.1	0.0	21.2
Approach LOS			C

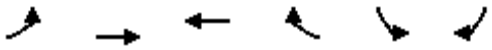
Intersection Summary			
Average Delay		5.0	
Intersection Capacity Utilization		60.6%	ICU Level of Service B
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	59	116	384	55	18	30
Future Volume (Veh/h)	59	116	384	55	18	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	63	123	409	59	19	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	468				688	438
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	468				688	438
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				95	95
cM capacity (veh/h)	1094				389	618

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	186	468	51
Volume Left	63	0	19
Volume Right	0	59	32
cSH	1094	1700	507
Volume to Capacity	0.06	0.28	0.10
Queue Length 95th (ft)	5	0	8
Control Delay (s)	3.2	0.0	12.9
Lane LOS	A		B
Approach Delay (s)	3.2	0.0	12.9
Approach LOS			B

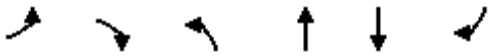
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	79	392	58	15	47
Future Volume (Veh/h)	55	79	392	58	15	47
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	59	84	417	62	16	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	479				650	448
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	479				650	448
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				96	92
cM capacity (veh/h)	1083				410	611

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	143	479	66
Volume Left	59	0	16
Volume Right	0	62	50
cSH	1083	1700	546
Volume to Capacity	0.05	0.28	0.12
Queue Length 95th (ft)	4	0	10
Control Delay (s)	3.8	0.0	12.5
Lane LOS	A		B
Approach Delay (s)	3.8	0.0	12.5
Approach LOS			B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		



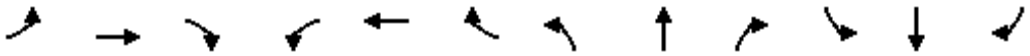
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	41	0	0	185	139
Future Volume (Veh/h)	0	41	0	0	185	139
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	44	0	0	197	148
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	271	172	345			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	271	172	345			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	95	100			
cM capacity (veh/h)	696	841	1211			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	44	131	214
Volume Left	0	0	0
Volume Right	44	0	148
cSH	841	1700	1700
Volume to Capacity	0.05	0.08	0.13
Queue Length 95th (ft)	4	0	0
Control Delay (s)	9.5	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.5	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1056	371	325	1597	505	183
Future Volume (vph)	1056	371	325	1597	505	183
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.19	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	348	3539	3433	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1089	382	335	1646	521	189
RTOR Reduction (vph)	0	0	0	0	0	150
Lane Group Flow (vph)	1089	382	335	1646	521	39
Confl. Peds. (#/hr)					2	
Turn Type	NA	Free	pm+pt	NA	Prot	Perm
Protected Phases	1		2	1 2	4	
Permitted Phases		Free	1 2			4
Actuated Green, G (s)	55.2	100.0	64.2	69.2	20.8	20.8
Effective Green, g (s)	55.2	100.0	64.2	69.2	20.8	20.8
Actuated g/C Ratio	0.55	1.00	0.64	0.69	0.21	0.21
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	1953	1583	351	2448	714	329
v/s Ratio Prot	0.31		c0.09	0.47	c0.15	
v/s Ratio Perm		0.24	c0.53			0.02
v/c Ratio	0.56	0.24	0.95	0.67	0.73	0.12
Uniform Delay, d1	14.5	0.0	25.1	8.9	37.0	32.2
Progression Factor	1.00	1.00	1.00	1.28	1.00	1.00
Incremental Delay, d2	1.2	0.4	33.9	0.7	3.7	0.2
Delay (s)	15.7	0.4	58.9	12.0	40.7	32.3
Level of Service	B	A	E	B	D	C
Approach Delay (s)	11.7			19.9	38.5	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	479	106	214	521	48	234	571	169	31	636	134
Future Volume (vph)	117	479	106	214	521	48	234	571	169	31	636	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1812		1770	1839		1770	3418		1770	3447	
Flt Permitted	0.35	1.00		0.11	1.00		0.13	1.00		0.36	1.00	
Satd. Flow (perm)	657	1812		198	1839		242	3418		675	3447	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	121	494	109	221	537	49	241	589	174	32	656	138
RTOR Reduction (vph)	0	8	0	0	3	0	0	29	0	0	18	0
Lane Group Flow (vph)	121	595	0	221	583	0	241	734	0	32	776	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	33.1	33.1		45.2	45.2		39.4	39.4		27.3	27.3	
Effective Green, g (s)	33.1	33.1		45.2	45.2		39.4	39.4		27.3	27.3	
Actuated g/C Ratio	0.35	0.35		0.48	0.48		0.42	0.42		0.29	0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	232	640		223	888		225	1438		196	1005	
v/s Ratio Prot		0.33		c0.08	0.32		c0.09	0.21			0.23	
v/s Ratio Perm	0.18			c0.40			c0.36			0.05		
v/c Ratio	0.52	0.93		0.99	0.66		1.07	0.51		0.16	0.77	
Uniform Delay, d1	24.0	29.1		22.9	18.3		21.9	20.0		24.7	30.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	20.2		57.5	1.8		80.1	0.3		0.4	3.7	
Delay (s)	26.1	49.4		80.4	20.1		102.0	20.3		25.0	34.0	
Level of Service	C	D		F	C		F	C		C	C	
Approach Delay (s)		45.5			36.6			39.9			33.7	
Approach LOS		D			D			D			C	

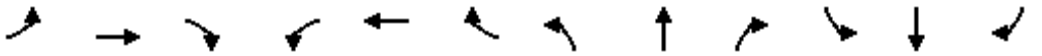
Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	93.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	668	38	34	802	12	20
Future Volume (Veh/h)	668	38	34	802	12	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	689	39	35	827	12	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	719					
pX, platoon unblocked			0.71		0.71	0.71
vC, conflicting volume			728		1606	708
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			405		1650	377
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		84	96
cM capacity (veh/h)			813		73	472

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	728	35	827	33
Volume Left	0	35	0	12
Volume Right	39	0	0	21
cSH	1700	813	1700	202
Volume to Capacity	0.43	0.04	0.49	0.16
Queue Length 95th (ft)	0	3	0	14
Control Delay (s)	0.0	9.6	0.0	31.3
Lane LOS		A		D
Approach Delay (s)	0.0	0.4		31.3
Approach LOS				D

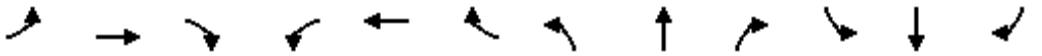
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2126	135	339	2594	0	327	0	290	25	20	27
Future Volume (vph)	0	2126	135	339	2594	0	327	0	290	25	20	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Lane Util. Factor		0.91		1.00	0.91		0.95	0.95	1.00		1.00	1.00
Frt		0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00		0.95	0.95	1.00		0.97	1.00
Satd. Flow (prot)		5040		1770	5085		1681	1681	1583		1813	1583
Flt Permitted		1.00		0.08	1.00		0.95	0.95	1.00		0.37	1.00
Satd. Flow (perm)		5040		151	5085		1681	1681	1583		689	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2192	139	349	2674	0	337	0	299	26	21	28
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	119	0	0	26
Lane Group Flow (vph)	0	2324	0	349	2674	0	168	169	180	0	47	2
Turn Type	Perm	NA		pm+pt	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases		2		1	6		4	4	1		3	
Permitted Phases	2			6					4	3		3
Actuated Green, G (s)		44.3		62.3	62.3		12.8	12.8	25.8		8.4	8.4
Effective Green, g (s)		44.3		62.3	62.3		12.8	12.8	25.8		8.4	8.4
Actuated g/C Ratio		0.44		0.62	0.62		0.13	0.13	0.26		0.08	0.08
Clearance Time (s)		5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Vehicle Extension (s)		4.0		1.5	4.0		3.0	3.0	1.5		3.0	3.0
Lane Grp Cap (vph)		2232		304	3167		215	215	408		57	132
v/s Ratio Prot		0.46		c0.15	0.53		0.10	c0.10	0.06			
v/s Ratio Perm				c0.56					0.06		c0.07	0.00
v/c Ratio		1.04		1.15	0.84		0.78	0.79	0.44		0.82	0.02
Uniform Delay, d1		27.9		32.2	15.0		42.2	42.3	31.1		45.1	42.0
Progression Factor		1.42		1.24	1.22		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		28.2		94.1	2.5		16.7	17.0	0.3		60.0	0.1
Delay (s)		67.7		134.0	20.7		58.9	59.3	31.3		105.1	42.1
Level of Service		E		F	C		E	E	C		F	D
Approach Delay (s)		67.7			33.8			46.1			81.6	
Approach LOS		E			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	48.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

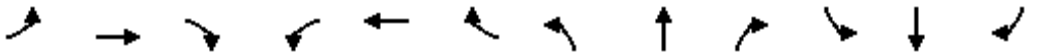
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	2060	104	96	2424	24	0	0	174	0	0	11
Future Volume (vph)	25	2060	104	96	2424	24	0	0	174	0	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5				5.0			5.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00			1.00
Frt	1.00	0.99		1.00	1.00				0.86			0.86
Flt Protected	0.95	1.00		0.95	1.00				1.00			1.00
Satd. Flow (prot)	1770	5049		1770	5078				1611			1611
Flt Permitted	0.57	1.00		0.14	1.00				1.00			1.00
Satd. Flow (perm)	1064	5049		266	5078				1611			1611
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	26	2124	107	99	2499	25	0	0	179	0	0	11
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	169	0	0	10
Lane Group Flow (vph)	26	2226	0	99	2523	0	0	0	10	0	0	1
Turn Type	custom	NA		custom	NA				Perm			Perm
Protected Phases		2			6							
Permitted Phases	5			1					4			4
Actuated Green, G (s)	7.0	50.5		28.0	71.5				5.5			5.5
Effective Green, g (s)	7.0	50.5		28.0	71.5				5.5			5.5
Actuated g/C Ratio	0.07	0.50		0.28	0.72				0.06			0.06
Clearance Time (s)	5.5	5.5		5.5	5.5				5.0			5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			3.0
Lane Grp Cap (vph)	74	2549		74	3630				88			88
v/s Ratio Prot		c0.44			0.50							
v/s Ratio Perm	0.02			c0.37					c0.01			0.00
v/c Ratio	0.35	0.87		1.34	0.70				0.11			0.01
Uniform Delay, d1	44.3	21.9		36.0	8.1				44.9			44.7
Progression Factor	1.23	0.38		1.07	0.78				1.00			1.00
Incremental Delay, d2	0.9	1.5		192.0	0.6				0.6			0.0
Delay (s)	55.6	10.0		230.6	6.9				45.5			44.7
Level of Service	E	A		F	A				D			D
Approach Delay (s)		10.5			15.3			45.5			44.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	1856	193	795	2124	32	216	155	567	94	256	196
Future Volume (vph)	122	1856	193	795	2124	32	216	155	567	94	256	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5074		1610	3327	1583	1770	1863	1583
Flt Permitted	0.09	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.59	1.00	1.00
Satd. Flow (perm)	170	5085	1583	3433	5074		1610	3327	1583	1091	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	126	1913	199	820	2190	33	223	160	585	97	264	202
RTOR Reduction (vph)	0	0	112	0	2	0	0	0	63	0	0	180
Lane Group Flow (vph)	126	1913	87	820	2221	0	125	258	522	97	264	22
Turn Type	pm+pt	NA	Perm	Prot	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6		3	3	1		4	
Permitted Phases	2		2						3	4		4
Actuated Green, G (s)	49.3	43.8	43.8	11.5	49.8		11.2	11.2	22.7	11.0	11.0	11.0
Effective Green, g (s)	49.3	43.8	43.8	11.5	49.8		11.2	11.2	22.7	11.0	11.0	11.0
Actuated g/C Ratio	0.49	0.44	0.44	0.12	0.50		0.11	0.11	0.23	0.11	0.11	0.11
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.5	3.5	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	171	2227	693	394	2526		180	372	359	120	204	174
v/s Ratio Prot	0.04	0.38		c0.24	c0.44		0.08	0.08	c0.17		c0.14	
v/s Ratio Perm	0.32		0.06						0.16	0.09		0.01
v/c Ratio	0.74	0.86	0.13	2.08	0.88		0.69	0.69	1.45	0.81	1.29	0.13
Uniform Delay, d1	19.7	25.3	16.7	44.2	22.4		42.8	42.7	38.6	43.5	44.5	40.2
Progression Factor	1.79	1.88	7.63	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.4	2.5	0.2	495.2	4.8		11.4	5.7	218.8	32.2	163.7	0.4
Delay (s)	43.7	50.1	127.6	539.4	27.2		54.2	48.5	257.5	75.7	208.2	40.6
Level of Service	D	D	F	F	C		D	D	F	E	F	D
Approach Delay (s)		56.6			165.2			175.5			125.2	
Approach LOS		E			F			F			F	

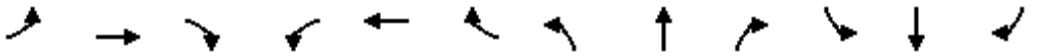
Intersection Summary			
HCM 2000 Control Delay	127.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	189	221	874	136	95	739
Future Volume (Veh/h)	189	221	874	136	95	739
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	195	228	901	140	98	762
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		2				
Median type			None			Raised
Median storage veh)						1
Upstream signal (ft)						315
pX, platoon unblocked	0.84					
vC, conflicting volume	1548	520			1041	
vC1, stage 1 conf vol	971					
vC2, stage 2 conf vol	577					
vCu, unblocked vol	1281	520			1041	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	19	54			85	
cM capacity (veh/h)	242	501			664	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	423	601	440	98	381	381
Volume Left	195	0	0	98	0	0
Volume Right	228	0	140	0	0	0
cSH	430	1700	1700	664	1700	1700
Volume to Capacity	0.98	0.35	0.26	0.15	0.22	0.22
Queue Length 95th (ft)	304	0	0	13	0	0
Control Delay (s)	70.5	0.0	0.0	11.4	0.0	0.0
Lane LOS	F			B		
Approach Delay (s)	70.5	0.0		1.3		
Approach LOS	F					

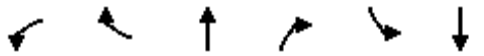
Intersection Summary			
Average Delay	13.3		
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	171	15	104	294	7	11	12	46	38	24	10
Future Volume (Veh/h)	3	171	15	104	294	7	11	12	46	38	24	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	3	176	15	107	303	7	11	12	47	39	25	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									1			1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	310			191			716	706	176	728	714	303
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	310			191			716	706	176	728	714	303
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			92			96	96	95	87	92	99
cM capacity (veh/h)	1250			1383			301	332	867	293	328	737

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	179	15	410	7	70	74
Volume Left	3	0	107	0	11	39
Volume Right	0	15	0	7	47	10
cSH	1250	1700	1383	1700	965	354
Volume to Capacity	0.00	0.01	0.08	0.00	0.07	0.21
Queue Length 95th (ft)	0	0	6	0	6	19
Control Delay (s)	0.2	0.0	2.6	0.0	12.0	18.5
Lane LOS	A		A		B	C
Approach Delay (s)	0.1		2.5		12.0	18.5
Approach LOS					B	C

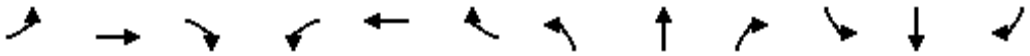
Intersection Summary				
Average Delay	4.4			
Intersection Capacity Utilization	50.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	101	210	294	70	74	0
Future Volume (vph)	101	210	294	70	74	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frt	1.00	0.85	0.97		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	1583	3437		1770	
Flt Permitted	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1770	1583	3437		1770	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	104	216	303	72	76	0
RTOR Reduction (vph)	0	193	10	0	0	0
Lane Group Flow (vph)	104	23	365	0	76	0
Turn Type	Perm	Perm	NA		Prot	
Protected Phases			2		1	
Permitted Phases	8	8				
Actuated Green, G (s)	12.1	12.1	81.9		9.0	
Effective Green, g (s)	12.1	12.1	81.9		9.0	
Actuated g/C Ratio	0.11	0.11	0.71		0.08	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	186	166	2447		138	
v/s Ratio Prot			c0.11		c0.04	
v/s Ratio Perm	c0.06	0.01				
v/c Ratio	0.56	0.14	0.15		0.55	
Uniform Delay, d1	48.9	46.7	5.3		51.1	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.4	0.1		4.7	
Delay (s)	52.5	47.1	5.5		55.7	
Level of Service	D	D	A		E	
Approach Delay (s)	48.9		5.5		55.7	
Approach LOS	D		A		E	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)	15		

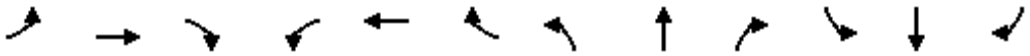
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	2	287	7	2	14	200	219	9	85	353	95
Future Volume (Veh/h)	52	2	287	7	2	14	200	219	9	85	353	95
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	54	2	296	7	2	14	206	226	9	88	364	98
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			7									
Median type								None			Raised	
Median storage veh)											1	
Upstream signal (ft)											430	
pX, platoon unblocked												
vC, conflicting volume	1129	1236	231	1002	1280	118	462			235		
vC1, stage 1 conf vol	589	589		642	642							
vC2, stage 2 conf vol	540	647		359	638							
vCu, unblocked vol	1129	1236	231	1002	1280	118	462			235		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	75	99	62	95	99	98	81			93		
cM capacity (veh/h)	218	218	771	132	183	912	1095			1329		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	352	23	206	151	84	270	280
Volume Left	54	7	206	0	0	88	0
Volume Right	296	14	0	0	9	0	98
cSH	917	291	1095	1700	1700	1329	1700
Volume to Capacity	0.38	0.08	0.19	0.09	0.05	0.07	0.16
Queue Length 95th (ft)	46	6	17	0	0	5	0
Control Delay (s)	14.9	18.5	9.0	0.0	0.0	3.0	0.0
Lane LOS	B	C	A			A	
Approach Delay (s)	14.9	18.5	4.2			1.5	
Approach LOS	B	C					

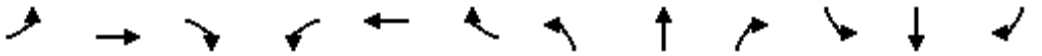
Intersection Summary				
Average Delay	6.1			
Intersection Capacity Utilization	46.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	20	147	34	28	42	131	797	23	26	1023	83
Future Volume (vph)	92	20	147	34	28	42	131	797	23	26	1023	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1733		1770	3524		1770	3499	
Flt Permitted	0.64	1.00	1.00		0.89		0.18	1.00		0.33	1.00	
Satd. Flow (perm)	1191	1863	1583		1572		337	3524		622	3499	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	95	21	152	35	29	43	135	822	24	27	1055	86
RTOR Reduction (vph)	0	0	132	0	33	0	0	1	0	0	4	0
Lane Group Flow (vph)	95	21	20	0	74	0	135	845	0	27	1137	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	12.1	12.1	12.1		12.1		68.9	68.9		56.7	56.7	
Effective Green, g (s)	12.1	12.1	12.1		12.1		68.9	68.9		56.7	56.7	
Actuated g/C Ratio	0.13	0.13	0.13		0.13		0.77	0.77		0.63	0.63	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	160	250	212		211		380	2697		391	2204	
v/s Ratio Prot		0.01					0.03	c0.24			c0.32	
v/s Ratio Perm	c0.08		0.01		0.05		0.24			0.04		
v/c Ratio	0.59	0.08	0.10		0.35		0.36	0.31		0.07	0.52	
Uniform Delay, d1	36.6	34.1	34.2		35.4		4.9	3.3		6.4	9.1	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.8	0.1	0.2		1.0		0.6	0.3		0.3	0.9	
Delay (s)	42.4	34.2	34.4		36.4		5.4	3.6		6.8	10.0	
Level of Service	D	C	C		D		A	A		A	A	
Approach Delay (s)		37.2			36.4			3.8			9.9	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

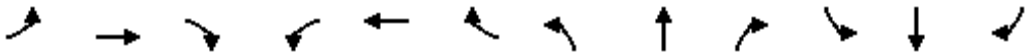
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	88	41	167	140	70	49	901	86	42	859	50
Future Volume (vph)	49	88	41	167	140	70	49	901	86	42	859	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1830	1583		1813	1583	1770	3493		1770	3510	
Flt Permitted		0.80	1.00		0.75	1.00	0.24	1.00		0.21	1.00	
Satd. Flow (perm)		1495	1583		1405	1583	456	3493		394	3510	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	51	91	42	172	144	72	51	929	89	43	886	52
RTOR Reduction (vph)	0	0	29	0	0	33	0	15	0	0	9	0
Lane Group Flow (vph)	0	142	13	0	316	39	51	1003	0	43	929	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		13.4	13.4		13.4	13.4	20.1	20.1		20.1	20.1	
Effective Green, g (s)		13.4	13.4		13.4	13.4	20.1	20.1		20.1	20.1	
Actuated g/C Ratio		0.32	0.32		0.32	0.32	0.47	0.47		0.47	0.47	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		471	499		442	499	215	1651		186	1660	
v/s Ratio Prot								c0.29			0.26	
v/s Ratio Perm		0.10	0.01		c0.22	0.02	0.11			0.11		
v/c Ratio		0.30	0.03		0.71	0.08	0.24	0.61		0.23	0.56	
Uniform Delay, d1		11.0	10.0		12.9	10.2	6.6	8.3		6.6	8.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4	0.0		5.4	0.1	0.6	0.6		0.6	0.4	
Delay (s)		11.4	10.1		18.3	10.3	7.2	8.9		7.3	8.4	
Level of Service		B	B		B	B	A	A		A	A	
Approach Delay (s)		11.1			16.8			8.8			8.4	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	42.5	Sum of lost time (s)	9.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	60	164	3	15	232	42	28	10	9	39	11	133
Future Volume (vph)	60	164	3	15	232	42	28	10	9	39	11	133
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	62	169	3	15	239	43	29	10	9	40	11	137

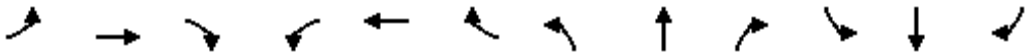
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	231	3	254	43	39	9	51	137
Volume Left (vph)	62	0	15	0	29	0	40	0
Volume Right (vph)	0	3	0	43	0	9	0	137
Hadj (s)	0.17	-0.67	0.06	-0.67	0.41	-0.67	0.43	-0.67
Departure Headway (s)	5.6	4.8	5.5	4.7	6.5	5.5	6.3	5.3
Degree Utilization, x	0.36	0.00	0.39	0.06	0.07	0.01	0.09	0.20
Capacity (veh/h)	613	711	634	723	508	597	527	635
Control Delay (s)	10.6	6.6	10.7	6.8	8.8	7.3	8.8	8.4
Approach Delay (s)	10.5		10.1		8.5		8.5	
Approach LOS	B		B		A		A	

