Traffic Impact Study

Naperville Polo Club

Naperville, Illinois

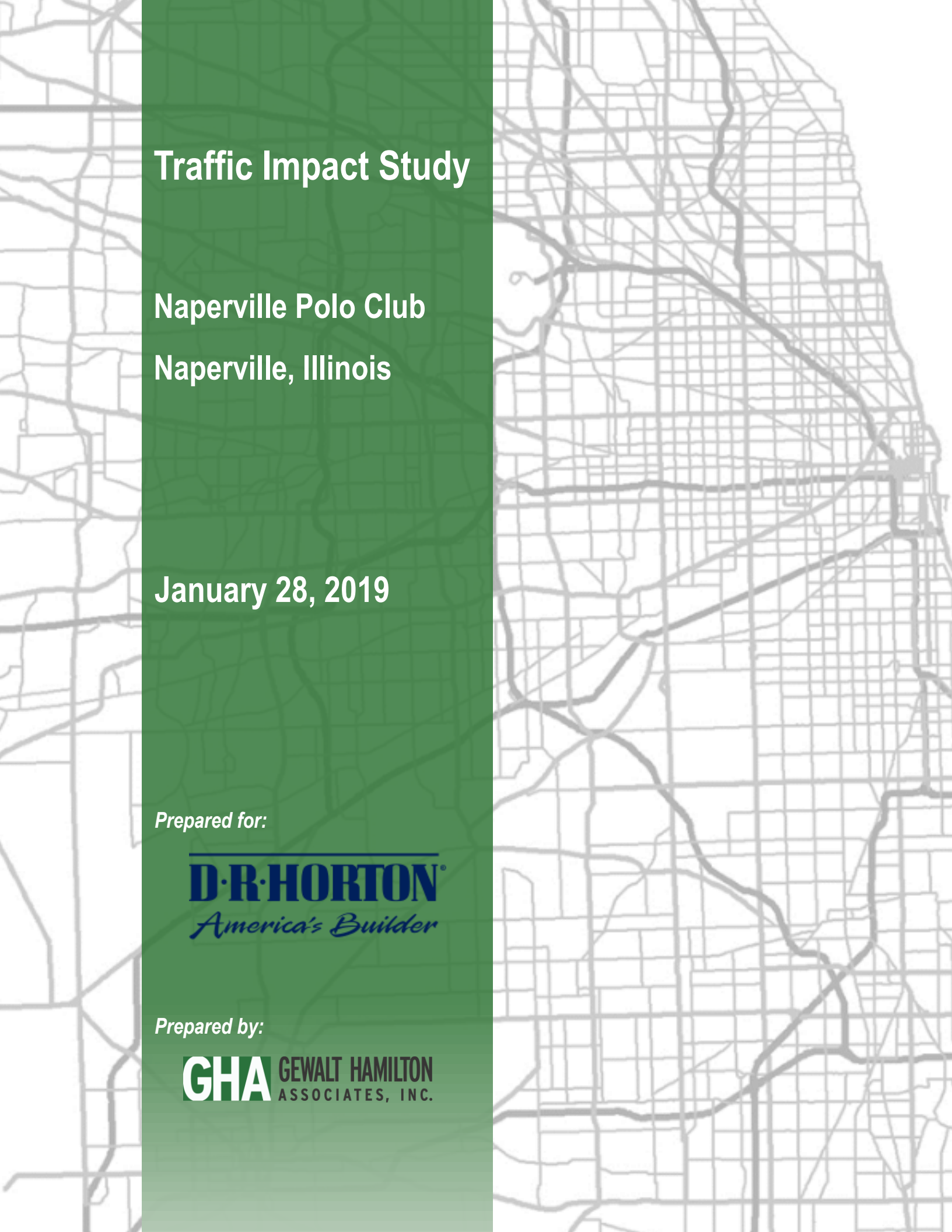
January 28, 2019

Prepared for:

D·R·HORTON
America's Builder

Prepared by:

GHA GEWALT HAMILTON ASSOCIATES, INC.



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Traffic Impact Study

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Date: January 28, 2019

Subject: ***Naperville Polo Club***

Part I. Project Context and Summary Statement

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Traffic Impact Study (TIS) for the proposed Naperville Polo Club residential development located along the north side of 119th Street at Book Road. The site is currently used for recreation, such as children and adult soccer.

As proposed, the residential development will include age-targeted and non-age targeted single-family homes and townhomes, totaling 500 dwellings. The following provides a summary of existing conditions, site traffic characteristics, and the analyses conducted of the development's impact on the surrounding roadway network. *Exhibits* and *Appendices* referenced are located at the end of this document.

Briefly summarizing, we believe that traffic generated by the Polo Club can be integrated into the area roadway system. Reasons include:

- The Polo Club site has excellent road system accessibility via IL 59, 119th Street, Book Road (extended), and Plainfield-Naperville Road.
- Although roughly one-third of the development will be age targeted, the available trip generation discounts were not taken in the analyses, to ensure that the maximum site impacts were tested.
- The extension of Book Road from 119th Street north to 111th Street as part of the Polo Club development will help minimize the site traffic impacts on the neighboring South Pointe and High Meadow subdivision streets.
- If it can be constructed, the addition of a westbound right turn lane on 119th Street at IL 59 will significantly improve traffic operations, especially during the evening peak period when westbound traffic on 119th Street currently has a very long queue.
- Multi-use paths and sidewalks along 119th Street and Book Road, as well as sidewalks throughout the development will be provided to promote pedestrian mobility and help to reduce vehicular travel.

Part II. Background Information

Site Location Map, Existing Traffic Operations, and Roadway Inventory

Exhibit 1 provides a site location map, *Exhibit 2* illustrates the existing roadway traffic operations, and *Appendix A* provides a photo inventory of the site vicinity. Pertinent comments regarding land-uses in the site vicinity and transportation components, both vehicular and non-auto mobility include:

Land Uses

- The South Pointe and High Meadow residential subdivisions lie to the north of the site. Hawkweed Drive in South Pointe is planned by the City to connect to the Polo Club development.
- A residential neighborhood lies to the south along Wolf Drive.
- Commercial uses are located in the northwest and southwest corners of the IL 59 / 119th Street intersection. Businesses are located along Aero Drive and Spaulding School Drive, east of IL 59.
- Plainfield East High School is located in the southeast corner of the 119th Street / Plainfield-Naperville Road intersection.
- Plainfield North High School is located in the southeast corner of the 119th Street / 248th Avenue intersection, about one mile west of IL 59.

Roadway System

119th Street

- 119th Street is currently under the jurisdiction of the Wheatland Township Road Commissioner. It provides one travel lane in each direction. 119th Street changes name to Rodeo Drive east of Plainfield-Naperville Road.
- 119th Street is classified as a "Minor Arterial" on the Illinois Department of Transportation (IDOT) Functional Classification Map east of IL 59 and as "Major Collector" west of IL 59. 119th Street is also designated as a Strategic Regional Arterial (SRA) route.
- At its signalized intersection with IL 59, a separate westbound left turn lane is provided, as are separate eastbound left and right turn lanes.
- At its signalized intersection with Plainfield-Naperville Road, 119th Street widens to provide two through travel lanes in each direction and separate left turn lanes.
- In the westbound direction, the posted speed limit is 45 miles per hour (mph) east of the DuPage River and then increases to 50 mph in the site vicinity until approximately 500 feet east of an existing parking lot access drive, where it becomes 35 mph. In the eastbound direction, the posted speed limit is 35 mph just east of IL 59 and in the site vicinity until approximately 2,000 west of Book Road where it becomes 50 mph. The speed limit returns to 45 mph once east of the DuPage River.
- There is a 6-ton weight limit on the bridge over the DuPage River.

IL 59

- IL 59 is under the jurisdiction of the Illinois Department of Transportation (IDOT) and is designated as a Strategic Regional Arterial (SRA) route. It is classified as an "Other Principal Arterial" on the Illinois Department of Transportation (IDOT) Functional Classification Map.
- IL 59 has two through travel lanes in each direction. Separate left turn lanes are also provided at its signalized intersection with 119th Street.
- The posted speed limit on IL 59 is 45-mph.

Wolf Drive

- Wolf Drive is a local street that has its northern terminus at 119th Street and has no outlet at its south end.
- It has one travel lane in each direction and has Stop control at 119th Street.

Book Road

- Book Road is classified as a "Minor Arterial" on the City of Naperville Master Thoroughfare Plan. It intersects 119th Street at the east end of the site and currently dead-ends north of 119th Street.
- Book Road is classified as a "Major Collector" on the Illinois Department of Transportation (IDOT) Functional Classification Map.
- One unstriped travel lane is provided in each direction. The Book Road approaches at 119th Street have Stop control.
- Book Road continues north of 111th Street from their signalized intersection and has a three-lane pavement section. It is classified as a "Major Collector" on the IDOT Functional Classification Map.
- The posted speed limit is 40-mph north of 111th Street.

Plainfield-Naperville Road

- Plainfield-Naperville Road is a north-south route that is under Will County Division of Transportation (WCDOT) jurisdiction and is designated as Highway Route 14.
- Plainfield-Naperville Road is classified as a "Major Collector" on the Illinois Department of Transportation (IDOT) Functional Classification Map.
- One travel lane is generally provided but widens at its signalized intersection with 119th Street to provide two through travel lanes and a separate left turn lane in each direction.
- Plainfield-Naperville Road has a posted speed limit of 45-mph.

Planned Roadway System Changes

- As part of the Polo Club annexation agreement, Book Road is to be relocated about 380 feet to the west and constructed from 119th Street north to 111th Street in an established 100-foot right-of-way (ROW) in the City of Naperville.
- The IL 59 intersection with Champion Road, located about ½ mile north of 119th Street and ½ mile south of 111th Street is to get traffic signal control. This project is both scheduled and funded on the current IDOT multi-year plan and is not part of this development.

Non-Auto Mobility

- There is no Pace bus service in the site vicinity. The closest Pace stop is for Route 559 at the IL 59 / 111th Street intersection.
- There are no sidewalks along 119th Street.
- Sidewalks are provided on both sides of the neighborhood streets in the South Pointe subdivision.
- The IL 59 Metra commuter station is about 9 miles away to the north.
- The Riverview Farm Forest Preserve is along the west bank of the DuPage River. The Forest Preserve District also controls the property on the south side of 119th Street along the DuPage River.

Existing and Year 2025 "No-Build" Traffic

GHA conducted weekday morning and evening peak period traffic counts on Thursday, October 12, 2017. *Exhibit 3* summarizes the peak hour traffic volumes, which occurred from 7:00-8:00 AM and 5:00-6:00 PM, as well as the Average Daily Traffic (ADT) 24-hour volumes that were obtained from the IDOT web-site. Summaries of the existing peak period traffic counts can be found in *Appendix B*. No unusual activities (e.g. roadway construction, inclement weather, or excessive emergency vehicle activity) were observed during our counts that would be expected to impact traffic volumes or travel patterns in the site vicinity.

> *Discussion Point.* The traffic volumes on 119th Street do not balance between IL 59 and Wolf Drive, as there are various street and access intersections between them. Furthermore, the traffic volumes between the other intersections were balanced to provide a conservative case scenario.

Typical industry practice suggests that other area development growth be considered to project volumes to test for an analysis horizon that is "build-out + 5-years". CMAP was contacted for their Year 2050 traffic projections, which are provided in *Appendix C*. Build-out is expected to be completed in 2020. Thus, the future analysis horizon becomes the Year 2025. *Exhibit 4* illustrates the Year 2025 No-Build traffic assignment, which considers the following growth on the area roads:

- IL 59 = 5%
- 119th Street = 9%
- Book Road south of 119th Street = Negligible
- Book Road north of 119th Street = To be constructed as part of The Polo Club
- Plainfield-Naperville Road = 6%

Part III. Project Traffic Characteristics

Site Plan

Attached as *Exhibit 5* is the site plan for the Polo Club prepared by Gary R. Weber Associates, Inc. As proposed, the development consists of constructing 500 residential units:

- 88 single family homes that are age-targeted.
- 93 ranch townhomes that are age-targeted.
- 50 traditional single family homes.
- 269, 3-story townhomes.

The Polo Club access system will include:

- A street intersection (Hawkweed Drive) for the homes and townhomes on relocated Book Road.
- A street intersection (Polo Club Drive) on 119th Street for the homes and townhomes.
- A street connection to the north at Hawkweed Drive in the South Pointe subdivision.

Trip Generations and Trip Distribution

Polo Club Trip Generations

Exhibit 6A – Part A tabulates the traffic generation calculations for the proposed development. Traffic generations are based on historically observed trip rate data published by the Institute of Transportation Engineers (ITE) in the most recent, 10th Edition of the manual *Trip Generation*. The pertinent trip generation pages for the various residential land uses are included as *Appendix D*.

Discussion Point. Even though roughly one-third of the dwellings will be "age-targeted", the standard higher generation rates for single and multi-family dwellings were used. The actual traffic generations for the age-targeted area may be 25-35% lower than calculated in *Exhibit 6 – Part A*. This will help ensure that the maximum potential site traffic impacts are tested.

Trip Distribution

Exhibit 6A – Part B presents the anticipated trip distribution, which is primarily based on the expected vehicle patterns, the street system characteristics, as well as the proposed access system.

Discussion Point. As can be seen, the relocation and extension of Book Road from 119th Street north to 111th Street will assist in distributing Polo Club traffic relatively equally on the area roadways. This will help to minimize the site traffic impacts along 119th Street and at its intersection with IL 59.

Trip Generation Comparisons

The original Polo Club development plan had a total of 697 dwellings, including a mix of age targeted and non-age single family homes, townhomes, and apartments. The current land plan (see *Exhibit 5*) has removed the apartments and the total number of dwellings has decreased to from 697 to 500. *Exhibit 6B* compares the trip generations between the former and current development plans.

Key Finding. The current Polo Club development plan will generate about 20% *fewer* trips than the previous proposal during the weekday morning and evening peak hours and on a daily basis.

Site and Year 2025 Total Traffic Assignments

Exhibit 7 illustrates the Site Traffic assignment during the weekday morning and weekday evening peak hours, which is based on the characteristics summarized in *Exhibit 6A* (trip generations and trip distribution). Also shown on *Exhibit 7* is the trip distribution and the approximate distances of the access intersections along 119th Street, from Book Road to Polo Club Drive and then to Wolf Drive.

The construction of Book Road from 111th Street to 119th Street will have an impact on area travel patterns. For example, motorists destined to/from the south and east will be able to "reroute" from the IL 59 / 119th Street intersection to using 111th Street and Book Road. *Exhibit 8A* illustrates the anticipated traffic adjustments from the Year 2025 No-Build traffic assignment (see *Exhibit 4*) with Book Road extended. The resulting Year 2025 "Baseline Traffic" assignment with Book Road extended is shown on *Exhibit 8B*.

Site traffic (see *Exhibit 7*) and the Year 2025 Baseline volumes (see *Exhibit 8B*) were combined to produce the Year 2025 Total Traffic assignment, which is presented in *Exhibit 9*.

Part IV. Traffic Evaluation and Recommendations

Intersection Capacity and Queue Analyses

Capacity analyses are a standard measurement in the transportation industry that identifies how an intersection operates. *Exhibit 10 – Part A* lists the analysis parameters, as published in the Transportation Research Board's (TRB) Highway Capacity Manual – 6th Edition, 2016 (HCM). They are measured in terms of level of service (LOS). LOS A is the best rating, with LOS F being the worst. LOS C is considered appropriate for "design" purposes and LOS D is usually considered as providing the lower threshold of "acceptable" operations. LOS E and F are usually considered unacceptable.

The capacity analyses were modeled using the Synchro v10 software. Synchro is a dynamic traffic model that provides a visual representation of traffic flow. *Exhibit 10 - Part B* summarizes the intersection capacity and queue analysis results. The capacity analysis summary printouts are provided in *Appendix E*.

Key Finding. All intersections tested other than 119st Street at IL 59 will operate at or better than the "design" LOS C for the Year 2025 planning horizon that includes full build-out of the Polo Club.

Discussion Point. Adjusting the signal timings on 119th Street slightly improves operations at IL 59. The potential changes include:

- In the morning peak hour, 3 seconds was taken away from the westbound left turn phase and added to the eastbound through phase.
- In the evening peak hour, 2 seconds was taken from the eastbound through phase and given to the westbound left turn phase. And 2 seconds was taken from the eastbound left turn phase and given to the westbound through phase.
- In the evening peak hour, 3 seconds was taken from the northbound through phase and given to the southbound left turn phase.

Key Finding. At the 119th Street / IL 59 intersection, the adjustments in traffic signal timings will result in the Year 2025 total traffic volumes, which includes full build-out of the Polo Club, having similar delays and queues than that of the Year 2025 "No-Build" analysis.

Key Finding. As can be seen from *Exhibit 10- Part B*, the addition of a westbound right turn lane on 119th Street at IL 59 would significantly improve traffic operations.

- In the morning peak hour, the intersection delay for the Year 2025 Total Traffic volumes (see *Exhibit 9*) is about 1 second less than the Year 2025 No-Build traffic volumes (see *Exhibit 4*). *The westbound queue on 119th Street shortens from 395 feet to 245 feet, or about 7-8 vehicles.*
- The improvements in operations are even more noticeable during the evening peak hour. Intersection delay decreases from about 101 seconds from the Year 2025 No-Build volumes to about 88 seconds for the Year 2025 Total Traffic volumes. *The westbound queue on 119th Street shortens in almost half, from 1133 feet to 628 feet, or about 25 vehicles.*

Available right-of-way (ROW) and associated improvement costs, such as the impacts on utilities, should be explored.

119th Street @ Book Road (Relocated) Traffic Signal Warrant Test

The 2009 Edition of the Manual on Uniform Traffic Control Devices (MUTCD) lists nine traffic signal warrants. Perhaps the easiest to meet is Warrant # 3 – Peak Hour. The minimum volume threshold on the minor street is 100 vehicles. Per the Year 2025 Total Traffic assignment (see *Exhibit 9*), the Book Road approach at 119th Street is projected to total 50 vehicles in the weekday morning peak hour and 56 in the evening.

As 119th Street is classified as an SRA route, there are usually more stringent guidelines included in the traffic signal warrant analysis:

- The time period requirement for the minor approach is typically for 8 hours in a day
- The volume threshold increases to a minimum of 150 vehicles per hour.
- Using Pagone's theorem, the ability for motorists to make right turns on red is also subtracted from the warrant volumes.
- A potential volume threshold discount of 30% for posted speed limits over 40-mph cannot be used.

Finally, the CMAP ADT projections of 4,000 vpd in the Year 2050 suggest that it will take longer than the Year 2025 Build-Out + 5 years planning horizon for other area background growth to occur on Book Road.

Discussion Point. Based on the above, it can be concluded that the Book Road / 119th Street intersection will not warrant traffic signal control as part of the Polo Club impact evaluation. However, the intersection should be monitored over time, so as to determine if or when the travel patterns and traffic volumes will eventually meet the traffic signal warrants.

Roadway and Site Access Operations

Exhibit 11 illustrates the Recommended Traffic Operations Plan. Its components include:

119th Street

- The preliminary engineering plans prepared by CEMCON indicate that 119th Street will be widened to provide separate left turns westbound at Wolf Drive and eastbound at Polo Club Drive and new Book Road. 119th Street will then taper back to a 2-lane section before reaching the south leg of existing Book Road.
- As the Polo Club development becomes built-out, a speed study should be conducted along 119th Street to determine if the posted limit can be reduced.
- A shared use path will be constructed on the north side of 119th Street.

119th Street @ Plainfield-Naperville Road

- No intersection improvements are proposed, nor are any required to accommodate Polo Club traffic.

Relocated Book Road

- The CEMCON plans indicate that Book Road (relocated) will be constructed as a 2-lane pavement section through the site to 111th Street within an established 100-foot right-of-way (ROW). At the 111th Street intersection, the existing Book Road widens to provide a 3-lane pavement section.
- Separate left turn lanes will be provided southbound at 119th Street and northbound at Hawkweed Drive, Spartina Road, and Wild Timothy Road.

- The posted speed limit on Book Road north of 111th Street is 40-mph, which may be continued south to 119th Street.
- A shared use path will be constructed in the old Book Road ROW north of 119th Street to connect the Riverview Farm Forest Preserve.
- A sidewalk will be provided on the west side of new Book Road.

Discussion Point. As noted, the Book Road / 111th Street intersection already has traffic signal control and left turn lanes. The intersection geometrics and operations match the recommendations from the Book Road "Project Development Report" prepared for the City by ESI Consultants, Ltd. In June 2009.

119th Street @ Book Road (Existing)

- No intersection improvements are proposed, nor are any required to accommodate Polo Club traffic.

119th Street @ Book Road (Relocated)

- A separate eastbound left turn lane is to be provided.
- Two southbound lanes, striped for separate left and right turns, are to be provided.
- Book Road should have Stop control.
- Traffic should be monitored over time to determine if or when traffic signals may be warranted.

Book Road @ Hawkweed Drive

- A separate northbound left turn lane will be provided.
- Based on the site traffic assignment (see *Exhibit 7*), two eastbound lanes should be considered, striped for separate left and right turns.
- The site access may have a landscape median separating the inbound and outbound lanes.
- Exiting site traffic should have Stop control.

119th Street @ Polo Club Drive

- A separate eastbound left turn lane will be provided.
- Two southbound lanes will be provided and striped for separate left and right turns.
- A landscaped median may separate the inbound and outbound lanes.
- Southbound Polo Club Drive traffic should have Stop control at 119th Street.

Polo Club Drive @ Hawkweed Drive

- One travel lane should be provided on all intersection approaches.
- All-way Stop control should be considered at this on-site intersection.
- Other Polo Club streets, driveways, and parking lots should have Stop control at Polo Club Drive and Hawkweed Drive.

119th Street @ Wolf Drive

- A separate westbound left turn lane is to be provided.

119th Street @ IL 59

- If it is feasible to construct, a separate westbound right turn lane should be provided.
- If the westbound right turn lane is constructed, the traffic signal should be modified to provide for a right turn "overlap" when the lead left turn phase on IL 59 is operating.

Part V. Technical Addendum

The following *Exhibits* and *Appendices* were previously referenced. They provide technical support for our observations, findings and recommendations discussed in the text.