Intersection Summary				
Delay	9.7			
Level of Service	A			
Intersection Capacity Utilization	44.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	138	26	96	227	144	17	215	49	171	359	61
Future Volume (vph)	63	138	26	96	227	144	17	215	49	171	359	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		0.97		1.00	0.98	
Flt Protected		0.98	1.00		0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1834	1583		1835	1583		3436		1770	1822	
Flt Permitted		0.61	1.00		0.75	1.00		0.92		0.57	1.00	
Satd. Flow (perm)		1135	1583		1394	1583		3180		1069	1822	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	65	142	27	99	234	148	18	222	51	176	370	63
RTOR Reduction (vph)	0	0	15	0	0	51	0	13	0	0	4	0
Lane Group Flow (vph)	0	207	12	0	333	97	0	278	0	176	429	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		25.9	25.9		25.9	25.9		55.1		55.1	55.1	
Effective Green, g (s)		25.9	25.9		25.9	25.9		55.1		55.1	55.1	
Actuated g/C Ratio		0.29	0.29		0.29	0.29		0.61		0.61	0.61	
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		326	455		401	455		1946		654	1115	
v/s Ratio Prot											c0.24	
v/s Ratio Perm		0.18	0.01		c0.24	0.06		0.09		0.16		
v/c Ratio		0.63	0.03		0.83	0.21		0.14		0.27	0.38	
Uniform Delay, d1		27.9	23.0		30.0	24.3		7.4		8.1	8.9	
Progression Factor		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		4.0	0.0		13.6	0.2		0.2		1.0	1.0	
Delay (s)		31.9	23.0		43.6	24.5		7.6		9.1	9.9	
Level of Service		C	C		D	C		A		A	A	
Approach Delay (s)		30.9			37.7			7.6			9.6	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	109	205	103	190	44	147	854	70	71	1164	100
Future Volume (vph)	70	109	205	103	190	44	147	854	70	71	1164	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1680		1770	1811		1770	3499		1770	3497	
Flt Permitted	0.50	1.00		0.37	1.00		0.15	1.00		0.25	1.00	
Satd. Flow (perm)	931	1680		690	1811		271	3499		472	3497	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	72	112	211	106	196	45	152	880	72	73	1200	103
RTOR Reduction (vph)	0	71	0	0	9	0	0	8	0	0	9	0
Lane Group Flow (vph)	72	252	0	106	232	0	152	944	0	73	1294	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	20.6	20.6		20.6	20.6		44.0	44.0		44.0	44.0	
Effective Green, g (s)	20.6	20.6		20.6	20.6		44.0	44.0		44.0	44.0	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.60	0.60		0.60	0.60	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	260	470		193	506		162	2091		282	2090	
v/s Ratio Prot		0.15			0.13			0.27			0.37	
v/s Ratio Perm	0.08			c0.15			c0.56			0.15		
v/c Ratio	0.28	0.54		0.55	0.46		0.94	0.45		0.26	0.62	
Uniform Delay, d1	20.7	22.5		22.5	21.9		13.6	8.2		7.0	9.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.2		3.2	0.7		52.1	0.2		0.5	0.6	
Delay (s)	21.3	23.6		25.7	22.6		65.7	8.3		7.5	10.0	
Level of Service	C	C		C	C		E	A		A	B	
Approach Delay (s)		23.2			23.5			16.2			9.9	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	73.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	657	31	0	0	0	53
Future Volume (Veh/h)	657	31	0	0	0	53
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	677	32	0	0	0	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			709		693	693
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			709		693	693
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	88
cM capacity (veh/h)			890		409	443

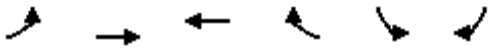
Direction, Lane #	EB 1	NB 1
Volume Total	709	55
Volume Left	0	0
Volume Right	32	55
cSH	1700	443
Volume to Capacity	0.42	0.12
Queue Length 95th (ft)	0	11
Control Delay (s)	0.0	14.3
Lane LOS		B
Approach Delay (s)	0.0	14.3
Approach LOS		B

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	46.5%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1745	183	131	1550	327	222
Future Volume (vph)	1745	183	131	1550	327	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		5.0	4.0	5.5	5.5
Lane Util. Factor	0.91		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5013		1770	3539	1770	1583
Flt Permitted	1.00		0.08	1.00	0.95	1.00
Satd. Flow (perm)	5013		140	3539	1770	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1799	189	135	1598	337	229
RTOR Reduction (vph)	12	0	0	0	0	3
Lane Group Flow (vph)	1976	0	135	1598	337	226
Turn Type	NA		custom	NA	Prot	custom
Protected Phases	2		1	6 4!	4!	4
Permitted Phases			6			1
Actuated Green, G (s)	46.6		61.7	100.0	28.8	37.4
Effective Green, g (s)	46.6		61.7	94.5	28.8	37.4
Actuated g/C Ratio	0.47		0.62	0.94	0.29	0.37
Clearance Time (s)	5.5		5.0		5.5	5.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	2336		226	3344	509	679
v/s Ratio Prot	c0.39		0.05	c0.45	c0.19	0.10
v/s Ratio Perm			0.32			0.05
v/c Ratio	0.85		0.60	0.48	0.66	0.33
Uniform Delay, d1	23.5		17.3	0.3	31.3	22.4
Progression Factor	0.80		0.82	1.00	1.00	1.00
Incremental Delay, d2	3.9		2.4	0.1	3.2	0.3
Delay (s)	22.6		16.5	0.3	34.5	22.7
Level of Service	C		B	A	C	C
Approach Delay (s)	22.6			1.6	29.7	
Approach LOS	C			A	C	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

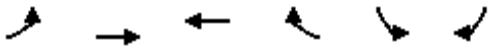
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	49	206	303	61	206	142
Future Volume (Veh/h)	49	206	303	61	206	142
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	51	212	312	63	212	146
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	375				658	344
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	375				658	344
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				48	79
cM capacity (veh/h)	1183				411	699

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	263	375	358
Volume Left	51	0	212
Volume Right	0	63	146
cSH	1183	1700	494
Volume to Capacity	0.04	0.22	0.72
Queue Length 95th (ft)	3	0	147
Control Delay (s)	1.9	0.0	29.2
Lane LOS	A		D
Approach Delay (s)	1.9	0.0	29.2
Approach LOS			D

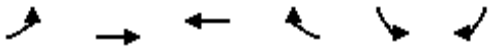
Intersection Summary			
Average Delay	11.0		
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	52	360	299	48	37	65
Future Volume (Veh/h)	52	360	299	48	37	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	54	371	308	49	38	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	357				812	332
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	357				812	332
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				89	91
cM capacity (veh/h)	1202				333	709

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	425	357	105
Volume Left	54	0	38
Volume Right	0	49	67
cSH	1202	1700	503
Volume to Capacity	0.04	0.21	0.21
Queue Length 95th (ft)	4	0	19
Control Delay (s)	1.4	0.0	14.0
Lane LOS	A		B
Approach Delay (s)	1.4	0.0	14.0
Approach LOS			B

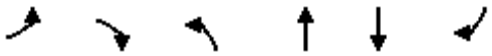
Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		56.5%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	349	245	52	33	102
Future Volume (Veh/h)	48	349	245	52	33	102
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	49	360	253	54	34	105
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	307				738	280
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	307				738	280
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				91	86
cM capacity (veh/h)	1254				370	759

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	409	307	139
Volume Left	49	0	34
Volume Right	0	54	105
cSH	1254	1700	604
Volume to Capacity	0.04	0.18	0.23
Queue Length 95th (ft)	3	0	22
Control Delay (s)	1.3	0.0	12.7
Lane LOS	A		B
Approach Delay (s)	1.3	0.0	12.7
Approach LOS			B

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		



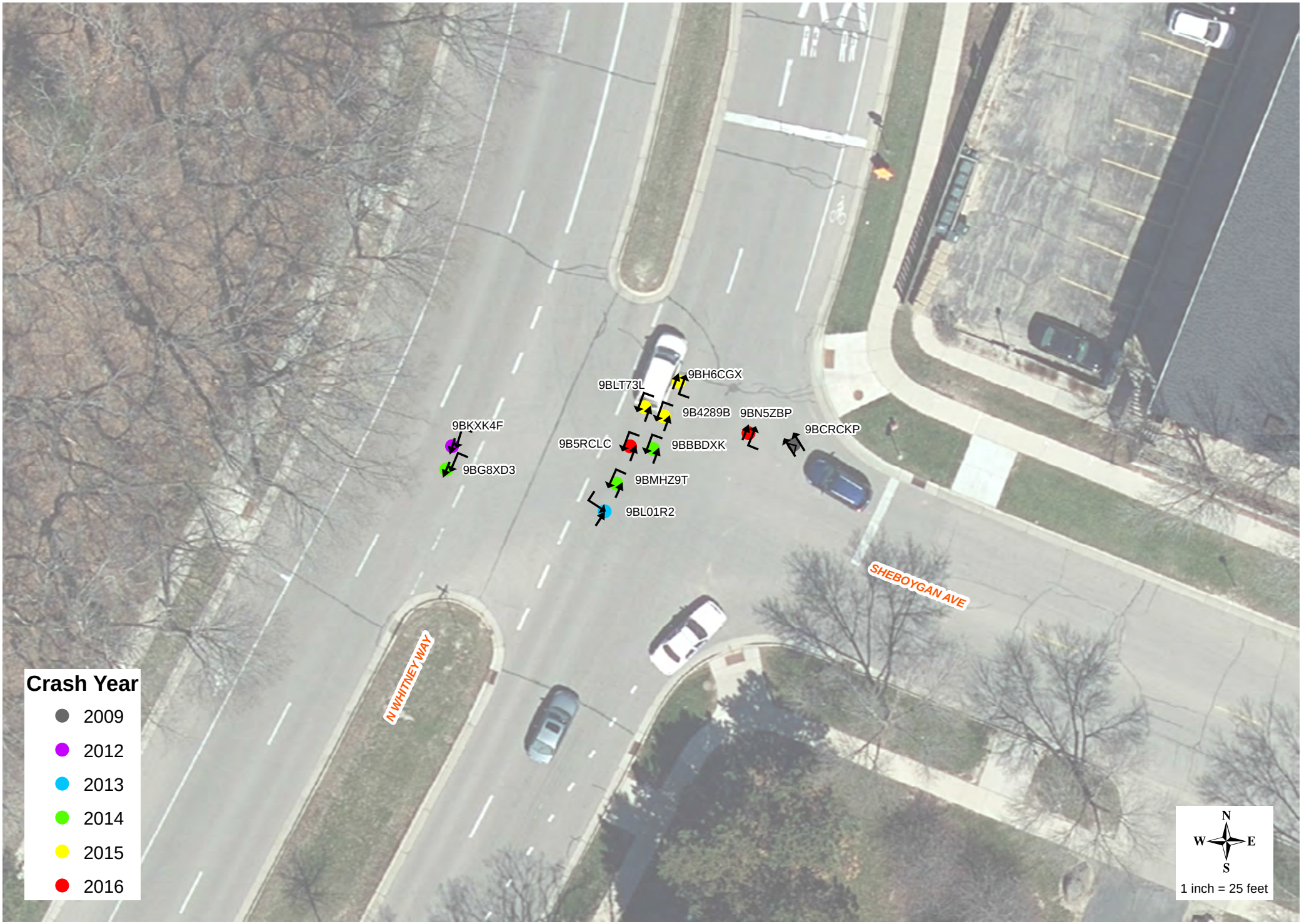
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	158	0	0	266	42
Future Volume (Veh/h)	0	158	0	0	266	42
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	172	0	0	289	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	312	168	335			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	312	168	335			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	80	100			
cM capacity (veh/h)	656	847	1221			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	172	193	142
Volume Left	0	0	0
Volume Right	172	0	46
cSH	847	1700	1700
Volume to Capacity	0.20	0.11	0.08
Queue Length 95th (ft)	19	0	0
Control Delay (s)	10.3	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.3	0.0	
Approach LOS	B		

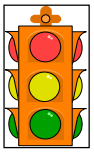
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	25.1%	ICU Level of Service	A
Analysis Period (min)	15		

CRASH HISTORY AT WHITNEY WAY & SHEBOYGAN AVENUE

City of Madison Traffic Engineering
2007 - 2016 Crash Diagrams
Sheboygan Ave & N Whitney Way



SIGNAL WARRANT ANALYSIS AT WHITNEY WAY & SHEBOYGAN AVENUE



Kimley-Horn

Twin Cities

SIGNAL WARRANTS ANALYSIS

LOCATION: Madison
COUNTY: Dane
REF. POINT:
DATE: 11/22/2017
OPERATOR:

Speed	Approach Description		Lanes
30	Major App1:	Whitney Way NB	2
30	Major App3:	Whitney Way SB	2
30	Minor App2:	Sheboygan Ave WB	1
	Minor App4:		

0.70 FACTOR USED? no
POPULATION < 10,000? no
EXISTING SIGNAL ? no

THRESHOLDS 1A/1B:				600	900		150	75		140	70		
HOUR	MAJOR APP. 1	MAJOR APP. 3	TOTAL 1+3	MAJOR 1A	MAJOR 1B	MINOR APP. 2	MINOR 2 1A	MINOR 2 1B	MINOR APP. 4	MINOR 4 1A	MINOR 4 1B	**MAJ & MIN 1A**	**MAJ & MIN 1B**
0:00 - 1:00			0										
1:00 - 2:00			0										
2:00 - 3:00			0										
3:00 - 4:00			0										
4:00 - 5:00			0										
5:00 - 6:00			0										
6:00 - 7:00			0										
7:00 - 8:00	660	616	1276	X	X	121		X					**X**
8:00 - 9:00	645	699	1344	X	X	131		X					**X**
9:00 - 10:00			0										
10:00 - 11:00			0										
11:00 - 12:00			0										
12:00 - 13:00			0										
13:00 - 14:00			0										
14:00 - 15:00			0										
15:00 - 16:00			0										
16:00 - 17:00	787	686	1473	X	X	286	X	X				**X**	**X**
17:00 - 18:00	733	771	1504	X	X	218	X	X				**X**	**X**
18:00 - 19:00			0										
19:00 - 20:00			0										
20:00 - 21:00			0										
21:00 - 22:00			0										
22:00 - 23:00			0										
23:00 - 24:00			0										

	Met (Hr)	Required (Hr)	
Warrant 1a	2	8	Not satisfied
Warrant 1b	4	8	Not satisfied
Warrant 2	**4**	4	**Satisfied**
Warrant 3	**2**	1	**Satisfied**
Warrant 7	0	8	Not satisfied

LOCATION: Madison
COUNTY: Dane
REF. POINT:
DATE: 11/22/2017
OPERATOR:

Speed	Approach Description		Lanes
30	Major App1:	Whitney Way NB	2
30	Major App3:	Whitney Way SB	2
30	Minor App2:	Sheboygan Ave WB	1
	Minor App4:		

0.70 FACTOR USED? no
POPULATION < 10,000? no
EXISTING SIGNAL ? no

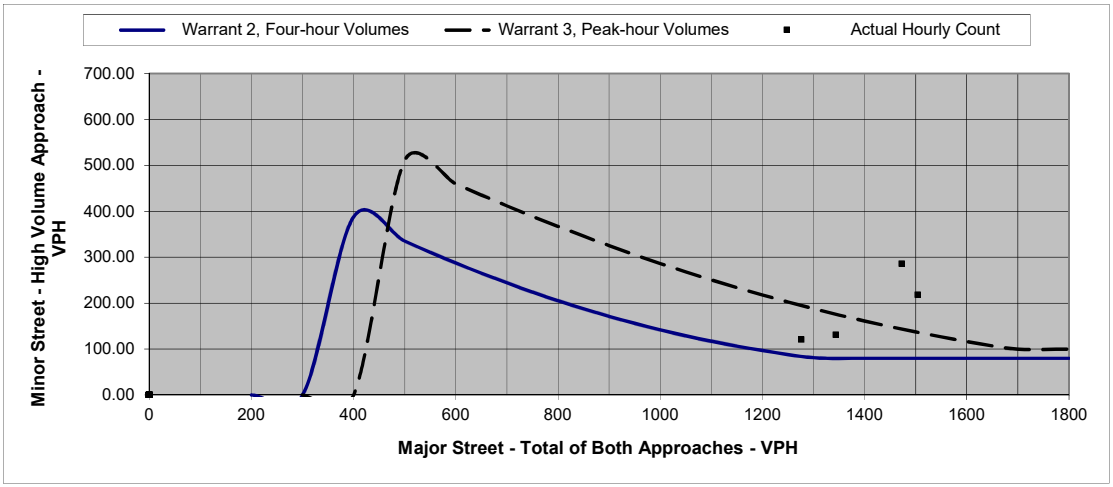


Figure 1. Four Hour and Peak Hour Warrant Analysis

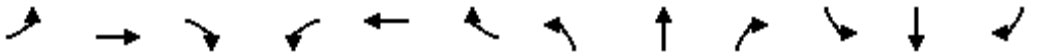
Note: For data points outside the graph range, check the minor street volume against the lower thresholds

Warrant Criteria			Actual Hourly Count	
Major	Warrant 2, F	Warrant 3, Peak-hour Volum	Major	Actual Hourly Count
200			0	0
300			0	0
400	387.669		0	0
500	335.225	510.639	0	0
600	287.381	459.811	0	0
700	244.137	411.983	0	0
800	205.493	367.155	0	0
900	171.449	325.327	1276	121
1000	142.005	286.499	1344	131
1100	117.161	250.671	0	0
1200	96.917	217.843	0	0
1300	81.273	188.015	0	0
1400	80	161.187	0	0
1500	80	137.359	0	0
1600	80	116.531	0	0
1700	80	100	0	0
1800	80	100	1473	286
			1504	218
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0

HORIZON CONDITIONS (2041) SYNCHRO REPORTS

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1198	688	151	652	294	75
Future Volume (vph)	1198	688	151	652	294	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.16	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	301	3539	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1274	732	161	694	313	80
RTOR Reduction (vph)	0	0	0	0	0	68
Lane Group Flow (vph)	1274	732	161	694	313	12
Confl. Peds. (#/hr)					2	
Turn Type	NA	Free	pm+pt	NA	Prot	Perm
Protected Phases	1		2	1 2	4	
Permitted Phases		Free	1 2			4
Actuated Green, G (s)	74.3	115.0	83.4	88.4	16.6	16.6
Effective Green, g (s)	74.3	115.0	83.4	88.4	16.6	16.6
Actuated g/C Ratio	0.65	1.00	0.73	0.77	0.14	0.14
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	2286	1583	334	2720	495	228
v/s Ratio Prot	c0.36		0.04	0.20	c0.09	
v/s Ratio Perm		c0.46	0.31			0.01
v/c Ratio	0.56	0.46	0.48	0.26	0.63	0.05
Uniform Delay, d1	11.3	0.0	18.6	3.8	46.3	42.4
Progression Factor	1.00	1.00	2.08	1.54	1.00	1.00
Incremental Delay, d2	1.0	1.0	0.9	0.0	2.6	0.1
Delay (s)	12.2	1.0	39.6	5.9	49.0	42.5
Level of Service	B	A	D	A	D	D
Approach Delay (s)	8.1			12.3	47.6	
Approach LOS	A			B	D	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	608	96	135	272	48	131	408	179	19	686	80
Future Volume (vph)	61	608	96	135	272	48	131	408	179	19	686	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1825		1770	1821		1770	3378		1770	3484	
Flt Permitted	0.56	1.00		0.08	1.00		0.12	1.00		0.42	1.00	
Satd. Flow (perm)	1036	1825		142	1821		223	3378		774	3484	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	65	647	102	144	289	51	139	434	190	20	730	85
RTOR Reduction (vph)	0	5	0	0	5	0	0	43	0	0	8	0
Lane Group Flow (vph)	65	744	0	144	335	0	139	581	0	20	807	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	47.9	47.9		60.0	60.0		41.0	41.0		28.9	28.9	
Effective Green, g (s)	47.9	47.9		60.0	60.0		41.0	41.0		28.9	28.9	
Actuated g/C Ratio	0.44	0.44		0.55	0.55		0.37	0.37		0.26	0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	451	794		189	993		190	1259		203	915	
v/s Ratio Prot		c0.41		c0.05	0.18		c0.05	0.17			c0.23	
v/s Ratio Perm	0.06			0.36			0.22			0.03		
v/c Ratio	0.14	0.94		0.76	0.34		0.73	0.46		0.10	0.88	
Uniform Delay, d1	18.7	29.6		23.3	13.9		26.9	26.1		30.7	38.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	18.2		16.5	0.2		13.5	0.3		0.2	10.0	
Delay (s)	18.9	47.8		39.7	14.1		40.4	26.4		30.9	48.9	
Level of Service	B	D		D	B		D	C		C	D	
Approach Delay (s)		45.5			21.7			29.0			48.5	
Approach LOS		D			C			C			D	

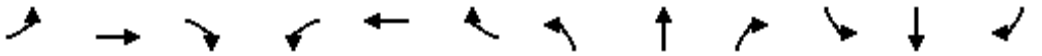
Intersection Summary			
HCM 2000 Control Delay	38.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	933	18	19	538	7	35
Future Volume (Veh/h)	933	18	19	538	7	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	993	19	20	572	7	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	719					
pX, platoon unblocked			0.61		0.61	0.61
vC, conflicting volume			1012		1614	1002
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			701		1688	685
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		88	86
cM capacity (veh/h)			547		61	274

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	1012	20	572	44
Volume Left	0	20	0	7
Volume Right	19	0	0	37
cSH	1700	547	1700	325
Volume to Capacity	0.60	0.04	0.34	0.14
Queue Length 95th (ft)	0	3	0	12
Control Delay (s)	0.0	11.8	0.0	28.5
Lane LOS		B		D
Approach Delay (s)	0.0	0.4		28.5
Approach LOS				D

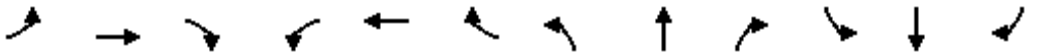
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3072	250	32	1420	197	334	21	265	4	1	3
Future Volume (vph)	21	3072	250	32	1420	197	334	21	265	4	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00		0.96	1.00
Satd. Flow (prot)	1770	5028		1770	4992		1681	1695	1583		1791	1583
Flt Permitted	0.12	1.00		0.06	1.00		0.75	0.75	1.00		1.00	1.00
Satd. Flow (perm)	226	5028		104	4992		1335	1323	1583		1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	22	3268	266	34	1511	210	355	22	282	4	1	3
RTOR Reduction (vph)	0	5	0	0	11	0	0	0	220	0	0	3
Lane Group Flow (vph)	22	3529	0	34	1710	0	188	189	62	0	5	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	Perm
Protected Phases		2		1	6			4	1		3	
Permitted Phases	2			6			4		4	3		3
Actuated Green, G (s)	66.5	66.5		77.7	77.7		19.1	19.1	25.3		1.7	1.7
Effective Green, g (s)	66.5	66.5		77.7	77.7		19.1	19.1	25.3		1.7	1.7
Actuated g/C Ratio	0.58	0.58		0.68	0.68		0.17	0.17	0.22		0.01	0.01
Clearance Time (s)	5.5	5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	130	2907		160	3372		221	219	348		27	23
v/s Ratio Prot		c0.70		0.01	c0.34				0.01			
v/s Ratio Perm	0.10			0.13			0.14	c0.14	0.03		c0.00	0.00
v/c Ratio	0.17	1.21		0.21	0.51		0.85	0.86	0.18		0.19	0.00
Uniform Delay, d1	11.3	24.2		26.3	9.2		46.6	46.7	36.4		56.0	55.8
Progression Factor	0.71	0.81		1.06	2.03		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.8	99.6		0.6	0.5		25.5	27.7	0.2		3.3	0.0
Delay (s)	10.8	119.3		28.4	19.1		72.1	74.4	36.7		59.3	55.8
Level of Service	B	F		C	B		E	E	D		E	E
Approach Delay (s)		118.6			19.3			57.6			58.0	
Approach LOS		F			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	82.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		