Exhibits

1. Site Location Map
2. Existing Traffic Operations
3. Existing Traffic
4. No-Build Traffic – Year 2025
5. Site Plan

6A. Project Traffic Characteristics
6B. Trip Generation Comparisons

7. Polo Club Traffic

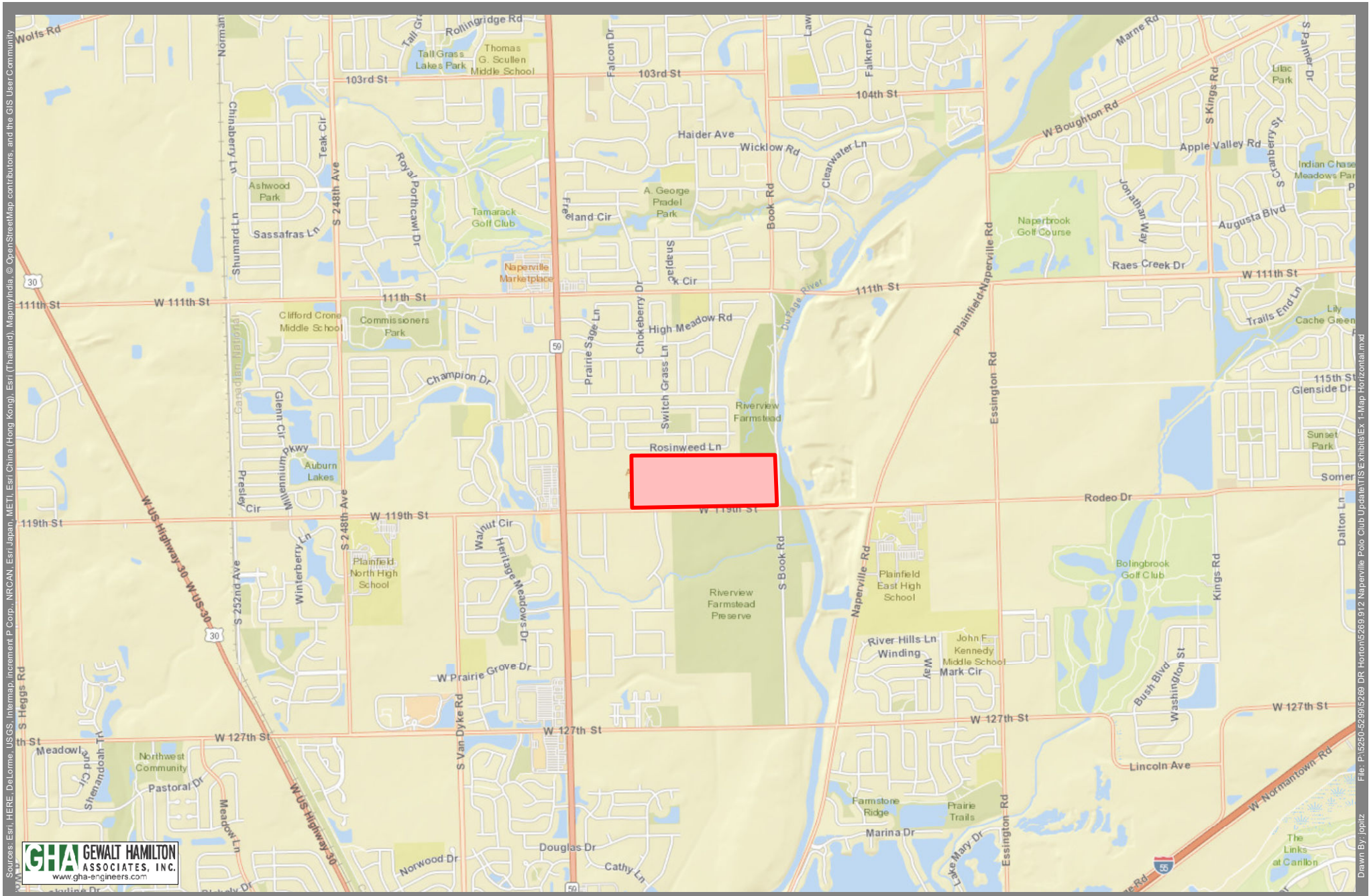
8A. No-Build Traffic Adjustments (with Book Road extended)
8B Baseline Traffic – Year 2025

9. Total Traffic – Year 2025
10. Intersection Capacity Analyses
11. Recommended Traffic Operations Plan

Appendices

A. Photo Inventory
B. Traffic Count Summaries
C. CMAP Correspondence
D. ITE Trip Generation Manual - 10th Edition Land Use Excerpts
E. Capacity Analyses Printouts

EXHIBITS



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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1 inch = 4,200 Feet

Exhibit 1 - Location Map

Polo Club - Naperville, IL

Map Center: -88.19314 41.67010

Date: 1/2/2019 Project:

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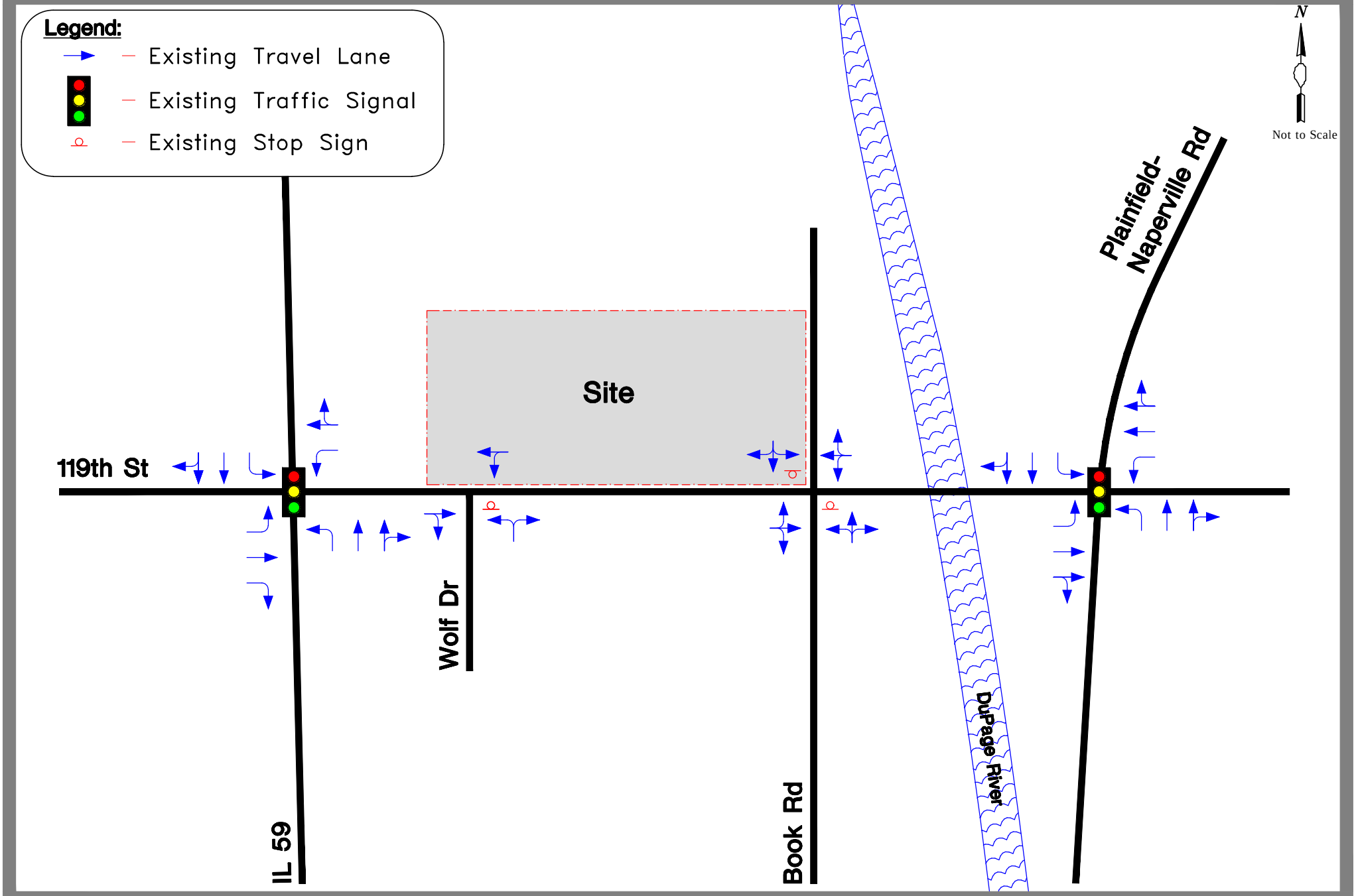

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Exhibit 2
Existing Traffic Operations

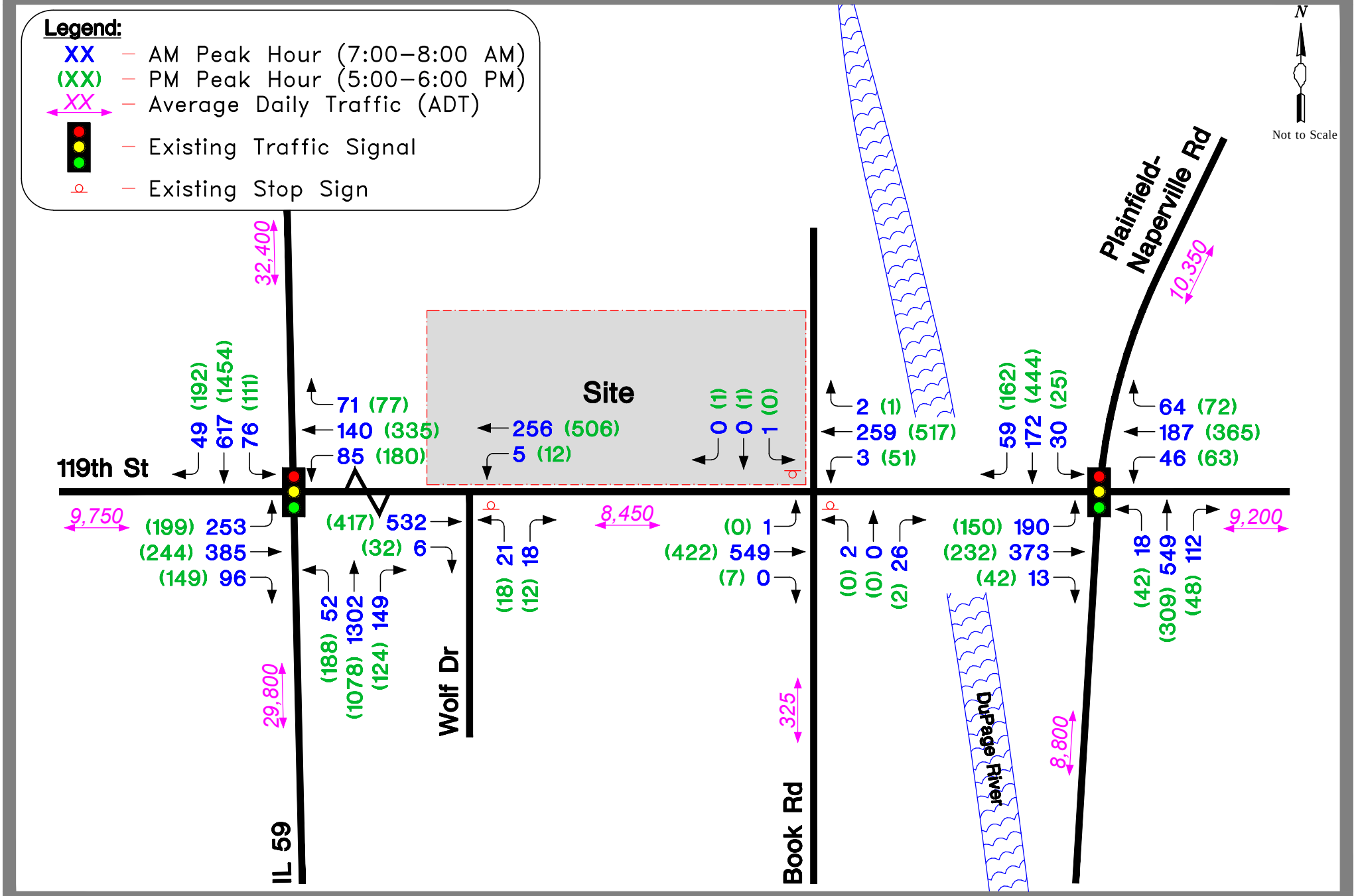

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Exhibit 3
Existing Traffic

Sources: 1) GHA October, 2017 2) IDOT ADT

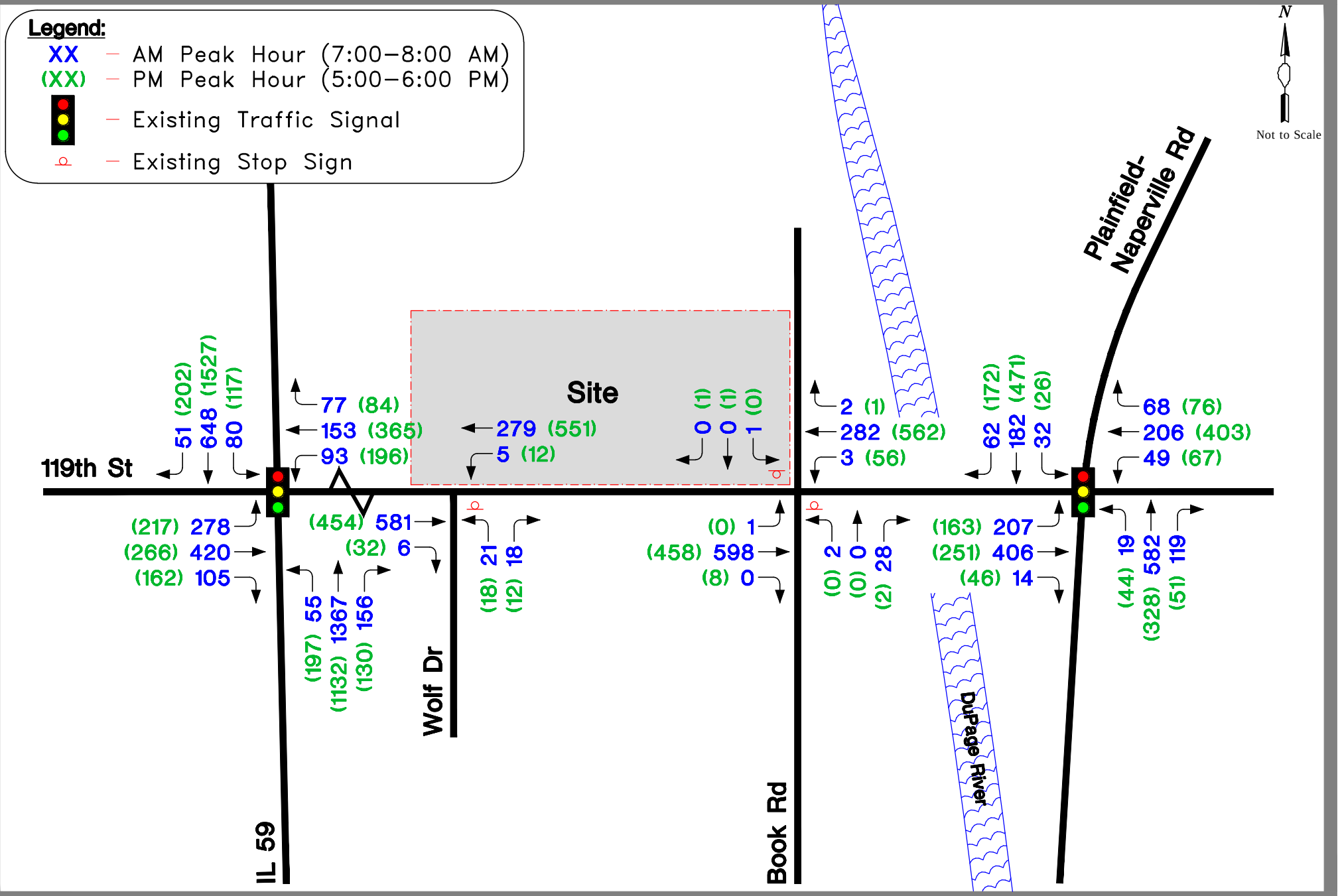

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Exhibit 4
2025 No-Build Traffic

Exhibit 5 - Site Plan

SITE DATA

LAND USE	UNITS	ACRES
AGE-TARGETED SINGLE FAMILY	88	23.2 AC.
AGE-TARGETED RANCH TOWNHOMES	93	16.5 AC.
TRADITIONAL SINGLE FAMILY	50	15.2 AC.
TRADITIONAL TOWNHOMES	269	24.9 AC.
CLUB/H.O.A. PARK/DETENTION	-	18.1 AC.
DEDICATED PARKS	-	3.0 AC.
FOREST PRESERVE CONVEYED LAND	-	1.0 AC.
POLO CLUB DRIVE ENTRY ROW	-	1.1 AC.
BOOK ROAD ROW	-	3.4 AC.
119TH STREET 1/2 ROW	-	4.2 AC.
TOTAL	500	110.6 AC.

ILLUSTRATIVE SITE PLAN

POLO CLUB
NAPERVILLE, IL

1/25/2019

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America's Builder

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ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
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WHEATON, ILLINOIS 60187
PHONE 630-668-7197

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Exhibit 6A
Project Traffic Characteristics
Polo Club Subdivision - Naperville, IL.

Part A. Trip Generations

			Weekday Peak Hours						
		ITE	Morning			Evening			Daily
	Size	Code	In	Out	Sum	In	Out	Sum	Sum
Age Targeted									
Single Family	88 Dwellings	#210	17	50	67	57	33	90	924
Townhomes - Ranch	93 Dwellings	#220	10	34	44	35	20	55	662
Non-Age Targeted									
Single Family	50 Dwellings	#210	10	30	40	33	19	52	550
Townhomes - 3 Story	269 Dwellings	#221	23	67	90	70	44	114	1,464
Totals =	**500 Dwellings**		**60**	**181**	**241**	**195**	**116**	**311**	**3,600**

Notes:

1) Source: Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition).

2) No trip discounts taken for age-targeted residences. The actual trip generations may be 20-25% lower.

Part B. Trip Distribution

Route & Direction	Percent Use To/From Site
119th Street	
- East of Naperville Road	15%
- West of IL 59	10%
IL 59	
- North of 119th Street	10%
- South of 119th Street	15%
Naperville Road	
- North of 119th Street	10%
- South of 119th Street	15%
Hawkweed Drive	
- North of Site	10%
Wolf Drive	
- South of 119th Street	Negligible
Book Road	
- North of Site	15%
- South of 119th Street	<5%
Totals =	100%

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Exhibit 6B

Trip Generation Comparisons

Polo Club Subdivision - Naperville, IL.

Part A. Updated Land Plan (December 27, 2018)

	Weekday Peak Hours		
	Morning	Evening	Daily
Size	Sum	Sum	Sum
Totals = 500 Dwelling Units	**241**	**311**	**3,600**

Part B. Previous Land Plan

	Weekday Peak Hours		
	Morning	Evening	Daily
Size	Sum	Sum	Sum
Totals = 697 Dwelling Units	**297**	**380**	**4,508**

Part C. Increments (Part A. - Part B.)	***-56***	***-69***	***-908***
(% Decrease)	*-19%*	*-18%*	*-20%*

Notes:

1) Source: Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition).

2) Totals include Single-Family Housing, Townhomes, and Apartments.

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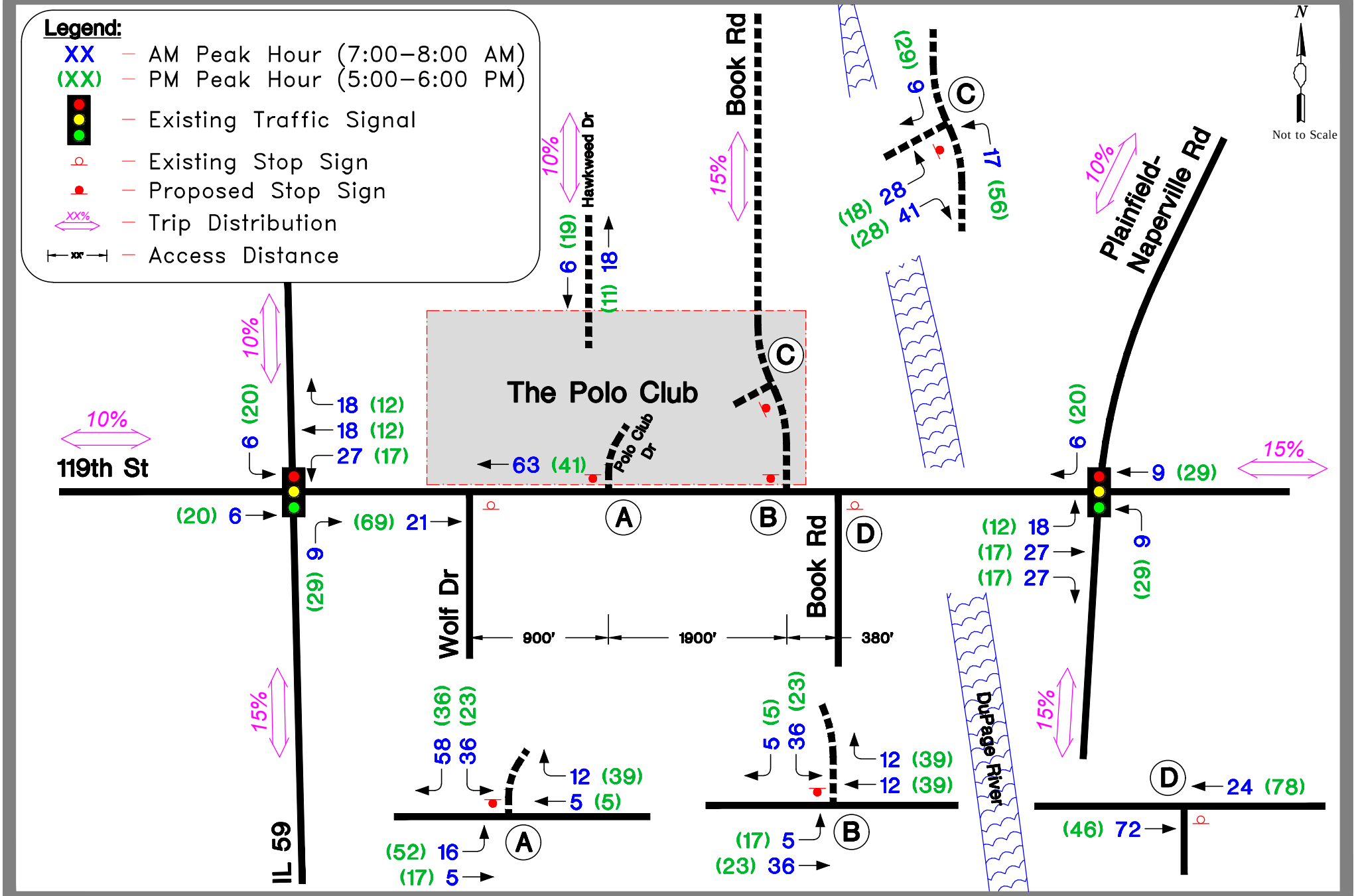

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Exhibit 7
Polo Club Traffic

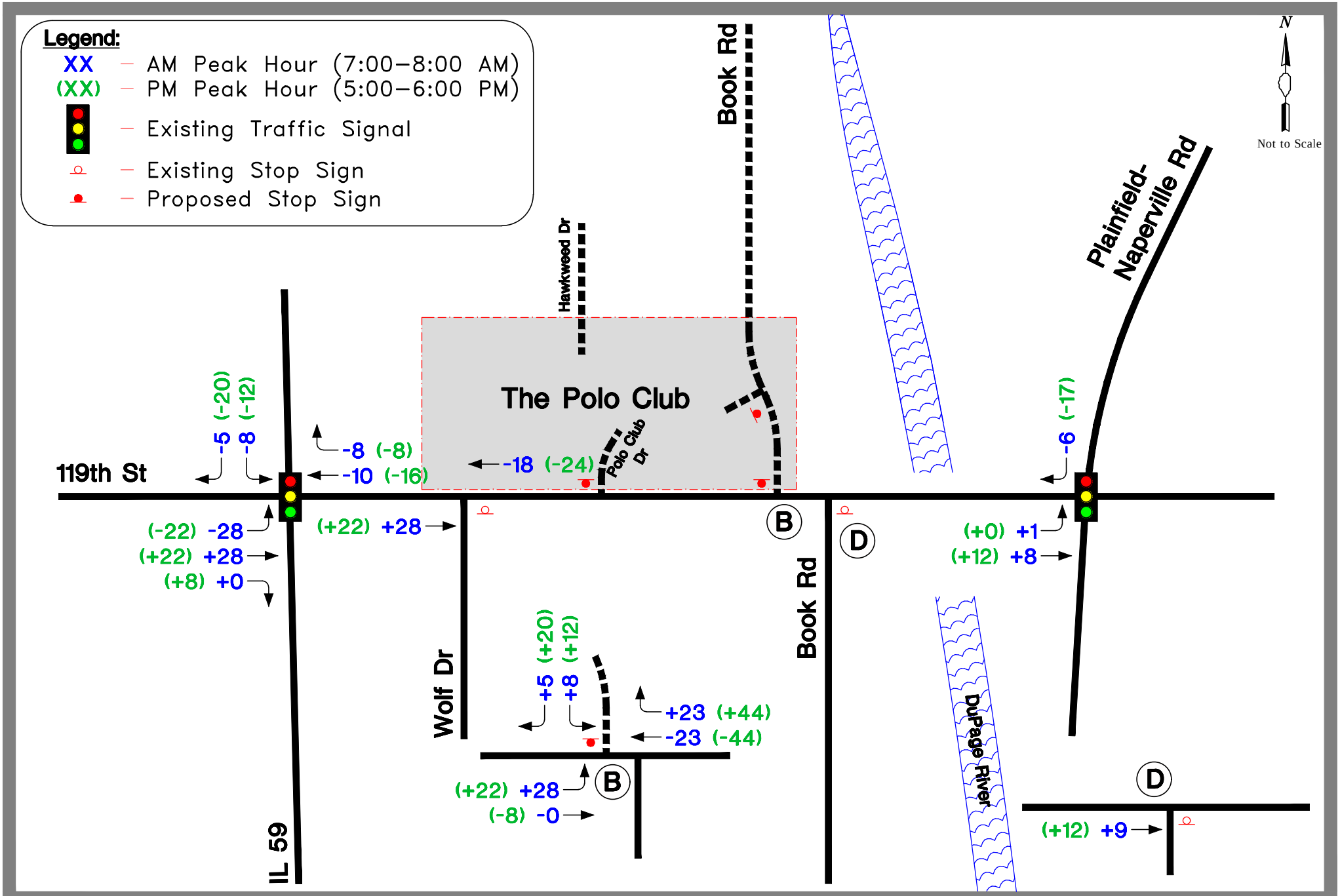

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Exhibit 8A
2025 No-Build Traffic Adjustments