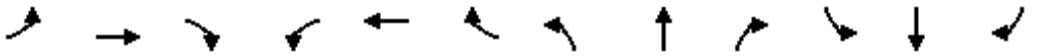
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	2689	25	78	1618	6	0	0	81	0	0	0
Future Volume (vph)	38	2689	25	78	1618	6	0	0	81	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5				5.0			
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00			
Frt	1.00	1.00		1.00	1.00				0.86			
Flt Protected	0.95	1.00		0.95	1.00				1.00			
Satd. Flow (prot)	1770	5078		1770	5083				1611			
Flt Permitted	0.14	1.00		0.12	1.00				1.00			
Satd. Flow (perm)	264	5078		232	5083				1611			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	40	2861	27	83	1721	6	0	0	86	0	0	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	83	0	0	0
Lane Group Flow (vph)	40	2887	0	83	1727	0	0	0	3	0	0	0
Turn Type	custom	NA		custom	NA				Perm			Perm
Protected Phases		2			6							
Permitted Phases	5			1					4			4
Actuated Green, G (s)	28.2	62.5		32.1	66.4				4.4			
Effective Green, g (s)	28.2	62.5		32.1	66.4				4.4			
Actuated g/C Ratio	0.25	0.54		0.28	0.58				0.04			
Clearance Time (s)	5.5	5.5		5.5	5.5				5.0			
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			
Lane Grp Cap (vph)	64	2759		64	2934				61			
v/s Ratio Prot		c0.57			c0.34							
v/s Ratio Perm	0.15			c0.36					c0.00			
v/c Ratio	0.62	1.05		1.30	0.59				0.05			
Uniform Delay, d1	38.7	26.2		41.5	15.6				53.3			
Progression Factor	0.88	1.41		1.55	0.53				1.00			
Incremental Delay, d2	1.7	22.1		202.2	0.7				0.4			
Delay (s)	35.8	59.1		266.5	9.0				53.7			
Level of Service	D	E		F	A				D			
Approach Delay (s)		58.8			20.8			53.7			0.0	
Approach LOS		E			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	44.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	2430	167	345	1430	10	192	122	712	29	76	76
Future Volume (vph)	119	2430	167	345	1430	10	192	122	712	29	76	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5080		1610	3321	1583	1770	1863	1583
Flt Permitted	0.13	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.61	1.00	1.00
Satd. Flow (perm)	246	5085	1583	3433	5080		1610	3321	1583	1129	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	127	2585	178	367	1521	11	204	130	757	31	81	81
RTOR Reduction (vph)	0	0	105	0	0	0	0	0	186	0	0	73
Lane Group Flow (vph)	127	2585	73	367	1532	0	110	224	571	31	81	8
Turn Type	pm+pt	NA	Perm	Prot	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6		3	3	1		4	
Permitted Phases	2		2						3	4		4
Actuated Green, G (s)	55.6	47.3	47.3	20.5	59.5		13.9	13.9	34.4	10.8	10.8	10.8
Effective Green, g (s)	55.6	47.3	47.3	20.5	59.5		13.9	13.9	34.4	10.8	10.8	10.8
Actuated g/C Ratio	0.48	0.41	0.41	0.18	0.52		0.12	0.12	0.30	0.09	0.09	0.09
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.5	3.5	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	228	2091	651	611	2628		194	401	473	106	174	148
v/s Ratio Prot	0.04	c0.51		0.11	0.30		0.07	0.07	c0.22		c0.04	
v/s Ratio Perm	0.23		0.05						0.15	0.03		0.00
v/c Ratio	0.56	1.24	0.11	0.60	0.58		0.57	0.56	1.21	0.29	0.47	0.05
Uniform Delay, d1	17.0	33.9	20.9	43.5	19.2		47.7	47.7	40.3	48.5	49.4	47.4
Progression Factor	1.39	0.98	2.19	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	106.7	0.0	1.7	1.0		4.1	1.9	112.0	1.8	2.3	0.2
Delay (s)	23.9	139.8	45.7	45.2	20.1		51.8	49.5	152.3	50.4	51.7	47.6
Level of Service	C	F	D	D	C		D	D	F	D	D	D
Approach Delay (s)		128.9			25.0			121.0			49.8	
Approach LOS		F			C			F			D	

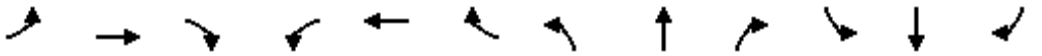
Intersection Summary			
HCM 2000 Control Delay	92.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	110.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	59	109	752	125	165	740
Future Volume (Veh/h)	59	109	752	125	165	740
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	63	116	800	133	176	787
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		2				
Median type			None			Raised
Median storage veh)						1
Upstream signal (ft)						315
pX, platoon unblocked	0.80					
vC, conflicting volume	1612	466			933	
vC1, stage 1 conf vol	866					
vC2, stage 2 conf vol	746					
vCu, unblocked vol	1269	466			933	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	74	79			76	
cM capacity (veh/h)	238	543			729	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	179	533	400	176	394	394
Volume Left	63	0	0	176	0	0
Volume Right	116	0	133	0	0	0
cSH	677	1700	1700	729	1700	1700
Volume to Capacity	0.26	0.31	0.24	0.24	0.23	0.23
Queue Length 95th (ft)	27	0	0	24	0	0
Control Delay (s)	17.7	0.0	0.0	11.5	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	17.7	0.0		2.1		
Approach LOS	C					

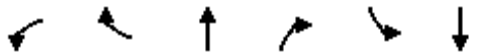
Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	47.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	221	15	20	86	6	24	21	31	22	11	6
Future Volume (Veh/h)	20	221	15	20	86	6	24	21	31	22	11	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	21	235	16	21	91	6	26	22	33	23	12	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									1			1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	97			251			419	416	235	438	426	91
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	97			251			419	416	235	438	426	91
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			95	96	96	95	98	99
cM capacity (veh/h)	1496			1314			519	512	804	480	505	967

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	256	16	112	6	81	41
Volume Left	21	0	21	0	26	23
Volume Right	0	16	0	6	33	6
cSH	1496	1700	1314	1700	870	572
Volume to Capacity	0.01	0.01	0.02	0.00	0.09	0.07
Queue Length 95th (ft)	1	0	1	0	8	6
Control Delay (s)	0.7	0.0	1.6	0.0	11.5	12.3
Lane LOS	A		A		B	B
Approach Delay (s)	0.7		1.5		11.5	12.3
Approach LOS					B	B

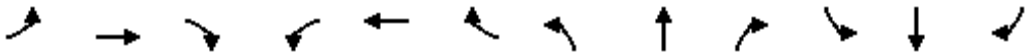
Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	37.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	38	63	283	22	63	0
Future Volume (vph)	38	63	283	22	63	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frt	1.00	0.85	0.99		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	1583	3502		1770	
Flt Permitted	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1770	1583	3502		1770	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	40	67	301	23	67	0
RTOR Reduction (vph)	0	62	4	0	0	0
Lane Group Flow (vph)	40	5	320	0	67	0
Turn Type	Perm	Perm	NA		Prot	
Protected Phases			2		1	
Permitted Phases	8	8				
Actuated Green, G (s)	6.1	6.1	49.7		7.2	
Effective Green, g (s)	6.1	6.1	49.7		7.2	
Actuated g/C Ratio	0.08	0.08	0.66		0.10	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	143	128	2320		169	
v/s Ratio Prot			c0.09		c0.04	
v/s Ratio Perm	c0.02	0.00				
v/c Ratio	0.28	0.04	0.14		0.40	
Uniform Delay, d1	32.4	31.8	4.7		31.9	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.1	0.1	0.1		1.5	
Delay (s)	33.5	31.9	4.8		33.4	
Level of Service	C	C	A		C	
Approach Delay (s)	32.5		4.8			33.4
Approach LOS	C		A			C

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	25.3%	ICU Level of Service	A
Analysis Period (min)	15		

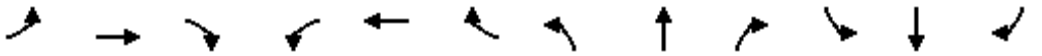
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	2	83	13	3	21	202	183	2	8	181	65
Future Volume (Veh/h)	97	2	83	13	3	21	202	183	2	8	181	65
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	103	2	88	14	3	22	215	195	2	9	193	69
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			7									
Median type								None			Raised	
Median storage veh)											1	
Upstream signal (ft)											430	
pX, platoon unblocked												
vC, conflicting volume	796	872	131	742	906	98	262			197		
vC1, stage 1 conf vol	246	246		626	626							
vC2, stage 2 conf vol	551	627		116	280							
vCu, unblocked vol	796	872	131	742	906	98	262			197		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	68	99	90	95	99	98	83			99		
cM capacity (veh/h)	319	320	894	301	297	938	1299			1373		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	193	39	215	130	67	106	166
Volume Left	103	14	215	0	0	9	0
Volume Right	88	22	0	0	2	0	69
cSH	586	487	1299	1700	1700	1373	1700
Volume to Capacity	0.33	0.08	0.17	0.08	0.04	0.01	0.10
Queue Length 95th (ft)	36	6	15	0	0	0	0
Control Delay (s)	16.1	13.0	8.3	0.0	0.0	0.7	0.0
Lane LOS	C	B	A			A	
Approach Delay (s)	16.1	13.0	4.3			0.3	
Approach LOS	C	B					

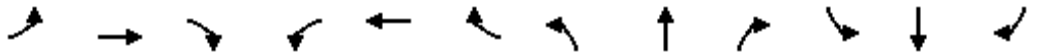
Intersection Summary				
Average Delay	6.0			
Intersection Capacity Utilization	40.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	3	34	18	20	36	62	1003	22	7	497	39
Future Volume (vph)	29	3	34	18	20	36	62	1003	22	7	497	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1719		1770	3528		1770	3501	
Flt Permitted	0.75	1.00	1.00		0.92		0.40	1.00		0.26	1.00	
Satd. Flow (perm)	1389	1863	1583		1593		751	3528		488	3501	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	31	3	36	19	21	38	66	1067	23	7	529	41
RTOR Reduction (vph)	0	0	33	0	35	0	0	1	0	0	3	0
Lane Group Flow (vph)	31	3	3	0	43	0	66	1089	0	7	567	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	6.9	6.9	6.9		6.9		73.1	73.1		63.0	63.0	
Effective Green, g (s)	6.9	6.9	6.9		6.9		73.1	73.1		63.0	63.0	
Actuated g/C Ratio	0.08	0.08	0.08		0.08		0.81	0.81		0.70	0.70	
Clearance Time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	106	142	121		122		667	2865		341	2450	
v/s Ratio Prot		0.00					0.01	c0.31			0.16	
v/s Ratio Perm	0.02		0.00		c0.03		0.07			0.01		
v/c Ratio	0.29	0.02	0.02		0.35		0.10	0.38		0.02	0.23	
Uniform Delay, d1	39.2	38.4	38.4		39.4		1.8	2.3		4.1	4.8	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	0.1	0.1		1.8		0.1	0.4		0.1	0.2	
Delay (s)	40.8	38.5	38.5		41.2		1.9	2.7		4.2	5.1	
Level of Service	D	D	D		D		A	A		A	A	
Approach Delay (s)		39.5			41.2			2.6			5.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

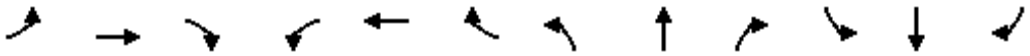
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	82	49	67	60	36	54	794	94	25	735	29
Future Volume (vph)	39	82	49	67	60	36	54	794	94	25	735	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1833	1583		1815	1583	1770	3483		1770	3519	
Flt Permitted		0.84	1.00		0.77	1.00	0.34	1.00		0.28	1.00	
Satd. Flow (perm)		1568	1583		1430	1583	627	3483		516	3519	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	41	87	52	71	64	38	57	845	100	27	782	31
RTOR Reduction (vph)	0	0	42	0	0	30	0	17	0	0	5	0
Lane Group Flow (vph)	0	128	10	0	135	8	57	928	0	27	808	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		6.8	6.8		6.8	6.8	17.9	17.9		17.9	17.9	
Effective Green, g (s)		6.8	6.8		6.8	6.8	17.9	17.9		17.9	17.9	
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.53	0.53		0.53	0.53	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		316	319		288	319	333	1850		274	1869	
v/s Ratio Prot								c0.27			0.23	
v/s Ratio Perm		0.08	0.01		c0.09	0.00	0.09			0.05		
v/c Ratio		0.41	0.03		0.47	0.02	0.17	0.50		0.10	0.43	
Uniform Delay, d1		11.7	10.8		11.9	10.8	4.1	5.0		3.9	4.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.9	0.0		1.2	0.0	0.2	0.2		0.2	0.2	
Delay (s)		12.5	10.9		13.1	10.8	4.3	5.3		4.1	5.0	
Level of Service		B	B		B	B	A	A		A	A	
Approach Delay (s)		12.1			12.6			5.2			4.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	33.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

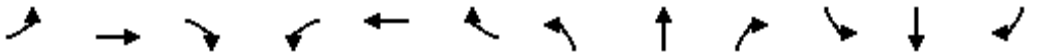
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	44	146	7	11	113	22	11	13	11	20	4	44
Future Volume (vph)	44	146	7	11	113	22	11	13	11	20	4	44
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	47	155	7	12	120	23	12	14	12	21	4	47

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	202	7	132	23	26	12	25	47
Volume Left (vph)	47	0	12	0	12	0	21	0
Volume Right (vph)	0	7	0	23	0	12	0	47
Hadj (s)	0.15	-0.67	0.08	-0.67	0.26	-0.67	0.45	-0.67
Departure Headway (s)	5.1	4.2	5.0	4.3	5.7	4.8	5.9	4.8
Degree Utilization, x	0.28	0.01	0.18	0.03	0.04	0.02	0.04	0.06
Capacity (veh/h)	697	817	690	807	590	696	573	704
Control Delay (s)	8.9	6.1	8.0	6.2	7.8	6.7	7.9	6.9
Approach Delay (s)	8.8		7.7		7.4		7.2	
Approach LOS	A		A		A		A	

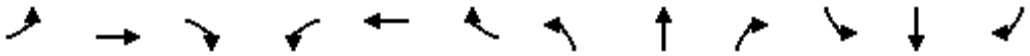
Intersection Summary				
Delay	8.1			
Level of Service	A			
Intersection Capacity Utilization	31.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	154	18	29	116	108	17	165	66	61	93	34
Future Volume (vph)	36	154	18	29	116	108	17	165	66	61	93	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		0.96		1.00	0.96	
Flt Protected		0.99	1.00		0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1845	1583		1844	1583		3387		1770	1788	
Flt Permitted		0.91	1.00		0.81	1.00		0.94		0.59	1.00	
Satd. Flow (perm)		1699	1583		1516	1583		3184		1097	1788	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	38	164	19	31	123	115	18	176	70	65	99	36
RTOR Reduction (vph)	0	0	15	0	0	91	0	20	0	0	7	0
Lane Group Flow (vph)	0	202	4	0	154	24	0	244	0	65	128	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		16.1	16.1		16.1	16.1		64.9		64.9	64.9	
Effective Green, g (s)		16.1	16.1		16.1	16.1		64.9		64.9	64.9	
Actuated g/C Ratio		0.18	0.18		0.18	0.18		0.72		0.72	0.72	
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		303	283		271	283		2296		791	1289	
v/s Ratio Prot											0.07	
v/s Ratio Perm		c0.12	0.00		0.10	0.02		c0.08		0.06		
v/c Ratio		0.67	0.01		0.57	0.08		0.11		0.08	0.10	
Uniform Delay, d1		34.4	30.4		33.8	30.8		3.8		3.7	3.8	
Progression Factor		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		5.5	0.0		2.7	0.1		0.1		0.2	0.2	
Delay (s)		39.9	30.4		36.5	30.9		3.9		3.9	3.9	
Level of Service		D	C		D	C		A		A	A	
Approach Delay (s)		39.1			34.1			3.9			3.9	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

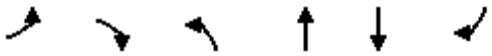
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	104	66	75	98	40	155	1055	64	15	498	51
Future Volume (vph)	86	104	66	75	98	40	155	1055	64	15	498	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.96		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1755		1770	1781		1770	3509		1770	3490	
Flt Permitted	0.57	1.00		0.47	1.00		0.43	1.00		0.21	1.00	
Satd. Flow (perm)	1070	1755		877	1781		804	3509		393	3490	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	91	111	70	80	104	43	165	1122	68	16	530	54
RTOR Reduction (vph)	0	30	0	0	20	0	0	5	0	0	8	0
Lane Group Flow (vph)	91	151	0	80	127	0	165	1185	0	16	576	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.7	11.7		11.7	11.7		59.3	59.3		59.3	59.3	
Effective Green, g (s)	11.7	11.7		11.7	11.7		59.3	59.3		59.3	59.3	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.74	0.74		0.74	0.74	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	156	256		128	260		595	2601		291	2586	
v/s Ratio Prot		0.09			0.07			c0.34			0.17	
v/s Ratio Perm	0.09			c0.09			0.21			0.04		
v/c Ratio	0.58	0.59		0.62	0.49		0.28	0.46		0.05	0.22	
Uniform Delay, d1	31.9	31.9		32.1	31.4		3.4	4.0		2.8	3.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.5	3.6		9.2	1.5		1.2	0.6		0.4	0.2	
Delay (s)	37.3	35.5		41.2	32.9		4.5	4.6		3.2	3.4	
Level of Service	D	D		D	C		A	A		A	A	
Approach Delay (s)		36.1			35.8			4.6			3.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



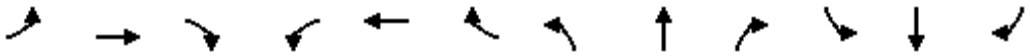
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	3	0	0	207	107
Future Volume (Veh/h)	0	3	0	0	207	107
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	3	0	0	220	114
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	277	167	334			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	277	167	334			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	690	848	1222			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	3	147	187
Volume Left	0	0	0
Volume Right	3	0	114
cSH	848	1700	1700
Volume to Capacity	0.00	0.09	0.11
Queue Length 95th (ft)	0	0	0
Control Delay (s)	9.3	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.3	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1026	408	323	1474	641	202
Future Volume (vph)	1026	408	323	1474	641	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.19	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	346	3539	3433	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1058	421	333	1520	661	208
RTOR Reduction (vph)	0	0	0	0	0	159
Lane Group Flow (vph)	1058	421	333	1520	661	49
Confl. Peds. (#/hr)					2	
Turn Type	NA	Free	pm+pt	NA	Prot	Perm
Protected Phases	1		2	1 2	4	
Permitted Phases		Free	1 2			4
Actuated Green, G (s)	52.3	100.0	61.3	66.3	23.7	23.7
Effective Green, g (s)	52.3	100.0	61.3	66.3	23.7	23.7
Actuated g/C Ratio	0.52	1.00	0.61	0.66	0.24	0.24
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	1850	1583	340	2346	813	375
v/s Ratio Prot	0.30		c0.09	0.43	c0.19	
v/s Ratio Perm		0.27	c0.51			0.03
v/c Ratio	0.57	0.27	0.98	0.65	0.81	0.13
Uniform Delay, d1	16.2	0.0	26.8	10.0	36.1	30.0
Progression Factor	1.00	1.00	1.20	1.50	1.00	1.00
Incremental Delay, d2	1.3	0.4	25.4	0.2	6.2	0.2
Delay (s)	17.5	0.4	57.5	15.2	42.3	30.2
Level of Service	B	A	E	B	D	C
Approach Delay (s)	12.7			22.8	39.4	
Approach LOS	B			C	D	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	474	117	236	576	53	211	714	159	32	703	112
Future Volume (vph)	129	474	117	236	576	53	211	714	159	32	703	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1807		1770	1839		1770	3442		1770	3467	
Flt Permitted	0.28	1.00		0.10	1.00		0.12	1.00		0.28	1.00	
Satd. Flow (perm)	516	1807		196	1839		226	3442		527	3467	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	133	489	121	243	594	55	218	736	164	33	725	115
RTOR Reduction (vph)	0	9	0	0	3	0	0	20	0	0	13	0
Lane Group Flow (vph)	133	601	0	243	646	0	218	880	0	33	827	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	33.6	33.6		45.6	45.6		40.4	40.4		28.4	28.4	
Effective Green, g (s)	33.6	33.6		45.6	45.6		40.4	40.4		28.4	28.4	
Actuated g/C Ratio	0.35	0.35		0.48	0.48		0.43	0.43		0.30	0.30	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	182	639		218	882		218	1463		157	1036	
v/s Ratio Prot		0.33		c0.09	0.35		c0.08	0.26			0.24	
v/s Ratio Perm	0.26			c0.45			c0.35			0.06		
v/c Ratio	0.73	0.94		1.11	0.73		1.00	0.60		0.21	0.80	
Uniform Delay, d1	26.8	29.7		23.4	19.8		22.0	21.1		24.9	30.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.0	22.1		95.1	3.2		61.0	0.7		0.7	4.4	
Delay (s)	40.8	51.8		118.6	23.0		83.0	21.8		25.6	35.0	
Level of Service	D	D		F	C		F	C		C	D	
Approach Delay (s)		49.8			49.0			33.7			34.7	
Approach LOS		D			D			C			C	

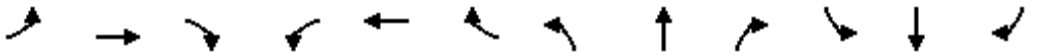
Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	682	13	38	886	13	22
Future Volume (Veh/h)	682	13	38	886	13	22
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	703	13	39	913	13	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	719					
pX, platoon unblocked			0.70		0.70	0.70
vC, conflicting volume			716		1700	710
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			387		1785	378
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		78	95
cM capacity (veh/h)			825		60	471

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	716	39	913	36
Volume Left	0	39	0	13
Volume Right	13	0	0	23
cSH	1700	825	1700	167
Volume to Capacity	0.42	0.05	0.54	0.22
Queue Length 95th (ft)	0	4	0	20
Control Delay (s)	0.0	9.6	0.0	37.4
Lane LOS		A		E
Approach Delay (s)	0.0	0.4		37.4
Approach LOS				E

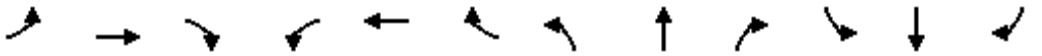
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2085	149	346	2756	0	361	0	376	28	22	30
Future Volume (vph)	0	2085	149	346	2756	0	361	0	376	28	22	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Lane Util. Factor		0.91		1.00	0.91		0.95	0.95	1.00		1.00	1.00
Frt		0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00		0.95	0.95	1.00		0.97	1.00
Satd. Flow (prot)		5034		1770	5085		1681	1681	1583		1812	1583
Flt Permitted		1.00		0.09	1.00		0.95	0.95	1.00		0.30	1.00
Satd. Flow (perm)		5034		159	5085		1681	1681	1583		553	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2149	154	357	2841	0	372	0	388	29	23	31
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	115	0	0	28
Lane Group Flow (vph)	0	2295	0	357	2841	0	186	186	273	0	52	3
Turn Type	Perm	NA		pm+pt	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases		2		1	6		4	4	1		3	
Permitted Phases	2			6					4	3		3
Actuated Green, G (s)		41.9		59.9	59.9		13.1	13.1	26.1		10.5	10.5
Effective Green, g (s)		41.9		59.9	59.9		13.1	13.1	26.1		10.5	10.5
Actuated g/C Ratio		0.42		0.60	0.60		0.13	0.13	0.26		0.10	0.10
Clearance Time (s)		5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Vehicle Extension (s)		4.0		1.5	4.0		3.0	3.0	1.5		3.0	3.0
Lane Grp Cap (vph)		2109		304	3045		220	220	413		58	166
v/s Ratio Prot		0.46		c0.15	0.56		c0.11	0.11	0.09			
v/s Ratio Perm				c0.55					0.09		c0.09	0.00
v/c Ratio		1.09		1.17	0.93		0.85	0.85	0.66		0.90	0.02
Uniform Delay, d1		29.1		31.6	18.2		42.5	42.5	33.0		44.2	40.1
Progression Factor		1.43		1.24	1.26		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		48.1		102.8	5.5		24.6	24.6	3.1		80.9	0.0
Delay (s)		89.6		141.8	28.6		67.1	67.1	36.1		125.1	40.2
Level of Service		F		F	C		E	E	D		F	D
Approach Delay (s)		89.6			41.2			51.2			93.4	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	60.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