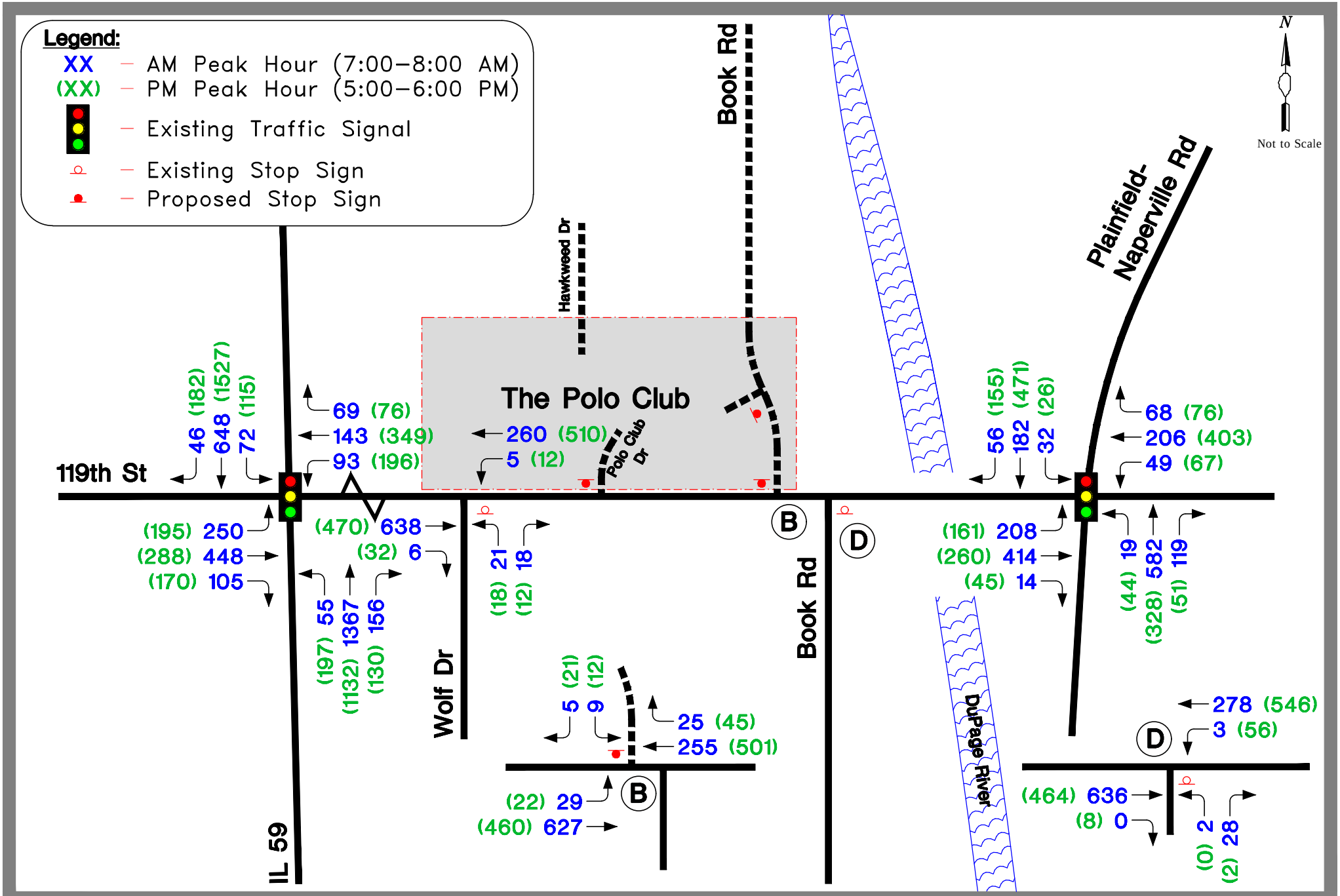

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Exhibit 8B
2025 Baseline Traffic with Book Road Extended

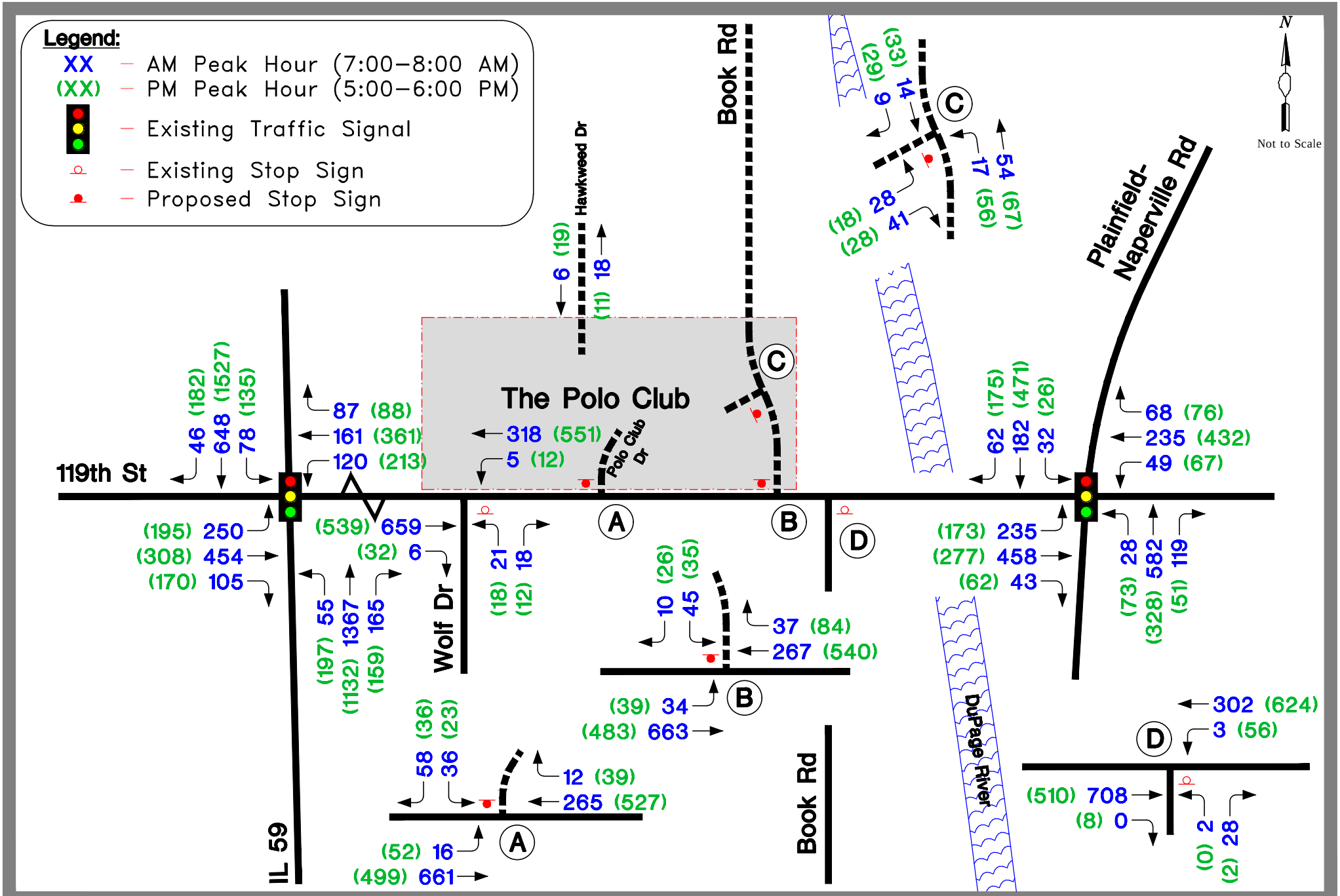

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Exhibit 9
2025 Total Traffic

Exhibit 10
Intersection Capacity and Queue Analyses

Polo Club - Naperville, Illinois

Part A. Parameters - Type of Traffic Control *(Source: Highway Capacity Manual 6th Edition)*

I. Traffic Signals

LOS	Delay (sec / veh)	Description
A	<10	All signal phases clear waiting vehicles without delay
B	>10 and < 20	Minimal delay experienced on select signal phases
C	>20 and < 35	Some delay experienced on several phases; often used as design criteria
D	>35 and < 55	Usually considered as the acceptable delay standard
E	>55 and < 80	Very long delays experienced during the peak hours
F	>80	Unacceptable delays experienced throughout the peak hours

II. Stop Sign

LOS	Delay (sec / veh)
A	< 10
B	>10 and < 15
C	>15 and < 25
D	>25 and < 35
E	>35 and < 50
F	>50

Part B. Results

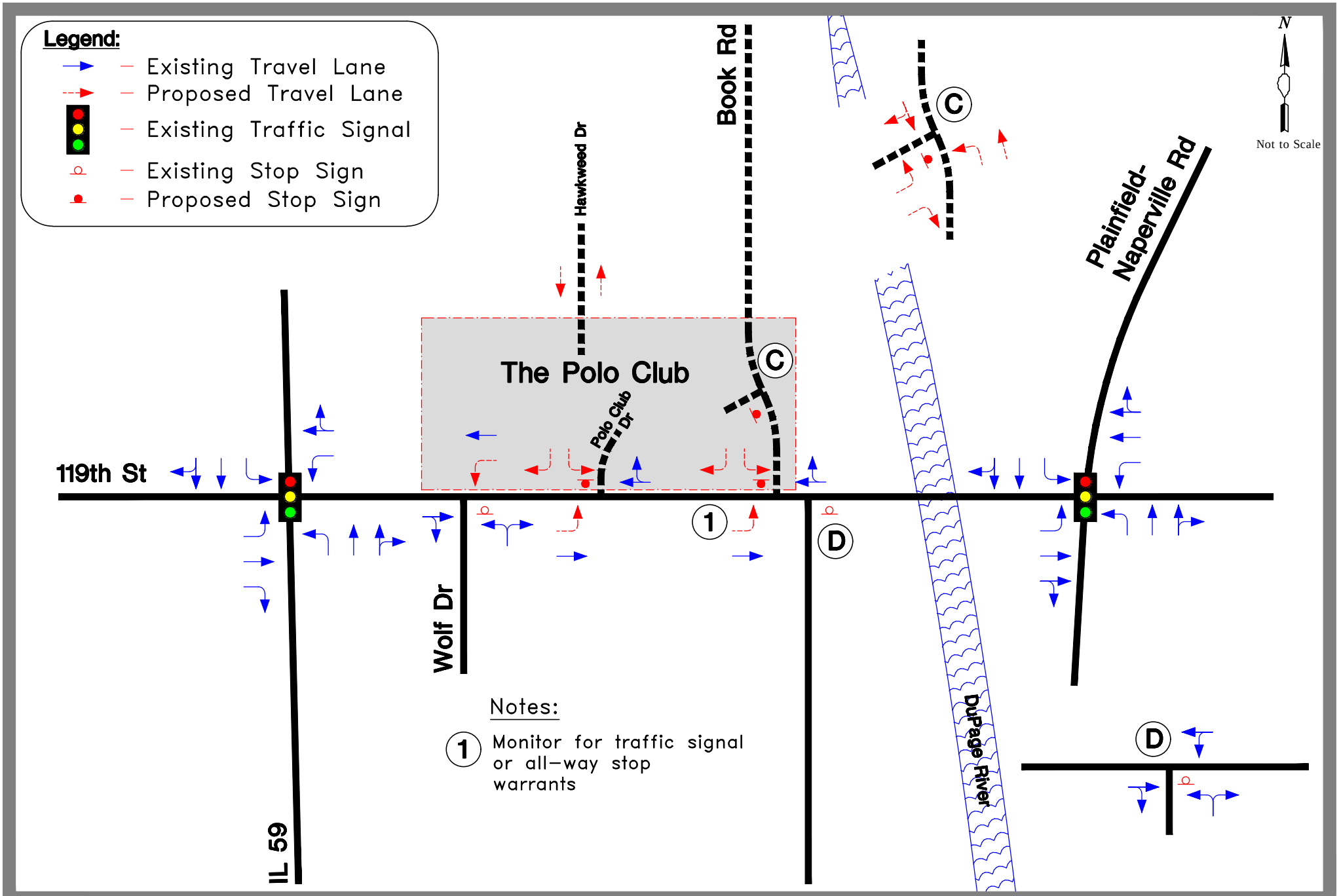
Roadway Conditions		LOS Per Movement By Approach (> = Shared Lane, - = Non Critical or not Allowed Movement)												Intersection / Approach	
		Eastbound			Westbound			Northbound			Southbound			Delay	
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	(sec / veh)	LOS
1. IL 59 & 119th St	**Signalized**	Eastbound			Westbound			Northbound			Southbound			**Intersection Delay**	
A. Weekday Morning Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	E	F	D	D	E	<	F	D	<	F	C	<	47.8	D
	• 95th Queue Length (ft)	363	633	138	128	353	-	105	865	-	168	298	-	-	-
2025 No-Build (See Exhibit 4)	• Current	F	F	D	D	E	<	F	D	<	F	C	<	56.6	E
	• 95th Queue Length (ft)	445	755	153	143	395	-	110	985	-	178	318	-	-	-
2025 Total Traffic (See Exhibit 9)	• Current	E	F	D	E	E	<	F	E	<	F	C	<	61.8	E
	• 95th Queue Length (ft)	358	890	153	193	420	-	110	1045	-	173	325	-	-	-
2025 Total Traffic (See Exhibit 9)	• Current	E	F	D	F	E	<	F	E	<	F	C	<	58.9	E
-Adjusted Signal Timings	• 95th Queue Length (ft)	355	790	148	123	418	-	110	1053	-	173	325	-	-	-
2025 Total Traffic (See Exhibit 9)	• As Planned	D	F	D	F	D	D	F	E	<	F	C	<	55.9	E
-Adjusted Timings & WB RT Lane	• 95th Queue Length (ft)	318	790	148	123	245	125	110	1053	-	173	325	-	-	-
B. Weekday Evening Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	F	E	D	E	F	<	F	C	<	F	F	<	84.2	F
	• 95th Queue Length (ft)	410	358	225	113	948	-	418	640	-	255	1403	-	-	-
2025 No-Build (See Exhibit 4)	• Current	F	E	D	E	F	<	F	C	<	F	F	<	100.7	F
	• 95th Queue Length (ft)	488	398	245	195	1133	-	453	688	-	278	1618	-	-	-
2025 Total Traffic (See Exhibit 9)	• Current	F	E	D	F	F	<	F	D	<	F	F	<	100.7	F
	• 95th Queue Length (ft)	395	488	258	310	1135	-	453	715	-	353	1555	-	-	-
2025 Total Traffic (See Exhibit 9)	• Current	F	F	E	F	F	<	F	D	<	F	F	<	98.6	F
-Adjusted Signal Timings	• 95th Queue Length (ft)	350	525	263	260	1043	-	453	753	-	275	1555	-	-	-
2025 Total Traffic (See Exhibit 9)	• As Planned	F	F	E	F	F	D	F	D	<	F	F	<	87.5	F
-Adjusted Timings & WB RT Lane	• 95th Queue Length (ft)	335	525	263	260	628	113	453	753	-	275	1555	-	-	-

Part B. Results

	Roadway Conditions	LOS Per Movement By Approach (> = Shared Lane, - = Non Critical or not Allowed Movement)												Intersection / Approach	
		Eastbound			Westbound			Northbound			Southbound			Delay	
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	(sec / veh)	LOS
2. Plainfield-Naperville Rd & 119th St	**Signalized**	Eastbound			Westbound			Northbound			Southbound			**Intersection Delay**	
A. Weekday Morning Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	B	C	<	C	C	<	B	B	<	B	B	<	19.2	B
	• 95th Queue Length (ft)	105	125	-	28	93	-	8	178	-	13	53	-	-	-
2025 No-Build (See Exhibit 4)	• Current	B	C	<	C	C	<	B	B	<	B	B	<	20.3	C
	• 95th Queue Length (ft)	120	145	-	30	108	-	8	203	-	13	58	-	-	-
2025 Total Traffic (See Exhibit 9)	• Current	B	C	<	C	C	<	B	B	<	B	B	<	21.2	C
	• 95th Queue Length (ft)	140	180	-	33	115	-	13	210	-	15	63	-	-	-
B. Weekday Evening Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	B	B	<	B	C	<	B	B	<	B	B	<	20.0	B
	• 95th Queue Length (ft)	78	83	-	35	160	-	20	98	-	10	190	-	-	-
2025 No-Build (See Exhibit 4)	• Current	B	C	<	B	C	<	B	B	<	B	C	<	21.3	C
	• 95th Queue Length (ft)	93	98	-	40	188	-	23	113	-	13	215	-	-	-
2025 Total Traffic (See Exhibit 9)	• Current	B	C	<	C	C	<	B	B	<	B	C	<	22.6	C
	• 95th Queue Length (ft)	105	118	-	43	208	-	38	118	-	13	233	-	-	-
3. 119th St & Wolf Dr	**TWSC - NB Stops**	Eastbound			Westbound			Northbound			Southbound			**NB Approach Delay**	
A. Weekday Morning Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	-	-	-	A	-	-	>	C	<	-	-	-	15.4	C
	• 95th Queue Length (ft)	-	-	-	0	-	-	-	10	-	-	-	-	-	-
2025 No-Build (See Exhibit 4)	• Current	-	-	-	A	-	-	>	C	<	-	-	-	16.6	C
	• 95th Queue Length (ft)	-	-	-	0	-	-	-	10	-	-	-	-	-	-
2025 Total Traffic (See Exhibit 9)	• As Planned	-	-	-	A	-	-	>	C	<	-	-	-	18.8	C
	• 95th Queue Length (ft)	-	-	-	0	-	-	-	13	-	-	-	-	-	-
B. Weekday Evening Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	-	-	-	A	-	-	>	C	<	-	-	-	17.4	C
	• 95th Queue Length (ft)	-	-	-	0	-	-	-	8	-	-	-	-	-	-
2025 No-Build (See Exhibit 4)	• Current	-	-	-	A	-	-	>	C	<	-	-	-	19.0	C
	• 95th Queue Length (ft)	-	-	-	0	-	-	-	10	-	-	-	-	-	-
2025 Total Traffic (See Exhibit 9)	• As Planned	-	-	-	A	-	-	>	C	<	-	-	-	21.1	C
	• 95th Queue Length (ft)	-	-	-	0	-	-	-	10	-	-	-	-	-	-

Part B. Results

	Roadway Conditions	LOS Per Movement By Approach (> = Shared Lane; - = Non Critical or not Allowed Movement)												Intersection / Approach	
		Eastbound			Westbound			Northbound			Southbound			Delay	
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	(sec / veh)	LOS
4. 119th St & Book Rd	**TWSC - NB/SB Stops**	Eastbound			Westbound			Northbound			Southbound			**SB Approach Delay**	
A. Weekday Morning Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	>	A	<	>	A	<	>	B	<	>	C	<	19.9	C
	• 95th Queue Length (ft)	-	0	-	-	0	-	-	5	-	-	0	-	-	-
2025 No-Build (See Exhibit 4)	• Current	>	A	<	>	A	<	>	B	<	>	C	<	22.0	C
	• 95th Queue Length (ft)	-	0	-	-	0	-	-	5	-	-	0	-	-	-
2025 Total Traffic (See Exhibit 9)	• As Planned	-	-	-	>	A	-	>	C	<	-	-	-	15.3	C
-Old Book Road	• 95th Queue Length (ft)	-	-	-	-	0	-	-	8	-	-	-	-	NB Delay	-
2025 Total Traffic (See Exhibit 9)	• As Planned	>	A	-	-	-	-	-	-	-	D	-	B	22.5	C
-New Book Road	• 95th Queue Length (ft)	-	3	-	-	-	-	-	-	-	20	-	0	-	-
B. Weekday Evening Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	>	A	<	>	A	<	>	B	<	>	C	<	18.2	C
	• 95th Queue Length (ft)	-	0	-	-	0	-	-	0	-	-	0	-	-	-
2025 No-Build (See Exhibit 4)	• Current	>	A	<	>	A	<	>	B	<	>	C	<	20.0	C
	• 95th Queue Length (ft)	-	0	-	-	0	-	-	0	-	-	0	-	-	-
2025 Total Traffic (See Exhibit 9)	• As Planned	-	-	-	>	A	-	>	B	<	-	-	-	11.8	B
-Old Book Road	• 95th Queue Length (ft)	-	-	-	-	5	-	-	0	-	-	-	-	NB Delay	-
2025 Total Traffic (See Exhibit 9)	• As Planned	>	A	-	-	-	-	-	-	-	D	-	B	22.5	C
-New Book Road	• 95th Queue Length (ft)	-	3	-	-	-	-	-	-	-	20	-	5	-	-
5. 119th St & Polo Club Dr	**TWSC - SB Stops**	Eastbound			Westbound			Northbound			Southbound			**SB Approach Delay**	
A. Weekday Morning Peak Hour															
2025 Total Traffic (See Exhibit 9)	• As Planned	>	A	-	-	-	-	-	-	-	C	-	B	14.8	B
	• 95th Queue Length (ft)	-	0	-	-	-	-	-	-	-	13	-	8	-	
B. Weekday Evening Peak Hour															
2025 Total Traffic (See Exhibit 9)	• As Planned	>	A	-	-	-	-	-	-	-	D	-	B	18.7	C
	• 95th Queue Length (ft)	-	5	-	-	-	-	-	-	-	13	-	8	-	-
6. Book Rd & Hawkweed Dr	**TWSC - EB Stops**	Eastbound			Westbound			Northbound			Southbound			**EB Approach Delay**	
A. Weekday Morning Peak Hour															
2025 Total Traffic (See Exhibit 9)	• As Planned	A	-	A	-	-	-	A	-	-	-	-	-	8.9	A
	• 95th Queue Length (ft)	3	-	3	-	-	-	0	-	-	-	-	-	-	
B. Weekday Evening Peak Hour															
2025 Total Traffic (See Exhibit 9)	• As Planned	A	-	A	-	-	-	A	-	-	-	-	-	9.3	A
	• 95th Queue Length (ft)	3	-	3	-	-	-	3	-	-	-	-	-	-	



GHA GEWALT HAMILTON ASSOCIATES, INC.

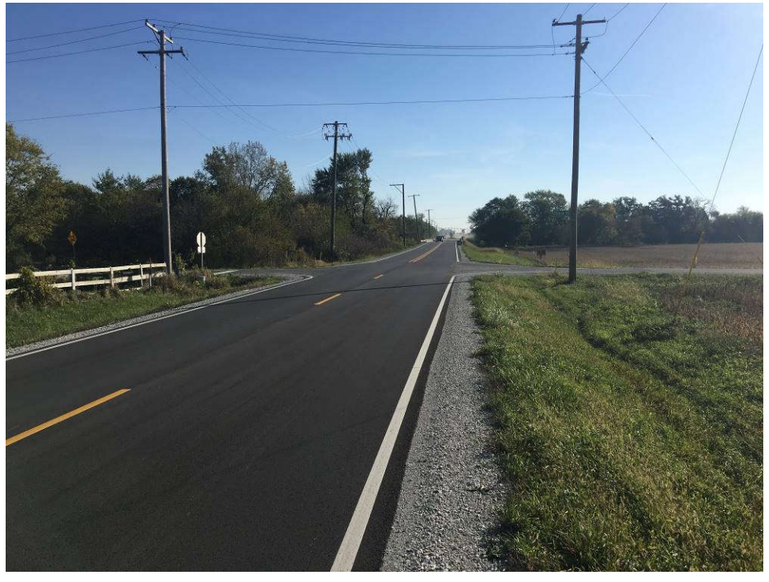
Exhibit 11
Recommended Traffic Operations Plan

APPENDIX A
Photo Inventory

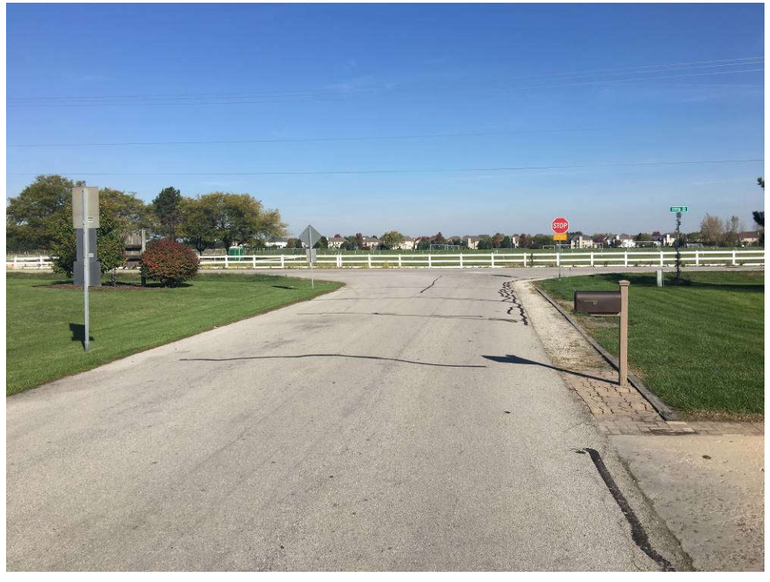
Looking south along Book Rd at 119th St

Looking west along 119th St at Book Rd

Looking north along Book Rd at 119th St



Looking east along 119th St at Book Rd



Looking north along Wolf Dr at 119th St

Looking east along 119th St at Wolf Dr

Looking west along 119th St at Wolf Dr

Looking south along Wolf Dr from 119th St

Looking west from Book Rd at Site

Looking east along 119th St at Plainfield-Naperville Rd

Looking south along Plainfield-Naperville Rd at 119th St

Looking west along Rodeo Dr at Plainfield-Naperville Rd

Looking north along Plainfield-Naperville Rd at 119th/Rodeo Dr

Looking west along 119th St at IL 59

Looking north along IL 59 at 119th St

Looking east along 119th St at IL 59

Looking south along IL 59 at 119th St

APPENDIX B

Existing Traffic Count Summaries

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 jopitz@gha-engineers.com

Count Name: Plainfield-Naperville Rd & 119th St
Site Code:
Start Date: 10/12/2017