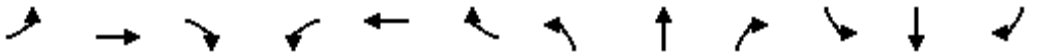
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	2067	115	106	2539	27	0	0	192	0	0	12
Future Volume (vph)	28	2067	115	106	2539	27	0	0	192	0	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5				5.0			5.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00			1.00
Frt	1.00	0.99		1.00	1.00				0.86			0.86
Flt Protected	0.95	1.00		0.95	1.00				1.00			1.00
Satd. Flow (prot)	1770	5045		1770	5077				1611			1611
Flt Permitted	0.41	1.00		0.14	1.00				1.00			1.00
Satd. Flow (perm)	760	5045		269	5077				1611			1611
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	2131	119	109	2618	28	0	0	198	0	0	12
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	187	0	0	11
Lane Group Flow (vph)	29	2244	0	109	2645	0	0	0	11	0	0	1
Turn Type	custom	NA		custom	NA				Perm			Perm
Protected Phases		2			6							
Permitted Phases	5			1					4			4
Actuated Green, G (s)	9.8	50.5		27.7	68.4				5.8			5.8
Effective Green, g (s)	9.8	50.5		27.7	68.4				5.8			5.8
Actuated g/C Ratio	0.10	0.50		0.28	0.68				0.06			0.06
Clearance Time (s)	5.5	5.5		5.5	5.5				5.0			5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			3.0
Lane Grp Cap (vph)	74	2547		74	3472				93			93
v/s Ratio Prot		c0.44			0.52							
v/s Ratio Perm	0.04			c0.41					c0.01			0.00
v/c Ratio	0.39	0.88		1.47	0.76				0.12			0.01
Uniform Delay, d1	42.3	22.1		36.1	10.4				44.7			44.4
Progression Factor	1.23	0.36		1.09	0.83				1.00			1.00
Incremental Delay, d2	0.3	0.5		242.8	0.7				0.6			0.0
Delay (s)	52.3	8.3		282.3	9.4				45.3			44.4
Level of Service	D	A		F	A				D			D
Approach Delay (s)		8.9			20.2			45.3			44.4	
Approach LOS		A			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	1884	171	878	2235	35	211	171	626	104	283	217
Future Volume (vph)	135	1884	171	878	2235	35	211	171	626	104	283	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5074		1610	3334	1583	1770	1863	1583
Flt Permitted	0.09	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.58	1.00	1.00
Satd. Flow (perm)	170	5085	1583	3433	5074		1610	3334	1583	1084	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	139	1942	176	905	2304	36	218	176	645	107	292	224
RTOR Reduction (vph)	0	0	99	0	2	0	0	0	63	0	0	194
Lane Group Flow (vph)	139	1942	77	905	2338	0	129	265	582	107	292	30
Turn Type	pm+pt	NA	Perm	Prot	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6		3	3	1		4	
Permitted Phases	2		2						3	4		4
Actuated Green, G (s)	49.3	43.8	43.8	11.5	49.8		11.2	11.2	22.7	11.0	11.0	11.0
Effective Green, g (s)	49.3	43.8	43.8	11.5	49.8		11.2	11.2	22.7	11.0	11.0	11.0
Actuated g/C Ratio	0.49	0.44	0.44	0.12	0.50		0.11	0.11	0.23	0.11	0.11	0.11
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.5	3.5	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	171	2227	693	394	2526		180	373	359	119	204	174
v/s Ratio Prot	0.04	0.38		c0.26	c0.46		0.08	0.08	c0.19		c0.16	
v/s Ratio Perm	0.35		0.05						0.18	0.10		0.02
v/c Ratio	0.81	0.87	0.11	2.30	0.93		0.72	0.71	1.62	0.90	1.43	0.17
Uniform Delay, d1	21.1	25.6	16.6	44.2	23.4		42.9	42.8	38.6	44.0	44.5	40.4
Progression Factor	1.75	1.86	10.47	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.0	2.7	0.2	591.6	7.3		13.2	6.5	291.6	52.7	220.0	0.6
Delay (s)	50.8	50.3	173.9	635.9	30.7		56.0	49.3	330.2	96.6	264.5	40.9
Level of Service	D	D	F	F	C		E	D	F	F	F	D
Approach Delay (s)		59.9			199.5			224.5			155.3	
Approach LOS		E			F			F			F	

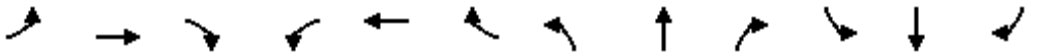
Intersection Summary			
HCM 2000 Control Delay	155.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	84	280	938	95	105	817
Future Volume (Veh/h)	84	280	938	95	105	817
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	87	289	967	98	108	842
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		2				
Median type			None			Raised
Median storage veh)						1
Upstream signal (ft)						315
pX, platoon unblocked	0.82					
vC, conflicting volume	1653	532			1065	
vC1, stage 1 conf vol	1016					
vC2, stage 2 conf vol	637					
vCu, unblocked vol	1357	532			1065	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	61	41			83	
cM capacity (veh/h)	226	492			650	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	376	645	420	108	421	421
Volume Left	87	0	0	108	0	0
Volume Right	289	0	98	0	0	0
cSH	640	1700	1700	650	1700	1700
Volume to Capacity	0.59	0.38	0.25	0.17	0.25	0.25
Queue Length 95th (ft)	96	0	0	15	0	0
Control Delay (s)	24.2	0.0	0.0	11.6	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	24.2	0.0		1.3		
Approach LOS	C					

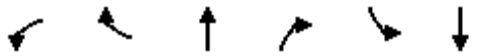
Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	134	17	73	235	8	12	13	23	13	27	11
Future Volume (Veh/h)	3	134	17	73	235	8	12	13	23	13	27	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	3	138	18	75	242	8	12	13	24	13	28	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									1			1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	250			156			556	544	138	554	554	242
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	250			156			556	544	138	554	554	242
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			97	97	97	97	93	99
cM capacity (veh/h)	1316			1424			396	422	910	403	416	797

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	141	18	317	8	49	52
Volume Left	3	0	75	0	12	13
Volume Right	0	18	0	8	24	11
cSH	1316	1700	1424	1700	803	523
Volume to Capacity	0.00	0.01	0.05	0.00	0.06	0.10
Queue Length 95th (ft)	0	0	4	0	5	8
Control Delay (s)	0.2	0.0	2.2	0.0	11.8	13.6
Lane LOS	A		A		B	B
Approach Delay (s)	0.2		2.1		11.8	13.6
Approach LOS					B	B

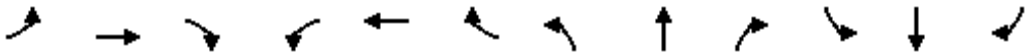
Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	42.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	112	232	380	77	82	0
Future Volume (vph)	112	232	380	77	82	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frt	1.00	0.85	0.97		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	1583	3450		1770	
Flt Permitted	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1770	1583	3450		1770	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	115	239	392	79	85	0
RTOR Reduction (vph)	0	212	8	0	0	0
Lane Group Flow (vph)	115	27	463	0	85	0
Turn Type	Perm	Perm	NA		Prot	
Protected Phases			2		1	
Permitted Phases	8	8				
Actuated Green, G (s)	12.9	12.9	80.6		9.5	
Effective Green, g (s)	12.9	12.9	80.6		9.5	
Actuated g/C Ratio	0.11	0.11	0.70		0.08	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	198	177	2418		146	
v/s Ratio Prot			c0.13		c0.05	
v/s Ratio Perm	c0.06	0.02				
v/c Ratio	0.58	0.15	0.19		0.58	
Uniform Delay, d1	48.5	46.1	5.9		50.8	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.3	0.4	0.2		5.8	
Delay (s)	52.8	46.5	6.1		56.6	
Level of Service	D	D	A		E	
Approach Delay (s)	48.5		6.1			56.6
Approach LOS	D		A			E

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

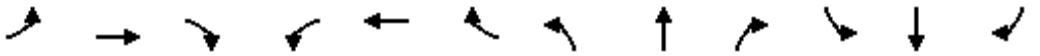
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	2	110	8	2	15	110	242	10	94	429	102
Future Volume (Veh/h)	113	2	110	8	2	15	110	242	10	94	429	102
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	116	2	113	8	2	15	113	249	10	97	442	105
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			7									
Median type								None			Raised	
Median storage veh)											1	
Upstream signal (ft)											430	
pX, platoon unblocked												
vC, conflicting volume	1055	1174	274	896	1221	130	547			259		
vC1, stage 1 conf vol	688	688		480	480							
vC2, stage 2 conf vol	366	485		416	741							
vCu, unblocked vol	1055	1174	274	896	1221	130	547			259		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	54	99	84	97	99	98	89			93		
cM capacity (veh/h)	254	255	724	256	220	896	1018			1303		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	231	25	113	166	93	318	326
Volume Left	116	8	113	0	0	97	0
Volume Right	113	15	0	0	10	0	105
cSH	497	438	1018	1700	1700	1303	1700
Volume to Capacity	0.46	0.06	0.11	0.10	0.05	0.07	0.19
Queue Length 95th (ft)	61	5	9	0	0	6	0
Control Delay (s)	21.1	13.7	9.0	0.0	0.0	2.9	0.0
Lane LOS	C	B	A			A	
Approach Delay (s)	21.1	13.7	2.7			1.4	
Approach LOS	C	B					

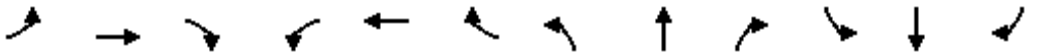
Intersection Summary				
Average Delay	5.6			
Intersection Capacity Utilization	47.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	22	162	38	31	46	145	853	25	29	1088	92
Future Volume (vph)	102	22	162	38	31	46	145	853	25	29	1088	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1734		1770	3524		1770	3498	
Flt Permitted	0.62	1.00	1.00		0.89		0.16	1.00		0.31	1.00	
Satd. Flow (perm)	1151	1863	1583		1570		292	3524		587	3498	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	105	23	167	39	32	47	149	879	26	30	1122	95
RTOR Reduction (vph)	0	0	143	0	32	0	0	1	0	0	4	0
Lane Group Flow (vph)	105	23	24	0	86	0	149	904	0	30	1213	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	13.0	13.0	13.0		13.0		68.0	68.0		55.3	55.3	
Effective Green, g (s)	13.0	13.0	13.0		13.0		68.0	68.0		55.3	55.3	
Actuated g/C Ratio	0.14	0.14	0.14		0.14		0.76	0.76		0.61	0.61	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	166	269	228		226		355	2662		360	2149	
v/s Ratio Prot		0.01					c0.04	0.26			c0.35	
v/s Ratio Perm	c0.09		0.02		0.06		0.28			0.05		
v/c Ratio	0.63	0.09	0.11		0.38		0.42	0.34		0.08	0.56	
Uniform Delay, d1	36.3	33.4	33.5		34.9		6.1	3.6		7.1	10.2	
Progression Factor	1.00	1.00	1.00		1.00		2.28	0.81		1.00	1.00	
Incremental Delay, d2	7.6	0.1	0.2		1.1		0.7	0.3		0.5	1.1	
Delay (s)	43.9	33.5	33.7		35.9		14.6	3.2		7.5	11.3	
Level of Service	D	C	C		D		B	A		A	B	
Approach Delay (s)		37.3			35.9			4.8			11.2	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

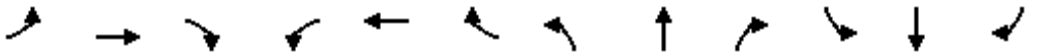
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	87	45	159	138	77	54	930	77	46	850	30
Future Volume (vph)	36	87	45	159	138	77	54	930	77	46	850	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1836	1583		1814	1583	1770	3499		1770	3521	
Flt Permitted		0.85	1.00		0.76	1.00	0.26	1.00		0.21	1.00	
Satd. Flow (perm)		1577	1583		1425	1583	485	3499		384	3521	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	37	90	46	164	142	79	56	959	79	47	876	31
RTOR Reduction (vph)	0	0	32	0	0	37	0	13	0	0	5	0
Lane Group Flow (vph)	0	127	14	0	306	42	56	1025	0	47	902	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		13.2	13.2		13.2	13.2	20.5	20.5		20.5	20.5	
Effective Green, g (s)		13.2	13.2		13.2	13.2	20.5	20.5		20.5	20.5	
Actuated g/C Ratio		0.31	0.31		0.31	0.31	0.48	0.48		0.48	0.48	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		487	489		440	489	232	1679		184	1690	
v/s Ratio Prot								c0.29			0.26	
v/s Ratio Perm		0.08	0.01		c0.21	0.03	0.12			0.12		
v/c Ratio		0.26	0.03		0.70	0.09	0.24	0.61		0.26	0.53	
Uniform Delay, d1		11.1	10.3		13.0	10.5	6.5	8.2		6.6	7.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3	0.0		4.7	0.1	0.5	0.7		0.7	0.3	
Delay (s)		11.4	10.3		17.7	10.5	7.1	8.8		7.3	8.1	
Level of Service		B	B		B	B	A	A		A	A	
Approach Delay (s)		11.1			16.2			8.7			8.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	42.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

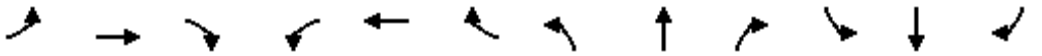
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	39	181	3	17	256	46	31	11	10	43	12	105
Future Volume (vph)	39	181	3	17	256	46	31	11	10	43	12	105
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	40	187	3	18	264	47	32	11	10	44	12	108

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	227	3	282	47	43	10	56	108
Volume Left (vph)	40	0	18	0	32	0	44	0
Volume Right (vph)	0	3	0	47	0	10	0	108
Hadj (s)	0.12	-0.67	0.07	-0.67	0.41	-0.67	0.43	-0.67
Departure Headway (s)	5.6	4.8	5.4	4.7	6.5	5.5	6.4	5.3
Degree Utilization, x	0.35	0.00	0.42	0.06	0.08	0.02	0.10	0.16
Capacity (veh/h)	619	714	642	733	506	594	521	625
Control Delay (s)	10.3	6.6	11.1	6.8	8.9	7.3	8.9	8.1
Approach Delay (s)	10.3		10.5		8.6		8.4	
Approach LOS	B		B		A		A	

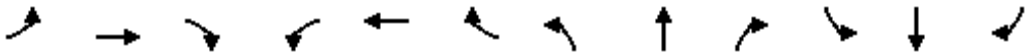
Intersection Summary				
Delay	9.9			
Level of Service	A			
Intersection Capacity Utilization	45.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	152	29	106	251	104	19	182	54	106	312	67
Future Volume (vph)	70	152	29	106	251	104	19	182	54	106	312	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		0.97		1.00	0.97	
Flt Protected		0.98	1.00		0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1834	1583		1836	1583		3414		1770	1813	
Flt Permitted		0.58	1.00		0.73	1.00		0.92		0.59	1.00	
Satd. Flow (perm)		1086	1583		1356	1583		3143		1097	1813	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	72	157	30	109	259	107	20	188	56	109	322	69
RTOR Reduction (vph)	0	0	14	0	0	32	0	19	0	0	6	0
Lane Group Flow (vph)	0	229	16	0	368	75	0	245	0	109	385	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		28.3	28.3		28.3	28.3		52.7		52.7	52.7	
Effective Green, g (s)		28.3	28.3		28.3	28.3		52.7		52.7	52.7	
Actuated g/C Ratio		0.31	0.31		0.31	0.31		0.59		0.59	0.59	
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		341	497		426	497		1840		642	1061	
v/s Ratio Prot											c0.21	
v/s Ratio Perm		0.21	0.01		c0.27	0.05		0.08		0.10		
v/c Ratio		0.67	0.03		0.86	0.15		0.13		0.17	0.36	
Uniform Delay, d1		26.8	21.4		29.0	22.2		8.4		8.6	9.8	
Progression Factor		1.00	1.00		1.01	1.02		1.00		1.00	1.00	
Incremental Delay, d2		5.1	0.0		14.2	0.1		0.2		0.6	1.0	
Delay (s)		31.9	21.4		43.5	22.9		8.5		9.2	10.8	
Level of Service		C	C		D	C		A		A	B	
Approach Delay (s)		30.7			38.9			8.5			10.4	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

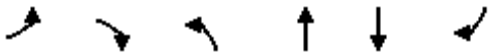
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	120	144	114	210	49	107	916	77	78	1244	110
Future Volume (vph)	77	120	144	114	210	49	107	916	77	78	1244	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1711		1770	1809		1770	3498		1770	3496	
Flt Permitted	0.34	1.00		0.32	1.00		0.15	1.00		0.25	1.00	
Satd. Flow (perm)	624	1711		605	1809		277	3498		462	3496	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	79	124	148	118	216	51	110	944	79	80	1282	113
RTOR Reduction (vph)	0	49	0	0	10	0	0	6	0	0	7	0
Lane Group Flow (vph)	79	223	0	118	257	0	110	1017	0	80	1388	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	18.3	18.3		18.3	18.3		62.7	62.7		62.7	62.7	
Effective Green, g (s)	18.3	18.3		18.3	18.3		62.7	62.7		62.7	62.7	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.70	0.70		0.70	0.70	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	126	347		123	367		192	2436		321	2435	
v/s Ratio Prot		0.13			0.14			0.29			c0.40	
v/s Ratio Perm	0.13			c0.20			0.40			0.17		
v/c Ratio	0.63	0.64		0.96	0.70		0.57	0.42		0.25	0.57	
Uniform Delay, d1	32.7	32.8		35.5	33.3		6.9	5.8		5.0	6.9	
Progression Factor	1.34	1.45		1.00	1.00		1.00	1.00		1.21	1.01	
Incremental Delay, d2	9.2	3.9		67.6	6.0		11.8	0.5		1.7	0.9	
Delay (s)	53.0	51.7		103.1	39.3		18.7	6.4		7.7	7.8	
Level of Service	D	D		F	D		B	A		A	A	
Approach Delay (s)		52.0			58.8			7.6			7.8	
Approach LOS		D			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



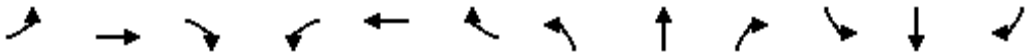
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	199	0	0	307	4
Future Volume (Veh/h)	0	199	0	0	307	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	216	0	0	334	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	336	169	338			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	336	169	338			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	74	100			
cM capacity (veh/h)	634	845	1218			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	216	223	115
Volume Left	0	0	0
Volume Right	216	0	4
cSH	845	1700	1700
Volume to Capacity	0.26	0.13	0.07
Queue Length 95th (ft)	25	0	0
Control Delay (s)	10.7	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.7	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1353	701	166	738	285	75
Future Volume (vph)	1353	701	166	738	285	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.12	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	230	3539	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1439	746	177	785	303	80
RTOR Reduction (vph)	0	0	0	0	0	69
Lane Group Flow (vph)	1439	746	177	785	303	11
Confl. Peds. (#/hr)					2	
Turn Type	NA	Free	pm+pt	NA	Prot	Perm
Protected Phases	1		2	1 2	4	
Permitted Phases		Free	1 2			4
Actuated Green, G (s)	74.2	115.0	83.7	88.7	16.3	16.3
Effective Green, g (s)	74.2	115.0	83.7	88.7	16.3	16.3
Actuated g/C Ratio	0.65	1.00	0.73	0.77	0.14	0.14
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	2283	1583	294	2729	486	224
v/s Ratio Prot	c0.41		0.05	0.22	c0.09	
v/s Ratio Perm		c0.47	0.39			0.01
v/c Ratio	0.63	0.47	0.60	0.29	0.62	0.05
Uniform Delay, d1	12.2	0.0	25.9	3.9	46.5	42.7
Progression Factor	1.00	1.00	1.80	1.67	1.00	1.00
Incremental Delay, d2	1.3	1.0	3.4	0.1	2.5	0.1
Delay (s)	13.5	1.0	50.1	6.5	49.0	42.8
Level of Service	B	A	D	A	D	D
Approach Delay (s)	9.3			14.5	47.7	
Approach LOS	A			B	D	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	676	96	135	272	48	148	399	213	32	686	95
Future Volume (vph)	61	676	96	135	272	48	148	399	213	32	686	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1828		1770	1821		1770	3354		1770	3475	
Flt Permitted	0.56	1.00		0.07	1.00		0.12	1.00		0.40	1.00	
Satd. Flow (perm)	1036	1828		133	1821		219	3354		739	3475	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	65	719	102	144	289	51	157	424	227	34	730	101
RTOR Reduction (vph)	0	4	0	0	5	0	0	62	0	0	10	0
Lane Group Flow (vph)	65	817	0	144	335	0	157	589	0	34	821	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	51.5	51.5		63.5	63.5		41.6	41.6		29.6	29.6	
Effective Green, g (s)	51.5	51.5		63.5	63.5		41.6	41.6		29.6	29.6	
Actuated g/C Ratio	0.45	0.45		0.56	0.56		0.36	0.36		0.26	0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	467	825		181	1013		181	1222		191	901	
v/s Ratio Prot		c0.45		c0.05	0.18		c0.06	0.18			0.24	
v/s Ratio Perm	0.06			0.39			c0.26			0.05		
v/c Ratio	0.14	0.99		0.80	0.33		0.87	0.48		0.18	0.91	
Uniform Delay, d1	18.3	31.0		27.1	13.7		29.1	27.9		32.8	41.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	28.5		21.0	0.2		32.6	0.3		0.4	13.2	
Delay (s)	18.5	59.5		48.1	13.9		61.7	28.2		33.3	54.2	
Level of Service	B	E		D	B		E	C		C	D	
Approach Delay (s)		56.5			24.1			34.7			53.4	
Approach LOS		E			C			C			D	

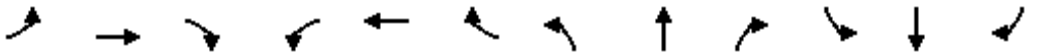
Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	114.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1007	59	19	538	7	35
Future Volume (Veh/h)	1007	59	19	538	7	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1071	63	20	572	7	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	719					
pX, platoon unblocked			0.57		0.57	0.57
vC, conflicting volume			1134		1714	1102
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			862		1874	807
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		84	83
cM capacity (veh/h)			447		43	219

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total	1134	20	572	7	37
Volume Left	0	20	0	7	0
Volume Right	63	0	0	0	37
cSH	1700	447	1700	43	219
Volume to Capacity	0.67	0.04	0.34	0.16	0.17
Queue Length 95th (ft)	0	3	0	13	15
Control Delay (s)	0.0	13.4	0.0	103.7	24.8
Lane LOS		B		F	C
Approach Delay (s)	0.0	0.5		37.3	
Approach LOS				E	