Turning Movement Data

Start Time	Naperville Rd Southbound					119th St Westbound					Naperville Rd Northbound					119th St Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
6:00 AM	3	14	6	0	23	9	20	4	0	33	17	78	3	0	98	0	54	24	0	78	232
6:15 AM	16	21	6	0	43	8	33	7	0	48	22	103	7	0	132	2	61	23	0	86	309
6:30 AM	15	36	18	0	69	7	24	24	0	55	39	118	7	0	164	8	84	29	0	121	409
6:45 AM	20	49	15	0	84	12	36	50	0	98	61	96	16	0	173	15	82	53	0	150	505
Hourly Total	54	120	45	0	219	36	113	85	0	234	139	395	33	0	567	25	281	129	0	435	1455
7:00 AM	9	34	5	0	48	19	39	14	0	72	34	149	5	0	188	3	88	54	0	145	453
7:15 AM	9	38	6	0	53	17	47	5	0	69	18	136	4	0	158	2	87	55	0	144	424
7:30 AM	16	50	13	0	79	13	52	11	0	76	38	152	3	0	193	7	106	45	0	158	506
7:45 AM	25	50	6	0	81	15	49	16	0	80	22	112	6	0	140	1	92	36	0	129	430
Hourly Total	59	172	30	0	261	64	187	46	0	297	112	549	18	0	679	13	373	190	0	576	1813
8:00 AM	31	48	8	0	87	8	43	5	0	56	12	105	7	0	124	4	73	47	0	124	391
8:15 AM	24	45	9	0	78	15	33	8	0	56	15	97	2	0	114	3	57	31	0	91	339
8:30 AM	14	36	8	0	58	18	58	6	0	82	13	94	2	0	109	5	63	35	0	103	352
8:45 AM	19	43	10	0	72	12	38	8	0	58	18	78	4	0	100	4	40	24	0	68	298
Hourly Total	88	172	35	0	295	53	172	27	0	252	58	374	15	0	447	16	233	137	0	386	1380
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	20	76	6	0	102	15	84	24	0	123	14	62	4	0	80	6	36	18	0	60	365
3:15 PM	26	77	12	0	115	17	84	15	0	116	13	60	5	0	78	4	49	20	0	73	382
3:30 PM	25	99	6	0	130	9	88	16	0	113	11	55	3	0	69	5	56	25	0	86	398
3:45 PM	39	130	6	0	175	13	88	15	0	116	8	60	8	0	76	11	44	24	0	79	446
Hourly Total	110	382	30	0	522	54	344	70	0	468	46	237	20	0	303	26	185	87	0	298	1591
4:00 PM	33	90	10	0	133	13	126	19	0	158	15	63	14	0	92	8	53	21	0	82	465
4:15 PM	35	96	6	0	137	16	97	10	0	123	13	68	12	0	93	7	51	25	0	83	436
4:30 PM	36	98	7	0	141	11	79	16	0	106	9	69	3	0	81	6	46	39	0	91	419
4:45 PM	40	91	8	0	139	21	86	24	0	131	11	63	2	0	76	8	47	18	0	73	419
Hourly Total	144	375	31	0	550	61	388	69	0	518	48	263	31	0	342	29	197	103	0	329	1739
5:00 PM	32	111	8	0	151	25	100	16	0	141	16	84	9	0	109	9	50	27	0	86	487
5:15 PM	38	129	4	0	171	16	104	18	0	138	9	81	15	0	105	14	63	30	0	107	521
5:30 PM	39	117	6	0	162	15	80	7	0	102	13	75	9	0	97	7	56	41	0	104	465
5:45 PM	52	87	7	0	146	16	78	22	0	116	10	69	8	0	87	12	62	52	0	126	475
Hourly Total	161	444	25	0	630	72	362	63	0	497	48	309	41	0	398	42	231	150	0	423	1948
Grand Total	616	1665	196	0	2477	340	1566	360	0	2266	451	2127	158	0	2736	151	1500	796	0	2447	9926
Approach %	24.9	67.2	7.9	0.0	-	15.0	69.1	15.9	0.0	-	16.5	77.7	5.8	0.0	-	6.2	61.3	32.5	0.0	-	-
Total %	6.2	16.8	2.0	0.0	25.0	3.4	15.8	3.6	0.0	22.8	4.5	21.4	1.6	0.0	27.6	1.5	15.1	8.0	0.0	24.7	-
Lights	530	1638	187	0	2355	336	1531	351	0	2218	443	2109	155	0	2707	147	1466	713	0	2326	9606
% Lights	86.0	98.4	95.4	-	95.1	98.8	97.8	97.5	-	97.9	98.2	99.2	98.1	-	98.9	97.4	97.7	89.6	-	95.1	96.8
Mediums	42	21	7	0	70	4	29	8	0	41	8	14	3	0	25	4	30	41	0	75	211
% Mediums	6.8	1.3	3.6	-	2.8	1.2	1.9	2.2	-	1.8	1.8	0.7	1.9	-	0.9	2.6	2.0	5.2	-	3.1	2.1
Articulated Trucks	44	5	2	0	51	0	6	1	0	7	0	2	0	0	2	0	4	42	0	46	106
% Articulated Trucks	7.1	0.3	1.0	-	2.1	0.0	0.4	0.3	-	0.3	0.0	0.1	0.0	-	0.1	0.0	0.3	5.3	-	1.9	1.1
Bicycles on Road	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3

% Bicycles on Road	0.0	0.1	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.1	0.0	-	0.1	0.0	0.0	0.0	-	0.0	0.0

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 jopitz@gha-engineers.com

Count Name: Plainfield-Naperville Rd & 119th St
Site Code:
Start Date: 10/12/2017

Turning Movement Peak Hour Data (7:00 AM)

Start Time	Naperville Rd Southbound					119th St Westbound					Naperville Rd Northbound					119th St Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
7:00 AM	9	34	5	0	48	19	39	14	0	72	34	149	5	0	188	3	88	54	0	145	453
7:15 AM	9	38	6	0	53	17	47	5	0	69	18	136	4	0	158	2	87	55	0	144	424
7:30 AM	16	50	13	0	79	13	52	11	0	76	38	152	3	0	193	7	106	45	0	158	506
7:45 AM	25	50	6	0	81	15	49	16	0	80	22	112	6	0	140	1	92	36	0	129	430
Total	59	172	30	0	261	64	187	46	0	297	112	549	18	0	679	13	373	190	0	576	1813
Approach %	22.6	65.9	11.5	0.0	-	21.5	63.0	15.5	0.0	-	16.5	80.9	2.7	0.0	-	2.3	64.8	33.0	0.0	-	-
Total %	3.3	9.5	1.7	0.0	14.4	3.5	10.3	2.5	0.0	16.4	6.2	30.3	1.0	0.0	37.5	0.7	20.6	10.5	0.0	31.8	-
PHF	0.590	0.860	0.577	0.000	0.806	0.842	0.899	0.719	0.000	0.928	0.737	0.903	0.750	0.000	0.880	0.464	0.880	0.864	0.000	0.911	0.896
Lights	41	171	25	0	237	63	176	40	0	279	110	543	16	0	669	12	362	171	0	545	1730
% Lights	69.5	99.4	83.3	-	90.8	98.4	94.1	87.0	-	93.9	98.2	98.9	88.9	-	98.5	92.3	97.1	90.0	-	94.6	95.4
Mediums	4	1	3	0	8	1	10	6	0	17	2	5	2	0	9	1	10	12	0	23	57
% Mediums	6.8	0.6	10.0	-	3.1	1.6	5.3	13.0	-	5.7	1.8	0.9	11.1	-	1.3	7.7	2.7	6.3	-	4.0	3.1
Articulated Trucks	14	0	2	0	16	0	1	0	0	1	0	1	0	0	1	0	1	7	0	8	26
% Articulated Trucks	23.7	0.0	6.7	-	6.1	0.0	0.5	0.0	-	0.3	0.0	0.2	0.0	-	0.1	0.0	0.3	3.7	-	1.4	1.4
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 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	-	0.0	0.0

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 jopitz@gha-engineers.com

Count Name: Plainfield-Naperville Rd & 119th St
Site Code:
Start Date: 10/12/2017

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Naperville Rd Southbound					119th St Westbound					Naperville Rd Northbound					119th St Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
5:00 PM	32	111	8	0	151	25	100	16	0	141	16	84	9	0	109	9	50	27	0	86	487
5:15 PM	38	129	4	0	171	16	104	18	0	138	9	81	15	0	105	14	63	30	0	107	521
5:30 PM	39	117	6	0	162	15	80	7	0	102	13	75	9	0	97	7	56	41	0	104	465
5:45 PM	52	87	7	0	146	16	78	22	0	116	10	69	8	0	87	12	62	52	0	126	475
Total	161	444	25	0	630	72	362	63	0	497	48	309	41	0	398	42	231	150	0	423	1948
Approach %	25.6	70.5	4.0	0.0	-	14.5	72.8	12.7	0.0	-	12.1	77.6	10.3	0.0	-	9.9	54.6	35.5	0.0	-	-
Total %	8.3	22.8	1.3	0.0	32.3	3.7	18.6	3.2	0.0	25.5	2.5	15.9	2.1	0.0	20.4	2.2	11.9	7.7	0.0	21.7	-
PHF	0.774	0.860	0.781	0.000	0.921	0.720	0.870	0.716	0.000	0.881	0.750	0.920	0.683	0.000	0.913	0.750	0.917	0.721	0.000	0.839	0.935
Lights	160	443	25	0	628	72	359	63	0	494	48	309	41	0	398	42	229	150	0	421	1941
% Lights	99.4	99.8	100.0	-	99.7	100.0	99.2	100.0	-	99.4	100.0	100.0	100.0	-	100.0	100.0	99.1	100.0	-	99.5	99.6
Mediums	1	1	0	0	2	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	7
% Mediums	0.6	0.2	0.0	-	0.3	0.0	0.8	0.0	-	0.6	0.0	0.0	0.0	-	0.0	0.0	0.9	0.0	-	0.5	0.4
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	0.0	-	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	0	0	0	0
% 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	-	0.0	0.0

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 jopitz@gha-engineers.com

Count Name: W 119th St & Book Rd
Site Code:
Start Date: 10/12/2017

Turning Movement Data

Start Time	Book Rd Southbound					119th St Westbound					Book Rd Northbound					119th St Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
6:00 AM	0	0	0	0	0	0	24	0	0	24	1	0	1	0	2	1	80	0	0	81	107
6:15 AM	0	0	0	0	0	0	45	0	0	45	0	0	0	0	0	0	80	0	0	80	125
6:30 AM	0	0	0	0	0	0	45	0	0	45	3	0	1	0	4	0	127	0	0	127	176
6:45 AM	0	0	0	0	0	0	63	3	0	66	11	0	0	0	11	1	128	0	0	129	206
Hourly Total	0	0	0	0	0	0	177	3	0	180	15	0	2	0	17	2	415	0	0	417	614
7:00 AM	0	0	0	0	0	0	46	2	0	48	12	0	1	0	13	0	120	0	0	120	181
7:15 AM	0	0	0	0	0	1	61	1	0	63	7	0	0	0	7	0	147	0	0	147	217
7:30 AM	0	0	1	0	1	1	64	0	0	65	3	0	0	0	3	0	149	1	0	150	219
7:45 AM	0	0	0	0	0	0	69	0	0	69	3	0	1	0	4	0	111	0	0	111	184
Hourly Total	0	0	1	0	1	2	240	3	0	245	25	0	2	0	27	0	527	1	0	528	801
8:00 AM	0	0	0	0	0	0	73	0	0	73	3	0	0	0	3	0	117	1	0	118	194
8:15 AM	0	0	0	0	0	0	50	0	0	50	1	0	1	0	2	1	84	0	0	85	137
8:30 AM	0	0	0	0	0	0	72	1	0	73	0	0	0	0	0	1	95	0	0	96	169
8:45 AM	0	1	0	0	1	0	55	0	0	55	0	0	1	0	1	0	62	0	0	62	119
Hourly Total	0	1	0	0	1	0	250	1	0	251	4	0	2	0	6	2	358	1	0	361	619
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	0	0	0	0	0	108	0	0	108	1	0	1	0	2	1	64	0	0	65	175
3:15 PM	1	0	1	0	2	0	107	4	0	111	2	0	2	0	4	0	64	1	0	65	182
3:30 PM	0	0	0	0	0	0	112	3	0	115	0	0	2	0	2	1	83	1	0	85	202
3:45 PM	0	0	0	0	0	1	124	3	0	128	1	0	2	0	3	1	93	0	0	94	225
Hourly Total	1	0	1	0	2	1	451	10	0	462	4	0	7	0	11	3	304	2	0	309	784
4:00 PM	0	1	0	0	1	0	167	9	0	176	1	0	3	0	4	3	67	0	0	70	251
4:15 PM	0	0	0	0	0	0	143	7	0	150	1	0	2	0	3	5	84	0	0	89	242
4:30 PM	0	0	0	0	0	0	107	10	0	117	0	1	1	0	2	6	92	0	0	98	217
4:45 PM	1	0	1	0	2	0	111	13	0	124	0	0	1	0	1	1	72	2	0	75	202
Hourly Total	1	1	1	0	3	0	528	39	0	567	2	1	7	0	10	15	315	2	0	332	912
5:00 PM	0	0	0	0	0	1	138	7	0	146	0	0	0	0	0	1	88	0	0	89	235
5:15 PM	0	1	0	0	1	0	144	16	0	160	1	0	0	0	1	0	89	0	0	89	251
5:30 PM	1	0	0	0	1	0	112	13	0	125	0	0	0	0	0	4	113	0	0	117	243
5:45 PM	0	0	0	0	0	0	123	15	0	138	1	0	0	0	1	2	115	0	0	117	256
Hourly Total	1	1	0	0	2	1	517	51	0	569	2	0	0	0	2	7	405	0	0	412	985
Grand Total	3	3	3	0	9	4	2163	107	0	2274	52	1	20	0	73	29	2324	6	0	2359	4715
Approach %	33.3	33.3	33.3	0.0	-	0.2	95.1	4.7	0.0	-	71.2	1.4	27.4	0.0	-	1.2	98.5	0.3	0.0	-	-
Total %	0.1	0.1	0.1	0.0	0.2	0.1	45.9	2.3	0.0	48.2	1.1	0.0	0.4	0.0	1.5	0.6	49.3	0.1	0.0	50.0	-
Lights	3	3	3	0	9	4	2111	106	0	2221	51	1	19	0	71	29	2269	5	0	2303	4604
% Lights	100.0	100.0	100.0	-	100.0	100.0	97.6	99.1	-	97.7	98.1	100.0	95.0	-	97.3	100.0	97.6	83.3	-	97.6	97.6
Mediums	0	0	0	0	0	0	50	1	0	51	1	0	1	0	2	0	48	0	0	48	101
% Mediums	0.0	0.0	0.0	-	0.0	0.0	2.3	0.9	-	2.2	1.9	0.0	5.0	-	2.7	0.0	2.1	0.0	-	2.0	2.1
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	7	0	0	7	9
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.1	0.0	-	0.1	0.0	0.0	0.0	-	0.0	0.0	0.3	0.0	-	0.3	0.2
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	16.7	-	0.0	0.0

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 jopitz@gha-engineers.com

Count Name: W 119th St & Book Rd
Site Code:
Start Date: 10/12/2017

Turning Movement Peak Hour Data (7:00 AM)

Start Time	Book Rd Southbound					119th St Westbound					Book Rd Northbound					119th St Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	46	2	0	48	12	0	1	0	13	0	120	0	0	120	181
7:15 AM	0	0	0	0	0	1	61	1	0	63	7	0	0	0	7	0	147	0	0	147	217
7:30 AM	0	0	1	0	1	1	64	0	0	65	3	0	0	0	3	0	149	1	0	150	219
7:45 AM	0	0	0	0	0	0	69	0	0	69	3	0	1	0	4	0	111	0	0	111	184
Total	0	0	1	0	1	2	240	3	0	245	25	0	2	0	27	0	527	1	0	528	801
Approach %	0.0	0.0	100.0	0.0	-	0.8	98.0	1.2	0.0	-	92.6	0.0	7.4	0.0	-	0.0	99.8	0.2	0.0	-	-
Total %	0.0	0.0	0.1	0.0	0.1	0.2	30.0	0.4	0.0	30.6	3.1	0.0	0.2	0.0	3.4	0.0	65.8	0.1	0.0	65.9	-
PHF	0.000	0.000	0.250	0.000	0.250	0.500	0.870	0.375	0.000	0.888	0.521	0.000	0.500	0.000	0.519	0.000	0.884	0.250	0.000	0.880	0.914
Lights	0	0	1	0	1	2	229	2	0	233	24	0	2	0	26	0	513	1	0	514	774
% Lights	-	-	100.0	-	100.0	100.0	95.4	66.7	-	95.1	96.0	-	100.0	-	96.3	-	97.3	100.0	-	97.3	96.6
Mediums	0	0	0	0	0	0	10	1	0	11	1	0	0	0	1	0	12	0	0	12	24
% Mediums	-	-	0.0	-	0.0	0.0	4.2	33.3	-	4.5	4.0	-	0.0	-	3.7	-	2.3	0.0	-	2.3	3.0
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
% Articulated Trucks	-	-	0.0	-	0.0	0.0	0.4	0.0	-	0.4	0.0	-	0.0	-	0.0	-	0.4	0.0	-	0.4	0.4
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 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

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 jopitz@gha-engineers.com

Count Name: W 119th St & Book Rd
Site Code:
Start Date: 10/12/2017

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Book Rd Southbound					119th St Westbound					Book Rd Northbound					119th St Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
5:00 PM	0	0	0	0	0	1	138	7	0	146	0	0	0	0	0	1	88	0	0	89	235
5:15 PM	0	1	0	0	1	0	144	16	0	160	1	0	0	0	1	0	89	0	0	89	251
5:30 PM	1	0	0	0	1	0	112	13	0	125	0	0	0	0	0	4	113	0	0	117	243
5:45 PM	0	0	0	0	0	0	123	15	0	138	1	0	0	0	1	2	115	0	0	117	256
Total	1	1	0	0	2	1	517	51	0	569	2	0	0	0	2	7	405	0	0	412	985
Approach %	50.0	50.0	0.0	0.0	-	0.2	90.9	9.0	0.0	-	100.0	0.0	0.0	0.0	-	1.7	98.3	0.0	0.0	-	-
Total %	0.1	0.1	0.0	0.0	0.2	0.1	52.5	5.2	0.0	57.8	0.2	0.0	0.0	0.0	0.2	0.7	41.1	0.0	0.0	41.8	-
PHF	0.250	0.250	0.000	0.000	0.500	0.250	0.898	0.797	0.000	0.889	0.500	0.000	0.000	0.000	0.500	0.438	0.880	0.000	0.000	0.880	0.962
Lights	1	1	0	0	2	1	514	51	0	566	2	0	0	0	2	7	402	0	0	409	979
% Lights	100.0	100.0	-	-	100.0	100.0	99.4	100.0	-	99.5	100.0	-	-	-	100.0	100.0	99.3	-	-	99.3	99.4
Mediums	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
% Mediums	0.0	0.0	-	-	0.0	0.0	0.6	0.0	-	0.5	0.0	-	-	-	0.0	0.0	0.5	-	-	0.5	0.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0	-	-	-	0.0	0.0	0.2	-	-	0.2	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
% 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

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 jopitz@gha-engineers.com

Count Name: W 119th St & IL 59
Site Code:
Start Date: 10/12/2017

Turning Movement Data

Start Time	IL-59 Southbound					119th St Westbound					IL-59 Northbound					119th St Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
6:00 AM	6	86	10	0	102	7	16	5	0	28	19	262	15	0	296	11	51	30	0	92	518
6:15 AM	6	105	14	0	125	12	22	15	0	49	17	303	19	0	339	16	72	58	0	146	659
6:30 AM	31	128	19	0	178	7	24	9	0	40	31	376	21	1	429	16	93	80	0	189	836
6:45 AM	26	124	21	0	171	16	25	13	0	54	57	345	23	0	425	21	68	72	0	161	811
Hourly Total	69	443	64	0	576	42	87	42	0	171	124	1286	78	1	1489	64	284	240	0	588	2824
7:00 AM	6	139	19	0	164	22	34	20	0	76	39	350	12	0	401	28	93	81	0	202	843
7:15 AM	15	151	14	0	180	14	31	21	0	66	38	333	14	0	385	25	97	51	0	173	804
7:30 AM	13	156	22	0	191	13	42	29	0	84	34	273	18	1	326	23	120	64	0	207	808
7:45 AM	15	171	21	0	207	22	33	15	0	70	38	346	8	0	392	20	75	57	0	152	821
Hourly Total	49	617	76	0	742	71	140	85	0	296	149	1302	52	1	1504	96	385	253	0	734	3276
8:00 AM	8	138	23	1	170	16	38	28	0	82	33	272	14	1	320	28	83	65	0	176	748
8:15 AM	12	179	19	0	210	14	21	25	0	60	31	296	17	1	345	21	56	40	0	117	732
8:30 AM	14	147	13	0	174	33	36	24	0	93	20	266	20	0	306	20	63	40	0	123	696
8:45 AM	15	162	10	1	188	19	28	21	0	68	22	259	31	1	313	17	50	65	0	132	701
Hourly Total	49	626	65	2	742	82	123	98	0	303	106	1093	82	3	1284	86	252	210	0	548	2877
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	19	284	25	2	330	17	51	29	0	97	19	205	47	3	274	26	38	40	0	104	805
3:15 PM	32	344	25	0	401	20	80	33	0	133	20	183	32	1	236	22	34	34	0	90	860
3:30 PM	32	307	23	0	362	15	76	38	0	129	24	242	39	1	306	26	59	37	0	122	919
3:45 PM	40	345	27	0	412	19	67	34	0	120	21	227	47	1	296	21	52	47	0	120	948
Hourly Total	123	1280	100	2	1505	71	274	134	0	479	84	857	165	6	1112	95	183	158	0	436	3532
4:00 PM	46	290	28	0	364	18	89	38	0	145	18	206	58	1	283	23	37	46	0	106	898
4:15 PM	48	380	25	0	453	13	78	28	0	119	19	283	65	0	367	26	45	46	0	117	1056
4:30 PM	43	325	18	0	386	23	94	53	0	170	23	201	53	1	278	24	57	57	0	138	972
4:45 PM	48	380	23	0	451	23	72	54	0	149	18	252	48	2	320	22	36	45	0	103	1023
Hourly Total	185	1375	94	0	1654	77	333	173	0	583	78	942	224	4	1248	95	175	194	0	464	3949
5:00 PM	55	373	17	2	447	19	82	58	0	159	29	283	48	1	361	30	41	54	0	125	1092
5:15 PM	57	372	28	0	457	12	93	37	0	142	36	296	49	0	381	35	51	47	0	133	1113
5:30 PM	35	390	32	1	458	14	73	43	0	130	28	310	49	3	390	36	62	43	0	141	1119
5:45 PM	45	319	34	0	398	32	87	42	0	161	31	189	42	1	263	48	90	55	0	193	1015
Hourly Total	192	1454	111	3	1760	77	335	180	0	592	124	1078	188	5	1395	149	244	199	0	592	4339
Grand Total	667	5795	510	7	6979	420	1292	712	0	2424	665	6558	789	20	8032	585	1523	1254	0	3362	20797
Approach %	9.6	83.0	7.3	0.1	-	17.3	53.3	29.4	0.0	-	8.3	81.6	9.8	0.2	-	17.4	45.3	37.3	0.0	-	-
Total %	3.2	27.9	2.5	0.0	33.6	2.0	6.2	3.4	0.0	11.7	3.2	31.5	3.8	0.1	38.6	2.8	7.3	6.0	0.0	16.2	-
Lights	659	5512	486	7	6664	393	1266	680	0	2339	642	6239	772	20	7673	560	1497	1234	0	3291	19967
% Lights	98.8	95.1	95.3	100.0	95.5	93.6	98.0	95.5	-	96.5	96.5	95.1	97.8	100.0	95.5	95.7	98.3	98.4	-	97.9	96.0
Mediums	7	103	19	0	129	19	24	27	0	70	20	122	17	0	159	22	23	19	0	64	422
% Mediums	1.0	1.8	3.7	0.0	1.8	4.5	1.9	3.8	-	2.9	3.0	1.9	2.2	0.0	2.0	3.8	1.5	1.5	-	1.9	2.0
Articulated Trucks	1	180	5	0	186	8	2	5	0	15	3	197	0	0	200	3	3	1	0	7	408
% Articulated Trucks	0.1	3.1	1.0	0.0	2.7	1.9	0.2	0.7	-	0.6	0.5	3.0	0.0	0.0	2.5	0.5	0.2	0.1	-	0.2	2.0
Bicycles on Road	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	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 jopitz@gha-engineers.com

Count Name: W 119th St & IL 59
Site Code:
Start Date: 10/12/2017

Turning Movement Peak Hour Data (7:00 AM)

Start Time	IL-59 Southbound					119th St Westbound					IL-59 Northbound					119th St Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
7:00 AM	6	139	19	0	164	22	34	20	0	76	39	350	12	0	401	28	93	81	0	202	843
7:15 AM	15	151	14	0	180	14	31	21	0	66	38	333	14	0	385	25	97	51	0	173	804
7:30 AM	13	156	22	0	191	13	42	29	0	84	34	273	18	1	326	23	120	64	0	207	808
7:45 AM	15	171	21	0	207	22	33	15	0	70	38	346	8	0	392	20	75	57	0	152	821
Total	49	617	76	0	742	71	140	85	0	296	149	1302	52	1	1504	96	385	253	0	734	3276
Approach %	6.6	83.2	10.2	0.0	-	24.0	47.3	28.7	0.0	-	9.9	86.6	3.5	0.1	-	13.1	52.5	34.5	0.0	-	-
Total %	1.5	18.8	2.3	0.0	22.6	2.2	4.3	2.6	0.0	9.0	4.5	39.7	1.6	0.0	45.9	2.9	11.8	7.7	0.0	22.4	-
PHF	0.817	0.902	0.864	0.000	0.896	0.807	0.833	0.733	0.000	0.881	0.955	0.930	0.722	0.250	0.938	0.857	0.802	0.781	0.000	0.886	0.972
Lights	47	566	71	0	684	64	133	79	0	276	148	1215	46	1	1410	87	380	251	0	718	3088
% Lights	95.9	91.7	93.4	-	92.2	90.1	95.0	92.9	-	93.2	99.3	93.3	88.5	100.0	93.8	90.6	98.7	99.2	-	97.8	94.3
Mediums	2	20	5	0	27	6	7	4	0	17	1	35	6	0	42	9	4	2	0	15	101
% Mediums	4.1	3.2	6.6	-	3.6	8.5	5.0	4.7	-	5.7	0.7	2.7	11.5	0.0	2.8	9.4	1.0	0.8	-	2.0	3.1
Articulated Trucks	0	31	0	0	31	1	0	2	0	3	0	52	0	0	52	0	1	0	0	1	87
% Articulated Trucks	0.0	5.0	0.0	-	4.2	1.4	0.0	2.4	-	1.0	0.0	4.0	0.0	0.0	3.5	0.0	0.3	0.0	-	0.1	2.7
Bicycles on Road	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 jopitz@gha-engineers.com