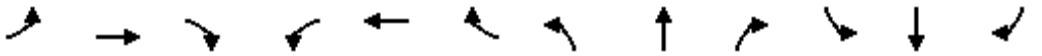
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	3169	250	72	1550	197	334	21	247	4	1	3
Future Volume (vph)	21	3169	250	72	1550	197	334	21	247	4	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00		0.96	1.00
Satd. Flow (prot)	1770	5030		1770	4999		1681	1695	1583		1791	1583
Flt Permitted	0.10	1.00		0.06	1.00		0.75	0.75	1.00		1.00	1.00
Satd. Flow (perm)	190	5030		106	4999		1335	1323	1583		1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	22	3371	266	77	1649	210	355	22	263	4	1	3
RTOR Reduction (vph)	0	5	0	0	10	0	0	0	203	0	0	3
Lane Group Flow (vph)	22	3632	0	77	1849	0	188	189	60	0	5	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	Perm
Protected Phases		2		1	6			4	1		3	
Permitted Phases	2			6			4		4	3		3
Actuated Green, G (s)	65.6	65.6		77.7	77.7		19.1	19.1	26.2		1.7	1.7
Effective Green, g (s)	65.6	65.6		77.7	77.7		19.1	19.1	26.2		1.7	1.7
Actuated g/C Ratio	0.57	0.57		0.68	0.68		0.17	0.17	0.23		0.01	0.01
Clearance Time (s)	5.5	5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	108	2869		174	3377		221	219	360		27	23
v/s Ratio Prot		c0.72		0.03	c0.37				0.01			
v/s Ratio Perm	0.12			0.27			0.14	c0.14	0.03		c0.00	0.00
v/c Ratio	0.20	1.27		0.44	0.55		0.85	0.86	0.17		0.19	0.00
Uniform Delay, d1	12.0	24.7		26.4	9.6		46.6	46.7	35.6		56.0	55.8
Progression Factor	1.58	1.43		1.12	2.04		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.6	122.2		1.4	0.5		25.5	27.7	0.2		3.3	0.0
Delay (s)	22.6	157.4		31.0	20.1		72.1	74.4	35.9		59.3	55.8
Level of Service	C	F		C	C		E	E	D		E	E
Approach Delay (s)		156.6			20.5			57.9			58.0	
Approach LOS		F			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	104.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		

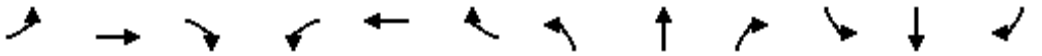
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	2768	25	78	1788	6	0	0	81	0	0	0
Future Volume (vph)	38	2768	25	78	1788	6	0	0	81	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5				5.0			
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00			
Frt	1.00	1.00		1.00	1.00				0.86			
Flt Protected	0.95	1.00		0.95	1.00				1.00			
Satd. Flow (prot)	1770	5078		1770	5083				1611			
Flt Permitted	0.14	1.00		0.12	1.00				1.00			
Satd. Flow (perm)	264	5078		232	5083				1611			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	40	2945	27	83	1902	6	0	0	86	0	0	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	83	0	0	0
Lane Group Flow (vph)	40	2971	0	83	1908	0	0	0	3	0	0	0
Turn Type	custom	NA		custom	NA				Perm			Perm
Protected Phases		2			6							
Permitted Phases	5			1					4			4
Actuated Green, G (s)	28.2	62.5		32.1	66.4				4.4			
Effective Green, g (s)	28.2	62.5		32.1	66.4				4.4			
Actuated g/C Ratio	0.25	0.54		0.28	0.58				0.04			
Clearance Time (s)	5.5	5.5		5.5	5.5				5.0			
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			
Lane Grp Cap (vph)	64	2759		64	2934				61			
v/s Ratio Prot		c0.59			c0.38							
v/s Ratio Perm	0.15			c0.36					c0.00			
v/c Ratio	0.62	1.08		1.30	0.65				0.05			
Uniform Delay, d1	38.7	26.2		41.5	16.4				53.3			
Progression Factor	0.89	1.38		1.56	0.52				1.00			
Incremental Delay, d2	1.7	35.4		199.3	0.9				0.4			
Delay (s)	36.3	71.7		264.1	9.5				53.7			
Level of Service	D	E		F	A				D			
Approach Delay (s)		71.2			20.1			53.7			0.0	
Approach LOS		E			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	50.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	2493	183	345	1566	10	226	122	712	29	76	76
Future Volume (vph)	119	2493	183	345	1566	10	226	122	712	29	76	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5080		1610	3311	1583	1770	1863	1583
Flt Permitted	0.10	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.59	1.00	1.00
Satd. Flow (perm)	189	5085	1583	3433	5080		1610	3311	1583	1102	1863	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	127	2652	195	367	1666	11	240	130	757	31	81	81
RTOR Reduction (vph)	0	0	110	0	0	0	0	0	184	0	0	73
Lane Group Flow (vph)	127	2652	85	367	1677	0	122	248	573	31	81	8
Turn Type	pm+pt	NA	Perm	Prot	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6		3	3	1		4	
Permitted Phases	2		2						3	4		4
Actuated Green, G (s)	54.9	46.6	46.6	20.5	58.8		14.6	14.6	35.1	10.8	10.8	10.8
Effective Green, g (s)	54.9	46.6	46.6	20.5	58.8		14.6	14.6	35.1	10.8	10.8	10.8
Actuated g/C Ratio	0.48	0.41	0.41	0.18	0.51		0.13	0.13	0.31	0.09	0.09	0.09
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.5	3.5	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	204	2060	641	611	2597		204	420	483	103	174	148
v/s Ratio Prot	0.04	c0.52		0.11	0.33		0.08	0.07	c0.21		c0.04	
v/s Ratio Perm	0.25		0.05						0.15	0.03		0.00
v/c Ratio	0.62	1.29	0.13	0.60	0.65		0.60	0.59	1.19	0.30	0.47	0.05
Uniform Delay, d1	18.1	34.2	21.5	43.5	20.5		47.4	47.4	40.0	48.6	49.4	47.4
Progression Factor	1.34	0.98	1.93	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	129.7	0.0	1.7	1.3		4.9	2.4	103.0	1.9	2.3	0.2
Delay (s)	24.7	163.3	41.6	45.2	21.8		52.4	49.7	143.0	50.5	51.7	47.6
Level of Service	C	F	D	D	C		D	D	F	D	D	D
Approach Delay (s)		149.4			26.0			112.7			49.8	
Approach LOS		F			C			F			D	

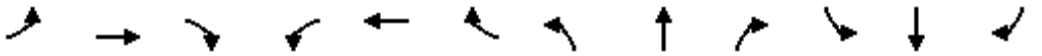
Intersection Summary			
HCM 2000 Control Delay	100.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	105	117	786	193	165	740
Future Volume (vph)	105	117	786	193	165	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3435		1770	3539
Flt Permitted	0.95	1.00	1.00		0.15	1.00
Satd. Flow (perm)	1770	1583	3435		273	3539
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	112	124	836	205	176	787
RTOR Reduction (vph)	0	96	22	0	0	0
Lane Group Flow (vph)	112	28	1019	0	176	787
Turn Type	Prot	Perm	NA		custom	NA
Protected Phases	8!		2		1	6 8!
Permitted Phases		8			6	
Actuated Green, G (s)	14.5	14.5	28.8		41.4	63.9
Effective Green, g (s)	14.5	14.5	28.8		41.4	63.9
Actuated g/C Ratio	0.23	0.23	0.45		0.65	1.00
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	401	359	1548		378	3539
v/s Ratio Prot	0.06		c0.30		c0.06	c0.22
v/s Ratio Perm		0.02			0.24	
v/c Ratio	0.28	0.08	0.66		0.47	0.22
Uniform Delay, d1	20.4	19.4	13.7		7.2	0.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	1.0		0.9	0.0
Delay (s)	20.8	19.5	14.7		8.1	0.0
Level of Service	C	B	B		A	A
Approach Delay (s)	20.1		14.7			1.5
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	63.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

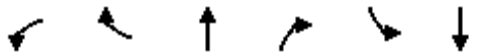
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	289	15	36	140	6	24	21	65	63	11	6
Future Volume (Veh/h)	20	289	15	36	140	6	24	21	65	63	11	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	21	307	16	38	149	6	26	22	69	67	12	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									1			1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		925										
pX, platoon unblocked												
vC, conflicting volume	155			323			583	580	307	620	590	149
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	155			323			583	580	307	620	590	149
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			93	95	91	80	97	99
cM capacity (veh/h)	1425			1237			397	407	733	336	401	898

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	328	16	187	6	117	85
Volume Left	21	0	38	0	26	67
Volume Right	0	16	0	6	69	6
cSH	1425	1700	1237	1700	979	372
Volume to Capacity	0.01	0.01	0.03	0.00	0.12	0.23
Queue Length 95th (ft)	1	0	2	0	10	22
Control Delay (s)	0.6	0.0	1.8	0.0	12.4	17.8
Lane LOS	A		A		B	C
Approach Delay (s)	0.6		1.8		12.4	17.8
Approach LOS					B	C

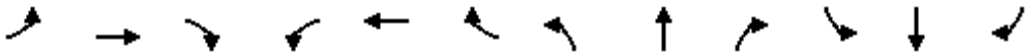
Intersection Summary				
Average Delay	4.7			
Intersection Capacity Utilization	46.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	38	63	265	22	63	0
Future Volume (vph)	38	63	265	22	63	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frt	1.00	0.85	0.99		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	1583	3499		1770	
Flt Permitted	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1770	1583	3499		1770	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	40	67	282	23	67	0
RTOR Reduction (vph)	0	62	4	0	0	0
Lane Group Flow (vph)	40	5	301	0	67	0
Turn Type	Perm	Perm	NA		Prot	
Protected Phases			2		1	
Permitted Phases	8	8				
Actuated Green, G (s)	6.1	6.1	49.7		7.2	
Effective Green, g (s)	6.1	6.1	49.7		7.2	
Actuated g/C Ratio	0.08	0.08	0.66		0.10	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	143	128	2318		169	
v/s Ratio Prot			c0.09		c0.04	
v/s Ratio Perm	c0.02	0.00				
v/c Ratio	0.28	0.04	0.13		0.40	
Uniform Delay, d1	32.4	31.8	4.7		31.9	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.1	0.1	0.1		1.5	
Delay (s)	33.5	31.9	4.8		33.4	
Level of Service	C	C	A		C	
Approach Delay (s)	32.5		4.8			33.4
Approach LOS	C		A			C

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		

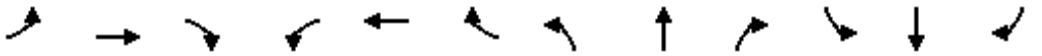
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	2	116	13	3	21	338	183	2	8	211	134
Future Volume (Veh/h)	79	2	116	13	3	21	338	183	2	8	211	134
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	84	2	123	14	3	22	360	195	2	9	224	143
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			7									
Median type								None			Raised	
Median storage veh)											1	
Upstream signal (ft)											430	
pX, platoon unblocked												
vC, conflicting volume	1154	1230	184	1047	1301	98	367			197		
vC1, stage 1 conf vol	314	314		916	916							
vC2, stage 2 conf vol	841	917		131	385							
vCu, unblocked vol	1154	1230	184	1047	1301	98	367			197		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	53	99	85	92	98	98	70			99		
cM capacity (veh/h)	178	196	827	166	162	938	1188			1373		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	209	39	360	130	67	121	255
Volume Left	84	14	360	0	0	9	0
Volume Right	123	22	0	0	2	0	143
cSH	434	309	1188	1700	1700	1373	1700
Volume to Capacity	0.48	0.13	0.30	0.08	0.04	0.01	0.15
Queue Length 95th (ft)	64	11	32	0	0	0	0
Control Delay (s)	23.5	18.3	9.3	0.0	0.0	0.6	0.0
Lane LOS	C	C	A			A	
Approach Delay (s)	23.5	18.3	6.0			0.2	
Approach LOS	C	C					

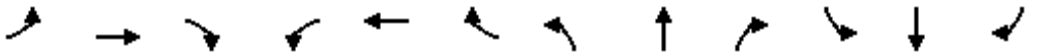
Intersection Summary				
Average Delay	7.7			
Intersection Capacity Utilization	49.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	3	34	18	20	36	62	1037	22	7	513	39
Future Volume (vph)	29	3	34	18	20	36	62	1037	22	7	513	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.93		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1719		1770	3528		1770	3502	
Flt Permitted	0.70	1.00	1.00		0.92		0.40	1.00		0.25	1.00	
Satd. Flow (perm)	1312	1863	1583		1593		741	3528		471	3502	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	31	3	36	19	21	38	66	1103	23	7	546	41
RTOR Reduction (vph)	0	0	33	0	35	0	0	1	0	0	3	0
Lane Group Flow (vph)	31	3	3	0	43	0	66	1125	0	7	584	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	6.9	6.9	6.9		6.9		74.1	74.1		64.5	64.5	
Effective Green, g (s)	6.9	6.9	6.9		6.9		74.1	74.1		64.5	64.5	
Actuated g/C Ratio	0.08	0.08	0.08		0.08		0.82	0.82		0.72	0.72	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	100	142	121		122		668	2904		337	2509	
v/s Ratio Prot		0.00					0.01	c0.32			0.17	
v/s Ratio Perm	0.02		0.00		c0.03		0.08			0.01		
v/c Ratio	0.31	0.02	0.02		0.35		0.10	0.39		0.02	0.23	
Uniform Delay, d1	39.3	38.4	38.4		39.4		1.6	2.1		3.7	4.3	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	0.1	0.1		1.8		0.1	0.4		0.1	0.2	
Delay (s)	41.1	38.5	38.5		41.2		1.7	2.5		3.8	4.6	
Level of Service	D	D	D		D		A	A		A	A	
Approach Delay (s)		39.6			41.2			2.4			4.5	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		

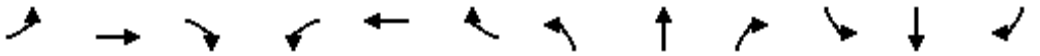
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	96	49	77	66	36	54	875	114	25	771	39
Future Volume (vph)	60	96	49	77	66	36	54	875	114	25	771	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1828	1583		1814	1583	1770	3478		1770	3514	
Flt Permitted		0.81	1.00		0.74	1.00	0.31	1.00		0.23	1.00	
Satd. Flow (perm)		1505	1583		1385	1583	580	3478		435	3514	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	64	102	52	82	70	38	57	931	121	27	820	41
RTOR Reduction (vph)	0	0	41	0	0	30	0	19	0	0	7	0
Lane Group Flow (vph)	0	166	11	0	152	8	57	1033	0	27	854	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		7.5	7.5		7.5	7.5	19.9	19.9		19.9	19.9	
Effective Green, g (s)		7.5	7.5		7.5	7.5	19.9	19.9		19.9	19.9	
Actuated g/C Ratio		0.21	0.21		0.21	0.21	0.55	0.55		0.55	0.55	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		310	326		285	326	317	1901		237	1921	
v/s Ratio Prot								c0.30			0.24	
v/s Ratio Perm		c0.11	0.01		0.11	0.00	0.10			0.06		
v/c Ratio		0.54	0.03		0.53	0.02	0.18	0.54		0.11	0.44	
Uniform Delay, d1		12.9	11.6		12.9	11.5	4.1	5.3		4.0	4.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.0		1.9	0.0	0.3	0.3		0.2	0.2	
Delay (s)		14.7	11.6		14.8	11.6	4.4	5.6		4.2	5.1	
Level of Service		B	B		B	B	A	A		A	A	
Approach Delay (s)		13.9			14.2			5.6			5.1	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	36.4	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

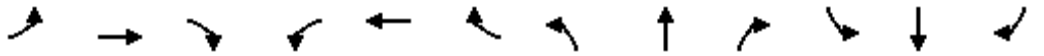
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	78	146	7	11	113	22	11	13	11	20	4	60
Future Volume (vph)	78	146	7	11	113	22	11	13	11	20	4	60
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	83	155	7	12	120	23	12	14	12	21	4	64

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	238	7	132	23	26	12	25	64
Volume Left (vph)	83	0	12	0	12	0	21	0
Volume Right (vph)	0	7	0	23	0	12	0	64
Hadj (s)	0.21	-0.67	0.08	-0.67	0.26	-0.67	0.45	-0.67
Departure Headway (s)	5.2	4.3	5.1	4.4	5.8	4.9	6.0	4.9
Degree Utilization, x	0.34	0.01	0.19	0.03	0.04	0.02	0.04	0.09
Capacity (veh/h)	673	806	677	788	575	674	562	688
Control Delay (s)	9.6	6.1	8.1	6.3	7.9	6.8	8.0	7.1
Approach Delay (s)	9.5		7.8		7.6		7.4	
Approach LOS	A		A		A		A	

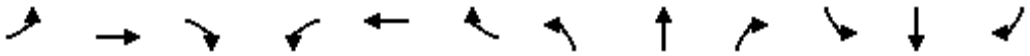
Intersection Summary				
Delay	8.5			
Level of Service	A			
Intersection Capacity Utilization	33.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	154	18	29	116	176	17	233	66	93	124	34
Future Volume (vph)	36	154	18	29	116	176	17	233	66	93	124	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		0.97		1.00	0.97	
Flt Protected		0.99	1.00		0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1845	1583		1844	1583		3419		1770	1803	
Flt Permitted		0.91	1.00		0.81	1.00		0.94		0.55	1.00	
Satd. Flow (perm)		1699	1583		1516	1583		3220		1023	1803	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	38	164	19	31	123	187	18	248	70	99	132	36
RTOR Reduction (vph)	0	0	15	0	0	148	0	13	0	0	5	0
Lane Group Flow (vph)	0	202	4	0	154	39	0	323	0	99	163	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		16.1	16.1		16.1	16.1		64.9		64.9	64.9	
Effective Green, g (s)		16.1	16.1		16.1	16.1		64.9		64.9	64.9	
Actuated g/C Ratio		0.18	0.18		0.18	0.18		0.72		0.72	0.72	
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		303	283		271	283		2321		737	1300	
v/s Ratio Prot											0.09	
v/s Ratio Perm		c0.12	0.00		0.10	0.02		c0.10		0.10		
v/c Ratio		0.67	0.01		0.57	0.14		0.14		0.13	0.13	
Uniform Delay, d1		34.4	30.4		33.8	31.1		3.9		3.9	3.8	
Progression Factor		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		5.5	0.0		2.7	0.2		0.1		0.4	0.2	
Delay (s)		39.9	30.4		36.5	31.3		4.0		4.3	4.0	
Level of Service		D	C		D	C		A		A	A	
Approach Delay (s)		39.1			33.7			4.0			4.1	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	104	98	75	98	40	223	1089	64	15	514	51
Future Volume (vph)	86	104	98	75	98	40	223	1089	64	15	514	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.96		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1728		1770	1781		1770	3510		1770	3492	
Flt Permitted	0.54	1.00		0.34	1.00		0.35	1.00		0.18	1.00	
Satd. Flow (perm)	1013	1728		625	1781		650	3510		337	3492	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	91	111	104	80	104	43	237	1159	68	16	547	54
RTOR Reduction (vph)	0	39	0	0	17	0	0	4	0	0	7	0
Lane Group Flow (vph)	91	176	0	80	130	0	237	1223	0	16	594	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	18.6	12.6		18.6	12.6		57.1	51.9		46.4	45.2	
Effective Green, g (s)	18.6	12.6		18.6	12.6		57.1	51.9		46.4	45.2	
Actuated g/C Ratio	0.21	0.14		0.21	0.14		0.64	0.59		0.52	0.51	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	263	245		208	252		518	2053		195	1779	
v/s Ratio Prot	0.02	c0.10		c0.03	0.07		c0.04	c0.35		0.00	0.17	
v/s Ratio Perm	0.05			0.05			0.25			0.04		
v/c Ratio	0.35	0.72		0.38	0.52		0.46	0.60		0.08	0.33	
Uniform Delay, d1	29.2	36.4		29.2	35.2		7.1	11.7		10.7	12.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	9.7		1.2	1.8		0.6	1.3		0.2	0.5	
Delay (s)	30.0	46.1		30.4	37.0		7.8	13.0		10.9	13.4	
Level of Service	C	D		C	D		A	B		B	B	
Approach Delay (s)		41.3			34.7			12.2			13.3	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	88.7	Sum of lost time (s)	17.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	993	50	0	0	0	21
Future Volume (Veh/h)	993	50	0	0	0	21
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1056	53	0	0	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1109		1082	1082
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1109		1082	1082
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	92
cM capacity (veh/h)			630		241	264

Direction, Lane #	EB 1	NB 1
Volume Total	1109	22
Volume Left	0	0
Volume Right	53	22
cSH	1700	264
Volume to Capacity	0.65	0.08
Queue Length 95th (ft)	0	7
Control Delay (s)	0.0	19.9
Lane LOS		C
Approach Delay (s)	0.0	19.9
Approach LOS		C

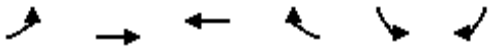
Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	65.3%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2204	202	149	762	120	98
Future Volume (vph)	2204	202	149	762	120	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		5.0	4.0	5.5	5.5
Lane Util. Factor	0.91		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5021		1770	3539	1770	1583
Flt Permitted	1.00		0.05	1.00	0.95	1.00
Satd. Flow (perm)	5021		96	3539	1770	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2345	215	159	811	128	104
RTOR Reduction (vph)	7	0	0	0	0	1
Lane Group Flow (vph)	2553	0	159	811	128	103
Turn Type	NA		custom	NA	Prot	custom
Protected Phases	2		1	6 4!	4!	4
Permitted Phases			6			1
Actuated Green, G (s)	71.0		88.2	115.0	17.3	28.0
Effective Green, g (s)	71.0		88.2	109.5	17.3	28.0
Actuated g/C Ratio	0.62		0.77	0.95	0.15	0.24
Clearance Time (s)	5.5		5.0		5.5	5.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	3099		229	3369	266	461
v/s Ratio Prot	c0.51		c0.06	0.23	c0.07	0.03
v/s Ratio Perm			0.47			0.03
v/c Ratio	0.82		0.69	0.24	0.48	0.22
Uniform Delay, d1	17.1		31.7	0.2	44.7	34.8
Progression Factor	1.17		0.69	1.00	1.00	1.00
Incremental Delay, d2	2.5		7.4	0.0	1.4	0.2
Delay (s)	22.6		29.2	0.2	46.1	35.1
Level of Service	C		C	A	D	D
Approach Delay (s)	22.6			5.0	41.2	
Approach LOS	C			A	D	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.

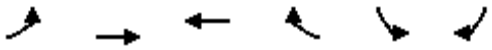
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	286	131	90	349	52	37
Future Volume (Veh/h)	286	131	90	349	52	37
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	304	139	96	371	55	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	467				1028	282
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	467				1028	282
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	72				71	95
cM capacity (veh/h)	1094				187	757

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	443	467	94
Volume Left	304	0	55
Volume Right	0	371	39
cSH	1094	1700	272
Volume to Capacity	0.28	0.27	0.35
Queue Length 95th (ft)	29	0	37
Control Delay (s)	7.5	0.0	25.0
Lane LOS	A		D
Approach Delay (s)	7.5	0.0	25.0
Approach LOS			D

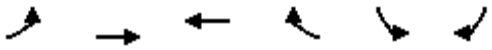
Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	59	124	409	55	18	30
Future Volume (Veh/h)	59	124	409	55	18	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	63	132	435	59	19	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	494				722	464
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	494				722	464
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				95	95
cM capacity (veh/h)	1070				370	598

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	195	494	51
Volume Left	63	0	19
Volume Right	0	59	32
cSH	1070	1700	486
Volume to Capacity	0.06	0.29	0.10
Queue Length 95th (ft)	5	0	9
Control Delay (s)	3.1	0.0	13.3
Lane LOS	A		B
Approach Delay (s)	3.1	0.0	13.3
Approach LOS			B

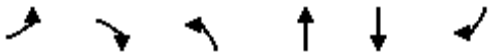
Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	87	417	58	15	47
Future Volume (Veh/h)	55	87	417	58	15	47
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	59	93	444	62	16	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	506				686	475
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	506				686	475
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				96	92
cM capacity (veh/h)	1059				390	590

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	152	506	66
Volume Left	59	0	16
Volume Right	0	62	50
cSH	1059	1700	525
Volume to Capacity	0.06	0.30	0.13
Queue Length 95th (ft)	4	0	11
Control Delay (s)	3.6	0.0	12.8
Lane LOS	A		B
Approach Delay (s)	3.6	0.0	12.8
Approach LOS			B

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		



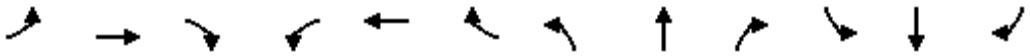
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	41	0	0	205	149
Future Volume (Veh/h)	0	41	0	0	205	149
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	44	0	0	218	159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	298	188	377			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	298	188	377			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	95	100			
cM capacity (veh/h)	670	821	1178			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	44	145	232
Volume Left	0	0	0
Volume Right	44	0	159
cSH	821	1700	1700
Volume to Capacity	0.05	0.09	0.14
Queue Length 95th (ft)	4	0	0
Control Delay (s)	9.6	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.6	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1153	410	356	1737	566	202
Future Volume (vph)	1153	410	356	1737	566	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.15	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	281	3539	3433	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1189	423	367	1791	584	208
RTOR Reduction (vph)	0	0	0	0	0	159
Lane Group Flow (vph)	1189	423	367	1791	584	49
Confl. Peds. (#/hr)					2	
Turn Type	NA	Free	pm+pt	NA	Prot	Perm
Protected Phases	1		2	1 2	4	
Permitted Phases		Free	1 2			4
Actuated Green, G (s)	53.8	100.0	62.8	67.8	22.2	22.2
Effective Green, g (s)	53.8	100.0	62.8	67.8	22.2	22.2
Actuated g/C Ratio	0.54	1.00	0.63	0.68	0.22	0.22
Clearance Time (s)	5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	1903	1583	310	2399	762	351
v/s Ratio Prot	0.34		c0.11	0.51	c0.17	
v/s Ratio Perm		0.27	c0.64			0.03
v/c Ratio	0.62	0.27	1.18	0.75	0.77	0.14
Uniform Delay, d1	16.1	0.0	27.9	10.5	36.5	31.2
Progression Factor	1.00	1.00	1.02	1.33	1.00	1.00
Incremental Delay, d2	1.6	0.4	108.2	1.2	4.6	0.2
Delay (s)	17.6	0.4	136.6	15.1	41.1	31.4
Level of Service	B	A	F	B	D	C
Approach Delay (s)	13.1			35.8	38.6	
Approach LOS	B			D	D	

Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	524	117	236	576	53	254	639	184	34	703	145
Future Volume (vph)	129	524	117	236	576	53	254	639	184	34	703	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1812		1770	1839		1770	3420		1770	3449	
Flt Permitted	0.27	1.00		0.10	1.00		0.12	1.00		0.31	1.00	
Satd. Flow (perm)	507	1812		191	1839		218	3420		581	3449	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	133	540	121	243	594	55	262	659	190	35	725	149
RTOR Reduction (vph)	0	8	0	0	3	0	0	27	0	0	18	0
Lane Group Flow (vph)	133	653	0	243	646	0	262	822	0	35	856	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	34.6	34.6		46.6	46.6		41.7	41.7		29.7	29.7	
Effective Green, g (s)	34.6	34.6		46.6	46.6		41.7	41.7		29.7	29.7	
Actuated g/C Ratio	0.36	0.36		0.48	0.48		0.43	0.43		0.31	0.31	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	180	644		213	880		213	1465		177	1052	
v/s Ratio Prot		0.36		c0.09	0.35		c0.09	0.24			0.25	
v/s Ratio Perm	0.26			c0.46			c0.43			0.06		
v/c Ratio	0.74	1.01		1.14	0.73		1.23	0.56		0.20	0.81	
Uniform Delay, d1	27.4	31.3		24.6	20.4		22.4	20.9		25.0	31.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.6	39.1		104.8	3.2		137.5	0.5		0.6	4.9	
Delay (s)	42.0	70.5		129.4	23.6		159.9	21.4		25.5	36.2	
Level of Service	D	E		F	C		F	C		C	D	
Approach Delay (s)		65.7			52.4			54.1			35.7	
Approach LOS		E			D			D			D	

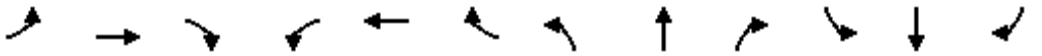
Intersection Summary			
HCM 2000 Control Delay	51.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	97.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	733	39	38	886	13	22
Future Volume (Veh/h)	733	39	38	886	13	22
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	756	40	39	913	13	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	719					
pX, platoon unblocked			0.68		0.68	0.68
vC, conflicting volume			796		1767	776
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			463		1893	434
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		74	95
cM capacity (veh/h)			746		49	422

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total	796	39	913	13	23
Volume Left	0	39	0	13	0
Volume Right	40	0	0	0	23
cSH	1700	746	1700	49	422
Volume to Capacity	0.47	0.05	0.54	0.26	0.05
Queue Length 95th (ft)	0	4	0	22	4
Control Delay (s)	0.0	10.1	0.0	102.1	14.0
Lane LOS		B		F	B
Approach Delay (s)	0.0	0.4		45.8	
Approach LOS				E	

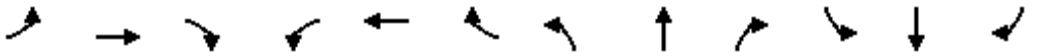
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2324	149	372	2856	0	361	0	326	28	22	30
Future Volume (vph)	0	2324	149	372	2856	0	361	0	326	28	22	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Lane Util. Factor		0.91		1.00	0.91		0.95	0.95	1.00		1.00	1.00
Frt		0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00		0.95	0.95	1.00		0.97	1.00
Satd. Flow (prot)		5039		1770	5085		1681	1681	1583		1812	1583
Flt Permitted		1.00		0.09	1.00		0.95	0.95	1.00		0.30	1.00
Satd. Flow (perm)		5039		159	5085		1681	1681	1583		553	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2396	154	384	2944	0	372	0	336	29	23	31
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	115	0	0	28
Lane Group Flow (vph)	0	2543	0	384	2944	0	186	186	221	0	52	3
Turn Type	Perm	NA		pm+pt	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases		2		1	6		4	4	1		3	
Permitted Phases	2			6					4	3		3
Actuated Green, G (s)		41.9		59.9	59.9		13.1	13.1	26.1		10.5	10.5
Effective Green, g (s)		41.9		59.9	59.9		13.1	13.1	26.1		10.5	10.5
Actuated g/C Ratio		0.42		0.60	0.60		0.13	0.13	0.26		0.10	0.10
Clearance Time (s)		5.5		5.0	5.5		5.5	5.5	5.0		5.5	5.5
Vehicle Extension (s)		4.0		1.5	4.0		3.0	3.0	1.5		3.0	3.0
Lane Grp Cap (vph)		2111		304	3045		220	220	413		58	166
v/s Ratio Prot		0.50		c0.16	0.58		c0.11	0.11	0.07			
v/s Ratio Perm				c0.59					0.07		c0.09	0.00
v/c Ratio		1.20		1.26	0.97		0.85	0.85	0.54		0.90	0.02
Uniform Delay, d1		29.1		31.6	19.1		42.5	42.5	31.7		44.2	40.1
Progression Factor		1.37		1.22	1.27		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		95.1		137.2	8.4		24.6	24.6	0.7		80.9	0.0
Delay (s)		134.9		175.6	32.8		67.1	67.1	32.4		125.1	40.2
Level of Service		F		F	C		E	E	C		F	D
Approach Delay (s)		134.9			49.2			50.6			93.4	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	82.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

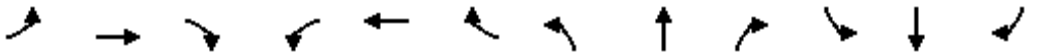
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	2256	115	106	2665	27	0	0	192	0	0	12
Future Volume (vph)	28	2256	115	106	2665	27	0	0	192	0	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5				5.0			5.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00			1.00
Frt	1.00	0.99		1.00	1.00				0.86			0.86
Flt Protected	0.95	1.00		0.95	1.00				1.00			1.00
Satd. Flow (prot)	1770	5048		1770	5078				1611			1611
Flt Permitted	0.41	1.00		0.14	1.00				1.00			1.00
Satd. Flow (perm)	760	5048		269	5078				1611			1611
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	2326	119	109	2747	28	0	0	198	0	0	12
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	187	0	0	11
Lane Group Flow (vph)	29	2440	0	109	2774	0	0	0	11	0	0	1
Turn Type	custom	NA		custom	NA				Perm			Perm
Protected Phases		2			6							
Permitted Phases	5			1					4			4
Actuated Green, G (s)	9.8	50.5		27.7	68.4				5.8			5.8
Effective Green, g (s)	9.8	50.5		27.7	68.4				5.8			5.8
Actuated g/C Ratio	0.10	0.50		0.28	0.68				0.06			0.06
Clearance Time (s)	5.5	5.5		5.5	5.5				5.0			5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0				3.0			3.0
Lane Grp Cap (vph)	74	2549		74	3473				93			93
v/s Ratio Prot		c0.48			0.55							
v/s Ratio Perm	0.04			c0.41					c0.01			0.00
v/c Ratio	0.39	0.96		1.47	0.80				0.12			0.01
Uniform Delay, d1	42.3	23.7		36.1	11.0				44.7			44.4
Progression Factor	1.26	0.33		1.12	0.82				1.00			1.00
Incremental Delay, d2	0.3	1.3		238.6	0.8				0.6			0.0
Delay (s)	53.8	9.1		279.1	9.8				45.3			44.4
Level of Service	D	A		F	A				D			D
Approach Delay (s)		9.6			20.0			45.3			44.4	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	2035	209	878	2336	35	236	171	626	104	283	217
Future Volume (vph)	135	2035	209	878	2336	35	236	171	626	104	283	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91		0.91	0.91	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5074		1610	3327	1583	1770	1863	1583
Flt Permitted	0.09	1.00	1.00	0.95	1.00		0.95	0.98	1.00	0.57	1.00	1.00
Satd. Flow (perm)	171	5085	1583	3433	5074		1610	3327	1583	1064	1863	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	139	2098	215	905	2408	36	243	176	645	107	292	224
RTOR Reduction (vph)	0	0	120	0	2	0	0	0	63	0	0	194
Lane Group Flow (vph)	139	2098	95	905	2442	0	136	283	582	107	292	30
Turn Type	pm+pt	NA	Perm	Prot	NA		Split	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6		3	3	1		4	
Permitted Phases	2		2						3	4		4
Actuated Green, G (s)	49.2	43.7	43.7	11.5	49.7		11.3	11.3	22.8	11.0	11.0	11.0
Effective Green, g (s)	49.2	43.7	43.7	11.5	49.7		11.3	11.3	22.8	11.0	11.0	11.0
Actuated g/C Ratio	0.49	0.44	0.44	0.12	0.50		0.11	0.11	0.23	0.11	0.11	0.11
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		6.5	6.5	5.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.5	3.5	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	172	2222	691	394	2521		181	375	360	117	204	174
v/s Ratio Prot	0.04	0.41		c0.26	c0.48		0.08	0.09	c0.19		c0.16	
v/s Ratio Perm	0.35		0.06						0.18	0.10		0.02
v/c Ratio	0.81	0.94	0.14	2.30	0.97		0.75	0.75	1.62	0.91	1.43	0.17
Uniform Delay, d1	22.2	27.0	16.9	44.2	24.4		43.0	43.0	38.6	44.0	44.5	40.4
Progression Factor	1.70	1.81	6.29	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.5	4.5	0.2	591.6	12.0		16.5	8.6	289.7	57.6	220.0	0.6
Delay (s)	48.1	53.4	106.1	635.9	36.4		59.5	51.6	328.3	101.6	264.5	40.9
Level of Service	D	D	F	F	D		E	D	F	F	F	D
Approach Delay (s)		57.7			198.4			220.3			156.1	
Approach LOS		E			F			F			F	

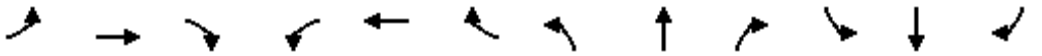
Intersection Summary			
HCM 2000 Control Delay	151.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	197	248	963	145	105	817
Future Volume (vph)	197	248	963	145	105	817
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3470		1770	3539
Flt Permitted	0.95	1.00	1.00		0.14	1.00
Satd. Flow (perm)	1770	1583	3470		257	3539
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	203	256	993	149	108	842
RTOR Reduction (vph)	0	154	11	0	0	0
Lane Group Flow (vph)	203	102	1131	0	108	842
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	13.8	13.8	31.3		40.8	40.8
Effective Green, g (s)	13.8	13.8	31.3		40.8	40.8
Actuated g/C Ratio	0.22	0.22	0.50		0.65	0.65
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)	390	348	1735		300	2306
v/s Ratio Prot	c0.11		c0.33		0.03	c0.24
v/s Ratio Perm		0.06			0.20	
v/c Ratio	0.52	0.29	0.65		0.36	0.37
Uniform Delay, d1	21.5	20.3	11.6		6.6	5.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.3	0.5	0.9		0.7	0.1
Delay (s)	22.7	20.8	12.5		7.3	5.1
Level of Service	C	C	B		A	A
Approach Delay (s)	21.7		12.5			5.3
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	62.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

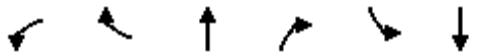
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	184	17	111	316	8	12	13	48	39	27	11
Future Volume (Veh/h)	3	184	17	111	316	8	12	13	48	39	27	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	3	190	18	114	326	8	12	13	49	40	28	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									1			1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		925										
pX, platoon unblocked												
vC, conflicting volume	334			208			770	758	190	781	768	326
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	334			208			770	758	190	781	768	326
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			92			96	96	94	85	91	98
cM capacity (veh/h)	1225			1363			272	308	852	266	303	715

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	193	18	440	8	74	79
Volume Left	3	0	114	0	12	40
Volume Right	0	18	0	8	49	11
cSH	1225	1700	1363	1700	860	327
Volume to Capacity	0.00	0.01	0.08	0.00	0.09	0.24
Queue Length 95th (ft)	0	0	7	0	7	23
Control Delay (s)	0.1	0.0	2.6	0.0	12.5	20.2
Lane LOS	A		A		B	C
Approach Delay (s)	0.1		2.6		12.5	20.2
Approach LOS					B	C

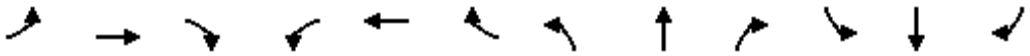
Intersection Summary				
Average Delay	4.6			
Intersection Capacity Utilization	52.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	112	232	330	77	82	0
Future Volume (vph)	112	232	330	77	82	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.95		1.00	
Frt	1.00	0.85	0.97		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1770	1583	3439		1770	
Flt Permitted	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1770	1583	3439		1770	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	115	239	340	79	85	0
RTOR Reduction (vph)	0	212	10	0	0	0
Lane Group Flow (vph)	115	27	409	0	85	0
Turn Type	Perm	Perm	NA		Prot	
Protected Phases			2		1	
Permitted Phases	8	8				
Actuated Green, G (s)	12.9	12.9	80.6		9.5	
Effective Green, g (s)	12.9	12.9	80.6		9.5	
Actuated g/C Ratio	0.11	0.11	0.70		0.08	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	198	177	2410		146	
v/s Ratio Prot			c0.12		c0.05	
v/s Ratio Perm	c0.06	0.02				
v/c Ratio	0.58	0.15	0.17		0.58	
Uniform Delay, d1	48.5	46.1	5.8		50.8	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.3	0.4	0.2		5.8	
Delay (s)	52.8	46.5	6.0		56.6	
Level of Service	D	D	A		E	
Approach Delay (s)	48.5		6.0			56.6
Approach LOS	D		A			E

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	32.6%	ICU Level of Service	A
Analysis Period (min)	15		

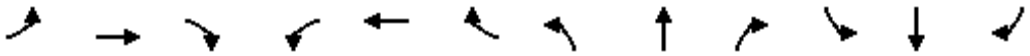
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	2	297	8	2	15	210	242	10	94	394	105
Future Volume (Veh/h)	63	2	297	8	2	15	210	242	10	94	394	105
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	65	2	306	8	2	15	216	249	10	97	406	108
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			7									
Median type								None			Raised	
Median storage veh)											1	
Upstream signal (ft)											430	
pX, platoon unblocked												
vC, conflicting volume	1226	1345	257	1084	1394	130	514			259		
vC1, stage 1 conf vol	654	654		686	686							
vC2, stage 2 conf vol	572	691		398	708							
vCu, unblocked vol	1226	1345	257	1084	1394	130	514			259		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	66	99	59	92	99	98	79			93		
cM capacity (veh/h)	191	191	742	96	152	896	1048			1303		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	373	25	216	166	93	300	311
Volume Left	65	8	216	0	0	97	0
Volume Right	306	15	0	0	10	0	108
cSH	905	221	1048	1700	1700	1303	1700
Volume to Capacity	0.41	0.11	0.21	0.10	0.05	0.07	0.18
Queue Length 95th (ft)	51	9	19	0	0	6	0
Control Delay (s)	16.9	23.4	9.3	0.0	0.0	3.0	0.0
Lane LOS	C	C	A			A	
Approach Delay (s)	16.9	23.4	4.2			1.5	
Approach LOS	C	C					

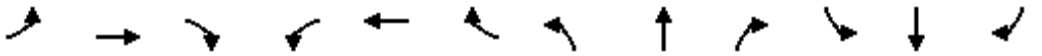
Intersection Summary				
Average Delay	6.6			
Intersection Capacity Utilization	48.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	22	162	38	31	46	145	878	25	29	1126	92
Future Volume (vph)	102	22	162	38	31	46	145	878	25	29	1126	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1734		1770	3524		1770	3499	
Flt Permitted	0.62	1.00	1.00		0.89		0.15	1.00		0.31	1.00	
Satd. Flow (perm)	1151	1863	1583		1570		274	3524		572	3499	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	105	23	167	39	32	47	149	905	26	30	1161	95
RTOR Reduction (vph)	0	0	143	0	32	0	0	1	0	0	4	0
Lane Group Flow (vph)	105	23	24	0	86	0	149	930	0	30	1252	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	13.0	13.0	13.0		13.0		68.0	68.0		55.3	55.3	
Effective Green, g (s)	13.0	13.0	13.0		13.0		68.0	68.0		55.3	55.3	
Actuated g/C Ratio	0.14	0.14	0.14		0.14		0.76	0.76		0.61	0.61	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	166	269	228		226		343	2662		351	2149	
v/s Ratio Prot		0.01					c0.04	0.26			c0.36	
v/s Ratio Perm	c0.09		0.02		0.06		0.29			0.05		
v/c Ratio	0.63	0.09	0.11		0.38		0.43	0.35		0.09	0.58	
Uniform Delay, d1	36.3	33.4	33.5		34.9		6.5	3.7		7.1	10.4	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.6	0.1	0.2		1.1		0.9	0.4		0.5	1.2	
Delay (s)	43.9	33.5	33.7		35.9		7.3	4.0		7.5	11.6	
Level of Service	D	C	C		D		A	A		A	B	
Approach Delay (s)		37.3			35.9			4.5			11.5	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

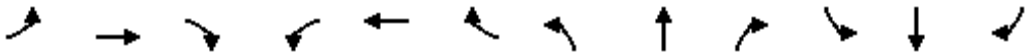
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	96	45	182	153	77	54	989	93	46	940	53
Future Volume (vph)	52	96	45	182	153	77	54	989	93	46	940	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1830	1583		1813	1583	1770	3494		1770	3511	
Flt Permitted		0.79	1.00		0.75	1.00	0.21	1.00		0.19	1.00	
Satd. Flow (perm)		1480	1583		1395	1583	390	3494		347	3511	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	54	99	46	188	158	79	56	1020	96	47	969	55
RTOR Reduction (vph)	0	0	31	0	0	33	0	15	0	0	9	0
Lane Group Flow (vph)	0	153	15	0	346	46	56	1101	0	47	1015	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		14.2	14.2		14.2	14.2	21.5	21.5		21.5	21.5	
Effective Green, g (s)		14.2	14.2		14.2	14.2	21.5	21.5		21.5	21.5	
Actuated g/C Ratio		0.32	0.32		0.32	0.32	0.48	0.48		0.48	0.48	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		470	502		443	502	187	1680		166	1688	
v/s Ratio Prot								c0.32			0.29	
v/s Ratio Perm		0.10	0.01		c0.25	0.03	0.14			0.14		
v/c Ratio		0.33	0.03		0.78	0.09	0.30	0.66		0.28	0.60	
Uniform Delay, d1		11.6	10.5		13.8	10.7	7.0	8.8		7.0	8.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4	0.0		8.7	0.1	0.9	0.9		0.9	0.6	
Delay (s)		12.0	10.5		22.5	10.8	7.9	9.7		7.9	9.1	
Level of Service		B	B		C	B	A	A		A	A	
Approach Delay (s)		11.7			20.3			9.6			9.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	44.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		

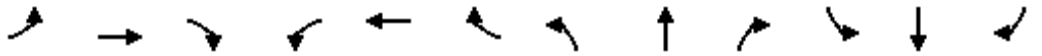
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	64	181	3	17	256	46	31	11	10	43	12	143
Future Volume (vph)	64	181	3	17	256	46	31	11	10	43	12	143
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	66	187	3	18	264	47	32	11	10	44	12	147

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	253	3	282	47	43	10	56	147
Volume Left (vph)	66	0	18	0	32	0	44	0
Volume Right (vph)	0	3	0	47	0	10	0	147
Hadj (s)	0.16	-0.67	0.07	-0.67	0.41	-0.67	0.43	-0.67
Departure Headway (s)	5.7	4.9	5.6	4.8	6.7	5.6	6.5	5.4
Degree Utilization, x	0.40	0.00	0.44	0.06	0.08	0.02	0.10	0.22
Capacity (veh/h)	601	693	622	707	491	573	513	615
Control Delay (s)	11.4	6.7	11.6	7.0	9.1	7.5	9.0	8.8
Approach Delay (s)	11.3		11.0		8.8		8.8	
Approach LOS	B		B		A		A	

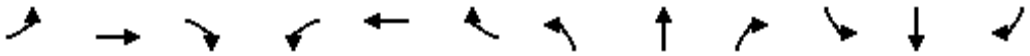
Intersection Summary				
Delay	10.4			
Level of Service	B			
Intersection Capacity Utilization	47.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	152	29	106	251	154	19	232	54	181	389	67
Future Volume (vph)	70	152	29	106	251	154	19	232	54	181	389	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		0.97		1.00	0.98	
Flt Protected		0.98	1.00		0.99	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1834	1583		1836	1583		3434		1770	1822	
Flt Permitted		0.59	1.00		0.73	1.00		0.92		0.56	1.00	
Satd. Flow (perm)		1094	1583		1362	1583		3161		1044	1822	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	72	157	30	109	259	159	20	239	56	187	401	69
RTOR Reduction (vph)	0	0	14	0	0	48	0	14	0	0	5	0
Lane Group Flow (vph)	0	229	16	0	368	111	0	301	0	187	465	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		28.5	28.5		28.5	28.5		52.5		52.5	52.5	
Effective Green, g (s)		28.5	28.5		28.5	28.5		52.5		52.5	52.5	
Actuated g/C Ratio		0.32	0.32		0.32	0.32		0.58		0.58	0.58	
Clearance Time (s)		4.5	4.5		4.5	4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		346	501		431	501		1843		609	1062	
v/s Ratio Prot											c0.26	
v/s Ratio Perm		0.21	0.01		c0.27	0.07		0.10		0.18		
v/c Ratio		0.66	0.03		0.85	0.22		0.16		0.31	0.44	
Uniform Delay, d1		26.6	21.2		28.8	22.6		8.6		9.5	10.5	
Progression Factor		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		4.7	0.0		15.1	0.2		0.2		1.3	1.3	
Delay (s)		31.3	21.2		43.9	22.8		8.8		10.8	11.8	
Level of Service		C	C		D	C		A		B	B	
Approach Delay (s)		30.1			37.5			8.8			11.5	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	120	219	114	210	49	157	941	77	78	1282	110
Future Volume (vph)	77	120	219	114	210	49	157	941	77	78	1282	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1682		1770	1809		1770	3499		1770	3497	
Flt Permitted	0.38	1.00		0.18	1.00		0.08	1.00		0.18	1.00	
Satd. Flow (perm)	715	1682		340	1809		157	3499		334	3497	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	79	124	226	118	216	51	162	970	79	80	1322	113
RTOR Reduction (vph)	0	68	0	0	9	0	0	6	0	0	6	0
Lane Group Flow (vph)	79	282	0	118	258	0	162	1043	0	80	1429	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.9	20.4		28.9	21.9		55.6	47.6		51.4	45.5	
Effective Green, g (s)	25.9	20.4		28.9	21.9		55.6	47.6		51.4	45.5	
Actuated g/C Ratio	0.26	0.21		0.30	0.22		0.57	0.49		0.53	0.46	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	248	350		202	404		220	1701		261	1625	
v/s Ratio Prot	0.02	c0.17		c0.04	0.14		c0.06	0.30		0.02	c0.41	
v/s Ratio Perm	0.07			0.13			0.36			0.14		
v/c Ratio	0.32	0.81		0.58	0.64		0.74	0.61		0.31	0.88	
Uniform Delay, d1	28.0	36.9		27.4	34.4		19.5	18.4		13.1	23.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	12.7		4.3	3.3		12.1	1.7		0.7	7.1	
Delay (s)	28.7	49.5		31.7	37.7		31.6	20.1		13.7	30.9	
Level of Service	C	D		C	D		C	C		B	C	
Approach Delay (s)		45.7			35.9			21.6			30.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	97.9	Sum of lost time (s)	17.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	724	31	0	0	0	53
Future Volume (Veh/h)	724	31	0	0	0	53
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	746	32	0	0	0	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			778		762	762
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			778		762	762
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	86
cM capacity (veh/h)			839		373	405