Count Name: W 119th St & IL 59
Site Code:
Start Date: 10/12/2017

Turning Movement Peak Hour Data (5:00 PM)

Start Time	IL-59 Southbound					119th St Westbound					IL-59 Northbound					119th St Eastbound					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
5:00 PM	55	373	17	2	447	19	82	58	0	159	29	283	48	1	361	30	41	54	0	125	1092
5:15 PM	57	372	28	0	457	12	93	37	0	142	36	296	49	0	381	35	51	47	0	133	1113
5:30 PM	35	390	32	1	458	14	73	43	0	130	28	310	49	3	390	36	62	43	0	141	1119
5:45 PM	45	319	34	0	398	32	87	42	0	161	31	189	42	1	263	48	90	55	0	193	1015
Total	192	1454	111	3	1760	77	335	180	0	592	124	1078	188	5	1395	149	244	199	0	592	4339
Approach %	10.9	82.6	6.3	0.2	-	13.0	56.6	30.4	0.0	-	8.9	77.3	13.5	0.4	-	25.2	41.2	33.6	0.0	-	-
Total %	4.4	33.5	2.6	0.1	40.6	1.8	7.7	4.1	0.0	13.6	2.9	24.8	4.3	0.1	32.2	3.4	5.6	4.6	0.0	13.6	-
PHF	0.842	0.932	0.816	0.375	0.961	0.602	0.901	0.776	0.000	0.919	0.861	0.869	0.959	0.417	0.894	0.776	0.678	0.905	0.000	0.767	0.969
Lights	191	1431	106	3	1731	76	334	179	0	589	123	1056	188	5	1372	149	243	199	0	591	4283
% Lights	99.5	98.4	95.5	100.0	98.4	98.7	99.7	99.4	-	99.5	99.2	98.0	100.0	100.0	98.4	100.0	99.6	100.0	-	99.8	98.7
Mediums	1	11	3	0	15	1	1	1	0	3	1	7	0	0	8	0	1	0	0	1	27
% Mediums	0.5	0.8	2.7	0.0	0.9	1.3	0.3	0.6	-	0.5	0.8	0.6	0.0	0.0	0.6	0.0	0.4	0.0	-	0.2	0.6
Articulated Trucks	0	12	2	0	14	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	29
% Articulated Trucks	0.0	0.8	1.8	0.0	0.8	0.0	0.0	0.0	-	0.0	0.0	1.4	0.0	0.0	1.1	0.0	0.0	0.0	-	0.0	0.7
Bicycles on Road	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	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 jopitz@gha-engineers.com

Count Name: W 119th St & S Wolf Dr
Site Code:
Start Date: 10/12/2017

Turning Movement Data

Start Time	119th St Westbound				Wolf Dr Northbound				119th St Eastbound				
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
6:00 AM	27	0	0	27	6	3	0	9	1	74	0	75	111
6:15 AM	41	1	0	42	0	5	0	5	1	81	0	82	129
6:30 AM	46	1	0	47	6	3	0	9	0	130	0	130	186
6:45 AM	58	0	0	58	10	5	0	15	0	116	0	116	189
Hourly Total	172	2	0	174	22	16	0	38	2	401	0	403	615
7:00 AM	57	0	0	57	3	6	0	9	0	126	0	126	192
7:15 AM	55	1	0	56	2	7	0	9	3	135	0	138	203
7:30 AM	63	1	0	64	9	5	0	14	1	138	0	139	217
7:45 AM	69	3	0	72	4	3	0	7	2	107	0	109	188
Hourly Total	244	5	0	249	18	21	0	39	6	506	0	512	800
8:00 AM	74	0	0	74	9	5	0	14	4	106	0	110	198
8:15 AM	46	2	0	48	3	3	0	6	5	87	0	92	146
8:30 AM	72	1	0	73	3	3	0	6	2	87	0	89	168
8:45 AM	55	1	0	56	2	8	0	10	5	65	0	70	136
Hourly Total	247	4	0	251	17	19	0	36	16	345	0	361	648
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	99	2	0	101	1	5	0	6	3	71	0	74	181
3:15 PM	107	3	0	110	0	7	0	7	4	63	0	67	184
3:30 PM	116	4	0	120	2	3	0	5	9	85	0	94	219
3:45 PM	118	3	0	121	2	5	0	7	7	87	0	94	222
Hourly Total	440	12	0	452	5	20	0	25	23	306	0	329	806
4:00 PM	149	9	0	158	1	4	0	5	8	74	0	82	245
4:15 PM	110	9	0	119	9	2	0	11	5	75	0	80	210
4:30 PM	131	7	1	139	3	2	0	5	4	87	0	91	235
4:45 PM	115	1	0	116	3	4	0	7	6	72	0	78	201
Hourly Total	505	26	1	532	16	12	0	28	23	308	0	331	891
5:00 PM	130	4	0	134	4	5	0	9	8	85	0	93	236
5:15 PM	141	4	0	145	2	7	0	9	8	100	0	108	262
5:30 PM	114	3	2	119	5	1	0	6	8	114	1	123	248
5:45 PM	118	1	1	120	1	5	0	6	8	118	0	126	252
Hourly Total	503	12	3	518	12	18	0	30	32	417	1	450	998
Grand Total	2111	61	4	2176	90	106	0	196	102	2283	1	2386	4758
Approach %	97.0	2.8	0.2	-	45.9	54.1	0.0	-	4.3	95.7	0.0	-	-
Total %	44.4	1.3	0.1	45.7	1.9	2.2	0.0	4.1	2.1	48.0	0.0	50.1	-
Lights	2067	56	4	2127	84	100	0	184	93	2234	1	2328	4639
% Lights	97.9	91.8	100.0	97.7	93.3	94.3	-	93.9	91.2	97.9	100.0	97.6	97.5
Mediums	37	4	0	41	5	6	0	11	9	43	0	52	104
% Mediums	1.8	6.6	0.0	1.9	5.6	5.7	-	5.6	8.8	1.9	0.0	2.2	2.2
Articulated Trucks	7	1	0	8	1	0	0	1	0	5	0	5	14
% Articulated Trucks	0.3	1.6	0.0	0.4	1.1	0.0	-	0.5	0.0	0.2	0.0	0.2	0.3
Bicycles on Road	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

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625 Forest Edge Drive

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Count Name: W 119th St & S Wolf Dr
Site Code:
Start Date: 10/12/2017

Turning Movement Peak Hour Data (7:00 AM)

Start Time	119th St Westbound				Wolf Dr Northbound				119th St Eastbound				
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
7:00 AM	57	0	0	57	3	6	0	9	0	126	0	126	192
7:15 AM	55	1	0	56	2	7	0	9	3	135	0	138	203
7:30 AM	63	1	0	64	9	5	0	14	1	138	0	139	217
7:45 AM	69	3	0	72	4	3	0	7	2	107	0	109	188
Total	244	5	0	249	18	21	0	39	6	506	0	512	800
Approach %	98.0	2.0	0.0	-	46.2	53.8	0.0	-	1.2	98.8	0.0	-	-
Total %	30.5	0.6	0.0	31.1	2.3	2.6	0.0	4.9	0.8	63.3	0.0	64.0	-
PHF	0.884	0.417	0.000	0.865	0.500	0.750	0.000	0.696	0.500	0.917	0.000	0.921	0.922
Lights	235	4	0	239	16	20	0	36	3	496	0	499	774
% Lights	96.3	80.0	-	96.0	88.9	95.2	-	92.3	50.0	98.0	-	97.5	96.8
Mediums	8	1	0	9	1	1	0	2	3	9	0	12	23
% Mediums	3.3	20.0	-	3.6	5.6	4.8	-	5.1	50.0	1.8	-	2.3	2.9
Articulated Trucks	1	0	0	1	1	0	0	1	0	1	0	1	3
% Articulated Trucks	0.4	0.0	-	0.4	5.6	0.0	-	2.6	0.0	0.2	-	0.2	0.4
Bicycles on Road	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	-	0.0	0.0

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(847) 478-9700 jopitz@gha-engineers.com

Count Name: W 119th St & S Wolf Dr
Site Code:
Start Date: 10/12/2017

Turning Movement Peak Hour Data (5:00 PM)

Start Time	119th St Westbound				Wolf Dr Northbound				119th St Eastbound				
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
5:00 PM	130	4	0	134	4	5	0	9	8	85	0	93	236
5:15 PM	141	4	0	145	2	7	0	9	8	100	0	108	262
5:30 PM	114	3	2	119	5	1	0	6	8	114	1	123	248
5:45 PM	118	1	1	120	1	5	0	6	8	118	0	126	252
Total	503	12	3	518	12	18	0	30	32	417	1	450	998
Approach %	97.1	2.3	0.6	-	40.0	60.0	0.0	-	7.1	92.7	0.2	-	-
Total %	50.4	1.2	0.3	51.9	1.2	1.8	0.0	3.0	3.2	41.8	0.1	45.1	-
PHF	0.892	0.750	0.375	0.893	0.600	0.643	0.000	0.833	1.000	0.883	0.250	0.893	0.952
Lights	498	12	3	513	12	18	0	30	32	414	1	447	990
% Lights	99.0	100.0	100.0	99.0	100.0	100.0	-	100.0	100.0	99.3	100.0	99.3	99.2
Mediums	5	0	0	5	0	0	0	0	0	3	0	3	8
% Mediums	1.0	0.0	0.0	1.0	0.0	0.0	-	0.0	0.0	0.7	0.0	0.7	0.8
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	0.0
Bicycles on Road	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	0.0	0.0	0.0	0.0

APPENDIX C
CMAP Correspondence

GHA

William Grieve <bgrieve@gha-engineers.com>

IL 59 - Naperville

Jose Rodriguez <JRodriguez@cmap.illinois.gov> Sat, Dec 22, 2018 at 11:53 AM
To: "jopitz@gha-engineers.com" <bgrieve@gha-engineers.com>

Bill:

CMAP did have to run an alternate scenario because the build of Book Road north of / vacation of Book Rd south of 119th Street is not in the fiscally-constrained 2050 CMAP transportation network, hence the delay in turnaround.

I have a draft table of results from the alternate scenario:

ROAD SEGMENT	Existing	Year 2050 Draft
IL 59 north of 119th St	32,400	38,600
Il 59 south of 119th St	29,800	37,100
119th St west of IL 59	9,750	16,500
119th St E of Il 59 / W of Naperville Rd	8,450	11,200
119th St east of Naperville Rd	9,200	11,200
Book Rd north of 119th St	N/B	4,000
Naperville Rd north of 119th St	10,350	12,800
Naperville Rd south of 119th St	8,800	11,200

Growth seems to be at about the same linear pace on the existing streets given that several have updated "base year" numbers. Book Road's volume is much reduced i.e. does not seem to hold much diversionary value for IL 59 and Naperville Road. However if loading onto Book Road from the proposed development is a concern, the lower volumes may facilitate that with less additional stress unto the newly built Book Rd thoroughfare than had previously been projected.

APPENDIX D

ITE Trip Generation Excerpts – 10th Edition

Land Use: 210
Single-Family Detached Housing

Description

Single-family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision.

Additional Data

The number of vehicles and residents had a high correlation with average weekday vehicle trip ends. The use of these variables was limited, however, because the number of vehicles and residents was often difficult to obtain or predict. The number of dwelling units was generally used as the independent variable of choice because it was usually readily available, easy to project, and had a high correlation with average weekday vehicle trip ends.

This land use included data from a wide variety of units with different sizes, price ranges, locations, and ages. Consequently, there was a wide variation in trips generated within this category. Other factors, such as geographic location and type of adjacent and nearby development, may also have had an effect on the site trip generation.

Single-family detached units had the highest trip generation rate per dwelling unit of all residential uses because they were the largest units in size and had more residents and more vehicles per unit than other residential land uses; they were generally located farther away from shopping centers, employment areas, and other trip attractors than other residential land uses; and they generally had fewer alternative modes of transportation available because they were typically not as concentrated as other residential land uses.

Time-of-day distribution data for this land use are presented in Appendix A. For the six general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:00 and 5:00 p.m., respectively. For the two sites with Saturday data, the overall highest vehicle volume was counted between 3:00 and 4:00 p.m. For the one site with Sunday data, the overall highest vehicle volume was counted between 10:15 and 11:15 a.m.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Connecticut, Delaware, Illinois, Indiana, Maryland, Minnesota, Montana, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, and Virginia.

Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 903, 925, 936

Single-Family Detached Housing
(210)

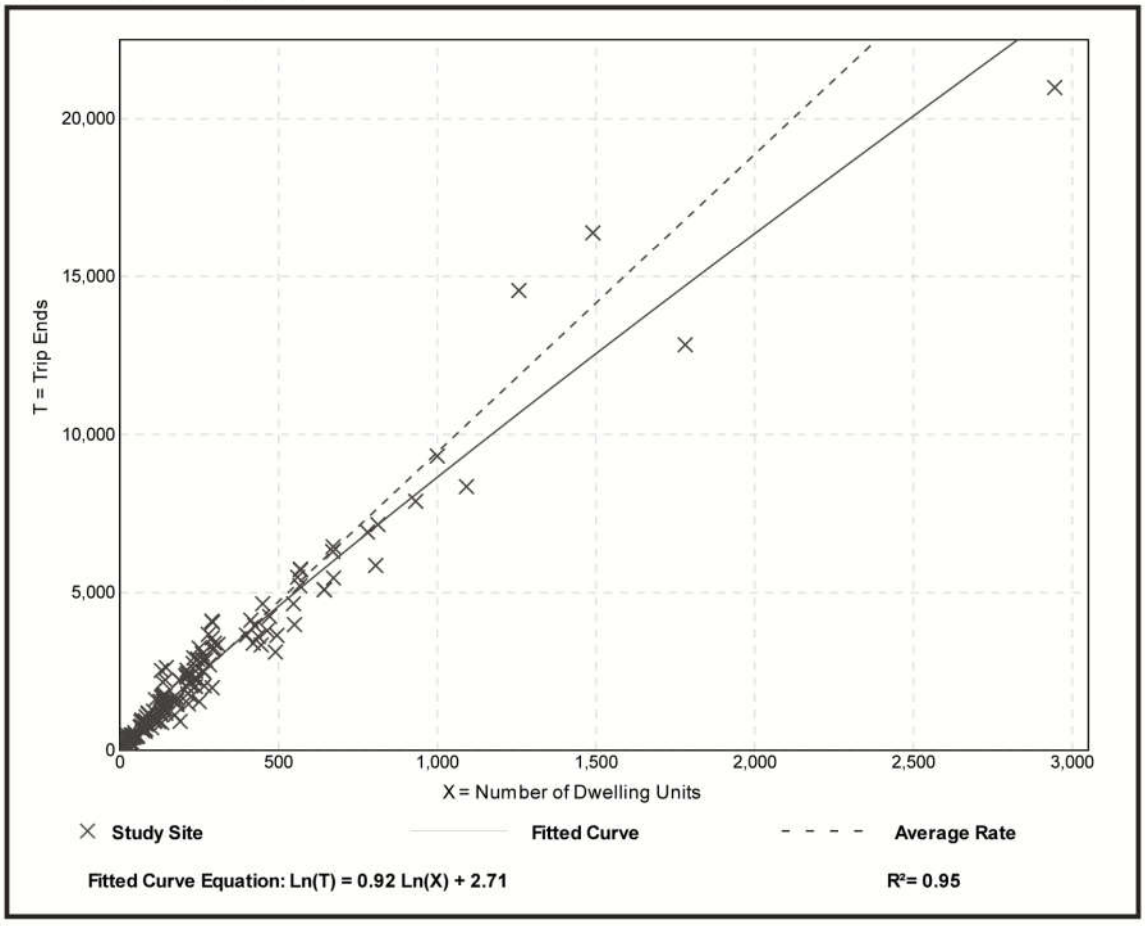
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 159
Avg. Num. of Dwelling Units: 264
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

Data Plot and Equation



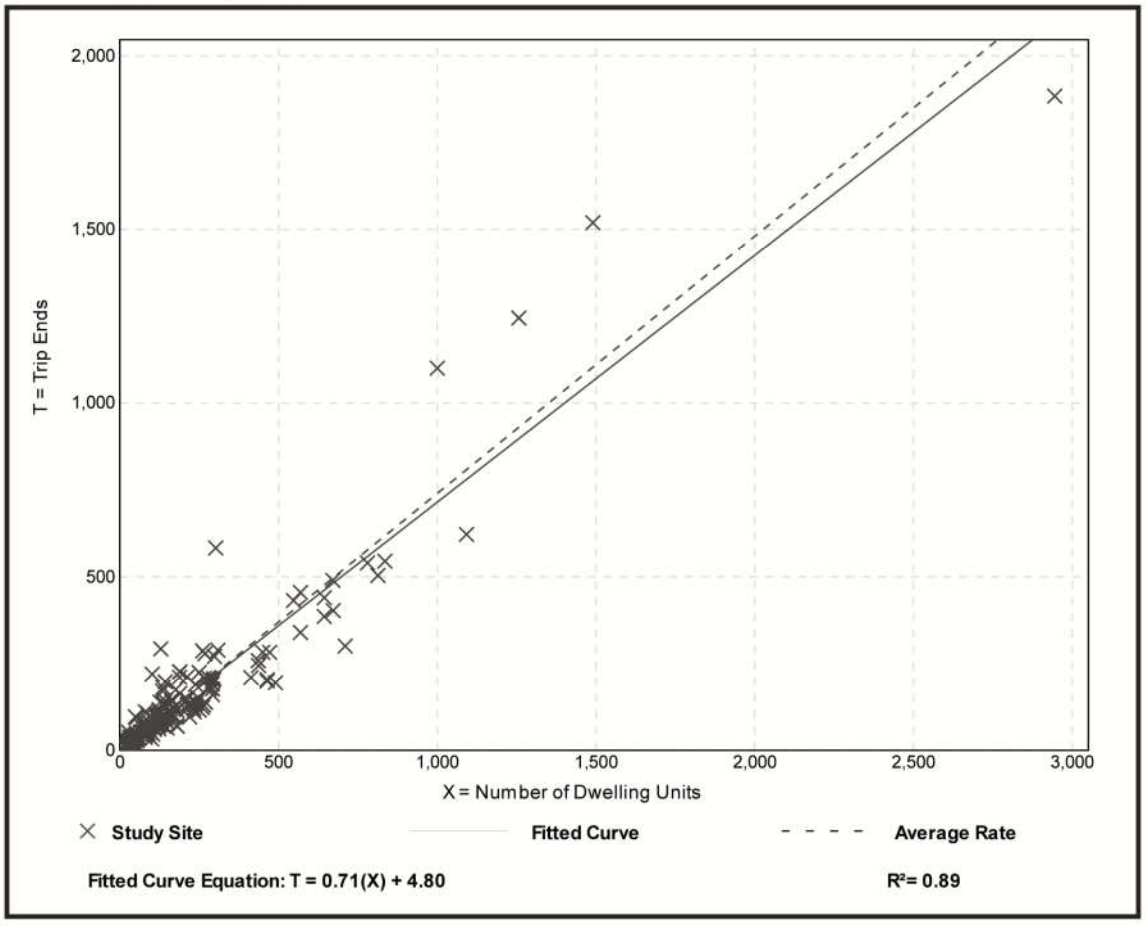
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 173
Avg. Num. of Dwelling Units: 219
Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



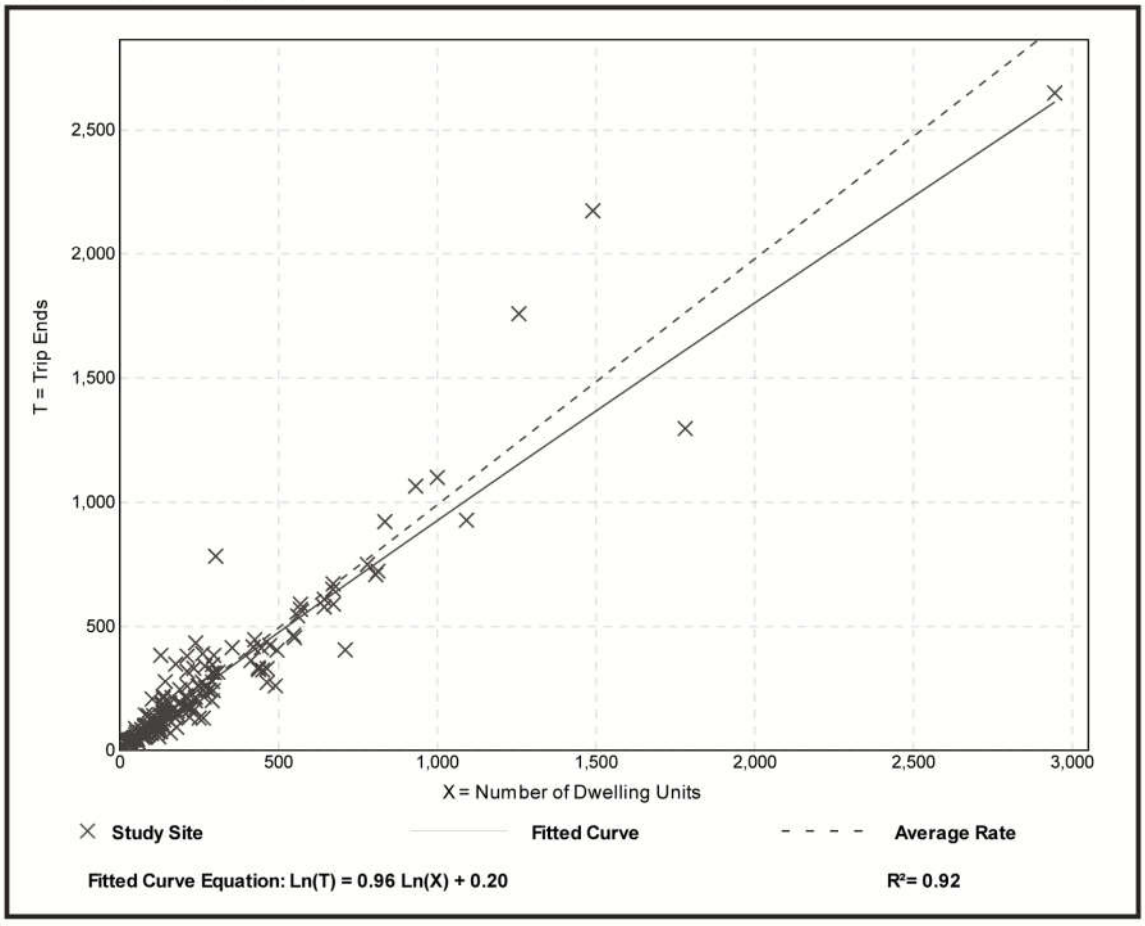
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 190
Avg. Num. of Dwelling Units: 242
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



Land Use: 220
Multifamily Housing (Low-Rise)

Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels (floors). Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), and off-campus student apartment (Land Use 225) are related land uses.

Additional Data

In prior editions of *Trip Generation Manual*, the low-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

This land use included data from a wide variety of units with different sizes, price ranges, locations, and ages. Consequently, there was a wide variation in trips generated within this category. Other factors, such as geographic location and type of adjacent and nearby development, may also have had an effect on the site trip generation.

Time-of-day distribution data for this land use are presented in Appendix A. For the 10 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:45 and 5:45 p.m., respectively. For the one site with Saturday data, the overall highest vehicle volume was counted between 9:45 and 10:45 a.m. For the one site with Sunday data, the overall highest vehicle volume was counted between 11:45 a.m. and 12:45 p.m.

For the one dense multi-use urban site with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 6:15 and 7:15 p.m., respectively.

For the three sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.72 residents per occupied dwelling unit.

The average numbers of person trips per vehicle trip at the five general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.13 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.21 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, District of Columbia, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Minnesota, New Jersey, New York, Ontario, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, and Washington.

It is expected that the number of bedrooms and number of residents are likely correlated to the number of trips generated by a residential site. Many of the studies included in this land use did not indicate the total number of bedrooms. To assist in the future analysis of this land use, it is important that this information be collected and included in trip generation data submissions.

Source Numbers

168, 187, 188, 204, 211, 300, 305, 306, 319, 320, 321, 357, 390, 412, 418, 525, 530, 571, 579, 583, 864, 868, 869, 870, 896, 903, 918, 946, 947, 948, 951

Multifamily Housing (Low-Rise)
(220)

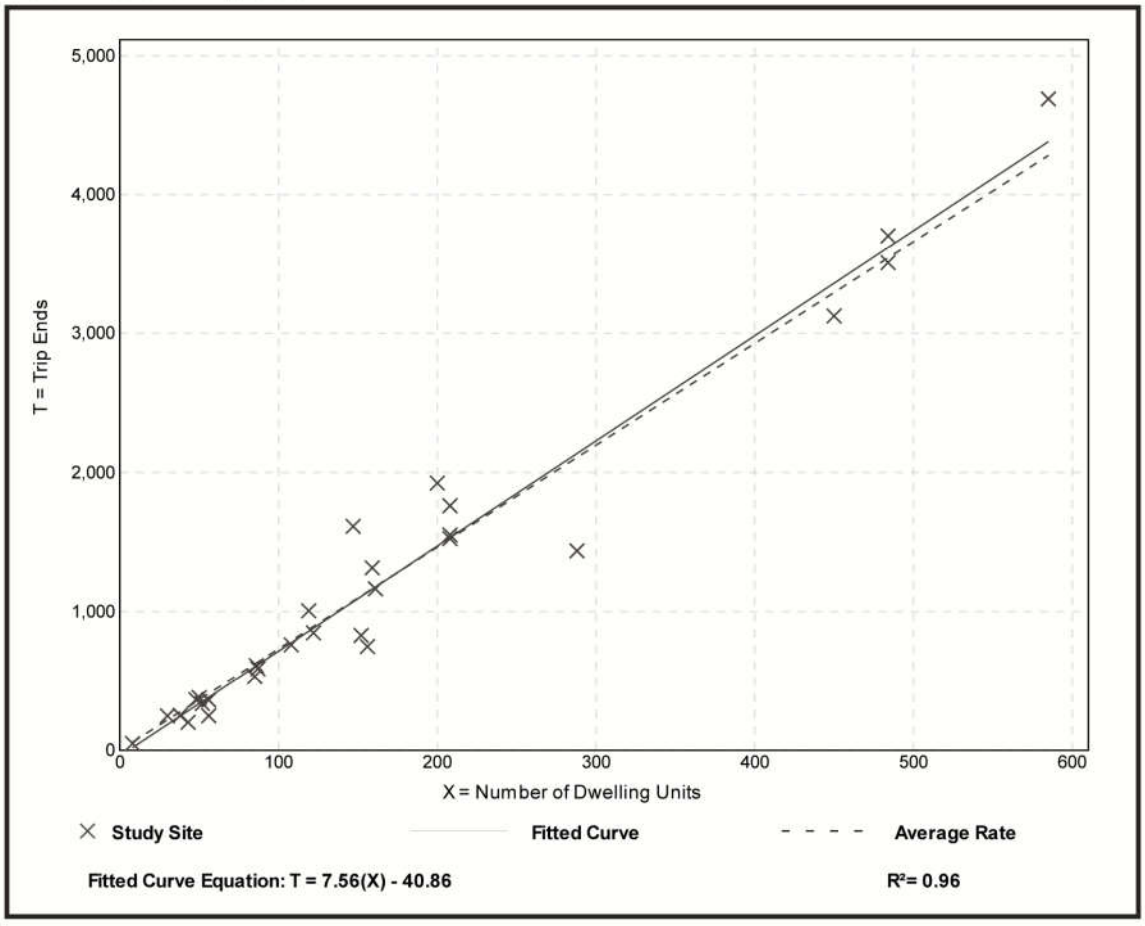
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 29
Avg. Num. of Dwelling Units: 168
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.32	4.45 - 10.97	1.31

Data Plot and Equation



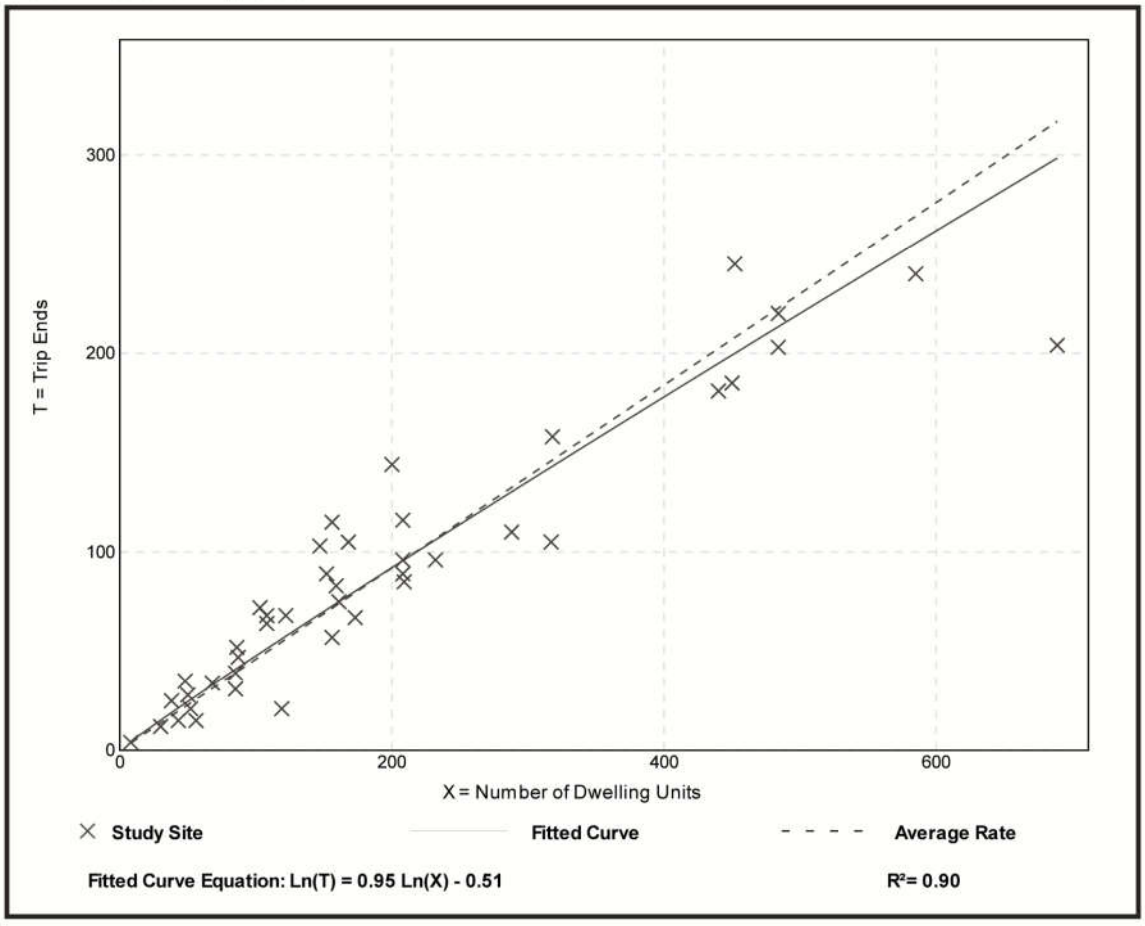
Multifamily Housing (Low-Rise)
(220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 42
Avg. Num. of Dwelling Units: 199
Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.18 - 0.74	0.12

Data Plot and Equation



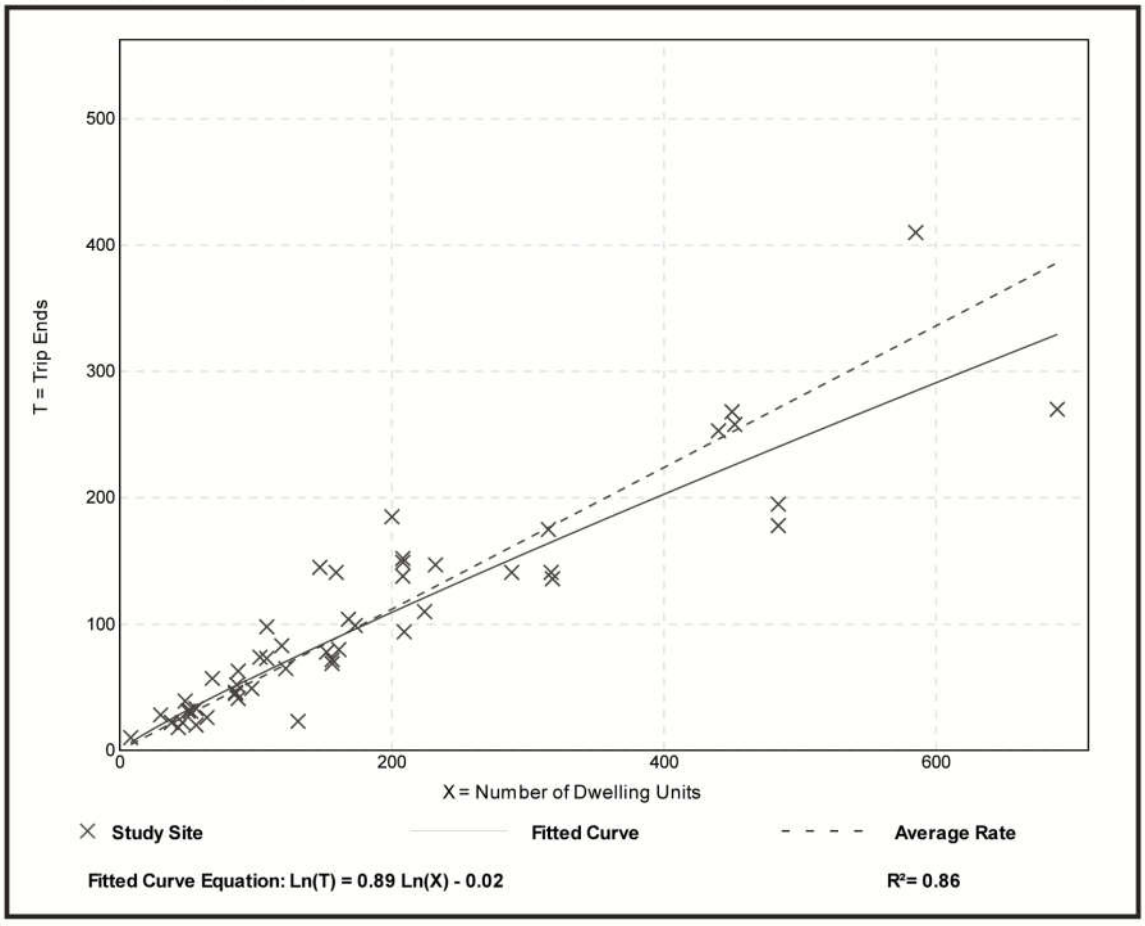
Multifamily Housing (Low-Rise)
(220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 50
Avg. Num. of Dwelling Units: 187
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.56	0.18 - 1.25	0.16

Data Plot and Equation



Land Use: 221
Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (Land Use 225), and mid-rise residential with 1st-floor commercial (Land Use 231) are related land uses.

Additional Data

In prior editions of *Trip Generation Manual*, the mid-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.46 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 95.7 percent of the total dwelling units were occupied.

Time-of-day distribution data for this land use are presented in Appendix A. For the eight general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 4:45 and 5:45 p.m., respectively.

For the four dense multi-use urban sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:15 and 5:15 p.m., respectively. For the three center city core sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 6:45 and 7:45 a.m. and 5:00 and 6:00 p.m., respectively.

For the six sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.46 residents per occupied dwelling unit.

For the five sites for which data were provided for both occupied dwelling units and total dwelling units, an average of 95.7 percent of the units were occupied.

The average numbers of person trips per vehicle trip at the five center city core sites at which both person trip and vehicle trip data were collected were as follows:

- 1.84 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.94 during Weekday, AM Peak Hour of Generator
- 2.07 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.59 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 32 dense multi-use urban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.90 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.90 during Weekday, AM Peak Hour of Generator
- 2.00 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.08 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 13 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.56 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.88 during Weekday, AM Peak Hour of Generator
- 1.70 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.07 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Delaware, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Ontario, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Utah, Virginia, and Wisconsin.

Source Numbers

168, 188, 204, 305, 306, 321, 357, 390, 436, 525, 530, 579, 638, 818, 857, 866, 901, 904, 910, 912, 918, 934, 936, 939, 944, 947, 948, 949, 959, 963, 964, 966, 967, 969, 970

Multifamily Housing (Mid-Rise)
(221)

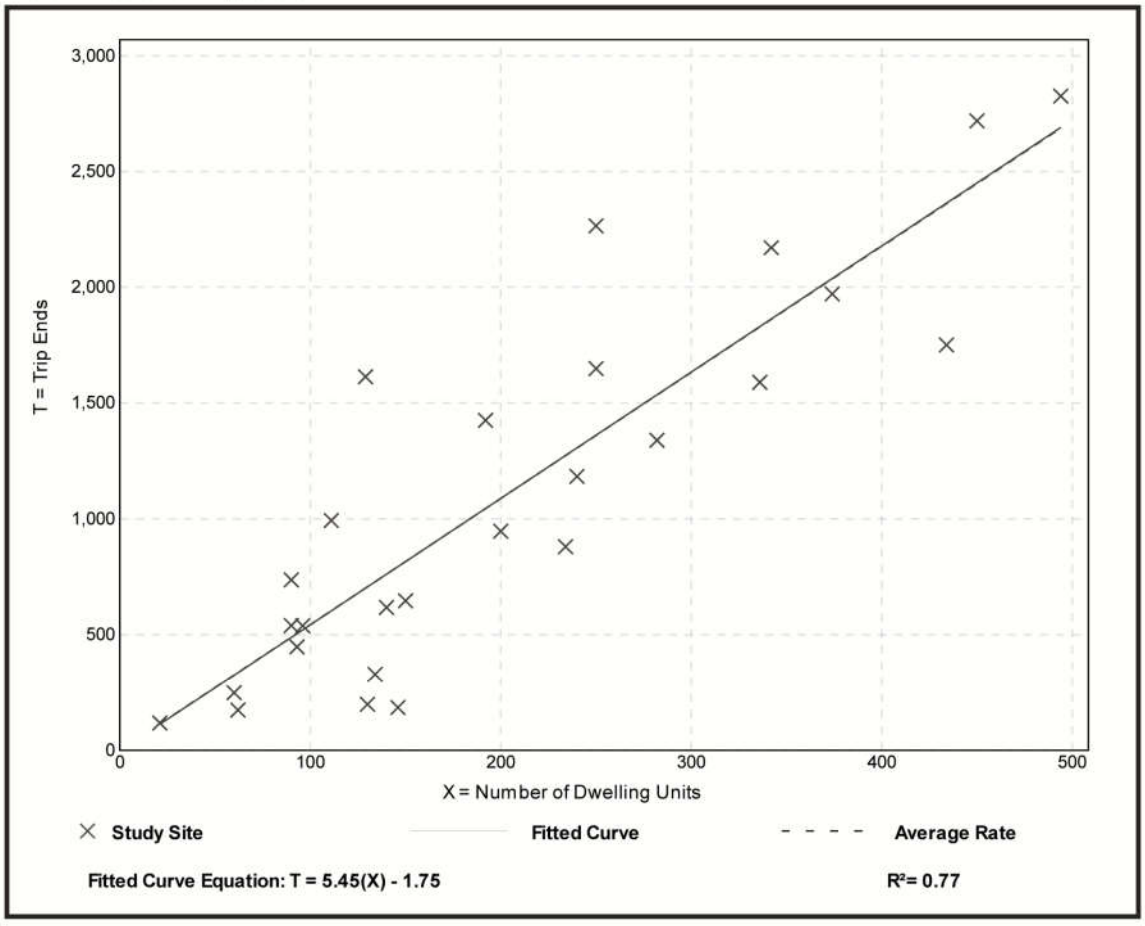
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 27
Avg. Num. of Dwelling Units: 205
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
5.44	1.27 - 12.50	2.03

Data Plot and Equation



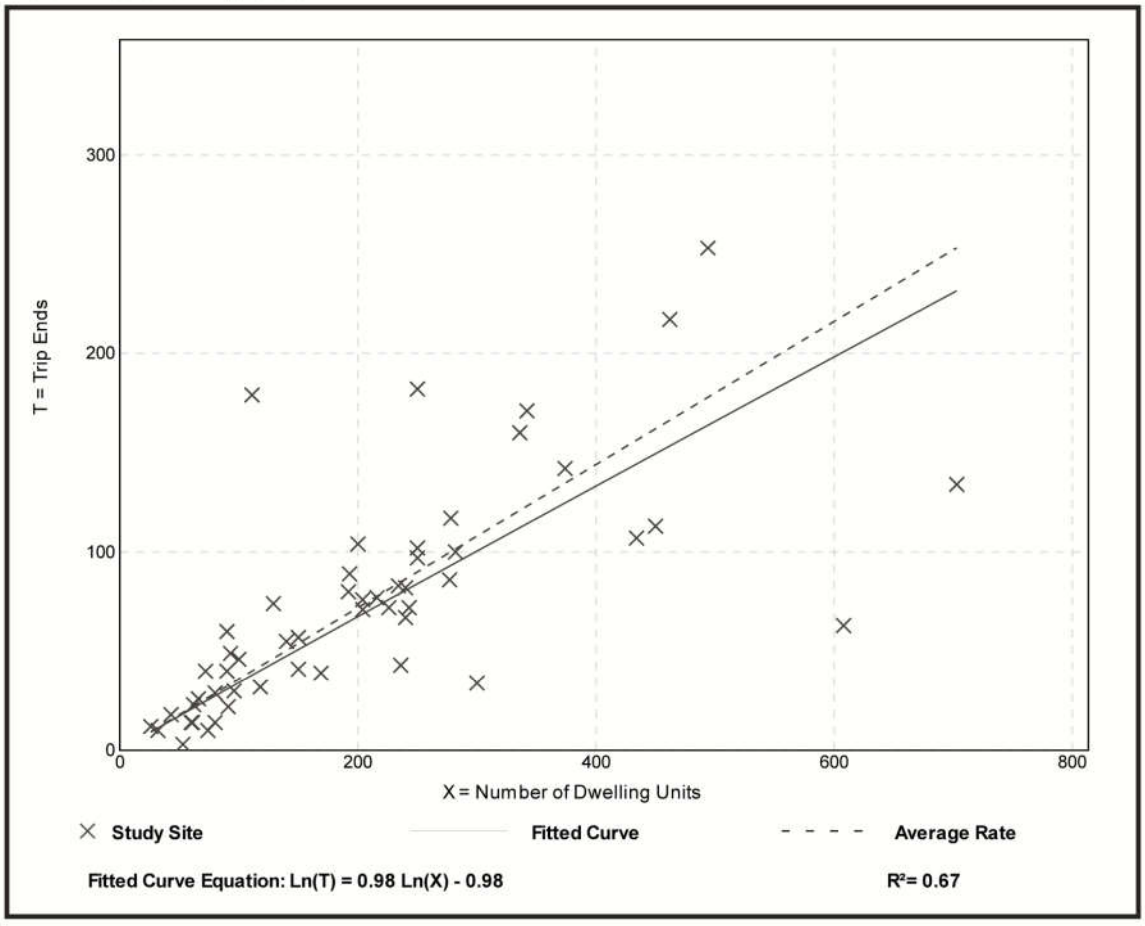
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 53
Avg. Num. of Dwelling Units: 207
Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

Data Plot and Equation



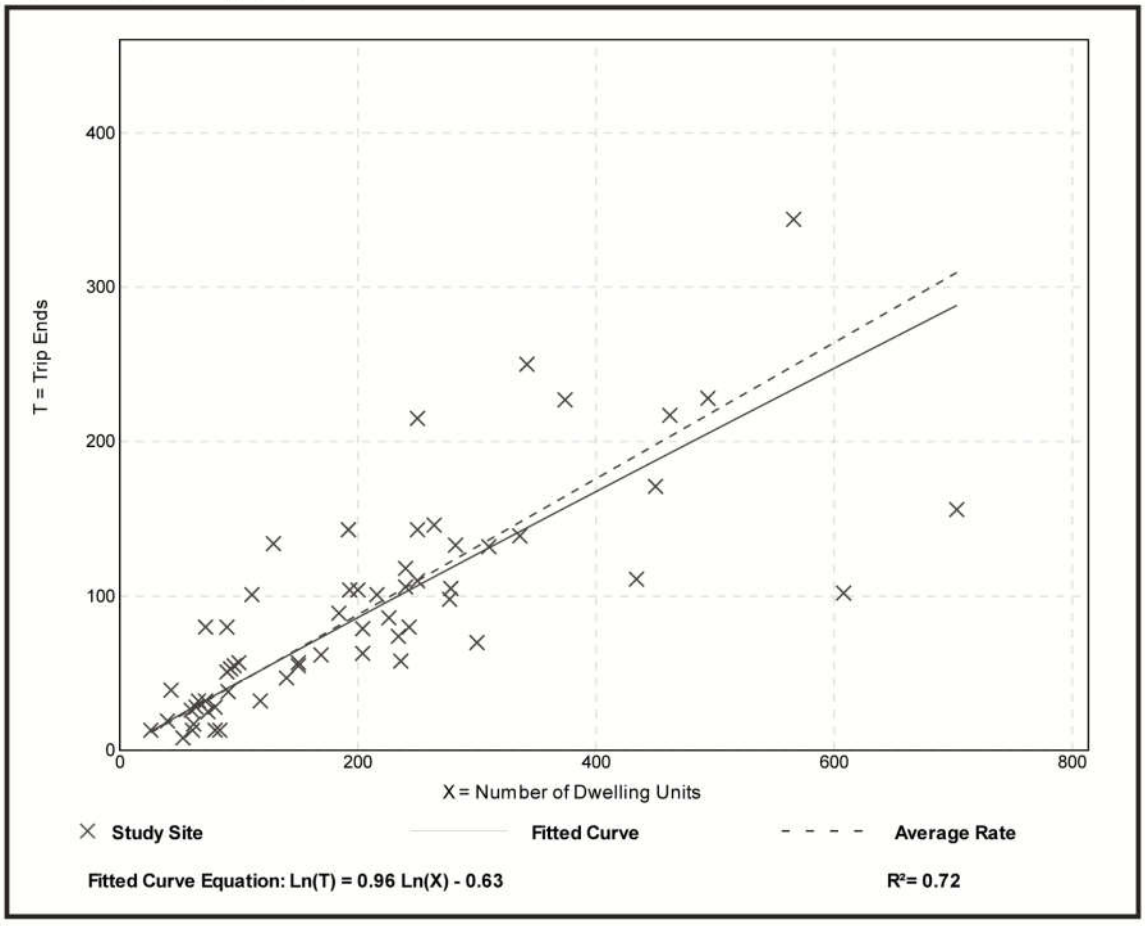
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 60
Avg. Num. of Dwelling Units: 208
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

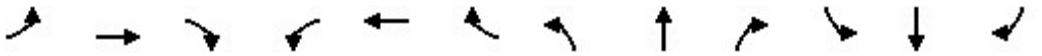
Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

Data Plot and Equation



APPENDIX E

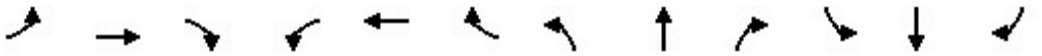
Capacity Analysis Printouts



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	385	96	85	140	71	52	1302	149	76	617	49
Future Volume (veh/h)	253	385	96	85	140	71	52	1302	149	76	617	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	275	418	104	92	152	77	57	1415	162	83	671	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	325	440	373	164	186	94	73	1635	186	103	1752	138
Arrive On Green	0.13	0.24	0.24	0.06	0.16	0.16	0.04	0.51	0.51	0.06	0.53	0.53
Sat Flow, veh/h	1781	1870	1585	1781	1171	593	1781	3216	365	1781	3337	263
Grp Volume(v), veh/h	275	418	104	92	0	229	57	777	800	83	357	367
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1764	1781	1777	1805	1781	1777	1823
Q Serve(g_s), s	17.8	30.8	7.5	6.0	0.0	17.6	4.4	53.5	54.8	6.4	16.7	16.8
Cycle Q Clear(g_c), s	17.8	30.8	7.5	6.0	0.0	17.6	4.4	53.5	54.8	6.4	16.7	16.8
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.20	1.00		0.14
Lane Grp Cap(c), veh/h	325	440	373	164	0	280	73	903	917	103	933	957
V/C Ratio(X)	0.85	0.95	0.28	0.56	0.00	0.82	0.78	0.86	0.87	0.80	0.38	0.38
Avail Cap(c_a), veh/h	325	441	374	198	0	315	134	903	917	121	933	957
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	52.7	43.8	47.2	0.0	56.9	66.5	30.1	30.4	65.1	19.8	19.8
Incr Delay (d2), s/veh	18.3	31.1	0.9	3.0	0.0	17.0	16.0	10.5	11.2	27.5	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.5	25.3	5.5	5.1	0.0	14.1	4.2	33.3	34.6	6.7	11.7	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	83.8	44.7	50.2	0.0	73.9	82.5	40.6	41.6	92.7	20.9	20.9
LnGrp LOS	E	F	D	D	A	E	F	D	D	F	C	C
Approach Vol, veh/h		797			321			1634			807	
Approach Delay, s/veh		70.5			67.1			42.6			28.3	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	77.2	11.3	38.9	10.3	79.5	22.0	28.2
Change Period (Y+Rc), s	4.5	6.0	3.5	6.0	4.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	9.5	67.0	10.5	33.0	10.5	66.0	18.5	25.0
Max Q Clear Time (g_c+I1), s	8.4	56.8	8.0	32.8	6.4	18.8	19.8	19.6
Green Ext Time (p_c), s	0.0	9.8	0.0	0.1	0.0	18.2	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	47.8
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	373	13	46	187	64	18	549	112	30	172	59
Future Volume (veh/h)	190	373	13	46	187	64	18	549	112	30	172	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	405	14	50	203	70	20	597	122	33	187	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	420	855	30	311	400	134	551	1195	244	336	1083	359
Arrive On Green	0.12	0.24	0.24	0.03	0.15	0.15	0.01	0.41	0.41	0.02	0.41	0.41
Sat Flow, veh/h	1781	3505	121	1781	2615	875	1781	2940	599	1781	2622	869
Grp Volume(v), veh/h	207	205	214	50	136	137	20	360	359	33	125	126
Grp Sat Flow(s),veh/h/ln	1781	1777	1849	1781	1777	1713	1781	1777	1762	1781	1777	1714
Q Serve(g_s), s	5.8	6.3	6.4	1.5	4.5	4.7	0.4	9.7	9.7	0.7	2.8	3.0
Cycle Q Clear(g_c), s	5.8	6.3	6.4	1.5	4.5	4.7	0.4	9.7	9.7	0.7	2.8	3.0
Prop In Lane	1.00		0.07	1.00		0.51	1.00		0.34	1.00		0.51
Lane Grp Cap(c), veh/h	420	434	451	311	272	262	551	722	716	336	734	708
V/C Ratio(X)	0.49	0.47	0.47	0.16	0.50	0.52	0.04	0.50	0.50	0.10	0.17	0.18
Avail Cap(c_a), veh/h	602	941	979	655	941	907	845	1135	1126	618	1135	1095
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	20.7	20.7	21.9	24.9	25.0	11.0	14.2	14.2	11.5	11.9	11.9
Incr Delay (d2), s/veh	0.9	1.7	1.7	0.2	3.0	3.4	0.0	2.5	2.5	0.1	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	4.8	5.0	1.1	3.6	3.7	0.3	7.1	7.1	0.5	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	22.4	22.4	22.1	27.9	28.4	11.0	16.6	16.7	11.6	12.4	12.5
LnGrp LOS	B	C	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		626			323			739			284	
Approach Delay, s/veh		21.2			27.3			16.5			12.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	32.1	5.6	21.7	4.4	32.5	11.4	15.8
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	11.5	41.0	14.5	34.0	11.5	41.0	14.5	34.0
Max Q Clear Time (g_c+I1), s	2.7	11.7	3.5	8.4	2.4	5.0	7.8	6.7
Green Ext Time (p_c), s	0.0	14.3	0.1	4.8	0.0	4.9	0.3	3.1

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	532	6	5	256	21	18
Future Vol, veh/h	532	6	5	256	21	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	578	7	5	278	23	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	585	0	870	582
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	288	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	990	-	322	513
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	761	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	990	-	320	513
Mov Cap-2 Maneuver	-	-	-	-	320	-
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	761	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	387	-	-	990	-
HCM Lane V/C Ratio	0.11	-	-	0.005	-
HCM Control Delay (s)	15.4	-	-	8.7	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

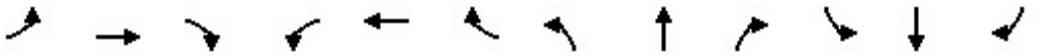
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	549	0	3	259	2	2	0	26	1	0	0
Future Vol, veh/h	1	549	0	3	259	2	2	0	26	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	597	0	3	282	2	2	0	28	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	284	0	0	597	0	0	888	889	597	902	888	283
Stage 1	-	-	-	-	-	-	599	599	-	289	289	-
Stage 2	-	-	-	-	-	-	289	290	-	613	599	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1278	-	-	980	-	-	264	282	503	259	283	756
Stage 1	-	-	-	-	-	-	488	490	-	719	673	-
Stage 2	-	-	-	-	-	-	719	672	-	480	490	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1278	-	-	980	-	-	263	281	503	243	282	756
Mov Cap-2 Maneuver	-	-	-	-	-	-	263	281	-	243	282	-
Stage 1	-	-	-	-	-	-	488	490	-	718	670	-
Stage 2	-	-	-	-	-	-	716	669	-	453	490	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	13.2	19.9
HCM LOS			B	C

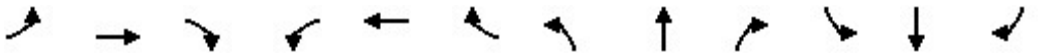
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	472	1278	-	-	980	-	-	243
HCM Lane V/C Ratio	0.064	0.001	-	-	0.003	-	-	0.004
HCM Control Delay (s)	13.2	7.8	0	-	8.7	0	-	19.9
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	244	149	180	335	77	188	1078	124	111	1454	192
Future Volume (veh/h)	199	244	149	180	335	77	188	1078	124	111	1454	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	216	265	162	196	364	84	204	1172	135	121	1580	209
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	387	328	258	294	68	197	1606	185	134	1468	191
Arrive On Green	0.08	0.21	0.21	0.08	0.20	0.20	0.11	0.50	0.50	0.08	0.46	0.46
Sat Flow, veh/h	1781	1870	1585	1781	1470	339	1781	3212	369	1781	3161	412
Grp Volume(v), veh/h	216	265	162	196	0	448	204	647	660	121	877	912
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1809	1781	1777	1804	1781	1777	1796
Q Serve(g_s), s	11.5	18.3	12.6	10.5	0.0	28.0	15.5	40.1	40.4	9.4	65.0	65.0
Cycle Q Clear(g_c), s	11.5	18.3	12.6	10.5	0.0	28.0	15.5	40.1	40.4	9.4	65.0	65.0
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.20	1.00		0.23
Lane Grp Cap(c), veh/h	198	387	328	258	0	362	197	888	902	134	825	834
V/C Ratio(X)	1.09	0.68	0.49	0.76	0.00	1.24	1.03	0.73	0.73	0.91	1.06	1.09
Avail Cap(c_a), veh/h	198	387	328	258	0	362	197	888	902	134	825	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	51.3	49.0	45.4	0.0	56.0	62.3	27.5	27.6	64.3	37.5	37.5
Incr Delay (d2), s/veh	90.8	6.4	2.4	12.3	0.0	128.7	73.4	5.2	5.2	50.4	49.5	59.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.4	14.3	9.0	4.5	0.0	37.9	16.7	25.1	25.6	10.2	51.6	56.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.8	57.6	51.5	57.7	0.0	184.7	135.6	32.7	32.8	114.7	87.0	97.3
LnGrp LOS	F	E	D	E	A	F	F	C	C	F	F	F
Approach Vol, veh/h		643			644			1511			1910	
Approach Delay, s/veh		82.3			146.0			46.7			93.7	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	76.0	14.0	35.0	20.0	71.0	15.0	34.0
Change Period (Y+Rc), s	4.5	6.0	3.5	6.0	4.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	10.5	70.0	10.5	29.0	15.5	65.0	11.5	28.0
Max Q Clear Time (g_c+I1), s	11.4	42.4	12.5	20.3	17.5	67.0	13.5	30.0
Green Ext Time (p_c), s	0.0	23.2	0.0	2.4	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	84.2
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	232	42	63	365	72	42	309	48	25	444	162
Future Volume (veh/h)	150	232	42	63	365	72	42	309	48	25	444	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	252	46	68	397	78	46	336	52	27	483	176
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	845	152	414	683	133	325	1170	179	438	945	342
Arrive On Green	0.09	0.28	0.28	0.04	0.23	0.23	0.03	0.38	0.38	0.02	0.37	0.37
Sat Flow, veh/h	1781	3009	541	1781	2966	578	1781	3089	473	1781	2555	925
Grp Volume(v), veh/h	163	147	151	68	236	239	46	192	196	27	335	324
Grp Sat Flow(s),veh/h/ln	1781	1777	1773	1781	1777	1766	1781	1777	1785	1781	1777	1704
Q Serve(g_s), s	4.4	4.4	4.5	2.0	8.0	8.2	1.1	5.1	5.2	0.6	9.9	10.1
Cycle Q Clear(g_c), s	4.4	4.4	4.5	2.0	8.0	8.2	1.1	5.1	5.2	0.6	9.9	10.1
Prop In Lane	1.00		0.31	1.00		0.33	1.00		0.27	1.00		0.54
Lane Grp Cap(c), veh/h	374	499	498	414	409	407	325	673	676	438	657	630
V/C Ratio(X)	0.44	0.30	0.30	0.16	0.58	0.59	0.14	0.29	0.29	0.06	0.51	0.51
Avail Cap(c_a), veh/h	587	889	887	718	889	884	579	1072	1077	708	1072	1028
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	19.2	19.2	18.7	23.2	23.3	13.5	14.7	14.7	13.1	16.6	16.7
Incr Delay (d2), s/veh	0.8	0.7	0.7	0.2	2.7	2.9	0.2	1.1	1.1	0.1	2.8	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	3.3	3.3	1.4	6.3	6.4	0.8	3.8	3.9	0.4	7.6	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.4	19.9	19.9	18.9	26.0	26.1	13.7	15.8	15.8	13.2	19.4	19.7
LnGrp LOS	B	B	B	B	C	C	B	B	B	B	B	B
Approach Vol, veh/h		461			543			434			686	
Approach Delay, s/veh		19.0			25.2			15.6			19.3	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	31.7	6.4	25.1	5.3	31.1	9.9	21.6
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	11.5	41.0	14.5	34.0	11.5	41.0	14.5	34.0
Max Q Clear Time (g_c+I1), s	2.6	7.2	4.0	6.5	3.1	12.1	6.4	10.2
Green Ext Time (p_c), s	0.0	7.7	0.1	3.4	0.0	13.1	0.3	5.5

Intersection Summary	
HCM 6th Ctrl Delay	20.0
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	417	32	12	506	18	12
Future Vol, veh/h	417	32	12	506	18	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	453	35	13	550	20	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	488	0	1047	471
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	576	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1075	-	253	593
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	562	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1075	-	249	593
Mov Cap-2 Maneuver	-	-	-	-	249	-
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	562	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	324	-	-	1075	-
HCM Lane V/C Ratio	0.101	-	-	0.012	-
HCM Control Delay (s)	17.4	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

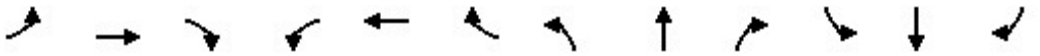
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	422	7	51	517	1	0	0	2	0	1	1
Future Vol, veh/h	0	422	7	51	517	1	0	0	2	0	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	459	8	55	562	1	0	0	2	0	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	563	0	0	467	0	0	1137	1136	463	1137	1140	563
Stage 1	-	-	-	-	-	-	463	463	-	673	673	-
Stage 2	-	-	-	-	-	-	674	673	-	464	467	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1008	-	-	1094	-	-	179	202	599	179	201	526
Stage 1	-	-	-	-	-	-	579	564	-	445	454	-
Stage 2	-	-	-	-	-	-	444	454	-	578	562	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1008	-	-	1094	-	-	168	187	599	168	186	526
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	187	-	168	186	-
Stage 1	-	-	-	-	-	-	579	564	-	445	421	-
Stage 2	-	-	-	-	-	-	410	421	-	576	562	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.8	11	18.2
HCM LOS			B	C

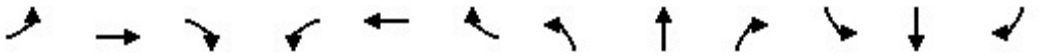
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	599	1008	-	-	1094	-	-	275
HCM Lane V/C Ratio	0.004	-	-	-	0.051	-	-	0.008
HCM Control Delay (s)	11	0	-	-	8.5	0	-	18.2
HCM Lane LOS	B	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0.2	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	420	105	93	153	77	55	1367	156	80	648	51
Future Volume (veh/h)	278	420	105	93	153	77	55	1367	156	80	648	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	302	457	114	101	166	84	60	1486	170	87	704	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	441	374	158	192	97	77	1612	183	108	1731	135
Arrive On Green	0.13	0.24	0.24	0.06	0.16	0.16	0.04	0.50	0.50	0.06	0.52	0.52
Sat Flow, veh/h	1781	1870	1585	1781	1171	593	1781	3217	365	1781	3340	261
Grp Volume(v), veh/h	302	457	114	101	0	250	60	814	842	87	374	385
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1764	1781	1777	1805	1781	1777	1823
Q Serve(g_s), s	18.5	33.0	8.3	6.5	0.0	19.3	4.7	59.1	61.1	6.8	18.0	18.0
Cycle Q Clear(g_c), s	18.5	33.0	8.3	6.5	0.0	19.3	4.7	59.1	61.1	6.8	18.0	18.0
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.20	1.00		0.14
Lane Grp Cap(c), veh/h	316	441	374	158	0	289	77	890	904	108	921	945
V/C Ratio(X)	0.96	1.04	0.31	0.64	0.00	0.87	0.78	0.91	0.93	0.81	0.41	0.41
Avail Cap(c_a), veh/h	316	441	374	185	0	315	134	890	904	121	921	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	53.5	44.1	46.6	0.0	57.1	66.3	32.2	32.7	65.0	20.6	20.6
Incr Delay (d2), s/veh	39.2	52.6	1.0	5.6	0.0	22.8	15.5	15.5	17.3	29.3	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.8	30.2	6.1	5.7	0.0	15.8	4.4	37.4	39.4	7.1	12.5	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.4	106.1	45.0	52.2	0.0	79.9	81.8	47.7	49.9	94.3	21.9	21.9
LnGrp LOS	F	F	D	D	A	E	F	D	D	F	C	C
Approach Vol, veh/h		873			351			1716			846	
Approach Delay, s/veh		89.9			71.9			50.0			29.4	
Approach LOS		F			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	76.1	11.9	39.0	10.5	78.5	22.0	28.9
Change Period (Y+Rc), s	4.5	6.0	3.5	6.0	4.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	9.5	67.0	10.5	33.0	10.5	66.0	18.5	25.0
Max Q Clear Time (g_c+I1), s	8.8	63.1	8.5	35.0	6.7	20.0	20.5	21.3
Green Ext Time (p_c), s	0.0	3.9	0.0	0.0	0.0	19.1	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	56.6
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	406	14	49	206	68	19	582	119	32	182	62
Future Volume (veh/h)	207	406	14	49	206	68	19	582	119	32	182	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	225	441	15	53	224	74	21	633	129	35	198	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	424	894	30	306	421	135	541	1204	245	318	1095	359
Arrive On Green	0.13	0.26	0.26	0.03	0.16	0.16	0.01	0.41	0.41	0.02	0.42	0.42
Sat Flow, veh/h	1781	3507	119	1781	2644	850	1781	2941	598	1781	2629	863
Grp Volume(v), veh/h	225	223	233	53	149	149	21	382	380	35	132	133
Grp Sat Flow(s),veh/h/ln	1781	1777	1849	1781	1777	1717	1781	1777	1763	1781	1777	1715
Q Serve(g_s), s	6.7	7.3	7.3	1.7	5.2	5.5	0.5	11.0	11.0	0.8	3.2	3.3
Cycle Q Clear(g_c), s	6.7	7.3	7.3	1.7	5.2	5.5	0.5	11.0	11.0	0.8	3.2	3.3
Prop In Lane	1.00		0.06	1.00		0.50	1.00		0.34	1.00		0.50
Lane Grp Cap(c), veh/h	424	453	472	306	283	274	541	728	722	318	740	714
V/C Ratio(X)	0.53	0.49	0.49	0.17	0.52	0.55	0.04	0.53	0.53	0.11	0.18	0.19
Avail Cap(c_a), veh/h	571	888	924	624	888	858	816	1071	1062	581	1071	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	21.6	21.6	22.8	26.2	26.3	11.5	15.1	15.1	12.2	12.5	12.6
Incr Delay (d2), s/veh	1.0	1.8	1.7	0.3	3.2	3.6	0.0	2.7	2.7	0.2	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	5.5	5.8	1.2	4.2	4.3	0.3	8.1	8.0	0.5	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.6	23.4	23.3	23.0	29.4	29.9	11.5	17.8	17.9	12.3	13.0	13.1
LnGrp LOS	B	C	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		681			351			783			300	
Approach Delay, s/veh		22.1			28.7			17.7			13.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	33.9	5.9	23.3	4.5	34.3	12.4	16.8
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	11.5	41.0	14.5	34.0	11.5	41.0	14.5	34.0
Max Q Clear Time (g_c+I1), s	2.8	13.0	3.7	9.3	2.5	5.3	8.7	7.5
Green Ext Time (p_c), s	0.0	14.8	0.1	5.2	0.0	5.2	0.3	3.4

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	581	6	5	279	21	18
Future Vol, veh/h	581	6	5	279	21	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	632	7	5	303	23	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	639	0	949	636
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	313	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	945	-	289	478
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	741	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	945	-	287	478
Mov Cap-2 Maneuver	-	-	-	-	287	-
Stage 1	-	-	-	-	524	-
Stage 2	-	-	-	-	741	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	352	-	-	945	-
HCM Lane V/C Ratio	0.12	-	-	0.006	-
HCM Control Delay (s)	16.6	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

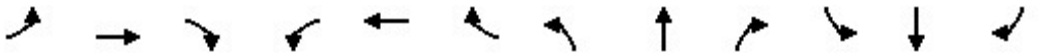
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	598	0	3	282	2	2	0	28	1	0	0
Future Vol, veh/h	1	598	0	3	282	2	2	0	28	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	650	0	3	307	2	2	0	30	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	309	0	0	650	0	0	966	967	650	981	966	308
Stage 1	-	-	-	-	-	-	652	652	-	314	314	-
Stage 2	-	-	-	-	-	-	314	315	-	667	652	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1252	-	-	936	-	-	234	254	469	229	255	732
Stage 1	-	-	-	-	-	-	457	464	-	697	656	-
Stage 2	-	-	-	-	-	-	697	656	-	448	464	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1252	-	-	936	-	-	233	253	469	213	254	732
Mov Cap-2 Maneuver	-	-	-	-	-	-	233	253	-	213	254	-
Stage 1	-	-	-	-	-	-	457	464	-	696	653	-
Stage 2	-	-	-	-	-	-	694	653	-	419	464	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	13.9	22
HCM LOS			B	C

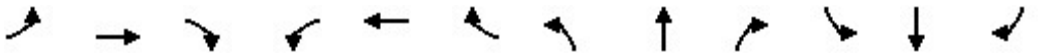
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	439	1252	-	-	936	-	-	213
HCM Lane V/C Ratio	0.074	0.001	-	-	0.003	-	-	0.005
HCM Control Delay (s)	13.9	7.9	0	-	8.9	0	-	22
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	217	266	162	196	365	84	197	1132	130	117	1527	202
Future Volume (veh/h)	217	266	162	196	365	84	197	1132	130	117	1527	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	236	289	176	213	397	91	214	1230	141	127	1660	220
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	387	328	243	294	67	197	1607	184	134	1468	191
Arrive On Green	0.08	0.21	0.21	0.08	0.20	0.20	0.11	0.50	0.50	0.08	0.46	0.46
Sat Flow, veh/h	1781	1870	1585	1781	1472	337	1781	3214	367	1781	3162	411
Grp Volume(v), veh/h	236	289	176	213	0	488	214	678	693	127	918	962
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1810	1781	1777	1804	1781	1777	1796
Q Serve(g_s), s	11.5	20.3	13.9	10.5	0.0	28.0	15.5	43.2	43.6	9.9	65.0	65.0
Cycle Q Clear(g_c), s	11.5	20.3	13.9	10.5	0.0	28.0	15.5	43.2	43.6	9.9	65.0	65.0
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.20	1.00		0.23
Lane Grp Cap(c), veh/h	198	387	328	243	0	362	197	888	902	134	825	834
V/C Ratio(X)	1.19	0.75	0.54	0.88	0.00	1.35	1.09	0.76	0.77	0.95	1.11	1.15
Avail Cap(c_a), veh/h	198	387	328	243	0	362	197	888	902	134	825	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	52.0	49.5	48.0	0.0	56.0	62.3	28.3	28.4	64.5	37.5	37.5
Incr Delay (d2), s/veh	125.9	9.2	3.1	28.3	0.0	174.1	88.6	6.2	6.2	62.7	67.2	82.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	19.5	15.9	9.8	7.8	0.0	45.3	18.1	26.9	27.5	11.1	58.4	64.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	170.9	61.2	52.6	76.3	0.0	230.1	150.9	34.5	34.6	127.1	104.7	119.9
LnGrp LOS	F	E	D	E	A	F	F	C	C	F	F	F
Approach Vol, veh/h		701			701			1585			2007	
Approach Delay, s/veh		96.0			183.4			50.3			113.4	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	76.0	14.0	35.0	20.0	71.0	15.0	34.0
Change Period (Y+Rc), s	4.5	6.0	3.5	6.0	4.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	10.5	70.0	10.5	29.0	15.5	65.0	11.5	28.0
Max Q Clear Time (g_c+I1), s	11.9	45.6	12.5	22.3	17.5	67.0	13.5	30.0
Green Ext Time (p_c), s	0.0	21.3	0.0	2.2	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	100.7
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	251	46	67	403	76	44	328	51	26	471	172
Future Volume (veh/h)	163	251	46	67	403	76	44	328	51	26	471	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	177	273	50	73	438	83	48	357	55	28	512	187
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	370	882	159	415	718	135	308	1180	180	423	949	345
Arrive On Green	0.10	0.29	0.29	0.05	0.24	0.24	0.03	0.38	0.38	0.02	0.37	0.37
Sat Flow, veh/h	1781	3006	543	1781	2984	562	1781	3090	472	1781	2553	928
Grp Volume(v), veh/h	177	160	163	73	260	261	48	204	208	28	356	343
Grp Sat Flow(s),veh/h/ln	1781	1777	1773	1781	1777	1769	1781	1777	1785	1781	1777	1703
Q Serve(g_s), s	5.1	5.1	5.2	2.2	9.4	9.6	1.2	5.8	5.9	0.7	11.4	11.5
Cycle Q Clear(g_c), s	5.1	5.1	5.2	2.2	9.4	9.6	1.2	5.8	5.9	0.7	11.4	11.5
Prop In Lane	1.00		0.31	1.00		0.32	1.00		0.26	1.00		0.54
Lane Grp Cap(c), veh/h	370	521	520	415	428	426	308	678	681	423	661	633
V/C Ratio(X)	0.48	0.31	0.31	0.18	0.61	0.61	0.16	0.30	0.31	0.07	0.54	0.54
Avail Cap(c_a), veh/h	551	832	830	689	832	828	540	1003	1008	673	1003	961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	19.9	20.0	19.3	24.5	24.6	14.4	15.7	15.7	13.9	17.9	18.0
Incr Delay (d2), s/veh	1.0	0.7	0.7	0.2	3.0	3.1	0.2	1.1	1.2	0.1	3.1	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	3.8	3.9	1.6	7.4	7.5	0.9	4.4	4.5	0.5	8.6	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	20.6	20.7	19.5	27.5	27.6	14.7	16.8	16.9	14.0	21.1	21.3
LnGrp LOS	B	C	C	B	C	C	B	B	B	B	C	C
Approach Vol, veh/h		500			594			460			727	
Approach Delay, s/veh		19.8			26.6			16.6			20.9	
Approach LOS		B			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	33.7	6.8	27.3	5.5	33.0	10.6	23.5
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	11.5	41.0	14.5	34.0	11.5	41.0	14.5	34.0
Max Q Clear Time (g_c+I1), s	2.7	7.9	4.2	7.2	3.2	13.5	7.1	11.6
Green Ext Time (p_c), s	0.0	8.2	0.1	3.7	0.0	13.5	0.3	5.9

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	454	32	12	551	18	12
Future Vol, veh/h	454	32	12	551	18	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	493	35	13	599	20	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	528	0	1136	511
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	625	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1039	-	223	563
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	534	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1039	-	219	563
Mov Cap-2 Maneuver	-	-	-	-	219	-
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	534	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	19
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	290	-	-	1039	-
HCM Lane V/C Ratio	0.112	-	-	0.013	-
HCM Control Delay (s)	19	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

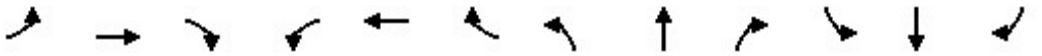
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	458	8	56	562	1	0	0	2	0	1	1
Future Vol, veh/h	0	458	8	56	562	1	0	0	2	0	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	498	9	61	611	1	0	0	2	0	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	612	0	0	507	0	0	1238	1237	503	1238	1241	612
Stage 1	-	-	-	-	-	-	503	503	-	734	734	-
Stage 2	-	-	-	-	-	-	735	734	-	504	507	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	967	-	-	1058	-	-	152	176	569	152	175	493
Stage 1	-	-	-	-	-	-	551	541	-	412	426	-
Stage 2	-	-	-	-	-	-	411	426	-	550	539	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	967	-	-	1058	-	-	141	161	569	141	160	493
Mov Cap-2 Maneuver	-	-	-	-	-	-	141	161	-	141	160	-
Stage 1	-	-	-	-	-	-	551	541	-	412	389	-
Stage 2	-	-	-	-	-	-	373	389	-	548	539	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.8	11.4	20
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	569	967	-	-	1058	-	-	242
HCM Lane V/C Ratio	0.004	-	-	-	0.058	-	-	0.009
HCM Control Delay (s)	11.4	0	-	-	8.6	0	-	20
HCM Lane LOS	B	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0.2	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	454	105	120	161	87	55	1367	165	78	648	46
Future Volume (veh/h)	250	454	105	120	161	87	55	1367	165	78	648	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	272	493	114	130	175	95	60	1486	179	85	704	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	441	374	181	201	109	77	1564	186	106	1700	121
Arrive On Green	0.13	0.24	0.24	0.07	0.18	0.18	0.04	0.49	0.49	0.06	0.51	0.51
Sat Flow, veh/h	1781	1870	1585	1781	1140	619	1781	3197	381	1781	3365	239
Grp Volume(v), veh/h	272	493	114	130	0	270	60	819	846	85	371	383
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1759	1781	1777	1802	1781	1777	1827
Q Serve(g_s), s	17.1	33.0	8.3	8.3	0.0	20.9	4.7	61.1	63.3	6.6	18.3	18.3
Cycle Q Clear(g_c), s	17.1	33.0	8.3	8.3	0.0	20.9	4.7	61.1	63.3	6.6	18.3	18.3
Prop In Lane	1.00		1.00	1.00		0.35	1.00		0.21	1.00		0.13
Lane Grp Cap(c), veh/h	317	441	374	181	0	310	77	869	881	106	898	923
V/C Ratio(X)	0.86	1.12	0.31	0.72	0.00	0.87	0.78	0.94	0.96	0.81	0.41	0.41
Avail Cap(c_a), veh/h	317	441	374	185	0	314	134	869	881	121	898	923
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	53.5	44.1	44.7	0.0	56.1	66.3	33.9	34.4	65.1	21.7	21.7
Incr Delay (d2), s/veh	20.3	79.2	1.0	12.2	0.0	23.4	15.5	19.3	22.0	28.4	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.3	35.6	6.1	7.7	0.0	16.8	4.4	39.5	41.8	6.9	12.7	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	132.7	45.0	56.9	0.0	79.5	81.8	53.2	56.5	93.5	23.1	23.0
LnGrp LOS	E	F	D	E	A	E	F	D	E	F	C	C
Approach Vol, veh/h		879			400			1725			839	
Approach Delay, s/veh		99.0			72.2			55.8			30.2	
Approach LOS		F			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	74.5	13.7	39.0	10.5	76.7	22.0	30.7
Change Period (Y+Rc), s	4.5	6.0	3.5	6.0	4.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	9.5	67.0	10.5	33.0	10.5	66.0	18.5	25.0
Max Q Clear Time (g_c+I1), s	8.6	65.3	10.3	35.0	6.7	20.3	19.1	22.9
Green Ext Time (p_c), s	0.0	1.7	0.0	0.0	0.0	18.9	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	61.8
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	458	43	49	215	68	28	582	119	32	182	62
Future Volume (veh/h)	235	458	43	49	215	68	28	582	119	32	182	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	255	498	47	53	234	74	30	633	129	35	198	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	443	886	83	285	431	133	532	1184	241	308	1064	349
Arrive On Green	0.14	0.27	0.27	0.03	0.16	0.16	0.02	0.40	0.40	0.02	0.40	0.40
Sat Flow, veh/h	1781	3283	309	1781	2674	825	1781	2941	598	1781	2629	863
Grp Volume(v), veh/h	255	269	276	53	154	154	30	382	380	35	132	133
Grp Sat Flow(s),veh/h/ln	1781	1777	1815	1781	1777	1722	1781	1777	1763	1781	1777	1715
Q Serve(g_s), s	7.8	9.1	9.2	1.7	5.5	5.8	0.7	11.4	11.5	0.8	3.3	3.5
Cycle Q Clear(g_c), s	7.8	9.1	9.2	1.7	5.5	5.8	0.7	11.4	11.5	0.8	3.3	3.5
Prop In Lane	1.00		0.17	1.00		0.48	1.00		0.34	1.00		0.50
Lane Grp Cap(c), veh/h	443	480	490	285	286	278	532	715	709	308	719	694
V/C Ratio(X)	0.58	0.56	0.56	0.19	0.54	0.56	0.06	0.53	0.54	0.11	0.18	0.19
Avail Cap(c_a), veh/h	556	864	882	592	864	837	791	1041	1033	564	1041	1005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	22.0	22.0	23.3	26.9	27.0	12.0	15.9	15.9	12.8	13.4	13.4
Incr Delay (d2), s/veh	1.2	2.2	2.2	0.3	3.3	3.7	0.0	2.8	2.9	0.2	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.6	7.0	7.2	1.3	4.5	4.6	0.5	8.4	8.4	0.6	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	24.2	24.2	23.6	30.2	30.7	12.0	18.8	18.8	13.0	14.0	14.1
LnGrp LOS	B	C	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		800			361			792			300	
Approach Delay, s/veh		22.8			29.5			18.5			13.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	34.2	5.9	24.9	4.8	34.3	13.5	17.3
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	11.5	41.0	14.5	34.0	11.5	41.0	14.5	34.0
Max Q Clear Time (g_c+I1), s	2.8	13.5	3.7	11.2	2.7	5.5	9.8	7.8
Green Ext Time (p_c), s	0.0	14.7	0.1	6.2	0.0	5.2	0.3	3.5

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	659	6	5	318	21	18
Future Vol, veh/h	659	6	5	318	21	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	716	7	5	346	23	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	723	0	1076	720
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	879	-	243	428
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	709	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	879	-	242	428
Mov Cap-2 Maneuver	-	-	-	-	242	-
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	709	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	303	-	-	879	-
HCM Lane V/C Ratio	0.14	-	-	0.006	-
HCM Control Delay (s)	18.8	-	-	9.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	41	17	54	14	9
Future Vol, veh/h	28	41	17	54	14	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	45	18	59	15	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	115	20	25	0	-	0
Stage 1	20	-	-	-	-	-
Stage 2	95	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	881	1058	1589	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	929	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	871	1058	1589	-	-	-
Mov Cap-2 Maneuver	871	-	-	-	-	-
Stage 1	992	-	-	-	-	-
Stage 2	929	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	1.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1589	-	871	1058	-	-
HCM Lane V/C Ratio	0.012	-	0.035	0.042	-	-
HCM Control Delay (s)	7.3	-	9.3	8.6	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	708	0	3	302	2	28
Future Vol, veh/h	708	0	3	302	2	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	770	0	3	328	2	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	770	0	1104	770
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	334	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	844	-	234	401
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	725	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	844	-	233	401
Mov Cap-2 Maneuver	-	-	-	-	233	-
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	725	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	383	-	-	844	-
HCM Lane V/C Ratio	0.085	-	-	0.004	-
HCM Control Delay (s)	15.3	-	-	9.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	661	265	12	36	58
Future Vol, veh/h	16	661	265	12	36	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	718	288	13	39	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	301	0	-	0	1047	295
Stage 1	-	-	-	-	295	-
Stage 2	-	-	-	-	752	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1260	-	-	-	253	744
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	466	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1260	-	-	-	250	744
Mov Cap-2 Maneuver	-	-	-	-	250	-
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	466	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1260	-	-	-	250	744
HCM Lane V/C Ratio	0.014	-	-	-	0.157	0.085
HCM Control Delay (s)	7.9	-	-	-	22.1	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.3

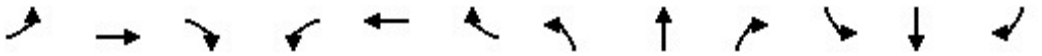
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	663	267	37	45	10
Future Vol, veh/h	34	663	267	37	45	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	721	290	40	49	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	330	0	-	0	1105	310
Stage 1	-	-	-	-	310	-
Stage 2	-	-	-	-	795	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1229	-	-	-	233	730
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	445	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1229	-	-	-	226	730
Mov Cap-2 Maneuver	-	-	-	-	226	-
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	445	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	22.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1229	-	-	-	226	730
HCM Lane V/C Ratio	0.03	-	-	-	0.216	0.015
HCM Control Delay (s)	8	-	-	-	25.3	10
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	308	170	213	361	88	197	1132	159	135	1527	182
Future Volume (veh/h)	195	308	170	213	361	88	197	1132	159	135	1527	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	335	185	232	392	96	214	1230	173	147	1660	198
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	387	328	215	290	71	197	1565	219	134	1487	174
Arrive On Green	0.08	0.21	0.21	0.08	0.20	0.20	0.11	0.50	0.50	0.08	0.46	0.46
Sat Flow, veh/h	1781	1870	1585	1781	1451	355	1781	3130	438	1781	3204	376
Grp Volume(v), veh/h	212	335	185	232	0	488	214	696	707	147	908	950
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1806	1781	1777	1791	1781	1777	1803
Q Serve(g_s), s	11.5	24.2	14.7	10.5	0.0	28.0	15.5	45.0	45.7	10.5	65.0	65.0
Cycle Q Clear(g_c), s	11.5	24.2	14.7	10.5	0.0	28.0	15.5	45.0	45.7	10.5	65.0	65.0
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.24	1.00		0.21
Lane Grp Cap(c), veh/h	198	387	328	215	0	361	197	888	896	134	825	837
V/C Ratio(X)	1.07	0.86	0.56	1.08	0.00	1.35	1.09	0.78	0.79	1.10	1.10	1.13
Avail Cap(c_a), veh/h	198	387	328	215	0	361	197	888	896	134	825	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	53.6	49.8	49.0	0.0	56.0	62.3	28.8	28.9	64.8	37.5	37.5
Incr Delay (d2), s/veh	84.4	19.3	3.7	83.8	0.0	175.1	88.6	6.8	7.0	107.3	62.6	75.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.8	19.5	10.3	12.4	0.0	45.4	18.1	28.1	28.6	14.1	56.6	62.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.5	72.9	53.5	132.8	0.0	231.1	150.9	35.6	35.9	172.1	100.1	112.8
LnGrp LOS	F	E	D	F	A	F	F	D	D	F	F	F
Approach Vol, veh/h		732			720			1617			2005	
Approach Delay, s/veh		84.4			199.4			51.0			111.4	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	76.0	14.0	35.0	20.0	71.0	15.0	34.0
Change Period (Y+Rc), s	4.5	6.0	3.5	6.0	4.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	10.5	70.0	10.5	29.0	15.5	65.0	11.5	28.0
Max Q Clear Time (g_c+I1), s	12.5	47.7	12.5	26.2	17.5	67.0	13.5	30.0
Green Ext Time (p_c), s	0.0	20.0	0.0	1.2	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	100.7
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	277	62	67	432	76	73	328	51	26	471	175
Future Volume (veh/h)	173	277	62	67	432	76	73	328	51	26	471	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	301	67	73	470	83	79	357	55	28	512	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	366	876	192	398	744	131	320	1198	183	424	917	338
Arrive On Green	0.10	0.30	0.30	0.05	0.25	0.25	0.04	0.39	0.39	0.02	0.36	0.36
Sat Flow, veh/h	1781	2897	636	1781	3021	531	1781	3090	472	1781	2540	938
Grp Volume(v), veh/h	188	183	185	73	275	278	79	204	208	28	357	345
Grp Sat Flow(s),veh/h/ln	1781	1777	1756	1781	1777	1775	1781	1777	1785	1781	1777	1702
Q Serve(g_s), s	5.7	6.2	6.3	2.3	10.6	10.7	2.1	6.1	6.2	0.8	12.4	12.5
Cycle Q Clear(g_c), s	5.7	6.2	6.3	2.3	10.6	10.7	2.1	6.1	6.2	0.8	12.4	12.5
Prop In Lane	1.00		0.36	1.00		0.30	1.00		0.26	1.00		0.55
Lane Grp Cap(c), veh/h	366	537	531	398	437	437	320	689	692	424	641	614
V/C Ratio(X)	0.51	0.34	0.35	0.18	0.63	0.64	0.25	0.30	0.30	0.07	0.56	0.56
Avail Cap(c_a), veh/h	521	786	777	653	786	785	508	948	952	659	948	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	20.9	20.9	20.1	25.9	25.9	15.1	16.3	16.3	15.2	19.7	19.7
Incr Delay (d2), s/veh	1.1	0.8	0.8	0.2	3.2	3.3	0.4	1.1	1.1	0.1	3.5	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	4.6	4.7	1.7	8.2	8.3	1.5	4.6	4.7	0.5	9.3	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.3	21.7	21.8	20.4	29.0	29.2	15.5	17.4	17.4	15.3	23.1	23.4
LnGrp LOS	B	C	C	C	C	C	B	B	B	B	C	C
Approach Vol, veh/h		556			626			491			730	
Approach Delay, s/veh		20.9			28.1			17.1			22.9	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	35.8	7.0	29.2	6.9	33.7	11.3	24.9
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	11.5	41.0	14.5	34.0	11.5	41.0	14.5	34.0
Max Q Clear Time (g_c+I1), s	2.8	8.2	4.3	8.3	4.1	14.5	7.7	12.7
Green Ext Time (p_c), s	0.0	8.2	0.1	4.2	0.1	13.3	0.3	6.2

Intersection Summary	
HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	539	32	12	551	18	12
Future Vol, veh/h	539	32	12	551	18	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	586	35	13	599	20	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	621	0	1229	604
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	625	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	960	-	196	498
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	534	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	960	-	193	498
Mov Cap-2 Maneuver	-	-	-	-	193	-
Stage 1	-	-	-	-	538	-
Stage 2	-	-	-	-	534	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	21.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	256	-	-	960	-
HCM Lane V/C Ratio	0.127	-	-	0.014	-
HCM Control Delay (s)	21.1	-	-	8.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	28	56	67	33	29
Future Vol, veh/h	18	28	56	67	33	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	30	61	73	36	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	247	52	68	0	-	0
Stage 1	52	-	-	-	-	-
Stage 2	195	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	741	1016	1533	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	711	1016	1533	-	-	-
Mov Cap-2 Maneuver	711	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	3.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1533	-	711	1016	-	-
HCM Lane V/C Ratio	0.04	-	0.028	0.03	-	-
HCM Control Delay (s)	7.4	-	10.2	8.7	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	510	8	56	624	0	2
Future Vol, veh/h	510	8	56	624	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	554	9	61	678	0	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	563	0	1359	559
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	800	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1008	-	164	529
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	442	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1008	-	148	529
Mov Cap-2 Maneuver	-	-	-	-	148	-
Stage 1	-	-	-	-	517	-
Stage 2	-	-	-	-	442	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	529	-	-	1008	-
HCM Lane V/C Ratio	0.004	-	-	0.06	-
HCM Control Delay (s)	11.8	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	52	499	527	39	23	36
Future Vol, veh/h	52	499	527	39	23	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	542	573	42	25	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	615	0	-	0	1250	594
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	656	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	965	-	-	-	191	505
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	516	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	965	-	-	-	180	505
Mov Cap-2 Maneuver	-	-	-	-	180	-
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	516	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	18.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	965	-	-	-	180	505
HCM Lane V/C Ratio	0.059	-	-	-	0.139	0.077
HCM Control Delay (s)	9	-	-	-	28.2	12.7
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5	0.3

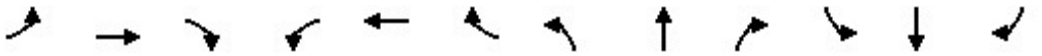
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	483	540	84	35	26
Future Vol, veh/h	39	483	540	84	35	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	525	587	91	38	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	678	0	-	0	1242	633
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	609	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	914	-	-	-	193	480
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	543	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	914	-	-	-	184	480
Mov Cap-2 Maneuver	-	-	-	-	184	-
Stage 1	-	-	-	-	505	-
Stage 2	-	-	-	-	543	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	22.5
HCM LOS			C

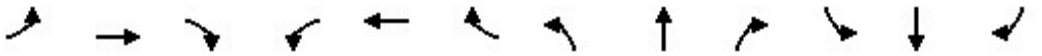
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	914	-	-	-	184	480
HCM Lane V/C Ratio	0.046	-	-	-	0.207	0.059
HCM Control Delay (s)	9.1	-	-	-	29.6	13
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	454	105	120	161	87	55	1367	165	78	648	46
Future Volume (veh/h)	250	454	105	120	161	87	55	1367	165	78	648	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	272	493	114	130	175	95	60	1486	179	85	704	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	481	408	147	204	111	77	1558	186	106	1693	120
Arrive On Green	0.13	0.26	0.26	0.05	0.18	0.18	0.04	0.49	0.49	0.06	0.50	0.50
Sat Flow, veh/h	1781	1870	1585	1781	1140	619	1781	3197	381	1781	3365	239
Grp Volume(v), veh/h	272	493	114	130	0	270	60	819	846	85	371	383
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1759	1781	1777	1802	1781	1777	1827
Q Serve(g_s), s	17.0	36.0	8.1	7.5	0.0	20.9	4.7	61.4	63.6	6.6	18.4	18.4
Cycle Q Clear(g_c), s	17.0	36.0	8.1	7.5	0.0	20.9	4.7	61.4	63.6	6.6	18.4	18.4
Prop In Lane	1.00		1.00	1.00		0.35	1.00		0.21	1.00		0.13
Lane Grp Cap(c), veh/h	320	481	408	147	0	314	77	866	878	106	894	920
V/C Ratio(X)	0.85	1.03	0.28	0.89	0.00	0.86	0.78	0.95	0.96	0.81	0.42	0.42
Avail Cap(c_a), veh/h	320	481	408	147	0	314	134	866	878	121	894	920
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	52.0	41.6	48.9	0.0	55.8	66.3	34.1	34.7	65.1	21.8	21.8
Incr Delay (d2), s/veh	19.2	47.6	0.8	42.5	0.0	22.1	15.5	20.0	22.8	28.4	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.2	31.6	5.9	4.9	0.0	16.7	4.4	39.8	42.1	6.9	12.7	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	99.6	42.4	91.4	0.0	77.9	81.8	54.1	57.5	93.5	23.3	23.2
LnGrp LOS	E	F	D	F	A	E	F	D	E	F	C	C
Approach Vol, veh/h		879			400			1725			839	
Approach Delay, s/veh		79.6			82.3			56.8			30.4	
Approach LOS		E			F			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	74.2	11.0	42.0	10.5	76.5	22.0	31.0
Change Period (Y+Rc), s	4.5	6.0	3.5	6.0	4.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	9.5	67.0	7.5	36.0	10.5	66.0	18.5	25.0
Max Q Clear Time (g_c+I1), s	8.6	65.6	9.5	38.0	6.7	20.4	19.0	22.9
Green Ext Time (p_c), s	0.0	1.4	0.0	0.0	0.0	18.9	0.0	0.5

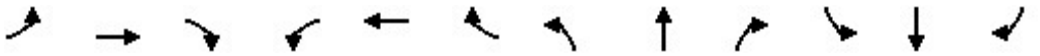
Intersection Summary	
HCM 6th Ctrl Delay	58.9
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	308	170	213	361	88	197	1132	159	135	1527	182
Future Volume (veh/h)	195	308	170	213	361	88	197	1132	159	135	1527	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	335	185	232	392	96	214	1230	173	147	1660	198
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	361	306	225	311	76	197	1501	210	170	1487	174
Arrive On Green	0.07	0.19	0.19	0.09	0.21	0.21	0.11	0.48	0.48	0.10	0.46	0.46
Sat Flow, veh/h	1781	1870	1585	1781	1451	355	1781	3130	438	1781	3204	376
Grp Volume(v), veh/h	212	335	185	232	0	488	214	696	707	147	908	950
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1806	1781	1777	1791	1781	1777	1803
Q Serve(g_s), s	9.5	24.7	14.9	12.5	0.0	30.0	15.5	46.9	47.5	11.4	65.0	65.0
Cycle Q Clear(g_c), s	9.5	24.7	14.9	12.5	0.0	30.0	15.5	46.9	47.5	11.4	65.0	65.0
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.24	1.00		0.21
Lane Grp Cap(c), veh/h	172	361	306	225	0	387	197	852	859	170	825	837
V/C Ratio(X)	1.23	0.93	0.61	1.03	0.00	1.26	1.09	0.82	0.82	0.87	1.10	1.13
Avail Cap(c_a), veh/h	172	361	306	225	0	387	197	852	859	172	825	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	55.6	51.6	45.4	0.0	55.0	62.3	31.2	31.3	62.4	37.5	37.5
Incr Delay (d2), s/veh	143.9	30.7	5.1	68.0	0.0	136.6	88.6	8.5	8.8	33.8	62.6	75.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.0	21.0	10.5	10.4	0.0	41.7	18.1	29.5	30.1	11.0	56.6	62.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	191.6	86.2	56.7	113.4	0.0	191.6	150.9	39.7	40.1	96.3	100.1	112.8
LnGrp LOS	F	F	E	F	A	F	F	D	D	F	F	F
Approach Vol, veh/h		732			720			1617			2005	
Approach Delay, s/veh		109.3			166.4			54.6			105.8	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	73.1	16.0	33.0	20.0	71.0	13.0	36.0
Change Period (Y+Rc), s	4.5	6.0	3.5	6.0	4.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	13.5	67.0	12.5	27.0	15.5	65.0	9.5	30.0
Max Q Clear Time (g_c+I1), s	13.4	49.5	14.5	26.7	17.5	67.0	11.5	32.0
Green Ext Time (p_c), s	0.0	15.9	0.0	0.2	0.0	0.0	0.0	0.0

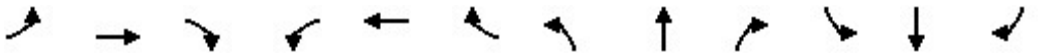
Intersection Summary	
HCM 6th Ctrl Delay	98.6
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	454	105	120	161	87	55	1367	165	78	648	46
Future Volume (veh/h)	250	454	105	120	161	87	55	1367	165	78	648	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	272	493	114	130	175	95	60	1486	179	85	704	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	391	481	408	147	334	377	77	1558	186	106	1693	120
Arrive On Green	0.13	0.26	0.26	0.05	0.18	0.18	0.04	0.49	0.49	0.06	0.50	0.50
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3197	381	1781	3365	239
Grp Volume(v), veh/h	272	493	114	130	175	95	60	819	846	85	371	383
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1802	1781	1777	1827
Q Serve(g_s), s	17.0	36.0	8.1	7.5	11.9	6.8	4.7	61.4	63.6	6.6	18.4	18.4
Cycle Q Clear(g_c), s	17.0	36.0	8.1	7.5	11.9	6.8	4.7	61.4	63.6	6.6	18.4	18.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.13
Lane Grp Cap(c), veh/h	391	481	408	147	334	377	77	866	878	106	894	920
V/C Ratio(X)	0.70	1.03	0.28	0.89	0.52	0.25	0.78	0.95	0.96	0.81	0.42	0.42
Avail Cap(c_a), veh/h	391	481	408	147	334	377	134	866	878	121	894	920
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	52.0	41.6	48.9	52.1	43.3	66.3	34.1	34.7	65.1	21.8	21.8
Incr Delay (d2), s/veh	5.3	47.6	0.8	42.5	2.9	0.7	15.5	20.0	22.8	28.4	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.7	31.6	5.9	4.9	9.8	5.0	4.4	39.8	42.1	6.9	12.7	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	99.6	42.4	91.4	55.0	44.0	81.8	54.1	57.5	93.5	23.3	23.2
LnGrp LOS	D	F	D	F	D	D	F	D	E	F	C	C
Approach Vol, veh/h		879			400			1725			839	
Approach Delay, s/veh		74.9			64.2			56.8			30.4	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	74.2	11.0	42.0	10.5	76.5	22.0	31.0
Change Period (Y+Rc), s	4.5	6.0	3.5	6.0	4.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	9.5	67.0	7.5	36.0	10.5	66.0	18.5	25.0
Max Q Clear Time (g_c+I1), s	8.6	65.6	9.5	38.0	6.7	20.4	19.0	13.9
Green Ext Time (p_c), s	0.0	1.4	0.0	0.0	0.0	18.9	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	55.9
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	308	170	213	361	88	197	1132	159	135	1527	182
Future Volume (veh/h)	195	308	170	213	361	88	197	1132	159	135	1527	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	335	185	232	392	96	214	1230	173	147	1660	198
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	361	306	225	401	491	197	1501	210	170	1487	174
Arrive On Green	0.07	0.19	0.19	0.09	0.21	0.21	0.11	0.48	0.48	0.10	0.46	0.46
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3130	438	1781	3204	376
Grp Volume(v), veh/h	212	335	185	232	392	96	214	696	707	147	908	950
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1791	1781	1777	1803
Q Serve(g_s), s	9.5	24.7	14.9	12.5	29.2	6.2	15.5	46.9	47.5	11.4	65.0	65.0
Cycle Q Clear(g_c), s	9.5	24.7	14.9	12.5	29.2	6.2	15.5	46.9	47.5	11.4	65.0	65.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		0.21
Lane Grp Cap(c), veh/h	178	361	306	225	401	491	197	852	859	170	825	837
V/C Ratio(X)	1.19	0.93	0.61	1.03	0.98	0.20	1.09	0.82	0.82	0.87	1.10	1.13
Avail Cap(c_a), veh/h	178	361	306	225	401	491	197	852	859	172	825	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	55.6	51.6	45.4	54.7	35.5	62.3	31.2	31.3	62.4	37.5	37.5
Incr Delay (d2), s/veh	129.0	30.7	5.1	68.0	39.3	0.4	88.6	8.5	8.8	33.8	62.6	75.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.4	21.0	10.5	10.4	25.1	4.5	18.1	29.5	30.1	11.0	56.6	62.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	177.4	86.2	56.7	113.4	93.9	35.9	150.9	39.7	40.1	96.3	100.1	112.8
LnGrp LOS	F	F	E	F	F	D	F	D	D	F	F	F
Approach Vol, veh/h		732			720			1617			2005	
Approach Delay, s/veh		105.2			92.5			54.6			105.8	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	73.1	16.0	33.0	20.0	71.0	13.0	36.0
Change Period (Y+Rc), s	4.5	6.0	3.5	6.0	4.5	6.0	3.5	6.0
Max Green Setting (Gmax), s	13.5	67.0	12.5	27.0	15.5	65.0	9.5	30.0
Max Q Clear Time (g_c+I1), s	13.4	49.5	14.5	26.7	17.5	67.0	11.5	31.2
Green Ext Time (p_c), s	0.0	15.9	0.0	0.2	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	87.5
HCM 6th LOS	F