Direction, Lane #	EB 1	NB 1
Volume Total	778	55
Volume Left	0	0
Volume Right	32	55
cSH	1700	405
Volume to Capacity	0.46	0.14
Queue Length 95th (ft)	0	12
Control Delay (s)	0.0	15.3
Lane LOS		C
Approach Delay (s)	0.0	15.3
Approach LOS		C

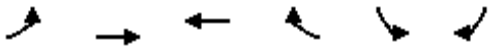
Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	50.0%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1926	183	131	1716	327	222
Future Volume (vph)	1926	183	131	1716	327	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		5.0	4.0	5.5	5.5
Lane Util. Factor	0.91		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5019		1770	3539	1770	1583
Flt Permitted	1.00		0.08	1.00	0.95	1.00
Satd. Flow (perm)	5019		142	3539	1770	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1986	189	135	1769	337	229
RTOR Reduction (vph)	11	0	0	0	0	1
Lane Group Flow (vph)	2164	0	135	1769	337	228
Turn Type	NA		custom	NA	Prot	custom
Protected Phases	2		1	6 4!	4!	4
Permitted Phases			6			1
Actuated Green, G (s)	45.9		61.0	100.0	29.5	38.1
Effective Green, g (s)	45.9		61.0	94.5	29.5	38.1
Actuated g/C Ratio	0.46		0.61	0.94	0.29	0.38
Clearance Time (s)	5.5		5.0		5.5	5.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	2303		226	3344	522	690
v/s Ratio Prot	c0.43		0.05	c0.50	c0.19	0.10
v/s Ratio Perm			0.31			0.05
v/c Ratio	0.94		0.60	0.53	0.65	0.33
Uniform Delay, d1	25.7		19.2	0.3	30.7	21.9
Progression Factor	0.78		0.82	1.00	1.00	1.00
Incremental Delay, d2	8.7		1.4	0.1	2.7	0.3
Delay (s)	28.8		17.3	0.4	33.4	22.2
Level of Service	C		B	A	C	C
Approach Delay (s)	28.8			1.6	28.9	
Approach LOS	C			A	C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.

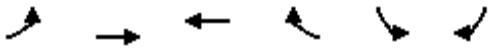
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	54	217	317	67	220	162
Future Volume (Veh/h)	54	217	317	67	220	162
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	56	224	327	69	227	167
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	396				698	362
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	396				698	362
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				41	76
cM capacity (veh/h)	1163				387	683

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	280	396	394
Volume Left	56	0	227
Volume Right	0	69	167
cSH	1163	1700	474
Volume to Capacity	0.05	0.23	0.83
Queue Length 95th (ft)	4	0	203
Control Delay (s)	2.0	0.0	40.0
Lane LOS	A		E
Approach Delay (s)	2.0	0.0	40.0
Approach LOS			E

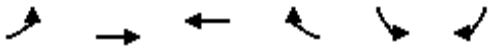
Intersection Summary			
Average Delay	15.2		
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	52	385	319	48	37	65
Future Volume (Veh/h)	52	385	319	48	37	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	54	397	329	49	38	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	378				858	354
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	378				858	354
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				88	90
cM capacity (veh/h)	1180				312	690

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	451	378	105
Volume Left	54	0	38
Volume Right	0	49	67
cSH	1180	1700	480
Volume to Capacity	0.05	0.22	0.22
Queue Length 95th (ft)	4	0	21
Control Delay (s)	1.4	0.0	14.6
Lane LOS	A		B
Approach Delay (s)	1.4	0.0	14.6
Approach LOS			B

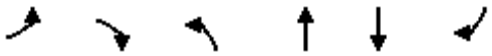
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	374	265	52	33	102
Future Volume (Veh/h)	48	374	265	52	33	102
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	49	386	273	54	34	105
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	327				784	300
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	327				784	300
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				90	86
cM capacity (veh/h)	1233				348	740

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	435	327	139
Volume Left	49	0	34
Volume Right	0	54	105
cSH	1233	1700	580
Volume to Capacity	0.04	0.19	0.24
Queue Length 95th (ft)	3	0	23
Control Delay (s)	1.3	0.0	13.2
Lane LOS	A		B
Approach Delay (s)	1.3	0.0	13.2
Approach LOS			B

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	177	0	0	295	42
Future Volume (Veh/h)	0	177	0	0	295	42
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	192	0	0	321	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	344	184	367			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	344	184	367			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	77	100			
cM capacity (veh/h)	626	827	1188			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	192	214	153
Volume Left	0	0	0
Volume Right	192	0	46
cSH	827	1700	1700
Volume to Capacity	0.23	0.13	0.09
Queue Length 95th (ft)	22	0	0
Control Delay (s)	10.7	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.7	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	27.1%	ICU Level of Service	A
Analysis Period (min)	15		

LANE SUMMARY

Site: 101 [Segoe Road & Sheboygan Avenue 2041 AM]

2041 Build-Out AM Peak Hour
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: RoadName													
Lane 1[d]	414	1.0	1017	0.407	100	8.0	LOS A	2.1	53.7	Full	1600	0.0	0.0
Lane 2	197	1.0	1017	0.194	48[5]	5.4	LOS A	0.8	19.6	Full	1600	0.0	0.0
Approach	611	1.0		0.407		7.1	LOS A	2.1	53.7				
East: RoadName													
Lane 1[d]	39	1.0	686	0.057	100	5.9	LOS A	0.1	3.6	Full	1600	0.0	0.0
Approach	39	1.0		0.057		5.9	LOS A	0.1	3.6				
North: RoadName													
Lane 1	194	1.0	724	0.268	100	8.1	LOS A	1.0	26.3	Full	1600	0.0	0.0
Lane 2[d]	194	1.0	724	0.268	100	8.1	LOS A	1.0	26.3	Full	1600	0.0	0.0
Approach	388	1.0		0.268		8.1	LOS A	1.0	26.3				
West: RoadName													
Lane 1[d]	222	1.0	933	0.238	100	6.3	LOS A	0.7	17.8	Full	1600	0.0	0.0
Approach	222	1.0		0.238		6.3	LOS A	0.7	17.8				
Intersection	1261	1.0		0.407		7.2	LOS A	2.1	53.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

LANE SUMMARY

Site: 101 [Segoe Road & Sheboygan Avenue 2041 PM]

2041 Build-Out PM Peak Hour
Roundabout

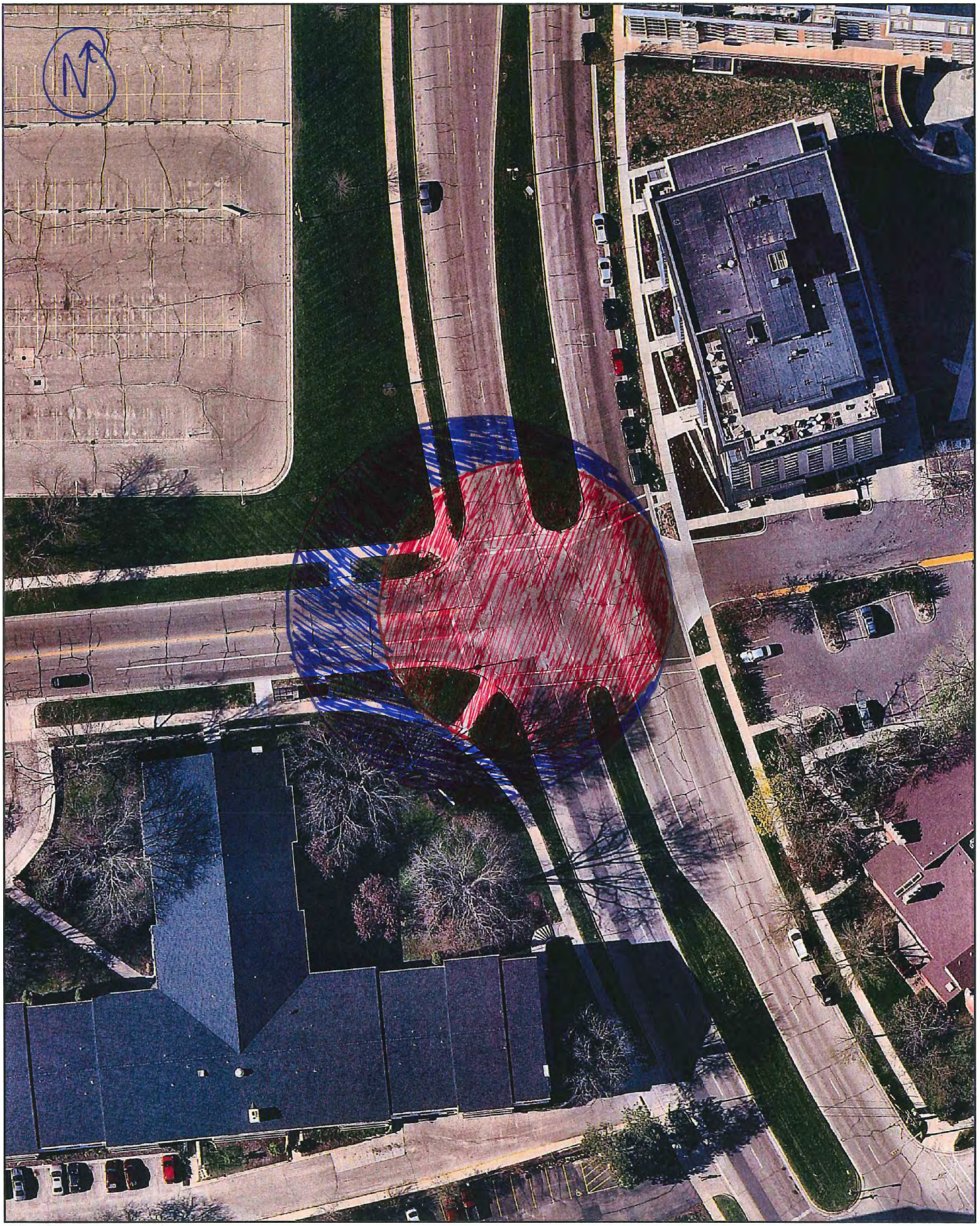
Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: RoadName													
Lane 1[d]	264	1.0	943	0.280	100	6.7	LOS A	1.2	30.4	Full	1600	0.0	0.0
Lane 2	260	1.0	943	0.275	98[5]	6.6	LOS A	1.2	29.7	Full	1600	0.0	0.0
Approach	524	1.0		0.280		6.7	LOS A	1.2	30.4				
East: RoadName													
Lane 1[d]	26	1.0	741	0.035	100	5.2	LOS A	0.1	2.2	Full	1600	0.0	0.0
Approach	26	1.0		0.035		5.2	LOS A	0.1	2.2				
North: RoadName													
Lane 1	324	1.0	848	0.382	100	8.8	LOS A	1.8	44.2	Full	1600	0.0	0.0
Lane 2[d]	324	1.0	848	0.382	100	8.8	LOS A	1.8	44.2	Full	1600	0.0	0.0
Approach	648	1.0		0.382		8.8	LOS A	1.8	44.2				
West: RoadName													
Lane 1[d]	413	1.0	760	0.544	100	13.0	LOS B	2.4	60.7	Full	1600	0.0	0.0
Approach	413	1.0		0.544		13.0	LOS B	2.4	60.7				
Intersection	1611	1.0		0.544		9.1	LOS A	2.4	60.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

ROUNDABOUT SKETCH AT SEGOE ROAD & SHEBOYGAN AVENUE



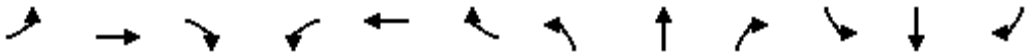
O= 150 FOOT ICD

O= 180 FOOT ICD

EXHIBIT A: ROUNDABOUT LAYOUT

INSCRIBED CIRCLE DIAMETER (ICD) (OUTSIDE CURB)

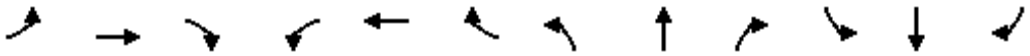
SYNCHRO TRAFFIC SIGNAL ANALYSIS AT SEGOE ROAD & SHEBOYGAN AVENUE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	2	116	13	3	21	338	183	2	8	211	134
Future Volume (vph)	79	2	116	13	3	21	338	183	2	8	211	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5			4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95			0.95	
Frt		1.00	0.85		0.92		1.00	1.00			0.94	
Flt Protected		0.95	1.00		0.98		0.95	1.00			1.00	
Satd. Flow (prot)		1776	1583		1691		1770	3534			3333	
Flt Permitted		0.70	1.00		0.87		0.48	1.00			0.95	
Satd. Flow (perm)		1308	1583		1502		888	3534			3168	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	84	2	123	14	3	22	360	195	2	9	224	143
RTOR Reduction (vph)	0	0	108	0	19	0	0	0	0	0	64	0
Lane Group Flow (vph)	0	86	15	0	20	0	360	197	0	0	312	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		9.0	9.0		9.0		57.0	57.0			41.5	
Effective Green, g (s)		9.0	9.0		9.0		57.0	57.0			41.5	
Actuated g/C Ratio		0.12	0.12		0.12		0.76	0.76			0.55	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		156	189		180		804	2685			1752	
v/s Ratio Prot							c0.07	0.06				
v/s Ratio Perm		c0.07	0.01		0.01		c0.27				0.10	
v/c Ratio		0.55	0.08		0.11		0.45	0.07			0.18	
Uniform Delay, d1		31.1	29.3		29.4		2.9	2.3			8.3	
Progression Factor		1.00	1.00		1.00		1.00	1.00			0.91	
Incremental Delay, d2		4.2	0.2		0.3		0.4	0.1			0.2	
Delay (s)		35.3	29.5		29.7		3.3	2.3			7.8	
Level of Service		D	C		C		A	A			A	
Approach Delay (s)		31.9			29.7			3.0			7.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	2	297	8	2	15	210	242	10	94	394	105
Future Volume (vph)	63	2	297	8	2	15	210	242	10	94	394	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5			4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95			0.95	
Frt		1.00	0.85		0.92		1.00	0.99			0.97	
Flt Protected		0.95	1.00		0.98		0.95	1.00			0.99	
Satd. Flow (prot)		1776	1583		1686		1770	3517			3418	
Flt Permitted		0.71	1.00		0.90		0.35	1.00			0.85	
Satd. Flow (perm)		1327	1583		1550		649	3517			2916	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	67	2	316	9	2	16	223	257	11	100	419	112
RTOR Reduction (vph)	0	0	272	0	14	0	0	3	0	0	17	0
Lane Group Flow (vph)	0	69	44	0	13	0	223	265	0	0	614	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		10.4	10.4		10.4		55.6	55.6			42.6	
Effective Green, g (s)		10.4	10.4		10.4		55.6	55.6			42.6	
Actuated g/C Ratio		0.14	0.14		0.14		0.74	0.74			0.57	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		184	219		214		608	2607			1656	
v/s Ratio Prot							c0.04	0.08				
v/s Ratio Perm		c0.05	0.03		0.01		c0.23				0.21	
v/c Ratio		0.38	0.20		0.06		0.37	0.10			0.37	
Uniform Delay, d1		29.3	28.6		28.1		3.4	2.7			8.9	
Progression Factor		1.00	1.00		1.00		1.00	1.00			0.81	
Incremental Delay, d2		1.3	0.5		0.1		0.4	0.1			0.6	
Delay (s)		30.6	29.1		28.2		3.8	2.8			7.8	
Level of Service		C	C		C		A	A			A	
Approach Delay (s)		29.3			28.2			3.2			7.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

ATTACHMENT B- TRIP GENERATION CALCULATIONS (FULL BUILD-OUT)

Land Use	Unit	Qty. (X)	Daily Trips	Weekday		Daily Trips				AM Peak				PM Peak			
				AM Peak	PM Peak	Ratio	In	Out	Totals	Ratio	In	Out	Totals	Ratio	In	Out	Totals
Multi-Family/Apartment (LUC 220)	Dwelling Unit	394	2,620	240	244	50/50	1,310	1,310	2,620	20/80	48	192	240	65/35	159	85	244
High Rise Residential (LUC 312)	Dwelling Unit	273	281	85	57	50/50	141	141	281	50/50	42	42	85	50/50	29	29	57
General Office (LUC 710)	SQ FT/1000	205,600	2,268	321	306	50/50	1,134	1,134	2,268	88/12	282	38	321	17/83	52	254	306
Government Office Building (LUC 710)	SQ FT/1000	167,456	1,847	261	250	50/50	924	924	1,847	88/12	230	31	261	17/83	42	207	250
Shopping Center (LUC 820)	SQ FT/1000	35,565	1,519	34	132	50/50	759	759	1,519	62/38	21	13	34	48/52	63	69	132
High-Turnover Sit-in Restaurant (LUC 932)	SQ FT/1000	25,499	3,242	276	251	50/50	1,621	1,621	3,242	55/45	152	124	276	60/40	151	100	251
Health/Fitness Club (LUC 492)	SQ FT/1000	0	0	0	0	50/50	0	0	0	50/50	0	0	0	57/43	0	0	0
Pharmacy w/ Drive-Through (LUC 881)	SQ FT/1000	0	0	0	0	50/50	0	0	0	52/48	0	0	0	50/50	0	0	0
Medical/Dental Offices (LUC 720)	SQ FT/1000	146,689	5,300	351	524	50/50	2,650	2,650	5,300	79/21	277	74	351	28/72	147	377	524
Grocery Store (LUC 850)	SQ FT/1000	50,000	5,112	170	474	50/50	2,556	2,556	5,112	62/38	105	65	170	51/49	242	232	474
Totals:			**22,189**	**1,737**	**2,238**		**11,094**	**11,094**	**22,189**		**1,158**	**580**	**1,737**		**884**	**1,354**	**2,238**
Initial Trip Estimate (12/6/2017 KH report):			**25,790**														
Total Change in Trips (un-adjusted):			**-3,601**														

TRIP REDUCTIONS / ADJUSTMENTS

Less 30% Non-Auto Trips	-6,657	-521	-671	-3,328	-3,328	-6,657	-347	-174	-521	-265	-406	-671
Less Internal Capture (15% AM; 20% PM- Use worst-case scenario)	-4,438	-261	-448				-174	-116	-290	-133	-271	-403
Sub Totals:	**-11,094**											

PASS-BY TRIPS

Pass-by Trips (34% of Shopping Center Trips)	-258	-6	-22
Pass-by Trips (36% of Grocery Store Trips)	-920	-31	-85
Pass-by Trips (43% of Restaurant Trips)	-697	-59	-54
Sub-Totals:	**-1,875**	**-96**	**-162**

Total New Trips:	**9,219**
Initial Trip Estimate (12/6/2017 KH report):	**10,870**
Total Change in Trips:	**-1,651**

Summary of Programming Changes:

1. Health/Fitness Club removed from development programing.
2. Pharmacy/Drug Store removed from development programing.
3. Hotel use was eliminated.
4. Total apartment units were increased from 350 to 667.
5. Grocery store gross area was increased from 25,000 SF to 50,000 SF.

ATTACHMENT D

Department of Planning & Community & Economic Development
Planning Division
Heather Stouder, AICP, Director

126 S. Hamilton Street
P.O. Box 2985
Madison, Wisconsin 53701-2985
Phone: (608) 266-4635
www.cityofmadison.com

May 8, 2018

Sean Roberts
Summit Smith Development
241 N. Broadway, Suite 400
Milwaukee, Wisconsin 53202

RE: Approval of a request to rezone approximately 14 acres of land located at 4802 Sheboygan Avenue from SE (Suburban Employment District) to PD (Planned Development District) and approval of a General Development Plan for the future redevelopment of portions of the Hill Farms State Office Building property with up to 500,000 square feet of office space, 250,000 square feet of retail/ restaurant/ service space, 400 hotel rooms, and 600 residential units in a multi-building project. [LNDUSE-2017-00130; ID 50130]

Dear Mr. Roberts;

At its May 1, 2018 meeting, the Common Council **conditionally approved** your request to rezone 14 acres of land located at 4802 Sheboygan Avenue from SE to PD and approved a General Development Plan for the "Madison Yards at Hill Farms" development subject to the conditions in the following sections, which shall be satisfied prior to final approval and recording of the Planned Development–General Development Plan.

Note: No building permits shall be issued for the site until a Specific Implementation Plan(s) has been approved by the Common Council and recorded.

Please contact Tim Troester of the City Engineering Division at (608) 267-1995 if you have any questions regarding the following fifteen (15) items:

1. The developer shall establish public access easements over private streets within the plat.

2. The construction of this project will require that the applicant shall enter into a City/ Developer agreement for the required infrastructure improvements. The applicant shall contact City Engineering to schedule the development of the plans and the agreement. The City Engineer will not sign off on this project without the agreement executed by the developer. Note: Obtaining a developers agreement generally takes approximately 4-6 weeks, minimum.

3. All outstanding Madison Metropolitan Sewerage District (MMSD) charges are due and payable prior to City Engineering Division sign-off, unless otherwise collected with a Developer's/ Subdivision Contract. Contact Mark Moder (608-261-9250) to obtain the final MMSD billing a minimum of two (2) working days prior to requesting City Engineering signoff.

4. The site plan shall be revised to show all existing public sanitary sewer facilities in the project area as well as the size, invert elevation, and alignment of the proposed service.

5. The applicant shall be required to submit projected sanitary sewer flow calculations for the proposed development to Mark Moder, mmoder@cityofmadison.com, prior to plan signoff. Calculations have been submitted and approved previously, but an update set of calculations will be required if the projected land use has changed (change in dwelling units, commercial).

6. This stormwater review is for the GDP rezoning only. Stormwater management comments will be provided during the SIP review for each lot.

7. The storm sewer installed within this development is proposed to be private. Maintenance shall be the responsibility of the developer and assigned via an inter-lot drainage agreement.

8. The applicant shall execute a waiver of notice and hearing on the assessments for future improvements as required by the City Traffic Engineer as defined in this conditional approval in accordance with Section 66.0703(7)(b) Wisconsin Statutes and MGO Section 4.09.

9. This zoning approval does not include the approval of the changes to roadways, sidewalks or utilities. The applicant shall obtain separate approval by the Board of Public Works and the Common Council for the restoration of the public right of way including any changes requested by developer. The City Engineer shall complete the final plans for the restoration with input from the developer.

10. The applicant shall provide the City Engineer with a survey indicating the grade of the existing sidewalk and street. The applicant shall hire a Professional Engineer to set the grade of the building entrances adjacent to the public right of way. The applicant shall provide the City Engineer the proposed grade of the building entrances. The City Engineer shall approve the grade of the entrances prior to signing off on this development.

11. The applicant shall replace all sidewalk and curb and gutter that abuts the property that is damaged by the construction, or any sidewalk and curb and gutter, which the City Engineer determines needs to be replaced because it is not at a desirable grade, regardless of whether the condition existed prior to beginning construction.

12. The applicant shall provide the City Engineer with the proposed earth retention system to accommodate the restoration. The earth retention system must be stamped by a Professional Engineer. The City Engineer may reject or require modifications to the retention system

13. All work in the public right of way shall be performed by a City-licensed contractor.

14. All damage to the pavement on all public streets adjacent to this development shall be restored in accordance with the City's Pavement Patching Criteria.

15. The developer shall build all private streets and sidewalks within the plat to City of Madison standard specifications.

Please contact Jeff Quamme of the City Engineering Division–Mapping Section at (608) 266-4097 if you have any questions regarding the following four (4) items:

16. The applicant shall provide the separate documents for review including private reciprocal easements, restrictive covenants and agreements addressing, but not limited to, pedestrian/vehicular access, parking, private utilities, common areas (including the Central Green), storm drainage and storm water management (including silva cells) that are necessary to accomplish the development as proposed. The document(s) shall then be executed and recorded and copies provided prior to the approval of the SIP for Phase 1.

17. The internal road system is planned to be private. The applicant shall provide public easements for public pedestrian, bicycle and vehicular access and use on the face of the proposed plat. A separate document may be required to be drafted, reviewed by City staff and recorded immediately after the subdivision plat setting forth specific restrictions, rights and responsibilities of the parties subject to or benefitting from the easement. Required Easements shall be in recorded prior to or simultaneously with SIP approval.

18. There are Public Sanitary Sewer and Water Main facilities that exist and many to be constructed as part of the development. Public Easements shall be granted on the face of the proposed plat over the entirety of the Outlots designated for private roads. For any additional public facilities required subsequent to plat recording, the applicant will be required to coordinate the documents to be drafted and recorded by the City of Madison Office of Real Estate Services with Jeff Quamme. Required Easements shall be recorded prior to or simultaneously with SIP approval.

19. Continue to work with Lori Zenchenko on the submission and approval of street names for Street C and Street D. Email proposed names to LZenchenko@cityofmadison.com.

Please contact Eric Halvorson of the Traffic Engineering Division at (608) 266-6527 if you have any questions regarding the following twelve (12) items, including the conditions modified or added by the Plan Commission on April 23, 2018 and as approved by the Common Council on May 1, 2018 (conditions #20b, 20e, and 32 of this letter):

20. Due to the proposed development's scale and density and significant negative impacts to the surrounding transportation network, potentially limiting the redevelopment of future site(s) adjacent the same transportation network, stronger consideration for multi-modal transportation must be addressed. Additionally, the community values multi-modal transportation, as demonstrated in the community's *Complete Streets Policy* and the Madison In Motion transportation plan. Madison is regarded as one of the most walkable communities and enjoys the status as a Platinum Bicycle City. The Traffic Engineering Division requires several additional improvements to the surrounding transportation network to help facilitate the movement of all modes of transportation to/from this site including:
    a.) The developer shall install traffic calming devices, such as tabletops, raised crossings and bumpouts at strategic locations across the site, to improve the walkability and the biking environment throughout the site.

b.) **The developer shall install sidewalks with a minimum width of 10 feet on the both sides of Madison Yards Way and Gardener Road where practical. Final design details of the internal streets will be finalized during the SIP submittal.** [Other internal streets may still require 12-foot wide sidewalks as originally recommended by the City Traffic Engineer, to be determined at the SIP stage.]

c.) The developer shall dedicate right of way to be determined by the City Traffic Engineer for future potential roundabout or traffic signal at the intersection of Segoe Road and Sheboygan Avenue.

d.) The developer shall install the following transportation improvements through a developer's agreement:

- Move the north curb on Sheboygan Avenue adjacent to the property to accommodate new bike lanes on Sheboygan Avenue.
- Widen sidewalk adjacent to the GDP area along Sheboygan Avenue to 8 feet and dedicate the appropriate amount of right of way.
- Improve pedestrian crossing improvements as agreed by the City Traffic Engineer on Sheboygan Avenue.
- Extend the westbound left-turn bay at the intersection of University Avenue and N. Segoe Road to a length to be determined by the City Traffic Engineer to accommodate the increased traffic and to mitigate the worsened queueing issue.
- Widen sidewalk adjacent to the GDP area along Segoe Road to 8 feet and dedicate the appropriate amount of right of way.

e.) The developer shall **submit a promissory note from a bank** (estimated to be $525,000; the final amount to be determined by the City Traffic Engineer and City Engineer) **prior to sign-off of the first Specific Implementation Plan (SIP)** sign off for various transportation improvements. These include but are not limited to:

- Install a half-signal (as recommended by the Traffic Impact Study) and related geometric modifications at the intersection of Sheboygan Avenue and Whitney Way.
- Install buffered or regular bike lanes on following streets to improve bicycle transportation connection to the development: Eau Claire Avenue from Sheboygan Avenue to Old Middleton Road; Segoe Road from Sheboygan Avenue to Regent Street; Regent Street from Segoe Road to Midvale Boulevard, and; Sheboygan Avenue from Segoe Road to Whitney Way

f.) The developer shall sign a waiver for assessment prior to GDP sign off for the following future potential improvements:

- Future roundabout or traffic signal at the intersection of Segoe Road and Sheboygan Avenue
- Extension of Blackhawk Bike Path from N. Eau Claire Avenue to Whitney Way
- Pedestrian/bicycle connection from the development to Rennebohm Park

21. For a development with this proposed level of density and potential negative impacts to a heavily used surrounding transportation network, it is imperative the required Transportation Demand Management Plan (TDMP) not only be robust but also be sustainable. As such, the provided TDMP

(submitted on March 23, 2018 by Kimley Horn) has been rejected due to its inherent unenforceability and unsustainable nature. To address this inadequacy, the applicant shall work with Traffic Engineering to form of a Transportation Management Association (TMA) or equivalent governance structure to enforce and sustain traffic demand techniques prescribed in a robust TDMP. (The applicant has been working with Traffic Engineering to meet the below conditions and has submitted a revised TDMP on April 11, 2018. Traffic Engineering has found this version to be a significant improvement; however, there has not been adequate time to fully review document and it has not been discussed with the appropriate City agencies. The applicant shall work with Traffic Engineering and other City agencies to finalize the TDMP prior to GDP sign off). To approve a TDMP, the plan needs to include concrete and actionable items that will reasonably reduce single vehicle trips to and from the development as well as promote multimodal trips. An approvable TDMP shall include, but not be limited to, the following:

a.) Formation of a Transportation Management Association (TMA) or equivalent governance structure (possibly a Business Improvement District (BID) as there are additional shared maintenance responsibilities for the subdivision) to enforce and sustain traffic demand management techniques prescribed in an approvable TDMP. The TMA will be responsible for the following:

- Governance structure to have the ability to secure the appropriate funding required to achieve the strategies prescribed in a City approved TDMP.
- Governance structure to secure sufficient powers to enforce adherence to all TDMP strategies to all members of the association.
- All properties included in the Madison Yards at Hill Farms subdivision shall be members of the Association and shall be bound in perpetuity by covenants, conditions, and restrictions (CCR) that sets forth the implementation of the TDMP.
- Performance Monitoring: Targets (based on each potential use type); Mode split; Reduced vehicle miles traveled; Emissions, and Evaluation Measures
- Approval of the TDMP or any changes, modifications, or releases of the TDMP are subject to the future Transportation Policy and Planning Board or equivalent body. Similarly, any modifications to the TMA (or equivalent governance structure) boundaries or governing body are subject to the future Transportation Policy and Planning Board or equivalent body.

b.) The City shall also retain the ability to review the TDMP and TMA charter at any time. If there are any issues or concerns, the TMA's leadership shall schedule and staff a meeting with the City including all relevant parties.

22. The applicant shall remove all access points from the public Right-of-Way that are not the direct access points joining the internal street network to the public Right-of-Way. All additional access to the public Right-of-Way shall be granted or denied during the SIP or site approval process at which time Traffic Engineering will be provided a more detailed plan set thus providing the required context to properly evaluate if appropriate access is being granted or denied. (The applicant has had discussions with Traffic Engineering that related conditions under which approval may be granted: limited public

access (for example off-street loading zones), appropriately spaced from intersections and/or hardships for which reasonable site sustainability cannot be accommodated.)

23. The applicant shall submit one contiguous plan showing proposed conditions and one contiguous plan showing existing conditions for approval. The plan drawings shall be scaled to 1" = 20' and include the following, when applicable: existing and proposed property lines; parcel addresses; all easements; pavement markings; signing; building placement; items in the terrace such as signs, street light poles, hydrants; surface types such as asphalt, concrete, grass, sidewalk; driveway approaches, including those adjacent to and across street from the project lot location; parking stall dimensions, including two (2) feet of vehicle overhang; drive aisle dimensions; semitrailer movement and vehicle routes; dimensions of radii; and percent of slope.

24. The City Traffic Engineer may require public signing and marking related to the development; the developer shall be financially responsible for such signing and marking.

25. All parking facility design shall conform to the standards in MGO Section 10.08(6).

26. Per MGO Section 12.138 (14), this project is not eligible for residential parking permits. It is recommended that this prohibition be noted in the leases for the residential units.

27. The applicant shall adhere to all vision triangle requirements as set in MGO 27.05 (No visual obstructions between the heights of 30 inches and 10 feet at a distance of 25 feet behind the property line at streets and 10 feet at driveways.). Alterations necessary to achieve compliance may include but are not limited to; substitution to transparent materials, removing sections of the structure and modifying or removing landscaping elements. If the applicant believes public safety can be maintained they shall apply for a reduction of MGO 27.05(2)(bb) - Vision Clearance Triangles at Intersections Corners. Approval or denial of the reduction shall be the determination of the City Traffic Engineer.

28. City of Madison radio systems are microwave directional line of sight to remote towers citywide. The building elevation will need to be reviewed by Traffic Engineering to accommodate the microwave sight and building. The applicant shall submit grade and elevations plans if the building exceeds four stories prior to sign-off to be reviewed and approved by Austin Scheib, (266-4766) Traffic Engineering Shop, 1120 Sayle Street. The applicant shall return one signed approved building elevation copy to the City of Madison Traffic Engineering office with final plans for sign off.

29. The applicant shall note on the face of the GDP that no improvements shown in the public right of way are approved with this plan.

30. The applicant shall finalize a Traffic Demand Management Plan to be reviewed and approved by the City Traffic Engineer.

31. The developer shall provide a recorded copy of any joint driveway ingress/egress and crossing easements and shall be noted on face of plan.

32. That the applicant shall work with Traffic Engineering staff to ensure that adequate right-of-way is dedicated along Segoe Road to incorporate bicycle lanes.

Please contact Jenny Kirchgatter, Assistant Zoning Administrator, at (608) 266-4429 if you have questions about the following two (2) items:

33. Submit a schedule or phasing plan indicating the approximate dates when construction of the Planned Development can be expected to begin and be completed, including Phase II (Block 1) and Phase III (Block 5).

34. Work with Zoning and Planning staff to finalize the zoning text.

Please contact Adam Wiederhoeft of the Madison Water Utility at (608) 266-9121 if you have any questions regarding the following item:

35. All public water mains and water service laterals shall be installed by a standard City subdivision contract/ City-Developer agreement. The applicant shall contact the City Engineering Division to schedule the development of plans and the agreement. See Engineering Division comments for additional information.

Please contact Sarah Lerner of the Parks Division at (608) 261-4281 if you have any questions regarding the following five (5) items:

36. Park Impact Fees (comprised of the Park Infrastructure Impact Fee, per MGO Sec. 20.08(2)), and Park-Land Impact Fees, per MGO Sec. 16.23(8)(f) and 20.08(2) will be required for all new residential development associated with this project. This development is within the West Park-Infrastructure Impact Fee district. Please reference ID# 18101 when contacting Parks Division staff about this project.

37. Pursuant to MGO 20.08 (2)(c)2.d. the park impact fee may be reduced for multi-family dwelling units that are limited to occupancy by persons fifty-five (55) years of age or older by appropriated recorded restriction for a period of not less than thirty (30) years.

38. An existing inventory of trees (location, species, & DBH) and any tree removal plans (in PDF format) shall be submitted to the plans and Brad Hofmann – bhofmann@cityofmadison.com or 266-4816. All proposed street tree removals within the right of way shall be reviewed by City Forestry. Approval and permitting of street tree removals shall be obtained from the City Forester and/or the Board of Public Works prior to the approval of the site plan.

39. Existing street trees shall be protected. Please include the following note on the site plan: "Contractor shall install tree protection fencing in the area between the curb and sidewalk and extend it at least five (5) feet from both sides of the tree along the length of the terrace. No excavation is permitted within five (5) feet of the outside edge of a tree trunk. If excavation within five (5) feet of any tree is necessary, contractor shall contact City Forestry (266- 4816) prior to excavation to assess the impact to the tree and root system. Tree pruning shall be coordinated with City Forestry prior to the start of construction. Tree protection specifications can be found in Section 107.13 of *City of Madison Standard Specifications for Public Works Construction*. Any tree removals that are required for

construction after the development plan is approved will require at least a 72-hour wait period before a tree removal permit can be issued by Forestry, to notify the Alder of the change in the tree plan.

40. Additional street trees are needed for this project. All street tree planting locations and trees species within the right of way shall be determined by City Forestry. Please submit a site plan (in PDF format) to Brad Hofmann – bhofmann@cityofmadison.com or 266-4816. Tree planting specifications can be found in Section 209 of *City of Madison Standard Specifications for Public Works Construction*.

Please contact Tim Sobota at Metro Transit at (608) 261-4289 if you have questions about the following item:

41. The applicant has not solicited any approval for proposed relocation of the existing transit stops adjacent this site (as shown in plans). Metro Transit does not approve of any of the proposed changes to existing transit stops as suggested on the plans submitted. The applicant shall identify and maintain the operating characteristics of all the existing transit stops adjacent the development site, unless otherwise authorized by the City. This includes maintaining dedicated bus stops zones of at least 100 feet in length, where multiple buses may park curbside for passenger access without encroaching on driveway approaches or vehicle travel lanes (including marked bicycle facilities). This also includes maintaining existing wheelchair boarding surfaces and pedestrian access.

42. The applicant shows no changes to the geography or markings of existing streets or intersections adjacent the development site that would impact the operating characteristics of the existing bus stop zones. The applicant shall be responsible for any land dedication, as well as costs to reconstruct or relocate existing bus stops zones, should the City of Madison require any modification to the existing streets or intersections adjacent the project site that would impair the operating characteristics of the existing bus stop zone areas. This may include provision of additional right of way for pullout bays (to maintain dedicated bus stop zones of at least 100 feet that do not obstruct marked travel lanes). Any changes to the existing marking or design of the intersection of Sheboygan Avenue and N. Segoe Road may further require relocation and construction of new bus stop zones on Segoe Road (across from project site), if buses were no longer permitted to turn left from the existing curbside bus stop zone on the south side of Sheboygan immediately west of the Segoe intersection.

43. The applicant shall install and maintain a passenger waiting shelter with seating at each of the three existing bus stop locations adjacent the project site (Stop #2846 on Segoe south of University intersection, Stop #2184 on Sheboygan west of Segoe intersection, and Stop #2100 opposite 4018 Sheboygan Avenue generally west of "Street C"). Installation of these amenities shall maintain current wheelchair boarding surfaces and pedestrian access.

44. The applicant shall include final marking and intersection designs for the Segoe Road and Sheboygan Avenue rights-of-way adjacent the project, as approved by the City, on the final documents filed with their permit application. These documents shall include any modifications to the existing bus stop zones - adjacent or opposite the site - as approved by the City, such that bus stop zones will be able to maintain their current operating characteristics (100-foot length where parked buses would not obstruct travel lanes or driveway approaches). The documents shall also include the required transit amenities, so that Metro Transit may review and approve all aspects of these items listed above.

45. The Transportation Demand Management Plan memorandum, submitted on January 30, 2018 to the City of Madison by Kimley-Horn contained various mischaracterizations of the existing transit route services scheduled through the corridors near the project site (University Avenue, Old Middleton Road, and Sheboygan Avenue). Notwithstanding these descriptive errors, Metro Transit does generally provide a high level of scheduled transit service in the vicinity of this project. Of more significant note, the technical analysis in the TDM document highlighting the available transit service failed to include actual capacity of these existing trips - and whether proposed aspects of the TDM plan intended to encourage transit usage may fail to achieve the stated goals, to the extent the existing scheduled transit trips (especially during peak commute hours) are currently near or already exceeding vehicle capacity with existing passenger loads and may not be able to absorb new work trips associated with the proposed development.

Please contact my office at (608) 261-9632 if you have any questions regarding the following four (4) items:

46. The revised General Development Plan shall not be recorded and building permits shall not be issued until the Urban Design Commission grants final approval of the General Development Plan and determines that the standards of Urban Design Dist. 6 (Section 33.24 (13)) and the design objectives listed in Sections 28.098(1) and (2) and other requirements of the Sections 28.098(1) and (2) have been met. The applicant may appeal the Urban Design Commission's decision to the Plan Commission, which may affirm, reverse, or modify the Urban Design Commission's decision.

47. The following language be added to the final zoning text in a lettered section preceding the 'Alterations and Revisions' section: "The final building heights and development intensities included in the Madison Yards at Hill Farms Planned Development–General Development Plan are set as maximums and may or may not be ultimately achieved upon full build-out of the site depending on the submittal and approval of each Specific Implementation Plan. The Specific Implementation Plans for each phase of development shall be reviewed against the standards included in the Planned Development section of the Zoning Code to determine if the development can be accommodated on the site, particularly the transportation impacts of the proposed development."

48. The following language be added to the final zoning text in the appropriate section: "Exposed parking structures should be avoided. Future aboveground structured parking shall be located in the center of the development blocks to the greatest extent possible to ensure that the buildings are well designed and fully activated when viewed from the street. Any structured parking proposed on the perimeter of those Blocks 1-5 should be fully integrated into the architecture of the buildings, especially on Lots 2 and 5 when viewed from N. Segoe Road and University Avenue. Any structured parking located at the perimeter of the project abutting a public street shall be fully enclosed from an architectural perspective and include materials and windows designed in a fashion so as to appear as little like parking as possible."

49. The zoning text shall be revised prior to final approval and recording as follows:

    a.) Clarify that uses in this Planned Development district shall be *permitted or conditional* as identified in Table 28D-2 of Section 28.061 of the Zoning Code except as noted in the March 23 zoning text;

b.) Tables 1.A. and 1.B. in Section B shall be moved to a separate lettered section entitled "Project Data" or similar; the "Retail" category in these tables should be explained (retail, services, restaurant, etc.) in a footnote;

c.) The "*" text following Table 1.B. shall be revised to clearly state that the net development of the overall PD District shall not exceed the maximums of 500,000 square feet of office, 250,000 square feet of retail, 600 dwelling units (450/150 combined into one 'Residential' category), and 400 hotel rooms; development in excess of the district maximums initially established shall require approval of a major alteration to the General Development Plan;

d.) Clarify the intent of Section E, iv.;

e.) Revise Section E, v. to eliminate 20% exemption for articulation;

f.) Include a building materials palette or refer specifically to the materials palette for Mixed-Use and Commercial Districts in Section 28.060(g) of the Zoning Code;

g.) Revise the 'Alterations and Revisions' section as follows: "No alteration or revision of this Planned Development shall be permitted unless approved by the Plan Commission; however, the Zoning administrator may issue permits for minor alterations or additions which are approved by the Director of Planning and Development Department and the alderperson of the district and are compatible with the concept approved by the Plan Commission."

The applicant is also required to obtain *final approval* of the General Development Plan from the Urban Design Commission and satisfy any conditions of that approval prior to the final staff approval and recording of the General Development Plan. Please contact Janine Glaeser, Urban Design Commission Secretary, at (608) 267-8740 if you have any questions about those conditions.

Specific questions regarding the comments or conditions contained in this letter should be directed to the commenting agency.

****A separate letter of conditional approval for the preliminary plat of Madison Yards at Hill Farms has been sent to the surveyor who prepared the plat, as designated on the Subdivision Application for same.**

After the planned development has been revised per the above conditions, please file **ten (10) sets** of complete, fully dimensioned, and to-scale plans, the appropriate site plan review application and fee pursuant to Section 28.206 of the Zoning Code, and any other documentation requested herein with the Zoning Administrator, Room LL-100, Madison Municipal Building, 215 Martin Luther King, Jr. Boulevard. **This submittal shall all also include one (1) complete digital plan set in PDF format.** The sets of final revised plans or documents will be circulated by the Zoning staff to the City department staff listed above for their final approval.

Upon receipt of the aforementioned plans, documents and fees, and upon determining that they are complete, the Zoning Administrator shall record them with the Dane County Register of Deeds Office. The recorded originals will be returned to the applicant, with the recording information noted, when the Register of Deeds has completed the recording process.

If this plan is not recorded within one year of the date of approval by the Common Council, the approval shall be null and void. No construction or alteration of the property included in this application shall be permitted until a Specific Implementation Plan (SIP) has been approved and recorded.

Within thirty-six (36) months of Common Council approval of the general development plan, the basic right of use for the areas, when in conformity with the approved specific implementation plan, shall lapse and be null and void unless 1) the project, as approved, is commenced by the issuance of a building permit, or 2) if an application for an extension is filed at least thirty (30) days prior to the expiration of the thirty-six (36) month period and the Plan Commission, after a public hearing pursuant to Sec. 28.181(5), determines that no changes in the surrounding area or neighborhood since approval of the general development plan render the project incompatible with current conditions and grants an extension of up to twenty-four (24) months in which to obtain a building permit. In no case shall an extension allow a building permit to be issued more than sixty (60) months after approval of the general development plan by the Common Council. If a new building permit is required pursuant to Sec. 29.06(4), Madison General Ordinances, a new petition and approval process shall be required to obtain general development plan approval and specific implementation plan approval.

If you have any questions regarding recording this plan or obtaining permits, please call Matt Tucker, Zoning Administrator, at (608) 266-4551. If I may be of any further assistance, please do not hesitate to contact me at (608) 261-9632.

Sincerely,

Timothy M. Parks
Planner

cc: Tim Troester, City Engineering Division
Jeff Quamme, City Engineering Division–Mapping Section
Eric Halvorson, Traffic Engineering Division
Adam Wiederhoeft, Madison Water Utility
Jenny Kirchgatter, Assistant Zoning Administrator
Sarah Lerner, Parks Division
Janine Glaeser, Urban Design Commission
Bill Sullivan, Madison Fire Department

Accela ID: LNDUSE-2017-00130			
For Official Use Only, Re: Final GDP Routing			
☒	Planning Div. (T. Parks)	☒	Engineering Mapping Sec.
☒	Zoning Administrator	☒	Parks Division
☒	City Engineering	☒	Urban Design Commission
☒	Traffic Engineering (EP)	☐	Recycling Coor. (R&R)
☒	Fire Department	☒	Other: Metro Transit
☐	Water Utility (EP)	☐	Other: