

Traffic Impact Study

Proposed QuikTrip Convenience Store

Crest Hill, Illinois



Prepared For:



December 24, 2025

1. Introduction

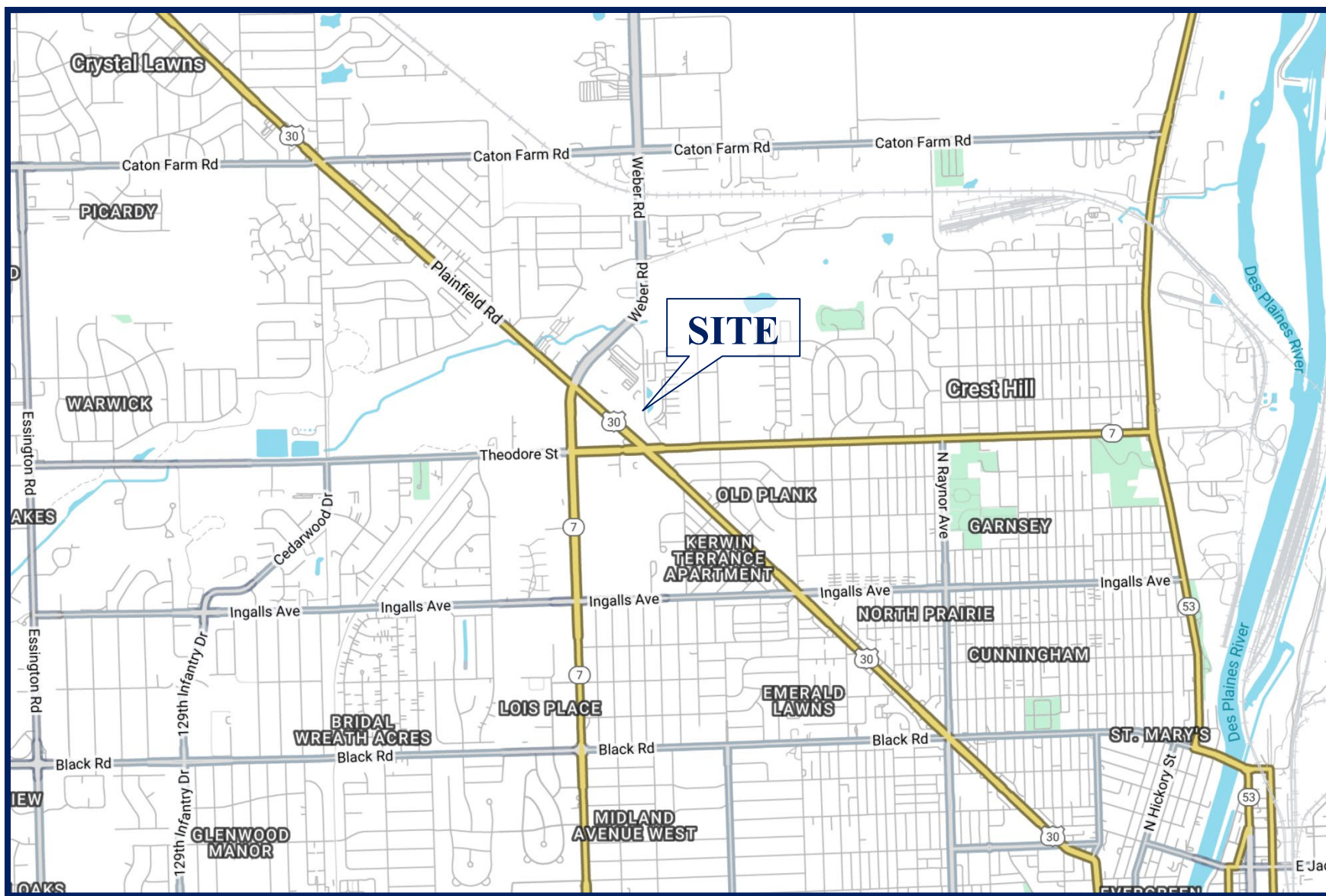
This report summarizes the methodologies, results, and findings of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for a proposed QuikTrip Convenience Store to be located in Crest Hill, Illinois. The site, which currently contains a vacant Crest Hill Police Department building, is located in the north corner of the intersection of Plainfield Road (U.S. Route 30) with Theodore Street (Illinois Route 7). As proposed, the site will be developed with sixteen passenger vehicle fueling positions and an approximately 5,312 square-foot convenience store. In addition, the north parcel of the site has the potential to be developed with an approximately 3,000 square-foot fast-food restaurant with a drive-through. Access to the proposed development will be provided via a right-in/right-out access drive and a full movement access drive on Plainfield Road and a full movement access drive on Knapp Drive.

The purpose of this study was to examine background traffic conditions, assess the impact that the proposed development will have on traffic conditions in the area, and determine if any roadway or access improvements are necessary to accommodate traffic generated by the proposed development. **Figure 1** shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site. The sections of this report present the following:

- Existing roadway conditions
- A description of the proposed development
- Directional distribution of the development traffic
- Vehicle trip generation for the development
- Future traffic conditions including access to the development
- Traffic analyses for the weekday morning, weekday evening, and Saturday midday peak hours
- Recommendations with respect to adequacy of the site access and adjacent roadway system

Traffic capacity analyses were conducted for the weekday morning, weekday evening, and Saturday midday peak hours for the following conditions:

1. Existing Conditions – Analyzes the capacity of the existing roadway system using peak hour traffic volumes from traffic counts conducted in 2024.
2. Year 2030 No-Build Conditions – Analyzes the capacity of the future roadway system using existing traffic volumes increased by an ambient area growth factor not attributable to any particular development and the traffic that could be generated by the vacant parcel north of the site when it is occupied.
3. Year 2030 Total Projected Conditions – Analyzes the capacity of the future roadway system assuming the projected traffic volumes that include the Year 2030 No-Build volumes and the traffic estimated to be generated by the proposed development.



Site Location

Figure 1

*QuikTrip Convenience Store
Crest Hill, Illinois*



Aerial View of Site

Figure 2

*QuikTrip Convenience Store
Crest Hill, Illinois*

2. Existing Conditions

Existing transportation conditions in the vicinity of the site were documented based on field visits conducted by KLOA, Inc. in order to obtain a database for projecting future conditions. The following provides a description of the geographical location of the site, physical characteristics of the area roadway system including lane usage and traffic control devices, and existing peak hour traffic volumes.

Site Location

The site, which currently contains a vacant Crest Hill Police building, is bounded by Chase Bank to the north, Knapp Street to the east, Theodore Street to the south, and Plainfield Road to the west. Land uses within the vicinity of the site are primarily residential to the east and commercial to the west.

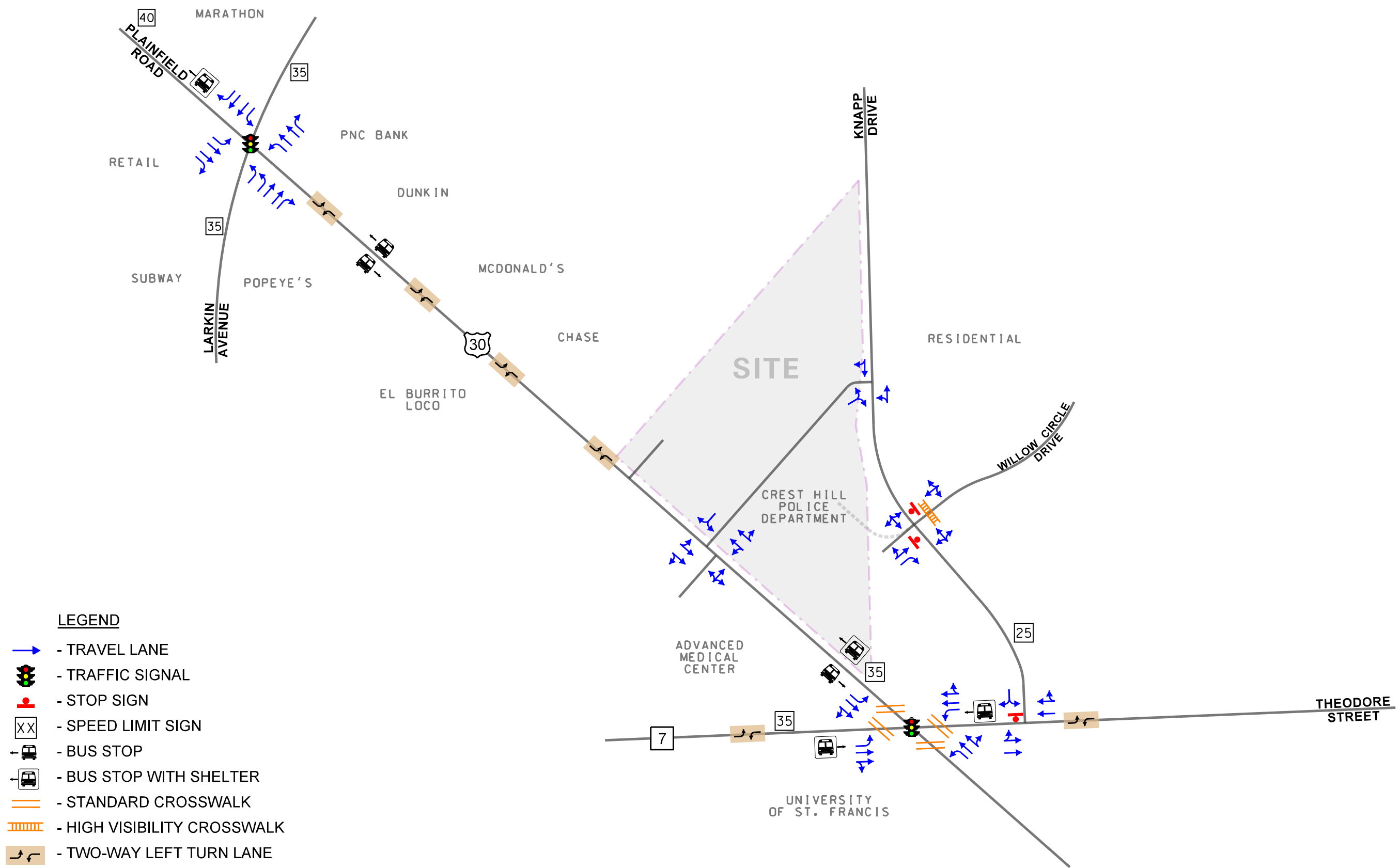
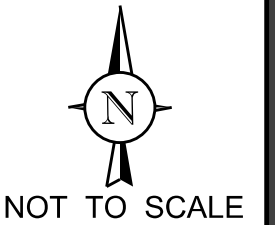
Existing Roadway System Characteristics

The characteristics of the existing roadways near the development site are described below and illustrated in **Figure 3**.

Plainfield Road (U.S. Route 30) is a northwest-southeast other principal arterial roadway that generally provides two through lanes in each direction. At its signalized intersection with Theodore Street provides an exclusive left-turn lane, a through lane, and a shared through/right-turn lane on both approaches. At its signalized intersection with Larkin Avenue, Plainfield Road provides an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane on both approaches. Plainfield Road is under the jurisdiction of the Illinois Department of Transportation (IDOT), is not designated as a Strategic Regional Arterial (SRA), and carries an Annual Average Daily Traffic (AADT) volume of 19,900 vehicles (IDOT 2023). Plainfield Road has a posted speed limit of 40 miles per hour west of Larkin Avenue and 35 miles per hour east of Larkin Avenue.

Theodore Street is an east-west other principal arterial roadway that provides two lanes in each direction. At its signalized intersection with Plainfield Road, Theodore Street provides an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane on both approaches. At its unsignalized intersection with Knapp Drive, Theodore Street provides two lanes in each direction. Theodore Street is under the jurisdiction of IDOT, is not designated as an SRA, carries an AADT volume of 15,600 vehicles (IDOT 2023), and has a posted speed limit of 35 miles per hour.

Larkin Avenue is a north-south other principal arterial roadway that provides two lanes in each direction. At its signalized intersection with Plainfield Road, Theodore Street provides dual left-turn lanes, two through lanes, and an exclusive right-turn lane on both approaches. Larkin Avenue is under the jurisdiction of IDOT south of Plainfield Road and the Will County Division of Transportation north of Plainfield Road. Larkin Avenue is designated as an SRA, carries an AADT volume of 24,800 vehicles (IDOT 2023), and has a posted speed limit of 35 miles per hour.



QUIKTRIP CONVENIENCE STORE
CREST HILL, ILLINOIS

EXISTING ROADWAY CHARACTERISTICS

Knapp Drive is a north-south local roadway that extends north from Theodore Street and provides one lane in each direction. At its unsignalized intersection with Theodore Street, Knapp Drive provides a shared left-turn/right-turn lane on the southbound approach and is under stop sign control. Knapp Drive is under the jurisdiction of the City of Crest Hill and has a posted speed limit of 25 miles per hour.

Willow Circle Drive is a north-south local roadway that extends north from Knapp Drive and provides one lane in each direction. At its unsignalized intersection with Knapp Drive, Willow Circle Drive is aligned opposite a site access drive, provides a shared left-turn/through/right-turn lane on the southbound approach, and is under stop sign control. Knapp Drive is under the jurisdiction of the City of Crest Hill and has a posted speed limit of 25 miles per hour.

Traffic Signal Interconnect

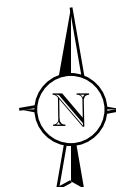
The signalized intersections of Plainfield Road with Larkin Avenue and Theodore Street are part of a six-intersection interconnect system that extends along Plainfield Road from Larkin Avenue in the west and to Arbor Lane in the east and along Larkin Avenue from the North Ridge Plaza entrance in the south to Plainfield Road in the north. The interconnect system is maintained by IDOT.

Existing Traffic Volumes

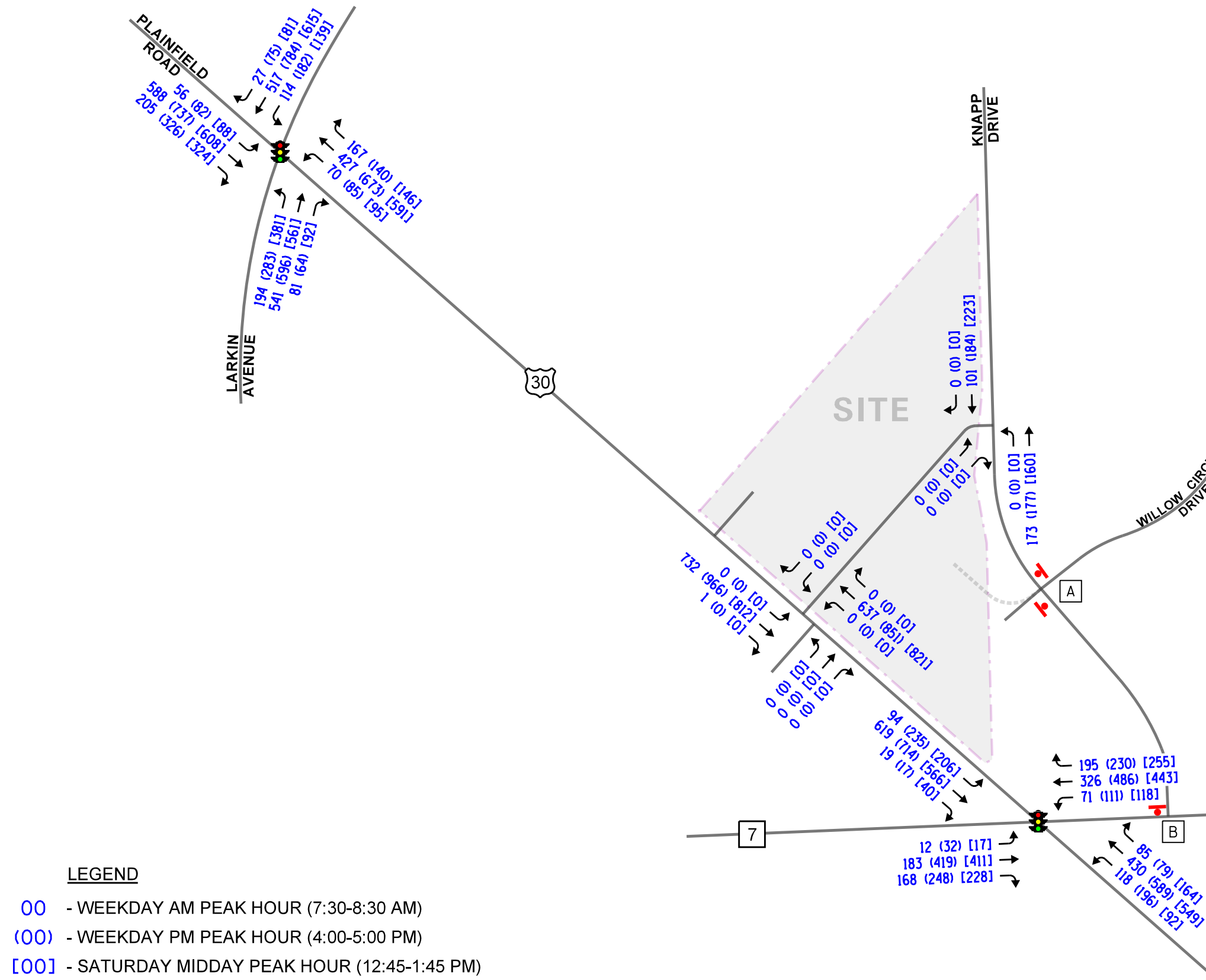
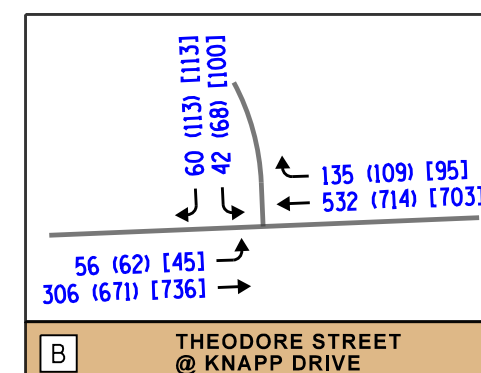
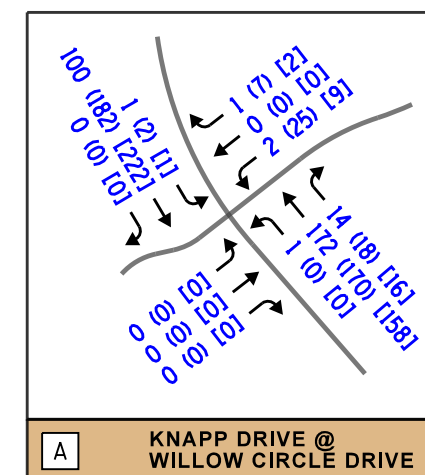
In order to determine current traffic conditions within the study area, KLOA, Inc. conducted peak period traffic counts at the following intersections:

- Plainfield Road Theodore Street
- Plainfield Road with Larkin Avenue
- Plainfield Road with the existing site access drive
- Theodore Street with Knapp Drive
- Knapp Drive with Willow Circle Drive and the existing site access drive

The traffic counts were conducted on Thursday, September 5, 2024 during the weekday morning (7:00 A.M. to 9:00 A.M.) and weekday evening (4:00 P.M. to 6:00 P.M.) peak periods and on Saturday, September 7, 2024 during the Saturday midday (12:00 P.M. to 2:00 P.M.) peak period. The peak hours of traffic occurred from 7:30 A.M. to 8:30 A.M. during the weekday morning peak hour, from 4:00 P.M. to 5:00 P.M. during the weekday evening peak hour, and from 12:45 P.M. to 1:45 P.M. during the Saturday midday peak hour. The existing peak hour traffic volumes are illustrated in **Figure 4**.



NOT TO SCALE



LEGEND

- 00 - WEEKDAY AM PEAK HOUR (7:30-8:30 AM)
- (00) - WEEKDAY PM PEAK HOUR (4:00-5:00 PM)
- [00] - SATURDAY MIDDAY PEAK HOUR (12:45-1:45 PM)

QUIKTRIP CONVENIENCE STORE
CREST HILL, ILLINOIS

EXISTING TRAFFIC VOLUMES

Crash Analysis

KLOA, Inc. obtained crash data¹ from IDOT for the most recent available five years (2019 to 2023) for the study area intersections. A review of the crash data revealed only one crash was reported at the intersection of Knapp Drive with Willow Circle Drive during the review period. Further, no fatalities were reported at any of the study area intersections during the review period. The crash data incidents are summarized by year and crash type in **Tables 1** through **3**.

Table 1

PLAINFIELD ROAD WITH THEODORE STREET – CRASH SUMMARY

Year	Type of Crash Frequency							Total
	Angle	Head On	Object	Rear End	Sideswipe	Turning	Other	
2019	0	0	1	7	1	1	0	10
2020	0	2	0	6	1	6	0	15
2021	1	0	0	2	0	1	0	4
2022	1	0	0	5	1	6	1	14
2023	<u>0</u>	<u>0</u>	<u>0</u>	<u>6</u>	<u>1</u>	<u>4</u>	<u>0</u>	<u>11</u>
Total	2	2	1	26	4	18	1	54
Average	<1.0	<1.0	<1.0	5.2	<1.0	3.6	<1.0	10.8

Table 2

PLAINFIELD ROAD WITH LARKIN AVENUE – CRASH SUMMARY

Year	Type of Crash Frequency							Total
	Angle	Head On	Object	Rear End	Sideswipe	Turning	Other	
2019	1	0	0	12	1	17	0	31
2020	3	0	0	9	1	18	0	31
2021	0	0	0	8	0	11	0	19
2022	3	0	0	4	4	4	0	15
2023	<u>3</u>	<u>0</u>	<u>0</u>	<u>8</u>	<u>1</u>	<u>5</u>	<u>0</u>	<u>17</u>
Total	10	0	0	41	7	55	0	113
Average	2.0	--	--	8.2	1.4	11.0	--	22.6

¹ IDOT DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. Any conclusions drawn from analysis of the aforementioned data are the sole responsibility of the data recipient(s).

Table 3

THEODORE STREET WITH KNAPP DRIVE – CRASH SUMMARY

Year	Type of Crash Frequency							
	Angle	Head On	Object	Rear End	Sideswipe	Turning	Other	Total
2019	0	0	0	1	0	4	0	5
2020	0	0	0	1	2	4	0	7
2021	1	0	0	2	2	4	0	9
2022	0	0	1	0	1	6	0	8
2023	0	0	0	1	0	1	0	2
Total	1	0	1	5	5	19	0	31
Average	<1.0	--	<1.0	1.0	1.0	3.8	--	6.2

3. Traffic Characteristics of the Proposed Development

In order to properly evaluate future traffic conditions in the surrounding area, it was necessary to determine the traffic characteristics of the proposed development, including the directional distribution and volumes of traffic that it will generate.

Proposed Development Plan

As proposed, the site is proposed to be developed with a QuikTrip Convenience Store that is to contain the following:

- Sixteen (16) passenger vehicle fueling positions
- An approximately 5,312 square-foot convenience store

In addition, the north parcel of the site will be developed in the future with a retail use. For the purposes of this study, it was assumed that the parcel will contain an approximately 3,000 square-foot fast-food restaurant with a drive-through lane. It should be noted that a fast-food restaurant typically generates a higher volume of traffic than other retail uses that could occupy this site, and, as such, provides for a conservative analysis. A copy of the proposed site plan is included in the Appendix.

Site Access

Access to the development site will be provided via the following two access drives:

- A full movement access drive on Plainfield Road located approximately 665 feet west of Theodore Street.
 - The access drive will provide one inbound lane and one outbound lane.
 - Outbound movements should be placed under stop sign control.
 - Inbound left-turn movements can be accommodated within the existing two-way left-turn lane median on Plainfield Road.
 - A continuous right-turn lane will be provided on Plainfield Road serving this access drive and the proposed right-in/right-out access drive.
 - This access drive will be part of a permanent access easement between the south parcel (convenience store site) and the north parcel (future commercial use).
 - The access drive is located as far west as practically possible within the site area.
- A right-in/right-out access drive on Plainfield Road located approximately 465 feet west of Theodore Street.
 - The access drive will provide one inbound lane and one outbound lane
 - Left-turn movements will be restricted via striping, signage, and channelization.
 - Outbound movements should be placed under stop sign control.
 - A continuous right-turn lane will be provided on Plainfield Road serving this access drive and the proposed right-in/right-out access drive.

- A full movement access drive on Knapp Drive located approximately 440 feet north of Theodore Street aligned opposite Willow Circle Drive.
 - The access drive will continue to provide one inbound lane and two outbound lanes striped for a shared left-turn/through lane and an exclusive right-turn lane.
 - Outbound movements will continue to be under stop sign control.

It should be noted that the proposed access system will replace the existing access system serving the site which consists of two full movement access drives on Plainfield Road and two full movement access drives on Knapp Drive.

Directional Distribution

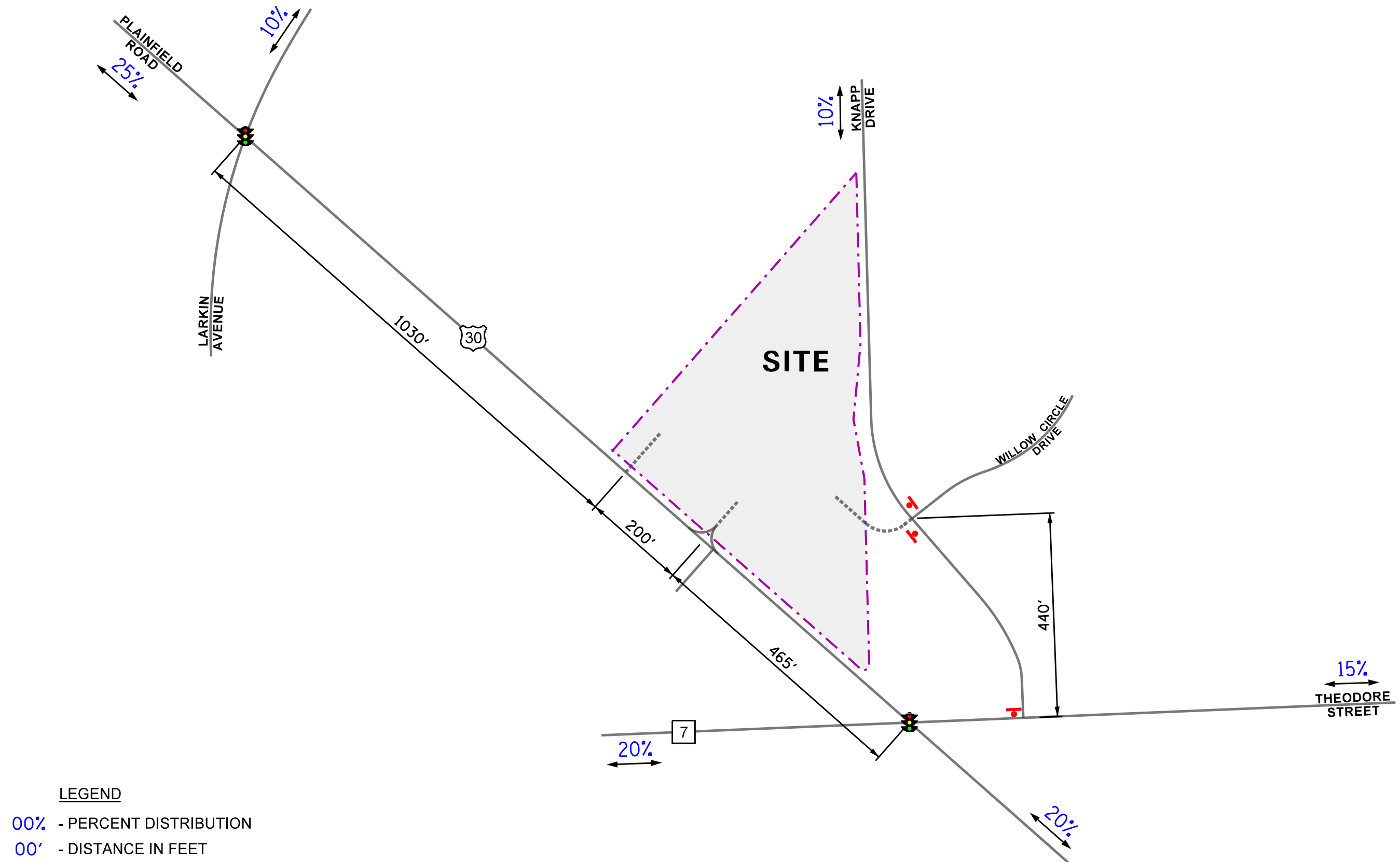
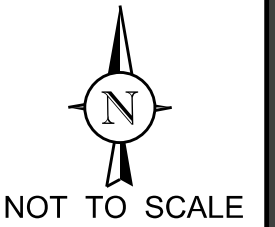
The directional distribution of future site-generated trips on the roadway system is a function of several variables, including the operational characteristics of the roadway system and the ease with which drivers can travel over various sections of the roadway system. This is particularly true for pass-by traffic. The directions from which patrons and employees of the proposed development will approach and depart the site are illustrated in **Figure 5**. Figure 5 also shows the distances between the existing and proposed access intersections.

Peak Hour Traffic Volumes

The number of peak hour trips estimated to be generated by the proposed development was based on vehicle trip generation rates contained in *Trip Generation Manual*, 11th Edition, published by the Institute of Transportation Engineers (ITE). The “Convenience Store/Gas Station” (Land-Use Code 945) rate was used for the passenger vehicle fueling positions and convenience store and the “Fast-Food Restaurant with Drive-Through Window” (Land-Use Code 934) rate was used for the restaurant.

It is important to note that surveys conducted by ITE have shown that approximately 60 percent of trips made to gas stations, fuel centers, and convenience stores are diverted from the existing traffic on the roadway system as well as approximately 50 percent of trips made to fast-food restaurants with drive-throughs. This is particularly true during the weekday morning and weekday evening peak hours when traffic is diverted from the home-to-work and work-to-home trips. As such, the number of new trips to be generated by the development were reduced to account for pass-by traffic.

Table 4 summarizes the trips projected to be generated by the proposed development during the peak hours.



QUIKTRIP CONVENIENCE STORE
CREST HILL, ILLINOIS

DIRECTIONAL DISTRIBUTION

Table 4

ESTIMATED PEAK HOUR VEHICLE TRIP GENERATION

ITE Land Use Code	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
945	Convenience Store (16 positions, 5,312 s.f. Store)	216	217	433	182	182	364	167	160	327
	<i>Pass-By Reduction (60%)</i>	-130	-130	-260	-109	-109	-218	-98	-98	-196
	New Convenience Store Trips	86	87	173	73	73	146	69	62	131
934	Fast-Food Restaurant (3,000 s.f.)	68	66	134	52	47	99	85	81	166
	<i>Pass-By Reduction (50%)</i>	-34	-34	-68	-25	-25	-50	-42	-42	-84
	New Restaurant Trips	34	32	66	27	22	49	43	39	82
	Development New Trips	120	119	239	100	95	195	112	101	213
	Development Pass-by Trips	164	164	328	134	134	268	140	140	280
	Total Development Trips	284	283	567	234	229	463	252	241	493

4. Projected Traffic Conditions

The total projected traffic volumes include the existing traffic volumes, increase in background traffic due to growth, and the traffic estimated to be generated by the proposed development.

Site Traffic Assignment

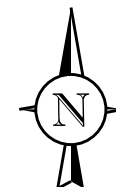
The estimated weekday morning and weekday evening traffic volumes that will be generated by the proposed development were assigned to the roadway system in accordance with the previously described directional distribution (Figure 5). **Figure 6** illustrates the traffic assignment of new vehicle trips and the pass-by traffic assignment is illustrated in **Figure 7**. To provide a conservative analysis of the site access drives, no traffic was assumed to use the cross access connection.

Background (No-Build) Traffic Volumes

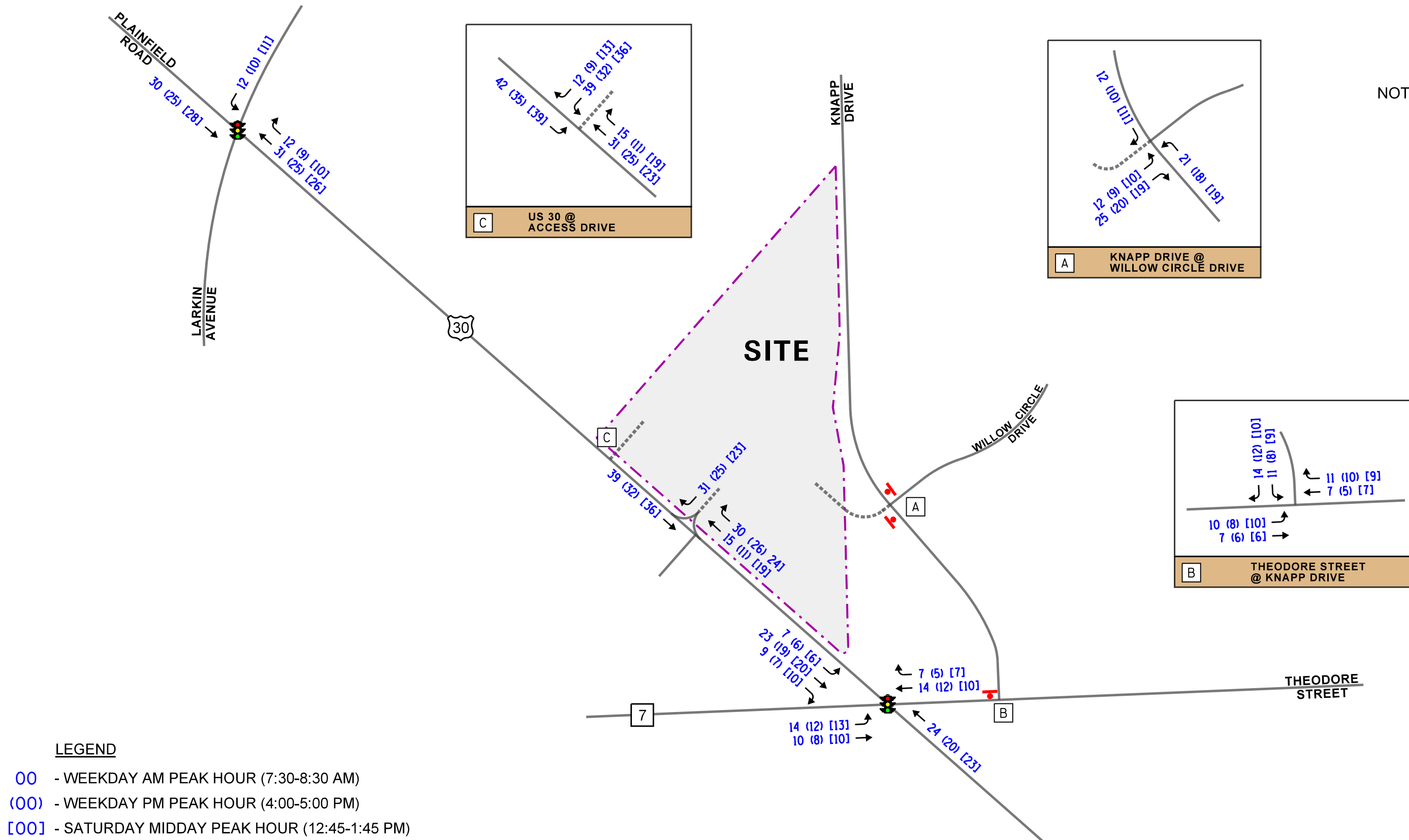
Under no-build and total projected conditions, the existing traffic volumes (Figure 4) were increased by a regional growth factor to account for the increase in existing traffic related to regional growth in the area (i.e., not attributable to any particular planned development). Based on AADT projections provided by the Chicago Metropolitan Agency for Planning (CMAP), the area roadways are projected to experience a compounded growth rate of approximately 0.6 percent per year. As such, a total background growth of 3.7 was added to project Year 2030 conditions. A copy of the CMAP projections letter is included in the Appendix. The Year 2030 no-build traffic volumes are illustrated in **Figure 8**.

Total Projected Traffic Volumes

The total projected traffic volumes include the existing Year 2030 volumes (Figure 8) and the volume of traffic expected to be generated by the proposed development (Figures 6 and 7). The Year 2030 total projected traffic volumes are illustrated in **Figure 9**.

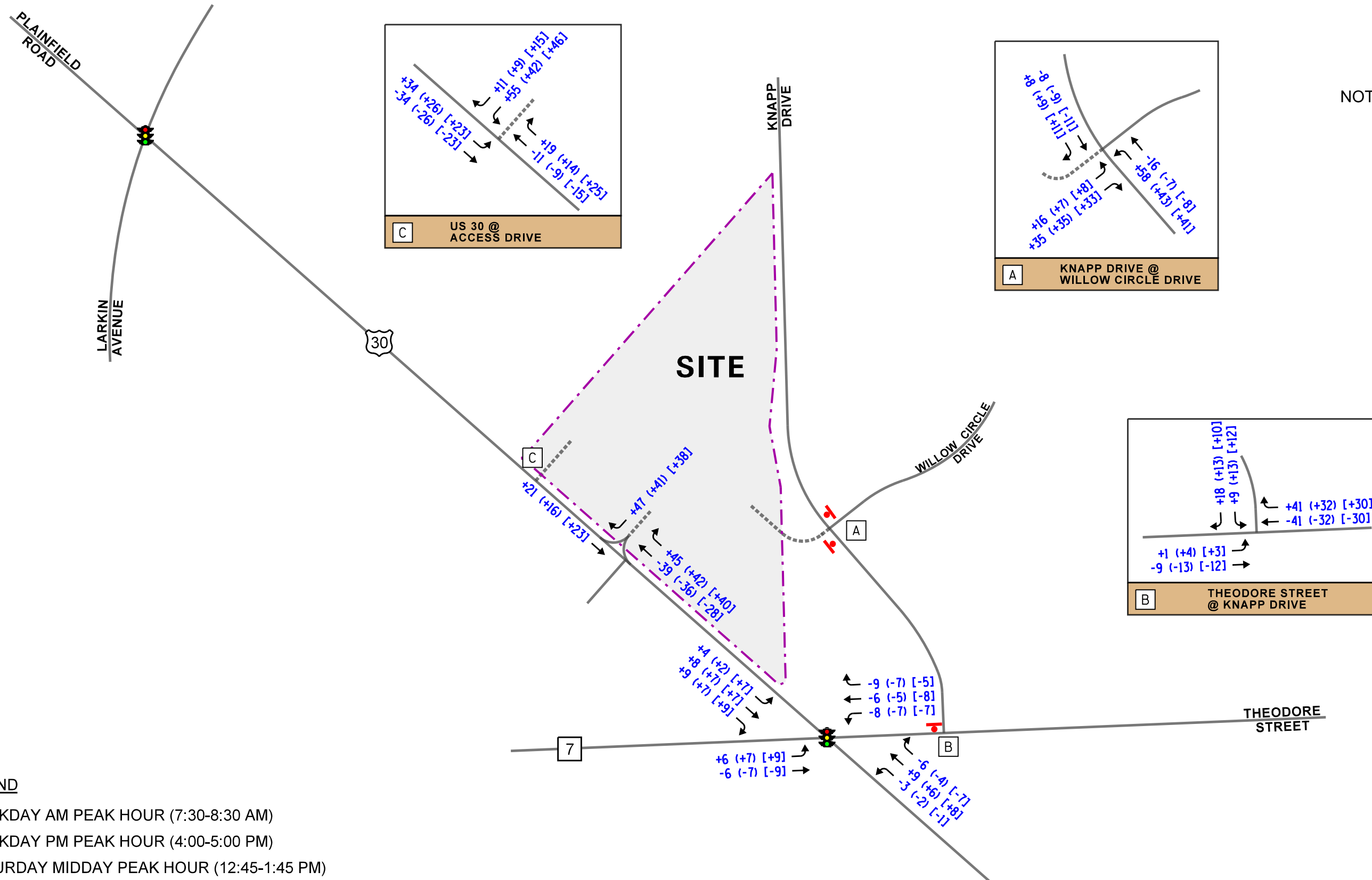
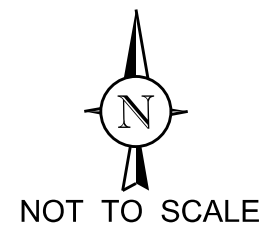


NOT TO SCALE



QUIKTRIP CONVENIENCE STORE
CREST HILL, ILLINOIS

NEW SITE TRAFFIC VOLUMES

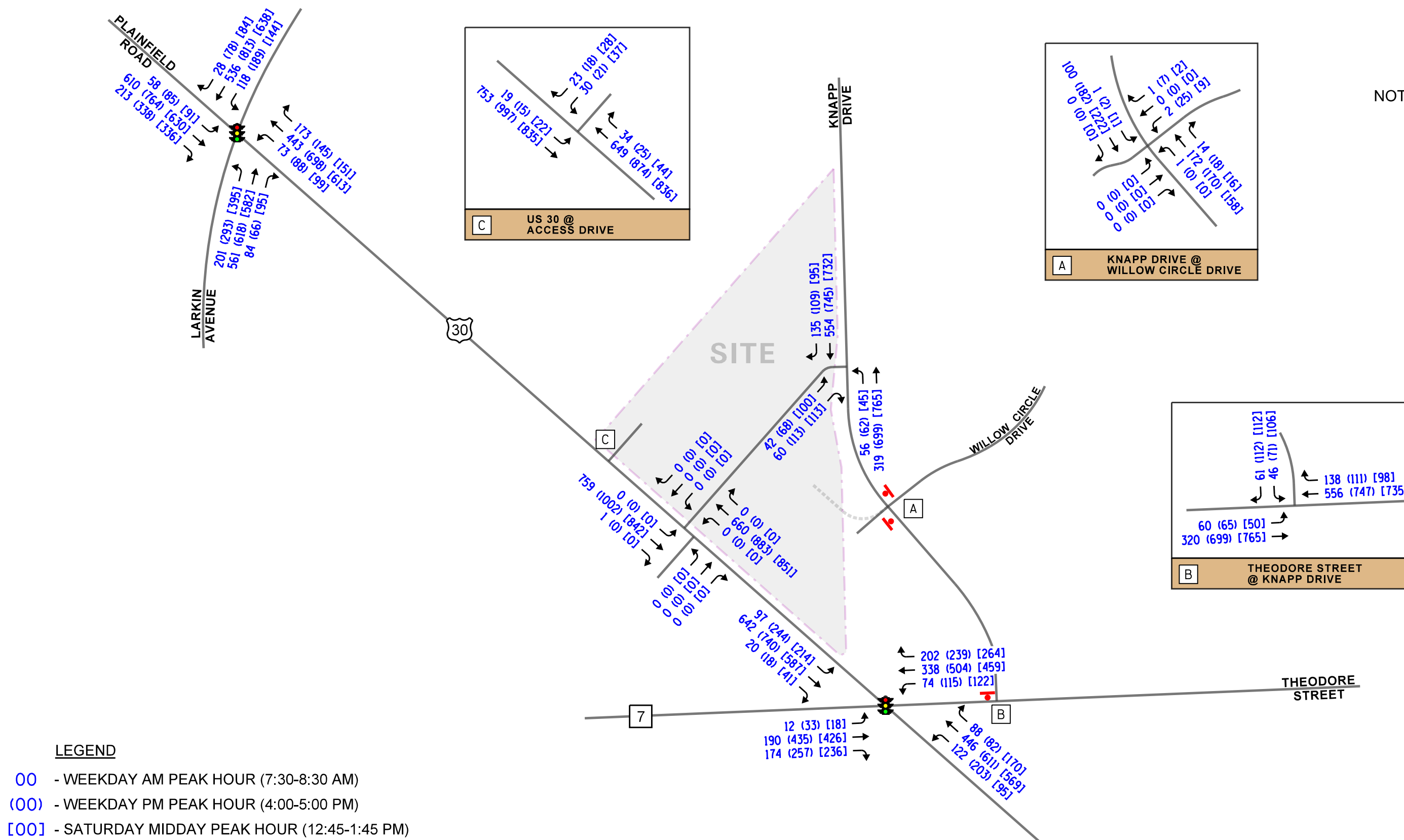
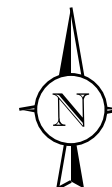


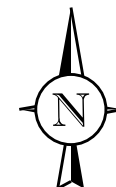
LEGEND

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- [00] - SATURDAY MIDDAY PEAK HOUR (12:45-1:45 PM)

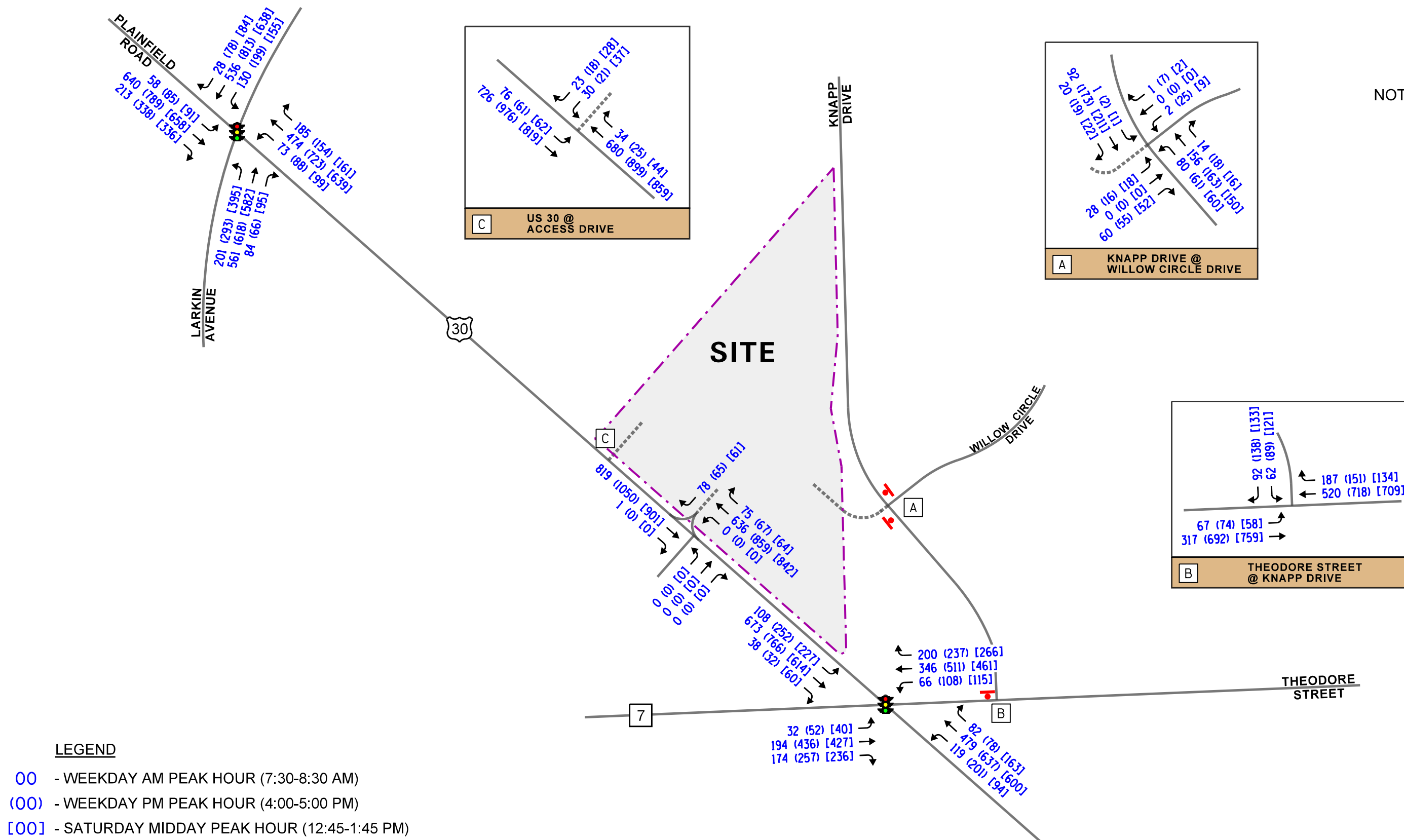
QUIKTRIP CONVENIENCE STORE
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PASS-BY TRAFFIC VOLUMES





NOT TO SCALE



QUIKTRIP CONVENIENCE STORE
CREST HILL, ILLINOIS

YEAR 2030 TOTAL TRAFFIC VOLUMES

5. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning, weekday evening, and Saturday midday peak hours. The analysis includes conducting capacity analyses to determine how well the roadway system and access drives are projected to operate and whether any roadway improvements or modifications are required.

Traffic Analyses

Roadway and adjacent or nearby intersection analyses were performed for the weekday morning, weekday evening, and Saturday midday peak hours for the existing, no-build, and total projected traffic volumes.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM)*, 6th Edition and analyzed using Synchro/SimTraffic 11 software. The analysis for the traffic signal-controlled intersections were performed using actual cycle lengths, phasings, and offsets to determine the average overall vehicle delay and levels of service.

The analyses for the unsignalized intersections determine the average control delay to vehicles at an intersection. Control delay is the elapsed time from a vehicle joining the queue at a stop sign (includes the time required to decelerate to a stop) until its departure from the stop sign and resumption of free flow speed. The methodology analyzes each intersection approach controlled by a stop sign and considers traffic volumes on all approaches and lane characteristics.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter from A to F based on the average control delay experienced by vehicles passing through the intersection. The *Highway Capacity Manual* definitions for levels of service and the corresponding control delay for signalized intersections and unsignalized intersections are included in the Appendix of this report.

Summaries of the traffic analysis results showing the level of service and overall intersection delay (measured in seconds) for the existing, no-build, total projected conditions are presented in **Tables 5** through **9**. A discussion of each intersection follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 5

CAPACITY ANALYSIS RESULTS – PLAINFIELD ROAD WITH THEODORE STREET– SIGNALIZED

	Peak Hour	Eastbound (Theodore Street)		Westbound (Theodore Street)		Southeast-bound (Plainfield Road)		Northwest-bound (Plainfield Road)		Overall
		L	T/R	L	T/R	L	T/R	L	T/R	
Existing Conditions	Weekday Morning	B 16.1	C 27.4	B 17.4	C 24.8	A 6.5	C 22.3	C 22.0	C 31.9	C 24.9
		C – 27.0		C - 23.9		C – 20.3		C - 30.1		
	Weekday Evening	B 19.3	C 34.8	C 22.5	C 31.2	D 41.8	E 58.1	C 31.9	D 46.1	D 41.1
		C - 34.1		C - 30.1		D - 42.7		D - 42.8		
	Saturday Midday	B 18.4	C 35	C 22.3	C 29.1	C 16.5	C 21.9	B 20	D 41.9	C 30.4
		C - 34.5		C - 28.1		C - 31.3		D - 39.4		
No-Build Conditions	Weekday Morning	B 15.9	C 27.5	B 17.4	C 25.0	A 6.8	C 22.3	C 22.9	C 32.3	C 25.1
		C - 27.2		C - 24.1		C – 20.3		C - 30.5		
	Weekday Evening	B 19.7	D 36.3	C 23.7	C 32.4	D 42.1	E 58.4	C 32.3	D 46.1	D 41.8
		D - 35.5		C - 31.2		D – 54.4		D - 43		
	Saturday Midday	B 18.4	D 35.4	C 22.6	C 29.5	C 18.1	C 22.0	C 20.3	D 43.2	C 31.0
		C - 34.9		C - 28.5		C – 21.0		D - 40.6		
Projected Conditions	Weekday Morning	B 16.6	C 27.8	B 17.4	C 27.6	B 10.3	C 24.6	C 23.2	C 32.3	C 26.5
		C - 26.9		C – 26.5		C – 22.7		C - 30.7		
	Weekday Evening	C 20.3	D 36.1	C 23.1	C 34.6	D 43.4	E 58.6	D 35.2	D 47.6	D 43.0
		D – 35.0		C – 33.2		D – 55.0		D - 44.9		
	Saturday Midday	B 19.3	D 35.6	C 22.5	C 33.8	B 20.1	C 20.6	C 20.6	D 44.3	C 32.0
		C - 34.7		C – 32.3		C – 20.4		D – 41.7		
Letter denotes Level of Service Delay is measured in seconds.		L – Left Turn T – Through		R – Right Turn						

Table 6

CAPACITY ANALYSIS RESULTS – PLAINFIELD ROAD WITH LARKIN AVENUE– SIGNALIZED

	Peak Hour	Northbound (Larkin Avenue)			Southbound (Larkin Avenue)			Southeast-bound (Plainfield Road)			Northwest-bound (Plainfield Road)			Overall
		L	T	R	L	T	R	L	T	R	L	T	R	
Existing Conditions	Weekday Morning	E 63.7	C 31.2	C 25.7	F 88.7	C 30.5	C 23.7	C 20.1	C 32.5	C 20.6	B 15.3	C 25.9	B 16.9	C 32.6
		D - 38.4			D - 40.3			C - 28.8			C - 22.5			
	Weekday Evening	E 61.1	C 31.5	C 25.3	F 119.1	D 37	C 28.8	C 29.5	D 45.4	C 26.0	C 24.0	C 26.5	B 14.8	D 39.0
		D - 40			D - 50.8			D - 38.8			C - 24.5			
	Saturday Midday	E 59.1	C 29.8	C 25.8	F 85.0	D 36.6	C 30.3	C 25.4	D 38.6	C 21.6	B 17.6	C 30.2	B 14.6	D 35.7
		D - 40.3			D - 44.1			C - 32.1			C - 26.0			
No-Build Conditions	Weekday Morning	E 65.0	C 31.1	C 25.6	F 91.3	C 30.4	C 23.5	C 20.3	C 33.4	C 21.1	B 15.6	C 26.3	B 17.0	C 33.0
		D - 38.6			D - 40.6			C - 29.6			C - 22.8			
	Weekday Evening	E 61.1	C 30.9	C 25.1	F 137.3	D 37.1	C 28.8	C 30.7	D 47.5	C 26.7	C 29.3	C 28.4	B 15.6	D 40.6
		D - 39.5			D - 54.1			D - 40.3			C - 26.5			
	Saturday Midday	E 60.1	C 29.7	C 25.7	F 87.6	D 36.6	C 30.2	C 26.2	D 39.7	C 22.2	C 18.2	D 30.7	C 14.8	D 36.2
		D - 40.5			D - 44.5			C - 33.0			C - 26.5			
Projected Conditions	Weekday Morning	E 65.0	C 31.1	C 25.6	F 98.2	C 30.1	C 23.5	C 20.5	C 34.2	C 21.2	B 17.5	C 28.8	B 17.4	C 33.9
		D - 38.6			D - 42.6			C - 30.3			C - 24.8			
	Weekday Evening	E 61.1	C 30.9	C 25.1	F 153.1	D 37.1	C 28.8	C 31.2	D 48.4	C 26.7	C 26.7	C 31.9	B 16.4	D 42.4
		D - 39.5			E - 57.7			D - 41.1			C - 29.5			
	Saturday Midday	E 60.1	C 29.8	C 25.7	F 94.7	D 36.6	C 30.2	C 26.5	D 40.3	C 22.2	C 21.9	C 34.6	B 16.0	D 37.5
		D - 40.6			D - 46.3			C - 33.5			C - 29.9			
Letter denotes Level of Service Delay is measured in seconds.		L - Left Turn T - Through			R - Right Turn									

Table 7

CAPACITY ANALYSIS RESULTS – UNSIGNALIZED – EXISTING CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
Theodore Street with Knapp Drive						
• Eastbound Left Turn	A	9.3	B	10.0	A	9.7
• Southbound Approach	B	14.4	C	23.3	D	26.8
Knapp Drive with Willow Circle Drive and the Existing Site Access Drive						
• Eastbound Approach	--	--	--	--	--	--
• Westbound Approach	B	10.3	B	11.2	B	11.5
• Northbound Left Turn	A	7.4	--	--	--	--
• Southbound Left Turn	A	7.6	A	7.6	A	7.6
LOS = Level of Service Delay is measured in seconds.			1 – All-way stop control 2 – Two-way stop control			

Table 8

CAPACITY ANALYSIS RESULTS – UNSIGNALIZED – NO BUILD CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
Theodore Street with Knapp Drive						
• Eastbound Left Turn	A	9.3	B	10.2	A	9.9
• Southbound Approach	B	14.7	C	24.8	D	28.7
Knapp Drive with Willow Circle Drive and the Existing Site Access Drive						
• Eastbound Approach	--	--	--	--	--	--
• Westbound Approach	B	10.3	B	11.2	B	11.5
• Northbound Left Turn	A	7.4	--	--	--	--
• Southbound Left Turn	A	7.6	A	7.6	A	7.6
LOS = Level of Service Delay is measured in seconds.			1 – All-way stop control 2 – Two-way stop control			

Table 9

CAPACITY ANALYSIS RESULTS – UNSIGNALIZED – NO BUILD CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
Theodore Street with Knapp Drive						
• Eastbound Left Turn	A	9.5	B	10.4	B	10.0
• Southbound Approach	C	16.6	D	34.2	E	39.6
Plainfield Road with the West Site Access Drive (Full Movement)						
• Southbound Approach	A	8.2	A	8.5	A	8.4
• Eastbound Left-Turn	C	15.0	C	18.0	C	22.7
Plainfield Road with the East Access Drive (Right-in/Right-out)						
• Southbound Approach	B	11.4	B	12.5	B	12.3
Knapp Drive with Willow Circle Drive and the South Site Access Drive						
• Eastbound Approach	B	10.5	B	10.5	B	11.0
• Westbound Approach	B	12.4	B	13.6	B	14.0
• Northbound Left Turn	A	7.6	A	9.6	A	7.9
• Southbound Left Turn	A	7.6	A	7.7	A	7.6
LOS = Level of Service Delay is measured in seconds.			1 – All-way stop control 2 – Two-way stop control			

Discussion and Recommendations

The following summarizes how the intersections are projected to operate and identifies any roadway and traffic control improvements necessary to accommodate the site-generated traffic.

Plainfield Road with Theodore Street

The results of the capacity analyses indicate that the intersection currently operates at an overall Level of Service (LOS) C during the weekday morning and Saturday midday peak hours and LOS D during the weekday evening peak hour. Further, all movements operate at LOS E or better during all three peak hours. Under Year 2030 no-build conditions, this intersection is projected to continue to operate at an overall LOS C during the weekday morning and Saturday midday peak hours and LOS D during the weekday evening peak hour.

Under Year 2030 total projected conditions, this intersection is projected to continue to operate at the same LOS during all three peak hours with increases in delay of less than two seconds over no-build conditions. Further, all movements are projected to continue to operate at LOS E or better.

Overall, the proposed development is projected to increase the volume of traffic traversing this intersection by approximately four percent or less. As such, the intersection has sufficient reserve capacity to accommodate the traffic to be generated by the development and no roadway improvements or traffic control modifications are required.

Plainfield Road with Larkin Avenue

The results of the capacity analyses indicate that the intersection currently operates at an overall LOS C during the weekday morning peak hour and LOS D during the weekday evening and Saturday midday peak hours. Further, all movements operate at LOS D or better during all three peak hours with the exception of the northbound and southbound left-turn movements. This is the result of the long cycle length (110 to 130 seconds) and the protected only operations of these movements. Under Year 2030 no-build conditions, this intersection is projected to continue to operate at an overall LOS C during the weekday morning peak hour and LOS D during the weekday evening and Saturday midday peak hour.

Under Year 2030 total projected conditions, this intersection is projected to continue to operate at the same LOS during all three peak hours with increases in delay of less than two seconds over no-build conditions.

Overall, the proposed development is projected to increase the volume of traffic traversing this intersection by less than three percent. As such, the intersection has sufficient reserve capacity to accommodate the traffic to be generated by the development and no roadway improvements or traffic control modifications are required.

Theodore Street with Knapp Drive

The results of the capacity analyses indicate that turning movements from Knapp Drive operate at LOS B during the weekday morning peak hour, LOS C during the weekday evening peak hour, and LOS D during the Saturday midday peak hour. Under Year 2030 no-build conditions, turning movements from Knapp Drive are projected to operate at LOS C during the weekday morning peak hour and LOS D during the weekday evening and Saturday midday peak hours.

Under Year 2030 total projected conditions turning movements from Knapp Drive are projected to operate at LOS C during the weekday morning peak hour, LOS D during the weekday evening peak hour, and LOS E during the Saturday midday peak hour. The following should be noted:

- Westbound queues from the signalized intersection of Plainfield Road with Theodore Street extend to this intersection and are projected to continue to do so.
 - These queues were observed to clear this intersection with each green phase
 - SimTraffic Simulation of projected conditions indicate that queues will continue to clear the intersection with each green phase and the intersection will be blocked approximately 15 percent of the time or less.
 - This intersection is located between two signalized intersections on a coordinated system. These signals will create gaps in the traffic stream allowing vehicles to turn.
- Southbound vehicles will continue to be able to turn left onto Theodore Street from Knapp Drive
 - This movement is projected to operate at LOS E or better during all three peak hours with a volume to capacity (v/c) ratio of less than one.
 - As discussed above, gaps in the Theodore Street traffic will be available for vehicles to exit.
 - A two-way left-turn lane is provided on Theodore Street which outbound vehicles can utilize to perform a two-part left-turn.
- Eastbound vehicles will continue to be able to turn left onto Knapp Drive from Theodore Street.
 - This movement is projected to operate at LOS B or better during all three peak hours with a volume to capacity (v/c) ratio of less than one.
 - These vehicles can utilize the existing median while waiting to turn. Further, Theodore Street provides two eastbound lanes allowing eastbound traffic to bypass vehicles waiting to turn.

- Westbound left-turn 95th percentile queues at the intersection of Theodore Street and with Plainfield Road are not projected to exceed 100 feet and can be accommodated within the existing 125-foot turn lane and, as such, will not block this movement utilizing the median.
- The 95th percentile queue for vehicles waiting to turn onto Theodore Street is only one to two vehicles.
- The proposed development is projected to increase this volume by less than 10 vehicles during the peak hours. The primary entrance for the proposed development is on Plainfield Road and it is anticipated that a majority of traffic approaching from the north, south, or west will use this entrance.

As such, the intersection has sufficient reserve capacity to accommodate the traffic to be generated by the development and no roadway improvements or traffic control modifications are required.

Plainfield Street with the West Site Access Drive (Full Movement)

The results of the capacity analyses indicate that under Year 2030 total projected conditions turning movements from the access drive are projected to operate at LOS C during the weekday morning, weekday evening, and Saturday midday peak hours. The following should be noted:

- Outbound left-turning vehicles can utilize the two-way left-turn lane to perform a two-part left-turn turn maneuver.
- This intersection is located between two signalized intersections on a coordinated system. These signals will create gaps in the traffic stream allowing vehicles to turn. The location of this intersection is a key factor in its acceptable operation.
- Southeast-bound 95th percentile queues from the signalized intersection of Plainfield Road with Theodore Street are not projected to extend to this intersection.
- Vehicles turning into the site from Plainfield Road are able to queue within the existing two-way left-turn median on Plainfield Road. Southbound left-turn vehicles at the intersection of Plainfield Road with Theodore Street are projected to be accommodated within the existing turn lane and will not block this movement.
- All movements are projected to operate with a volume to capacity (v/c) ratio of less than one.
- SimTraffic Simulation of this intersection under projected conditions indicated the following:
 - Queues on Plainfield Road from the signalized intersections to the east and west will not block this access drive

- Outbound vehicles will experience some delay during peak periods but will generally be able to exit the site as the signals on Plainfield Road consistently create gaps in the traffic stream.

When the total projected traffic volumes are compared to the right-turn lane guidelines in Chapter 36 of IDOT's Bureau of Design and Environment (BDE) Manual, a right-turn lane on Plainfield Road will not be warranted serving this access drive.

As such, the intersection has sufficient reserve capacity to accommodate the traffic to be generated by the development and no roadway improvements or traffic control modifications are required.

Plainfield Street with the East Site Access Drive (Right-in/Right-out)

The results of the capacity analyses indicate that under Year 2030 total projected conditions turning movements from the access drive are projected to operate at LOS B during the weekday morning, weekday evening, and Saturday midday peak hours. The following should be noted:

- Southeast-bound queues from the signalized intersection of Plainfield Road with Theodore Street were observed to occasionally extend to this intersection during the weekday evening peak hour and are projected to continue to do so. However, these queues will not block right-turn movements and this access drive will be restricted to right-turn only movements.
- This intersection is located between two signalized intersections on a coordinated system. These signals will create gaps in the traffic stream allowing vehicles to turn.
- The restriction of this access drive will allow for future improvements by IDOT on Plainfield Road at its intersection with Theodore Street (such as southeast-bound dual left-turn lanes) to be provided without impacting this intersection.

As such, the intersection has sufficient reserve capacity to accommodate the traffic to be generated by the development and no roadway improvements or traffic control modifications are required.

Knapp Drive with Willow Circle Drive and the Site Access Drive

The results of the capacity analysis indicate that all critical movements at this intersection currently operates at LOS B or better during the weekday morning, weekday evening, and Saturday midday peak hours. Under no-build and total projected conditions, all critical movements are projected to continue to operate at LOS B or better during all three peak hours. As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and the access drive will adequately accommodate the traffic estimated to be generated by the proposed development.

6. Conclusion

Based on the preceding analyses and recommendations, the following conclusions have been made:

- The traffic projected to be generated by the proposed development will be reduced due to the volume of pass-by traffic.
- The signalized intersections of Plainfield Road with Theodore Street and Larkin Avenue have sufficient reserve capacity to accommodate site-generated traffic.
- The intersection of Theodore Street with Knapp Drive can accommodate site-generated traffic. Restriction of this intersection is not recommended.
- Access to the proposed development will be provided via a right-in/right-out access drive and a full movement access drive on Plainfield Road and a full movement access drive on Knapp Drive
 - Inbound left-turn movements at the full movement site access drive on Plainfield Road can be accommodated within the existing two-way left-turn median.
 - A continuous right-turn lane will be provided on Plainfield Road serving the site access drives.
 - The full movement access drive on Plainfield Road will be part of a permanent access easement between the south parcel (convenience store site) and the north parcel (future commercial use).
- The proposed access system will adequately accommodate the traffic estimated to be generated by the proposed development and will ensure that efficient and flexible access is provided.

Appendix

Traffic Count Summary Sheets

Site Plan

CMAP 2050 Projections Letter

ITE Trip Generation Sheets

Level of Service Criteria Capacity

Analysis Summary Sheets

Traffic Count Summary Sheets



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Count Name: Knapp Drive with Willow Circle
Drive TMC
Site Code:
Start Date: 09/05/2024
Page No: 1

Turning Movement Data

Start Time	Access Drive Eastbound						Willow Circle Drive Westbound						Knapp Street Northbound						Knapp Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	0	0	0	0	0	0	1	0	1	1	2	0	0	21	0	0	21	0	1	14	0	0	15	38
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	28	1	0	29	0	1	12	0	0	13	43
7:30 AM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	37	1	0	38	0	0	24	0	0	24	64
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	38	1	0	39	0	1	28	0	0	29	69
Hourly Total	0	0	0	0	0	0	0	4	0	2	1	6	0	0	124	3	0	127	0	3	78	0	0	81	214
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	7	0	49	0	0	26	0	0	26	75
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	56	5	0	62	0	0	22	0	0	22	84
8:30 AM	0	0	0	0	0	0	1	1	0	0	0	2	0	0	38	5	0	43	1	1	31	0	0	33	78
8:45 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	24	5	0	29	0	1	31	0	0	32	64
Hourly Total	0	0	0	0	0	0	1	4	0	0	0	5	1	0	160	22	0	183	1	2	110	0	0	113	301
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4:30 PM	0	0	0	0	0	0	0	7	0	1	0	8	0	0	40	6	0	46	0	1	44	0	0	45	99
4:45 PM	0	0	0	0	1	0	0	7	0	4	0	11	0	0	44	4	0	48	0	1	31	0	0	32	91
Hourly Total	0	0	0	0	1	0	0	25	0	7	0	32	0	0	170	18	0	188	0	2	182	0	0	184	404
5:00 PM	0	0	0	0	0	0	0	4	0	2	0	6	0	0	49	5	0	54	0	0	45	0	0	45	105
5:15 PM	0	0	0	1	0	1	0	8	0	1	0	9	0	1	47	7	0	55	0	0	40	0	0	40	105
5:30 PM	0	0	0	0	0	0	0	5	0	2	0	7	0	0	35	3	0	38	0	1	54	0	0	55	100
5:45 PM	0	0	0	0	0	0	0	7	0	3	1	10	0	1	38	3	0	42	0	0	47	0	0	47	99
Hourly Total	0	0	0	1	0	1	0	24	0	8	1	32	0	2	169	18	0	189	0	1	186	0	0	187	409
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12:15 PM	0	0	0	0	0	0	0	7	0	0	1	7	0	0	40	6	0	46	0	0	38	0	0	38	91
12:30 PM	0	0	0	0	0	0	0	2	0	0	1	2	0	0	39	3	0	42	0	0	48	0	0	48	92
12:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	42	3	0	45	0	0	45	0	0	45	91
Hourly Total	0	0	0	0	0	0	0	13	0	3	2	16	0	0	152	13	0	165	0	0	172	0	0	172	353
1:00 PM	0	0	0	0	0	0	0	6	0	0	0	6	0	0	36	3	0	39	0	1	70	0	0	71	116
1:15 PM	0	0	0	0	0	0	0	2	0	1	0	3	0	0	49	6	0	55	0	0	48	0	0	48	106
1:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	31	4	0	35	0	0	59	0	0	59	95
1:45 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	28	7	0	35	0	0	53	0	0	53	91
Hourly Total	0	0	0	0	0	0	0	11	0	2	0	13	0	0	144	20	0	164	0	1	230	0	0	231	408
Grand Total	0	0	0	1	1	1	1	81	0	22	4	104	1	2	919	94	0	1016	1	9	958	0	0	968	2089
Approach %	0.0	0.0	0.0	100.0	-	-	1.0	77.9	0.0	21.2	-	-	0.1	0.2	90.5	9.3	-	-	0.1	0.9	99.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	3.9	0.0	1.1	-	5.0	0.0	0.1	44.0	4.5	-	48.6	0.0	0.4	45.9	0.0	-	46.3	-

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[illegible]

[illegible]



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Count Name: Plainfield Road with Access Drive
(south) TMC
Site Code:
Start Date: 09/05/2024
Page No: 1

Turning Movement Data

Start Time	Access Drive Eastbound						Police Department Access Drive Westbound						Plainfield Road Northbound						Plainfield Road Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	0	0	109	0	0	118	1	0	119	228
7:15 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	144	0	0	144	0	0	174	0	0	174	319
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	171	0	0	171	0	0	201	0	0	201	372
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	179	0	0	179	0	0	197	0	0	197	376
Hourly Total	0	0	0	1	0	1	0	0	0	0	3	0	0	0	603	0	0	603	0	0	690	1	0	691	1295
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8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	149	0	0	149	0	0	165	0	0	165	314
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	147	0	0	147	0	0	161	0	0	161	308
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	147	0	0	147	0	0	163	0	0	163	310
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	577	0	0	577	0	0	658	1	0	659	1236
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	214	0	0	214	0	0	272	0	0	272	486
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	194	0	0	194	0	0	245	0	0	245	439
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	216	0	0	216	0	0	226	0	0	226	442
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	214	0	0	214	0	0	224	0	0	224	438
Hourly Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	838	0	0	838	0	0	967	0	0	967	1805
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5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	202	0	0	202	0	0	196	0	0	196	398
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	184	0	0	184	0	0	211	0	0	211	395
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	203	0	0	203	0	0	226	0	0	226	429
Hourly Total	0	0	0	0	0	0	0	0	0	0	2	0	0	0	771	0	0	771	0	0	861	0	0	861	1632
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12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	216	0	0	216	0	0	220	0	0	220	436
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	205	0	0	205	0	0	174	0	0	174	379
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	200	0	0	232	0	0	232	432
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	825	0	0	825	0	0	797	0	0	797	1622
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	209	0	0	209	0	0	193	0	0	193	402
1:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	224	0	0	224	0	0	213	0	0	213	437
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	188	0	0	188	0	0	174	0	0	174	362
1:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	204	0	0	204	0	0	208	0	0	208	412
Hourly Total	0	0	0	0	0	0	0	0	0	0	3	0	0	0	825	0	0	825	0	0	788	0	0	788	1613
Grand Total	0	0	0	1	1	1	0	0	0	0	8	0	0	0	4439	0	0	4439	0	0	4761	2	0	4763	9203
Approach %	0.0	0.0	0.0	100.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	100.0	0.0	-	-	0.0	0.0	100.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	48.2	0.0	-	48.2	0.0	0.0	51.7	0.0	-	51.8	-

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Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 abowen@kloainc.com

Count Name: Plainfield Road with Larkin Avenue
TMC
Site Code:
Start Date: 09/05/2024
Page No: 1

Turning Movement Data

Start Time	Larkin Avenue Eastbound						Larkin Avenue Westbound						Plainfield Road Northbound						Plainfield Road Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	12	83	34	0	129	0	11	102	52	0	165	0	25	92	5	0	122	0	26	111	8	0	145	561
7:15 AM	0	16	97	32	0	145	0	11	141	51	0	203	0	30	134	1	0	165	0	39	116	14	0	169	682
7:30 AM	0	16	82	53	0	151	0	11	166	57	0	234	0	24	148	5	0	177	1	37	160	23	0	221	783
7:45 AM	0	22	123	52	0	197	0	18	149	61	0	228	0	29	144	11	0	184	0	59	143	22	0	224	833
Hourly Total	0	66	385	171	0	622	0	51	558	221	0	830	0	108	518	22	0	648	1	161	530	67	0	759	2859
8:00 AM	0	14	103	29	0	146	0	13	149	53	0	215	0	31	117	7	0	155	0	43	116	18	0	177	693
8:15 AM	0	18	119	33	0	170	0	14	124	34	0	172	0	30	108	4	0	142	0	54	122	18	0	194	678
8:30 AM	0	19	89	26	0	134	0	15	134	44	0	193	0	30	118	15	0	163	0	38	128	20	0	186	676
8:45 AM	0	20	103	27	0	150	0	19	131	73	0	223	0	22	154	5	1	181	0	51	131	20	0	202	756
Hourly Total	0	71	414	115	0	600	0	61	538	204	0	803	0	113	497	31	1	641	0	186	497	76	0	759	2803
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	18	168	40	0	226	0	19	202	101	0	322	0	50	195	16	0	261	0	69	133	14	0	216	1025
4:15 PM	0	27	148	34	0	209	0	18	190	83	0	291	0	42	190	20	0	252	0	90	169	18	0	277	1029
4:30 PM	0	18	165	34	0	217	0	24	164	74	0	262	0	46	197	19	0	262	0	69	159	16	0	244	985
4:45 PM	0	22	192	32	0	246	0	21	181	68	0	270	0	44	202	20	0	266	0	55	135	16	0	206	988
Hourly Total	0	85	673	140	0	898	0	82	737	326	0	1145	0	182	784	75	0	1041	0	283	596	64	0	943	4027
5:00 PM	0	17	143	44	0	204	0	19	160	72	0	251	0	50	190	18	0	258	2	89	168	10	1	269	982
5:15 PM	0	16	165	42	0	223	0	21	148	74	0	243	0	45	168	13	0	226	0	69	163	16	0	248	940
5:30 PM	0	23	133	26	0	182	0	16	158	65	0	239	0	38	188	26	0	252	1	93	159	19	0	272	945
5:45 PM	1	28	137	28	0	194	0	18	171	85	0	274	0	34	153	16	0	203	1	71	144	21	0	237	908
Hourly Total	1	84	578	140	0	803	0	74	637	296	0	1007	0	167	699	73	0	939	4	322	634	66	1	1026	3775
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	0	22	113	41	0	176	0	24	119	79	0	222	0	31	132	23	0	186	0	105	144	23	0	272	856
12:15 PM	0	22	136	40	0	198	0	19	167	101	0	287	0	19	144	11	0	174	0	108	145	27	0	280	939
12:30 PM	0	21	181	26	0	228	0	23	139	90	0	252	0	40	136	18	0	194	0	100	135	21	0	256	930
12:45 PM	0	17	134	47	0	198	0	24	158	90	0	272	0	37	141	19	0	197	0	92	148	20	0	260	927
Hourly Total	0	82	564	154	0	800	0	90	583	360	0	1033	0	127	553	71	0	751	0	405	572	91	0	1068	3652
1:00 PM	0	26	164	36	0	226	0	14	154	78	0	246	0	33	146	18	0	197	0	97	121	17	0	235	904
1:15 PM	0	29	135	29	1	193	0	23	151	99	0	273	0	33	160	22	0	215	0	89	130	31	0	250	931
1:30 PM	0	23	159	34	0	216	0	27	145	57	0	229	0	36	168	22	0	226	0	103	162	24	0	289	960
1:45 PM	0	23	148	36	0	207	0	18	147	83	0	248	0	26	141	22	0	189	0	91	143	22	0	256	900
Hourly Total	0	101	606	135	1	842	0	82	597	317	0	996	0	128	615	84	0	827	0	380	556	94	0	1030	3695
Grand Total	1	489	3220	855	1	4565	0	440	3650	1724	0	5814	0	825	3666	356	1	4847	5	1737	3385	458	1	5585	20811
Approach %	0.0	10.7	70.5	18.7	-	-	0.0	7.6	62.8	29.7	-	-	0.0	17.0	75.6	7.3	-	-	0.1	31.1	60.6	8.2	-	-	-
Total %	0.0	2.3	15.5	4.1	-	21.9	0.0	2.1	17.5	8.3	-	27.9	0.0	4.0	17.6	1.7	-	23.3	0.0	8.3	16.3	2.2	-	26.8	-

Lights	1	488	3155	842	-	4486	0	426	3567	1689	-	5682	0	798	3497	344	-	4639	5	1711	3217	456	-	5389	20196
% Lights	100.0	99.8	98.0	98.5	-	98.3	-	96.8	97.7	98.0	-	97.7	-	96.7	95.4	96.6	-	95.7	100.0	98.5	95.0	99.6	-	96.5	97.0
Buses	0	0	13	4	-	17	0	3	24	2	-	29	0	3	15	2	-	20	0	4	28	0	-	32	98
% Buses	0.0	0.0	0.4	0.5	-	0.4	-	0.7	0.7	0.1	-	0.5	-	0.4	0.4	0.6	-	0.4	0.0	0.2	0.8	0.0	-	0.6	0.5
Single-Unit Trucks	0	1	30	7	-	38	0	7	44	29	-	80	0	16	77	7	-	100	0	16	71	1	-	88	306
% Single-Unit Trucks	0.0	0.2	0.9	0.8	-	0.8	-	1.6	1.2	1.7	-	1.4	-	1.9	2.1	2.0	-	2.1	0.0	0.9	2.1	0.2	-	1.6	1.5
Articulated Trucks	0	0	21	2	-	23	0	4	15	4	-	23	0	8	76	2	-	86	0	6	69	1	-	76	208
% Articulated Trucks	0.0	0.0	0.7	0.2	-	0.5	-	0.9	0.4	0.2	-	0.4	-	1.0	2.1	0.6	-	1.8	0.0	0.3	2.0	0.2	-	1.4	1.0
Bicycles on Road	0	0	1	0	-	1	0	0	0	0	-	0	0	0	1	1	-	2	0	0	0	0	-	0	3
% 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	0.3	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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9575 W. Higgins Rd., Suite 400

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Count Name: Theodore Street with Knapp Street
TMC
Site Code:
Start Date: 09/05/2024
Page No: 1

Turning Movement Data

Start Time	Theodore Street Eastbound						Theodore Street Westbound						Access Drive Northbound						Knapp Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	8	82	1	0	91	0	0	102	11	1	113	0	1	0	0	2	1	0	6	0	10	0	16	221
7:15 AM	0	6	72	1	0	79	0	0	126	25	0	151	0	0	0	0	0	0	0	7	0	6	0	13	243
7:30 AM	0	12	67	0	0	79	0	0	133	30	0	163	0	0	0	0	1	0	0	10	0	18	0	28	270
7:45 AM	0	16	85	0	1	101	0	1	144	22	0	167	0	0	0	0	0	0	0	16	0	13	0	29	297
Hourly Total	0	42	306	2	1	350	0	1	505	88	1	594	0	1	0	0	3	1	0	39	0	47	0	86	1031
8:00 AM	0	16	68	0	0	84	0	0	128	33	0	161	0	1	0	0	0	1	0	9	0	14	0	23	269
8:15 AM	0	13	83	2	0	98	1	0	123	50	0	174	0	1	0	0	0	1	0	7	0	15	1	22	295
8:30 AM	0	15	77	0	0	92	0	0	98	21	0	119	0	1	0	1	1	2	0	16	0	16	0	32	245
8:45 AM	0	8	66	3	0	77	0	0	126	24	0	150	0	0	0	0	0	0	0	17	2	14	0	33	260
Hourly Total	0	52	294	5	0	351	1	0	475	128	0	604	0	3	0	1	1	4	0	49	2	59	1	110	1069
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	13	170	3	0	186	0	0	178	30	0	208	0	1	0	0	0	1	0	21	0	31	1	52	447
4:15 PM	0	20	193	1	0	214	0	1	171	20	0	192	0	1	1	0	1	2	0	16	0	31	0	47	455
4:30 PM	0	15	143	0	0	158	0	0	168	31	0	199	0	1	0	0	0	1	0	17	0	30	0	47	405
4:45 PM	0	14	158	3	0	175	0	0	171	28	0	199	0	0	0	1	0	1	0	14	0	21	1	35	410
Hourly Total	0	62	664	7	0	733	0	1	688	109	0	798	0	3	1	1	1	5	0	68	0	113	2	181	1717
5:00 PM	0	14	197	1	0	212	0	1	167	30	0	198	0	3	2	4	0	9	0	16	0	30	1	46	465
5:15 PM	0	13	160	2	0	175	0	0	195	31	0	226	0	1	1	1	0	3	0	25	0	21	1	46	450
5:30 PM	1	12	174	0	0	187	0	1	152	24	1	177	0	1	0	0	1	1	0	31	0	27	0	58	423
5:45 PM	0	12	159	0	0	171	0	0	172	27	0	199	0	2	0	0	0	2	0	21	0	27	0	48	420
Hourly Total	1	51	690	3	0	745	0	2	686	112	1	800	0	7	3	5	1	15	0	93	0	105	2	198	1758
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	0	13	151	3	0	167	0	0	161	21	0	182	0	0	0	1	0	1	0	17	0	20	0	37	387
12:15 PM	0	16	151	1	1	168	0	0	154	28	0	182	0	2	0	0	1	2	0	15	0	22	0	37	389
12:30 PM	0	11	155	3	0	169	0	0	160	19	0	179	0	0	0	2	3	2	0	18	0	22	0	40	390
12:45 PM	0	10	159	1	0	170	0	1	165	31	0	197	0	5	0	2	0	7	0	21	1	28	0	50	424
Hourly Total	0	50	616	8	1	674	0	1	640	99	0	740	0	7	0	5	4	12	0	71	1	92	0	164	1590
1:00 PM	0	9	172	1	0	182	0	0	162	18	0	180	0	3	1	0	0	4	0	25	0	37	1	62	428
1:15 PM	0	14	168	1	0	183	0	0	183	34	0	217	0	0	0	1	0	1	0	25	0	20	0	45	446
1:30 PM	0	12	163	2	0	177	0	0	173	12	0	185	0	2	0	0	0	2	0	28	0	28	0	56	420
1:45 PM	0	18	172	1	0	191	0	0	154	14	0	168	0	1	1	1	0	3	0	20	0	23	2	43	405
Hourly Total	0	53	675	5	0	733	0	0	672	78	0	750	0	6	2	2	0	10	0	98	0	108	3	206	1699
Grand Total	1	310	3245	30	2	3586	1	5	3666	614	2	4286	0	27	6	14	10	47	0	418	3	524	8	945	8864
Approach %	0.0	8.6	90.5	0.8	-	-	0.0	0.1	85.5	14.3	-	-	0.0	57.4	12.8	29.8	-	-	0.0	44.2	0.3	55.4	-	-	-
Total %	0.0	3.5	36.6	0.3	-	40.5	0.0	0.1	41.4	6.9	-	48.4	0.0	0.3	0.1	0.2	-	0.5	0.0	4.7	0.0	5.9	-	10.7	-

Lights	1	307	3176	29	-	3513	1	4	3576	600	-	4181	0	27	6	14	-	47	0	414	3	519	-	936	8677
% Lights	100.0	99.0	97.9	96.7	-	98.0	100.0	80.0	97.5	97.7	-	97.6	-	100.0	100.0	100.0	-	100.0	-	99.0	100.0	99.0	-	99.0	97.9
Buses	0	1	23	0	-	24	0	0	26	6	-	32	0	0	0	0	-	0	0	1	0	1	-	2	58
% Buses	0.0	0.3	0.7	0.0	-	0.7	0.0	0.0	0.7	1.0	-	0.7	-	0.0	0.0	0.0	-	0.0	-	0.2	0.0	0.2	-	0.2	0.7
Single-Unit Trucks	0	1	29	1	-	31	0	0	31	7	-	38	0	0	0	0	-	0	0	2	0	4	-	6	75
% Single-Unit Trucks	0.0	0.3	0.9	3.3	-	0.9	0.0	0.0	0.8	1.1	-	0.9	-	0.0	0.0	0.0	-	0.0	-	0.5	0.0	0.8	-	0.6	0.8
Articulated Trucks	0	0	17	0	-	17	0	0	33	1	-	34	0	0	0	0	-	0	0	1	0	0	-	1	52
% Articulated Trucks	0.0	0.0	0.5	0.0	-	0.5	0.0	0.0	0.9	0.2	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.2	0.0	0.0	-	0.1	0.6
Bicycles on Road	0	1	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Bicycles on Road	0.0	0.3	0.0	0.0	-	0.0	0.0	20.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	10	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Count Name: Theodore Street with Knapp Street
TMC
Site Code:
Start Date: 09/05/2024
Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Theodore Street Eastbound						Theodore Street Westbound						Access Drive Northbound						Knapp Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30 AM	0	12	67	0	0	79	0	0	133	30	0	163	0	0	0	0	1	0	0	10	0	18	0	28	270
7:45 AM	0	16	85	0	1	101	0	1	144	22	0	167	0	0	0	0	0	0	0	16	0	13	0	29	297
8:00 AM	0	16	68	0	0	84	0	0	128	33	0	161	0	1	0	0	0	1	0	9	0	14	0	23	269
8:15 AM	0	13	83	2	0	98	1	0	123	50	0	174	0	1	0	0	0	1	0	7	0	15	1	22	295
Total	0	57	303	2	1	362	1	1	528	135	0	665	0	2	0	0	1	2	0	42	0	60	1	102	1131
Approach %	0.0	15.7	83.7	0.6	-	-	0.2	0.2	79.4	20.3	-	-	0.0	100.0	0.0	0.0	-	-	0.0	41.2	0.0	58.8	-	-	-
Total %	0.0	5.0	26.8	0.2	-	32.0	0.1	0.1	46.7	11.9	-	58.8	0.0	0.2	0.0	0.0	-	0.2	0.0	3.7	0.0	5.3	-	9.0	-
PHF	0.000	0.891	0.891	0.250	-	0.896	0.250	0.250	0.917	0.675	-	0.955	0.000	0.500	0.000	0.000	-	0.500	0.000	0.656	0.000	0.833	-	0.879	0.952
Lights	0	56	288	2	-	346	1	1	508	128	-	638	0	2	0	0	-	2	0	41	0	60	-	101	1087
% Lights	-	98.2	95.0	100.0	-	95.6	100.0	100.0	96.2	94.8	-	95.9	-	100.0	-	-	-	100.0	-	97.6	-	100.0	-	99.0	96.1
Buses	0	0	4	0	-	4	0	0	9	3	-	12	0	0	0	0	-	0	0	1	0	0	-	1	17
% Buses	-	0.0	1.3	0.0	-	1.1	0.0	0.0	1.7	2.2	-	1.8	-	0.0	-	-	-	0.0	-	2.4	-	0.0	-	1.0	1.5
Single-Unit Trucks	0	0	5	0	-	5	0	0	5	4	-	9	0	0	0	0	-	0	0	0	0	0	-	0	14
% Single-Unit Trucks	-	0.0	1.7	0.0	-	1.4	0.0	0.0	0.9	3.0	-	1.4	-	0.0	-	-	-	0.0	-	0.0	-	0.0	-	0.0	1.2
Articulated Trucks	0	0	6	0	-	6	0	0	6	0	-	6	0	0	0	0	-	0	0	0	0	0	-	0	12
% Articulated Trucks	-	0.0	2.0	0.0	-	1.7	0.0	0.0	1.1	0.0	-	0.9	-	0.0	-	-	-	0.0	-	0.0	-	0.0	-	0.0	1.1
Bicycles on Road	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	-	1.8	0.0	0.0	-	0.3	0.0	0.0	0.0	0.0	-	0.0	-	0.0	-	-	-	0.0	-	0.0	-	0.0	-	0.0	0.1
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Kenig Lindgren O'Hara Aboona, Inc.
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Count Name: Theodore Street with Knapp Street
TMC
Site Code:
Start Date: 09/05/2024
Page No: 4

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Theodore Street Eastbound						Theodore Street Westbound						Access Drive Northbound						Knapp Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:00 PM	0	13	170	3	0	186	0	0	178	30	0	208	0	1	0	0	0	1	0	21	0	31	1	52	447
4:15 PM	0	20	193	1	0	214	0	1	171	20	0	192	0	1	1	0	1	2	0	16	0	31	0	47	455
4:30 PM	0	15	143	0	0	158	0	0	168	31	0	199	0	1	0	0	0	1	0	17	0	30	0	47	405
4:45 PM	0	14	158	3	0	175	0	0	171	28	0	199	0	0	0	1	0	1	0	14	0	21	1	35	410
Total	0	62	664	7	0	733	0	1	688	109	0	798	0	3	1	1	1	5	0	68	0	113	2	181	1717
Approach %	0.0	8.5	90.6	1.0	-	-	0.0	0.1	86.2	13.7	-	-	0.0	60.0	20.0	20.0	-	-	0.0	37.6	0.0	62.4	-	-	-
Total %	0.0	3.6	38.7	0.4	-	42.7	0.0	0.1	40.1	6.3	-	46.5	0.0	0.2	0.1	0.1	-	0.3	0.0	4.0	0.0	6.6	-	10.5	-
PHF	0.000	0.775	0.860	0.583	-	0.856	0.000	0.250	0.966	0.879	-	0.959	0.000	0.750	0.250	0.250	-	0.625	0.000	0.810	0.000	0.911	-	0.870	0.943
Lights	0	62	645	7	-	714	0	1	673	108	-	782	0	3	1	1	-	5	0	67	0	112	-	179	1680
% Lights	-	100.0	97.1	100.0	-	97.4	-	100.0	97.8	99.1	-	98.0	-	100.0	100.0	100.0	-	100.0	-	98.5	-	99.1	-	98.9	97.8
Buses	0	0	9	0	-	9	0	0	4	1	-	5	0	0	0	0	-	0	0	0	0	0	-	0	14
% Buses	-	0.0	1.4	0.0	-	1.2	-	0.0	0.6	0.9	-	0.6	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.8
Single-Unit Trucks	0	0	7	0	-	7	0	0	5	0	-	5	0	0	0	0	-	0	0	1	0	1	-	2	14
% Single-Unit Trucks	-	0.0	1.1	0.0	-	1.0	-	0.0	0.7	0.0	-	0.6	-	0.0	0.0	0.0	-	0.0	-	1.5	-	0.9	-	1.1	0.8
Articulated Trucks	0	0	3	0	-	3	0	0	6	0	-	6	0	0	0	0	-	0	0	0	0	0	-	0	9
% Articulated Trucks	-	0.0	0.5	0.0	-	0.4	-	0.0	0.9	0.0	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.5
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
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Count Name: Theodore Street with Knapp Street
TMC
Site Code:
Start Date: 09/05/2024
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Turning Movement Peak Hour Data (12:45 PM)

Start Time	Theodore Street Eastbound						Theodore Street Westbound						Access Drive Northbound						Knapp Street Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
12:45 PM	0	10	159	1	0	170	0	1	165	31	0	197	0	5	0	2	0	7	0	21	1	28	0	50	424
1:00 PM	0	9	172	1	0	182	0	0	162	18	0	180	0	3	1	0	0	4	0	25	0	37	1	62	428
1:15 PM	0	14	168	1	0	183	0	0	183	34	0	217	0	0	0	1	0	1	0	25	0	20	0	45	446
1:30 PM	0	12	163	2	0	177	0	0	173	12	0	185	0	2	0	0	0	2	0	28	0	28	0	56	420
Total	0	45	662	5	0	712	0	1	683	95	0	779	0	10	1	3	0	14	0	99	1	113	1	213	1718
Approach %	0.0	6.3	93.0	0.7	-	-	0.0	0.1	87.7	12.2	-	-	0.0	71.4	7.1	21.4	-	-	0.0	46.5	0.5	53.1	-	-	-
Total %	0.0	2.6	38.5	0.3	-	41.4	0.0	0.1	39.8	5.5	-	45.3	0.0	0.6	0.1	0.2	-	0.8	0.0	5.8	0.1	6.6	-	12.4	-
PHF	0.000	0.804	0.962	0.625	-	0.973	0.000	0.250	0.933	0.699	-	0.897	0.000	0.500	0.250	0.375	-	0.500	0.000	0.884	0.250	0.764	-	0.859	0.963
Lights	0	45	654	5	-	704	0	1	670	95	-	766	0	10	1	3	-	14	0	99	1	112	-	212	1696
% Lights	-	100.0	98.8	100.0	-	98.9	-	100.0	98.1	100.0	-	98.3	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	99.1	-	99.5	98.7
Buses	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Buses	-	0.0	0.2	0.0	-	0.1	-	0.0	0.1	0.0	-	0.1	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
Single-Unit Trucks	0	0	4	0	-	4	0	0	5	0	-	5	0	0	0	0	-	0	0	0	0	1	-	1	10
% Single-Unit Trucks	-	0.0	0.6	0.0	-	0.6	-	0.0	0.7	0.0	-	0.6	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.9	-	0.5	0.6
Articulated Trucks	0	0	3	0	-	3	0	0	7	0	-	7	0	0	0	0	-	0	0	0	0	0	-	0	10
% Articulated Trucks	-	0.0	0.5	0.0	-	0.4	-	0.0	1.0	0.0	-	0.9	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.6
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	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
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Count Name: Theodore Street with Plainfield
Road TMC
Site Code:
Start Date: 09/05/2024
Page No: 1

Turning Movement Data

Start Time	Theodore Street Eastbound						Theodore Street Westbound						Plainfield Road Northbound						Plainfield Road Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	2	51	29	0	82	0	19	60	33	0	112	0	9	84	11	2	104	0	20	99	3	0	122	420
7:15 AM	0	2	43	36	0	81	0	14	74	51	0	139	0	17	92	12	1	121	0	21	153	6	0	180	521
7:30 AM	0	3	44	59	0	106	0	18	95	47	0	160	0	28	127	22	0	177	0	18	172	5	0	195	638
7:45 AM	0	6	43	46	0	95	0	20	85	48	1	153	0	41	125	24	0	190	0	26	160	7	0	193	631
Hourly Total	0	13	181	170	0	364	0	71	314	179	1	564	0	95	428	69	3	592	0	85	584	21	0	690	2210
8:00 AM	0	2	43	37	0	82	0	17	70	53	0	140	0	28	81	18	0	127	0	23	145	3	0	171	520
8:15 AM	0	1	53	26	0	80	0	16	76	47	0	139	0	21	97	21	0	139	0	27	141	4	1	172	530
8:30 AM	0	1	51	34	0	86	0	12	62	35	0	109	1	23	108	20	1	152	0	21	137	5	0	163	510
8:45 AM	0	2	44	37	0	83	0	18	92	43	1	153	0	29	102	17	0	148	0	27	134	4	0	165	549
Hourly Total	0	6	191	134	0	331	0	63	300	178	1	541	1	101	388	76	1	566	0	98	557	16	1	671	2109
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	5	87	62	0	154	0	23	128	71	0	222	0	40	143	22	0	205	0	69	192	7	0	268	849
4:15 PM	0	4	123	70	0	197	0	38	122	50	0	210	0	41	145	21	1	207	0	63	171	3	0	237	851
4:30 PM	0	17	91	66	0	174	0	34	111	51	0	196	0	61	142	16	0	219	0	47	169	3	1	219	808
4:45 PM	0	6	95	50	0	151	0	16	125	58	0	199	0	54	159	20	0	233	0	56	177	4	0	237	820
Hourly Total	0	32	396	248	0	676	0	111	486	230	0	827	0	196	589	79	1	864	0	235	709	17	1	961	3328
5:00 PM	0	3	127	41	0	171	0	28	118	51	0	197	0	61	123	25	0	209	0	60	150	4	0	214	791
5:15 PM	0	6	112	50	0	168	0	14	130	73	0	217	0	36	144	20	0	200	0	50	145	6	0	201	786
5:30 PM	0	3	96	58	0	157	0	19	106	48	0	173	0	43	108	13	1	164	0	67	151	7	1	225	719
5:45 PM	0	5	106	40	0	151	0	24	135	71	0	230	0	39	138	23	0	200	0	55	158	4	0	217	798
Hourly Total	0	17	441	189	0	647	0	85	489	243	0	817	0	179	513	81	1	773	0	232	604	21	1	857	3094
Grand Total	0	68	1209	741	0	2018	0	330	1589	830	2	2749	1	571	1918	305	6	2795	0	650	2454	75	3	3179	10741
Approach %	0.0	3.4	59.9	36.7	-	-	0.0	12.0	57.8	30.2	-	-	0.0	20.4	68.6	10.9	-	-	0.0	20.4	77.2	2.4	-	-	-
Total %	0.0	0.6	11.3	6.9	-	18.8	0.0	3.1	14.8	7.7	-	25.6	0.0	5.3	17.9	2.8	-	26.0	0.0	6.1	22.8	0.7	-	29.6	-
Lights	0	68	1175	731	-	1974	0	316	1550	808	-	2674	1	562	1880	300	-	2743	0	630	2400	72	-	3102	10493
% Lights	-	100.0	97.2	98.7	-	97.8	-	95.8	97.5	97.3	-	97.3	100.0	98.4	98.0	98.4	-	98.1	-	96.9	97.8	96.0	-	97.6	97.7
Buses	0	0	10	9	-	19	0	8	12	5	-	25	0	5	15	4	-	24	0	10	14	0	-	24	92
% Buses	-	0.0	0.8	1.2	-	0.9	-	2.4	0.8	0.6	-	0.9	0.0	0.9	0.8	1.3	-	0.9	-	1.5	0.6	0.0	-	0.8	0.9
Single-Unit Trucks	0	0	14	1	-	15	0	4	15	9	-	28	0	3	15	0	-	18	0	6	30	3	-	39	100
% Single-Unit Trucks	-	0.0	1.2	0.1	-	0.7	-	1.2	0.9	1.1	-	1.0	0.0	0.5	0.8	0.0	-	0.6	-	0.9	1.2	4.0	-	1.2	0.9
Articulated Trucks	0	0	10	0	-	10	0	2	12	8	-	22	0	1	8	1	-	10	0	4	10	0	-	14	56
% Articulated Trucks	-	0.0	0.8	0.0	-	0.5	-	0.6	0.8	1.0	-	0.8	0.0	0.2	0.4	0.3	-	0.4	-	0.6	0.4	0.0	-	0.4	0.5
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
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	6	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Count Name: Theodore Street with Plainfield
Road TMC
Site Code:
Start Date: 09/05/2024
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Turning Movement Peak Hour Data (7:30 AM)

Start Time	Theodore Street Eastbound						Theodore Street Westbound						Plainfield Road Northbound						Plainfield Road Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30 AM	0	3	44	59	0	106	0	18	95	47	0	160	0	28	127	22	0	177	0	18	172	5	0	195	638
7:45 AM	0	6	43	46	0	95	0	20	85	48	1	153	0	41	125	24	0	190	0	26	160	7	0	193	631
8:00 AM	0	2	43	37	0	82	0	17	70	53	0	140	0	28	81	18	0	127	0	23	145	3	0	171	520
8:15 AM	0	1	53	26	0	80	0	16	76	47	0	139	0	21	97	21	0	139	0	27	141	4	1	172	530
Total	0	12	183	168	0	363	0	71	326	195	1	592	0	118	430	85	0	633	0	94	618	19	1	731	2319
Approach %	0.0	3.3	50.4	46.3	-	-	0.0	12.0	55.1	32.9	-	-	0.0	18.6	67.9	13.4	-	-	0.0	12.9	84.5	2.6	-	-	-
Total %	0.0	0.5	7.9	7.2	-	15.7	0.0	3.1	14.1	8.4	-	25.5	0.0	5.1	18.5	3.7	-	27.3	0.0	4.1	26.6	0.8	-	31.5	-
PHF	0.000	0.500	0.863	0.712	-	0.856	0.000	0.888	0.858	0.920	-	0.925	0.000	0.720	0.846	0.885	-	0.833	0.000	0.870	0.898	0.679	-	0.937	0.909
Lights	0	12	176	164	-	352	0	65	317	189	-	571	0	115	418	85	-	618	0	90	601	19	-	710	2251
% Lights	-	100.0	96.2	97.6	-	97.0	-	91.5	97.2	96.9	-	96.5	-	97.5	97.2	100.0	-	97.6	-	95.7	97.2	100.0	-	97.1	97.1
Buses	0	0	2	4	-	6	0	3	4	3	-	10	0	1	3	0	-	4	0	2	3	0	-	5	25
% Buses	-	0.0	1.1	2.4	-	1.7	-	4.2	1.2	1.5	-	1.7	-	0.8	0.7	0.0	-	0.6	-	2.1	0.5	0.0	-	0.7	1.1
Single-Unit Trucks	0	0	2	0	-	2	0	1	2	2	-	5	0	2	6	0	-	8	0	0	12	0	-	12	27
% Single-Unit Trucks	-	0.0	1.1	0.0	-	0.6	-	1.4	0.6	1.0	-	0.8	-	1.7	1.4	0.0	-	1.3	-	0.0	1.9	0.0	-	1.6	1.2
Articulated Trucks	0	0	3	0	-	3	0	2	3	1	-	6	0	0	3	0	-	3	0	2	2	0	-	4	16
% Articulated Trucks	-	0.0	1.6	0.0	-	0.8	-	2.8	0.9	0.5	-	1.0	-	0.0	0.7	0.0	-	0.5	-	2.1	0.3	0.0	-	0.5	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
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Road TMC
Site Code:
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Turning Movement Peak Hour Data (4:00 PM)

Start Time	Theodore Street Eastbound						Theodore Street Westbound						Plainfield Road Northbound						Plainfield Road Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:00 PM	0	5	87	62	0	154	0	23	128	71	0	222	0	40	143	22	0	205	0	69	192	7	0	268	849
4:15 PM	0	4	123	70	0	197	0	38	122	50	0	210	0	41	145	21	1	207	0	63	171	3	0	237	851
4:30 PM	0	17	91	66	0	174	0	34	111	51	0	196	0	61	142	16	0	219	0	47	169	3	1	219	808
4:45 PM	0	6	95	50	0	151	0	16	125	58	0	199	0	54	159	20	0	233	0	56	177	4	0	237	820
Total	0	32	396	248	0	676	0	111	486	230	0	827	0	196	589	79	1	864	0	235	709	17	1	961	3328
Approach %	0.0	4.7	58.6	36.7	-	-	0.0	13.4	58.8	27.8	-	-	0.0	22.7	68.2	9.1	-	-	0.0	24.5	73.8	1.8	-	-	-
Total %	0.0	1.0	11.9	7.5	-	20.3	0.0	3.3	14.6	6.9	-	24.8	0.0	5.9	17.7	2.4	-	26.0	0.0	7.1	21.3	0.5	-	28.9	-
PHF	0.000	0.471	0.805	0.886	-	0.858	0.000	0.730	0.949	0.810	-	0.931	0.000	0.803	0.926	0.898	-	0.927	0.000	0.851	0.923	0.607	-	0.896	0.978
Lights	0	32	387	246	-	665	0	107	480	225	-	812	0	193	577	78	-	848	0	228	697	16	-	941	3266
% Lights	-	100.0	97.7	99.2	-	98.4	-	96.4	98.8	97.8	-	98.2	-	98.5	98.0	98.7	-	98.1	-	97.0	98.3	94.1	-	97.9	98.1
Buses	0	0	4	2	-	6	0	1	3	0	-	4	0	3	5	1	-	9	0	3	2	0	-	5	24
% Buses	-	0.0	1.0	0.8	-	0.9	-	0.9	0.6	0.0	-	0.5	-	1.5	0.8	1.3	-	1.0	-	1.3	0.3	0.0	-	0.5	0.7
Single-Unit Trucks	0	0	3	0	-	3	0	3	1	1	-	5	0	0	4	0	-	4	0	2	6	1	-	9	21
% Single-Unit Trucks	-	0.0	0.8	0.0	-	0.4	-	2.7	0.2	0.4	-	0.6	-	0.0	0.7	0.0	-	0.5	-	0.9	0.8	5.9	-	0.9	0.6
Articulated Trucks	0	0	2	0	-	2	0	0	2	4	-	6	0	0	3	0	-	3	0	2	4	0	-	6	17
% Articulated Trucks	-	0.0	0.5	0.0	-	0.3	-	0.0	0.4	1.7	-	0.7	-	0.0	0.5	0.0	-	0.3	-	0.9	0.6	0.0	-	0.6	0.5
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
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Site Plan

CMAP 2050 Projections Letter



August 13, 2024

Ryan May
Project Coordinator
Kenig, Lindgren, O'Hara and Aboona, Inc.
9575 West Higgins Road
Suite 400
Rosemont, IL 60018

Subject: Plainfield Road @ Larkin Avenue and @ Theodore Street
IDOT

Dear Ms. May:

In response to a request made on your behalf and dated August 9, 2024, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT (2023)	Year 2050 ADT
Larkin Ave E of Plainfield Rd	21,100	26,100
Larkin Ave W of Plainfield Rd	24,800	30,700
Plainfield Rd, @ Larkin Ave	19,900	23,000
Theodore St east of Plainfield Rd	15,600	18,000
Theodore St west of Plainfield Rd	12,600	14,500

Traffic projections are developed using existing ADT data provided in the request letter and the results from the June 2024 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806 or email me at jrodriguez@cmap.illinois.gov

Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

cc: Rios (IDOT)
\\2024_TrafficForecasts\CrestHill\wi-33-24\wi-33-24.docx

ITE Trip Generation Sheets

Convenience Store/Gas Station - GFA (4-5.5k) (945)

Vehicle Trip Ends vs: Vehicle Fueling Positions

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: 18

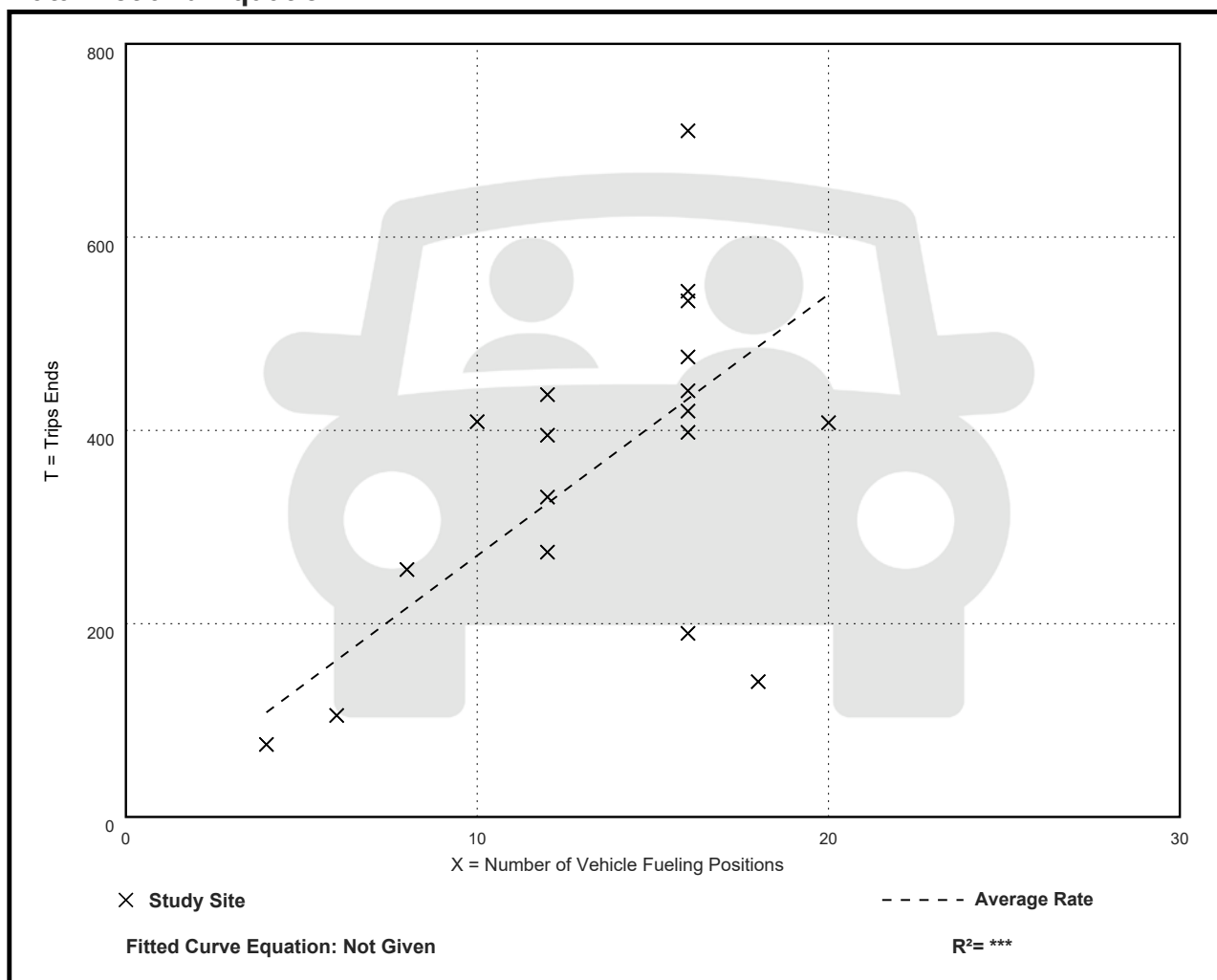
Avg. Num. of Vehicle Fueling Positions: 13

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
27.04	7.78 - 44.38	9.88

Data Plot and Equation



Convenience Store/Gas Station - GFA (4-5.5k) (945)

Vehicle Trip Ends vs: Vehicle Fueling Positions

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: 23

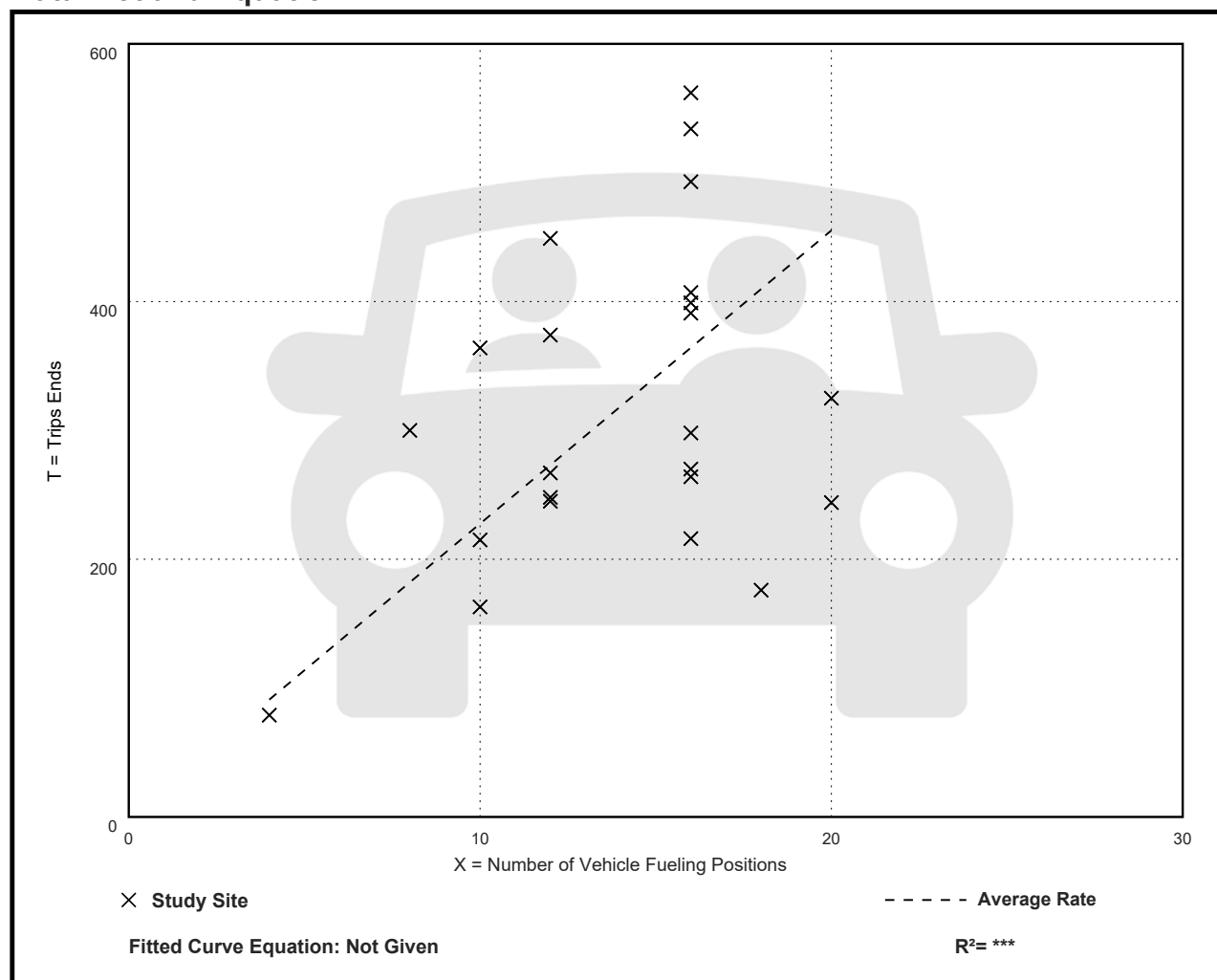
Avg. Num. of Vehicle Fueling Positions: 14

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
22.76	9.78 - 37.50	8.49

Data Plot and Equation



Convenience Store/Gas Station - GFA (4-5.5k) (945)

Vehicle Trip Ends vs: Vehicle Fueling Positions

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 7

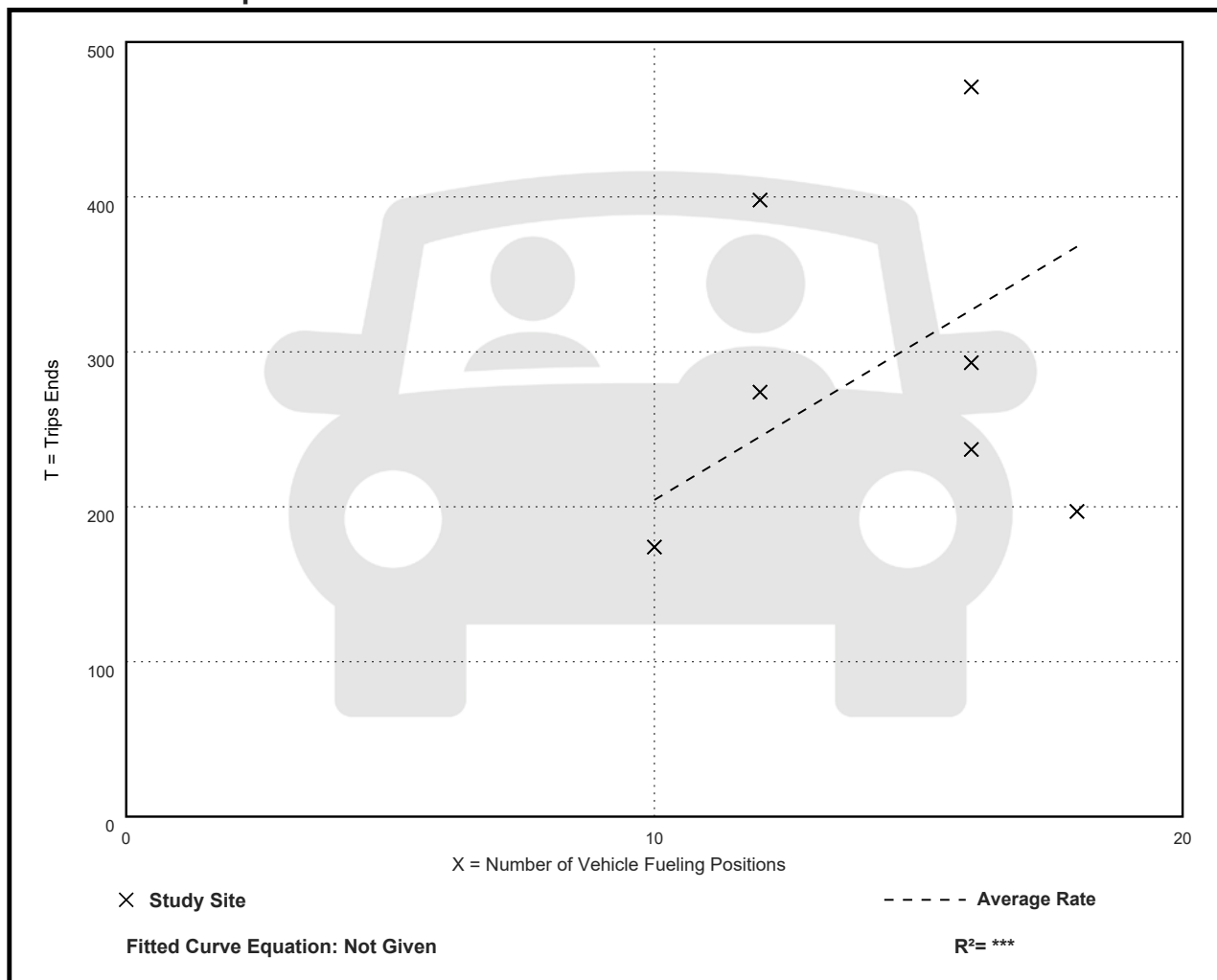
Avg. Num. of Vehicle Fueling Positions: 14

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
20.44	10.94 - 33.17	8.08

Data Plot and Equation



Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

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: 96

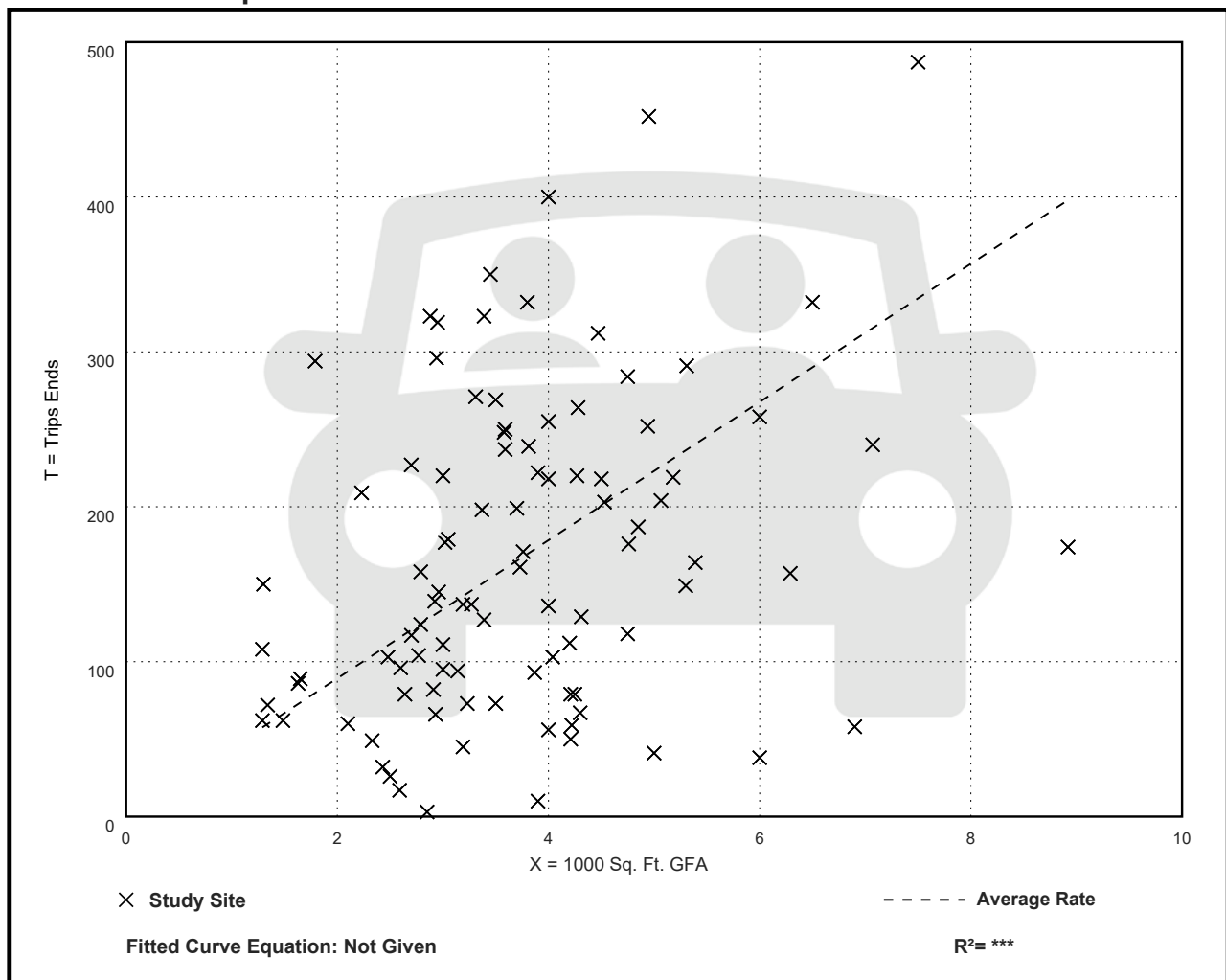
Avg. 1000 Sq. Ft. GFA: 4

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
44.61	1.05 - 164.25	27.14

Data Plot and Equation



Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

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

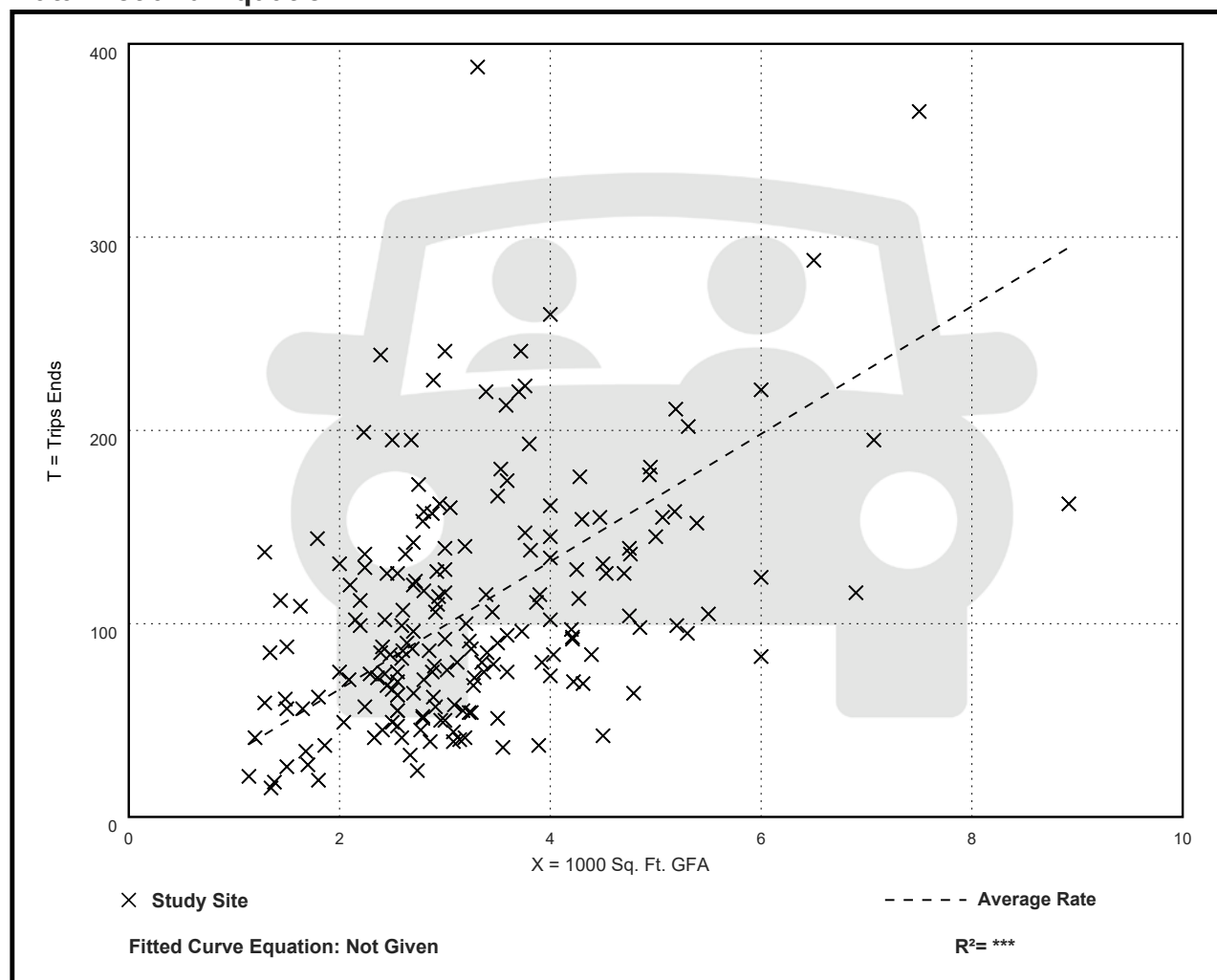
Avg. 1000 Sq. Ft. GFA: 3

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59

Data Plot and Equation



Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 53

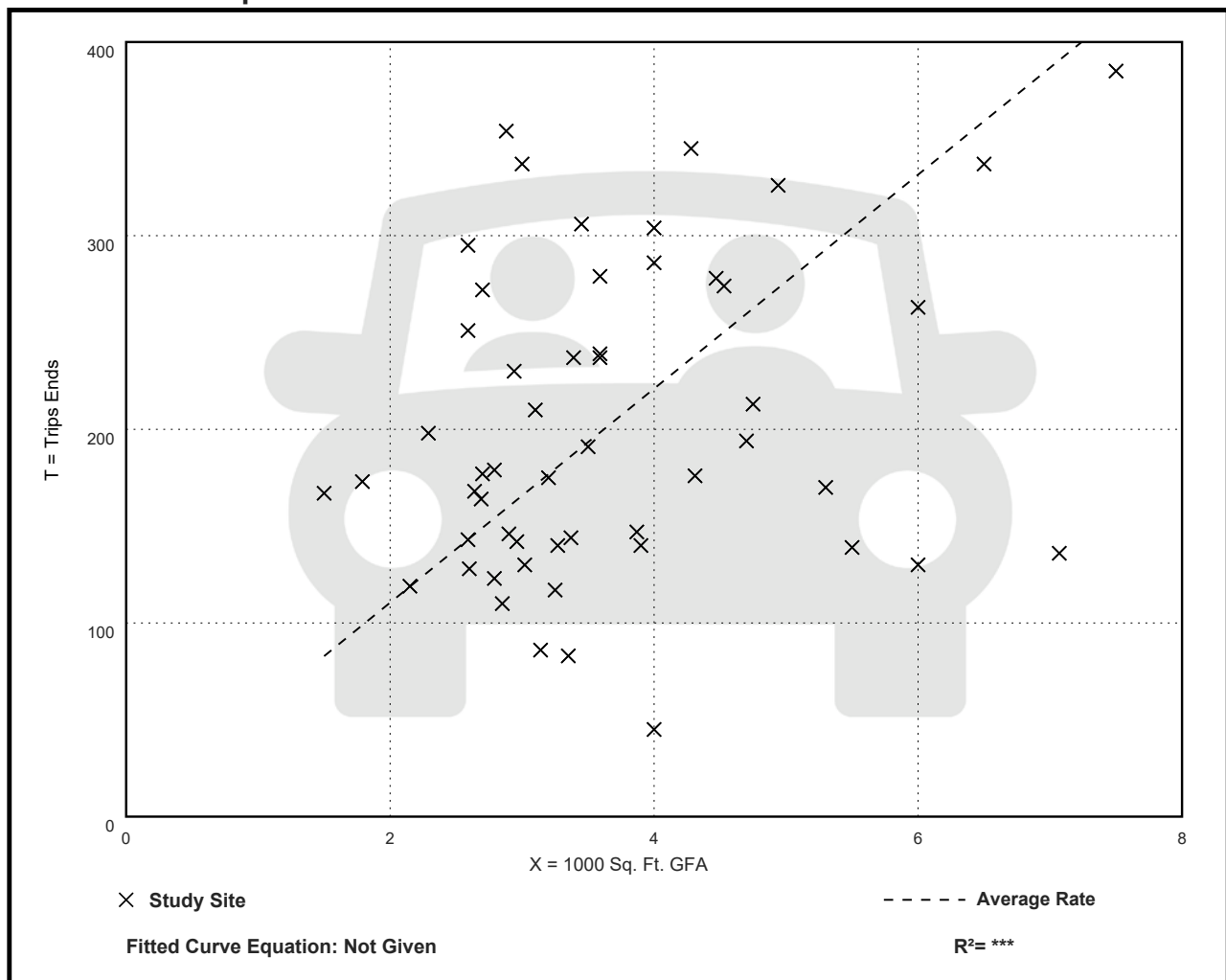
Avg. 1000 Sq. Ft. GFA: 4

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
55.25	11.25 - 122.92	24.62

Data Plot and Equation



Level of Service Criteria

LEVEL OF SERVICE CRITERIA

Signalized Intersections		
Level of Service	Interpretation	Average Control Delay (seconds per vehicle)
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤ 10
B	Good progression, with more vehicles stopping than for Level of Service A.	$> 10 - 20$
C	Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	$> 20 - 35$
D	The volume-to-capacity ratio is high and either progression is ineffective or the cycle length is too long. Many vehicles stop and individual cycle failures are noticeable.	$> 35 - 55$
E	Progression is unfavorable. The volume-to-capacity ratio is high and the cycle length is long. Individual cycle failures are frequent.	$> 55 - 80$
F	The volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	> 80.0
Unsignalized Intersections		
Level of Service	Average Total Delay (SEC/VEH)	
A	0 - 10	
B	$> 10 - 15$	
C	$> 15 - 25$	
D	$> 25 - 35$	
E	$> 35 - 50$	
F	> 50	

Source: *Highway Capacity Manual*, 6th Edition.

Capacity Analysis Summary Sheets
Existing Weekday Morning Peak Hour

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	12	183	168	71	326	195	94	619	19	118	430	85
Future Volume (vph)	12	183	168	71	326	195	94	619	19	118	430	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	180		0	125		0	310		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	115			115			220			150		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.928			0.944			0.996			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3251	0	1671	3309	0	1736	3494	0	1752	3434	0
Flt Permitted	0.405			0.445			0.336			0.238		
Satd. Flow (perm)	770	3251	0	783	3309	0	614	3494	0	439	3434	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		933			319			463			1681	
Travel Time (s)		18.2			6.2			9.0			32.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	2%	8%	3%	3%	4%	3%	0%	3%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	386	0	78	572	0	103	701	0	130	566	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	6.5	21.0		6.5	21.0		6.5	21.0		6.5	21.0	
Total Split (s)	13.2	42.9		13.2	42.7		13.2	40.7		13.2	40.7	
Total Split (%)	12.0%	39.0%		12.0%	38.8%		12.0%	37.0%		12.0%	37.0%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	47.8	40.4		52.5	46.2		46.4	35.2		47.3	35.7	
Actuated g/C Ratio	0.43	0.37		0.48	0.42		0.42	0.32		0.43	0.32	

Lanes, Volumes, Timings
1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.03	0.32		0.18	0.41		0.30	0.63		0.44	0.51	
Control Delay	16.1	27.4		17.4	24.8		6.5	22.3		22.0	31.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.1	27.4		17.4	24.8		6.5	22.3		22.0	31.9	
LOS	B	C		B	C		A	C		C	C	
Approach Delay		27.0			23.9			20.3			30.1	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	5	113		32	148		3	220		48	157	
Queue Length 95th (ft)	15	150		57	214		m8	287		90	227	
Internal Link Dist (ft)		853			239			383			1601	
Turn Bay Length (ft)	180			125			310			270		
Base Capacity (vph)	445	1216		452	1389		364	1145		308	1135	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.03	0.32		0.17	0.41		0.28	0.61		0.42	0.50	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 11 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 24.9

Intersection LOS: C

Intersection Capacity Utilization 59.5%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 1: Plainfield Road & Theodore Street

			
Ø1	Ø2 (R)	Ø3	Ø4
13.2 s	42.9 s	13.2 s	40.7 s
			
Ø5	Ø6 (R)	Ø7	Ø8
13.2 s	42.7 s	13.2 s	40.7 s

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	194	541	81	114	517	27	56	588	205	70	427	167
Future Volume (vph)	194	541	81	114	517	27	56	588	205	70	427	167
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	190		150	200		200	215		285	155		165
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	220			175			250			110		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3519	1599	1736	3585	1455	1656	3689	1568	1805	3689	1599
Flt Permitted	0.950			0.950			0.411			0.282		
Satd. Flow (perm)	3400	3519	1599	1736	3585	1455	716	3689	1568	536	3689	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			40			35	
Link Distance (ft)		853			840			808			1222	
Travel Time (s)		16.6			16.4			13.8			23.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	8%	1%	4%	6%	11%	9%	3%	3%	0%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	216	601	90	127	574	30	62	653	228	78	474	186
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		5	2	3	1	6	7
Permitted Phases			8			4	2		2	6		6
Detector Phase	3	8	8	7	4	4	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	7.5	21.0	21.0	7.5	21.0	21.0	6.5	21.0	7.5	6.5	21.0	7.5
Total Split (s)	14.3	46.2	46.2	14.3	46.2	46.2	13.2	36.3	14.3	13.2	36.3	14.3
Total Split (%)	13.0%	42.0%	42.0%	13.0%	42.0%	42.0%	12.0%	33.0%	13.0%	12.0%	33.0%	13.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5	1.0	0.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0	4.5	3.5	6.0	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effect Green (s)	9.6	36.0	36.0	9.7	36.1	36.1	47.3	38.1	53.7	47.7	38.3	54.0
Actuated g/C Ratio	0.09	0.33	0.33	0.09	0.33	0.33	0.43	0.35	0.49	0.43	0.35	0.49

Lanes, Volumes, Timings
2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.73	0.52	0.17	0.83	0.49	0.06	0.17	0.51	0.30	0.24	0.37	0.24
Control Delay	63.7	31.2	25.7	88.7	30.5	23.7	20.1	32.5	20.6	15.3	25.9	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	31.2	25.7	88.7	30.5	23.7	20.1	32.5	20.6	15.3	25.9	16.9
LOS	E	C	C	F	C	C	C	C	C	B	C	B
Approach Delay	38.4				40.3				28.8		22.5	
Approach LOS	D				D				C		C	
Queue Length 50th (ft)	77	171	43	90	161	14	26	207	104	36	137	94
Queue Length 95th (ft)	#127	222	79	#195	210	35	53	276	170	62	223	157
Internal Link Dist (ft)	773				760				728		1142	
Turn Bay Length (ft)	190		150		200		215		285		155	
Base Capacity (vph)	302	1286	584	154	1310	531	397	1277	768	348	1284	786
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.47	0.15	0.82	0.44	0.06	0.16	0.51	0.30	0.22	0.37	0.24

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 16.5 (15%), Referenced to phase 2:SETL and 6:NWTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 32.6

Intersection LOS: C

Intersection Capacity Utilization 56.9%

ICU Level of Service B

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Larkin Avenue & Plainfield Road

			
Ø1	Ø2 (R)	Ø3	Ø4
13.2 s	36.3 s	14.3 s	46.2 s
			
Ø5	Ø6 (R)	Ø7	Ø8
13.2 s	36.3 s	14.3 s	46.2 s

HCM 6th TWSC

3: Theodore Street & Knapp Street

11/08/2024

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	306	532	135	42	60
Future Vol, veh/h	56	306	532	135	42	60
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	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	4	5	2	0
Mvmt Flow	59	322	560	142	44	63
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	702	0	-	0	910	351
Stage 1	-	-	-	-	631	-
Stage 2	-	-	-	-	279	-
Critical Hdwy	4.1	-	-	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.2	-	-	-	3.52	3.3
Pot Cap-1 Maneuver	905	-	-	-	274	651
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	743	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	905	-	-	-	252	651
Mov Cap-2 Maneuver	-	-	-	-	360	-
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	743	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.7	0		14.4		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	905	-	-	-	-	488
HCM Lane V/C Ratio	0.065	-	-	-	-	0.22
HCM Control Delay (s)	9.3	0.3	-	-	-	14.4
HCM Lane LOS	A	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	-	0.8

Intersection												
Int Delay, s/veh	0											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	732	1	0	637	0	0	0	0	0	0	0
Future Vol, veh/h	0	732	1	0	637	0	0	0	0	0	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	10	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	4	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	0	804	1	0	700	0	0	0	0	0	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	700	0	0	805	0	0	1155	1505	403	1102	1505	350
Stage 1	-	-	-	-	-	-	805	805	-	700	700	-
Stage 2	-	-	-	-	-	-	350	700	-	402	805	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	906	-	-	828	-	-	154	122	603	169	122	652
Stage 1	-	-	-	-	-	-	347	398	-	401	444	-
Stage 2	-	-	-	-	-	-	645	444	-	601	398	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	906	-	-	828	-	-	154	122	603	169	122	652
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	122	-	169	122	-
Stage 1	-	-	-	-	-	-	347	398	-	401	444	-
Stage 2	-	-	-	-	-	-	645	444	-	601	398	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	0			0			0			0		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1					
Capacity (veh/h)	-	828	-	-	906	-	-	-				
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-				
HCM Control Delay (s)	0	0	-	-	0	-	-	0				
HCM Lane LOS	A	A	-	-	A	-	-	A				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-				

Intersection												
Int Delay, s/veh	0.1											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	1	100	0	1	172	14	0	0	0	2	0	1
Future Vol, veh/h	1	100	0	1	172	14	0	0	0	2	0	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	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	3	7	0	1	0	0	0	0	0	0	0
Mvmt Flow	1	115	0	1	198	16	0	0	0	2	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	214	0	0	115	0	0	326	333	115	325	325	206
Stage 1	-	-	-	-	-	-	117	117	-	208	208	-
Stage 2	-	-	-	-	-	-	209	216	-	117	117	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1368	-	-	1487	-	-	631	590	943	632	596	840
Stage 1	-	-	-	-	-	-	892	803	-	799	734	-
Stage 2	-	-	-	-	-	-	798	728	-	892	803	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1368	-	-	1487	-	-	629	589	943	631	595	840
Mov Cap-2 Maneuver	-	-	-	-	-	-	629	589	-	631	595	-
Stage 1	-	-	-	-	-	-	891	802	-	798	733	-
Stage 2	-	-	-	-	-	-	796	727	-	891	802	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	0.1			0			0			10.3		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1			
Capacity (veh/h)	-	-	1487	-	-	1368	-	-	688			
HCM Lane V/C Ratio	-	-	0.001	-	-	0.001	-	-	0.005			
HCM Control Delay (s)	0	0	7.4	0	-	7.6	0	-	10.3			
HCM Lane LOS	A	A	A	A	-	A	A	-	B			
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0			

Capacity Analysis Summary Sheets
Existing Weekday Evening Peak Hour

Lanes, Volumes, Timings
1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	32	419	248	111	486	230	235	714	17	196	589	79
Future Volume (vph)	32	419	248	111	486	230	235	714	17	196	589	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	180		0	125		0	310		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	115			115			220			150		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.944			0.952			0.997			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3321	0	1719	3369	0	1736	3525	0	1752	3442	0
Flt Permitted	0.293			0.259			0.202			0.191		
Satd. Flow (perm)	557	3321	0	469	3369	0	369	3525	0	352	3442	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		933			319			463			1681	
Travel Time (s)		18.2			6.2			9.0			32.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	2%	5%	2%	2%	4%	2%	6%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	681	0	113	731	0	240	746	0	200	682	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	6.5	21.0		6.5	21.0		6.5	21.0		6.5	21.0	
Total Split (s)	13.0	52.0		13.0	52.0		24.7	40.3		24.7	40.3	
Total Split (%)	10.0%	40.0%		10.0%	40.0%		19.0%	31.0%		19.0%	31.0%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	57.9	48.6		62.5	54.3		57.8	38.7		54.4	37.0	
Actuated g/C Ratio	0.45	0.37		0.48	0.42		0.44	0.30		0.42	0.28	

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.11	0.55		0.36	0.52		0.71	0.71		0.65	0.70	
Control Delay	19.3	34.8		22.5	31.2		41.8	58.1		31.9	46.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.3	34.8		22.5	31.2		41.8	58.1		31.9	46.1	
LOS	B	C		C	C		D	E		C	D	
Approach Delay		34.1			30.1			54.1			42.8	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	15	244		53	256		201	350		98	263	
Queue Length 95th (ft)	34	308		90	328		m279	m407		151	351	
Internal Link Dist (ft)		853			239			383			1601	
Turn Bay Length (ft)	180			125			310			270		
Base Capacity (vph)	350	1240		316	1408		390	1050		386	980	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.09	0.55		0.36	0.52		0.62	0.71		0.52	0.70	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 33.8 (26%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 41.1

Intersection LOS: D

Intersection Capacity Utilization 74.2%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 1: Plainfield Road & Theodore Street

	Ø1		Ø2 (R)		Ø3		Ø4
13 s		52 s		24.7 s		40.3 s	
	Ø5		Ø6 (R)		Ø7		Ø8
13 s		52 s		24.7 s		40.3 s	

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	283	596	64	182	784	75	82	737	326	85	673	140
Future Volume (vph)	283	596	64	182	784	75	82	737	326	85	673	140
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	190		150	200		200	215		285	155		165
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	220			175			250			110		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3519	1615	1736	3619	1568	1770	3689	1599	1805	3689	1553
Flt Permitted	0.950			0.950			0.219			0.179		
Satd. Flow (perm)	3467	3519	1615	1736	3619	1568	408	3689	1599	340	3689	1553
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			40			35	
Link Distance (ft)		853			840			808			1222	
Travel Time (s)		16.6			16.4			13.8			23.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	0%	4%	5%	3%	2%	3%	1%	0%	3%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	608	65	186	800	77	84	752	333	87	687	143
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		5	2	3	1	6	7
Permitted Phases			8			4	2		2	6		6
Detector Phase	3	8	8	7	4	4	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	7.5	21.0	21.0	7.5	21.0	21.0	6.5	21.0	7.5	6.5	21.0	7.5
Total Split (s)	27.3	58.5	58.5	18.2	49.4	49.4	13.0	40.3	27.3	13.0	40.3	18.2
Total Split (%)	21.0%	45.0%	45.0%	14.0%	38.0%	38.0%	10.0%	31.0%	21.0%	10.0%	31.0%	14.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5	1.0	0.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0	4.5	3.5	6.0	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effect Green (s)	16.5	48.6	48.6	14.2	46.3	46.3	49.7	38.6	61.1	49.7	38.6	58.9
Actuated g/C Ratio	0.13	0.37	0.37	0.11	0.36	0.36	0.38	0.30	0.47	0.38	0.30	0.45

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.66	0.46	0.11	0.98	0.62	0.14	0.34	0.69	0.44	0.38	0.63	0.20
Control Delay	61.1	31.5	25.3	119.1	37.0	28.8	29.5	45.4	26.0	24.0	26.5	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	31.5	25.3	119.1	37.0	28.8	29.5	45.4	26.0	24.0	26.5	14.8
LOS	E	C	C	F	D	C	C	D	C	C	C	B
Approach Delay	40.0				50.8				38.8			
Approach LOS	D				D				D			
Queue Length 50th (ft)	121	192	34	~163	277	42	45	310	197	27	138	39
Queue Length 95th (ft)	162	244	66	#320	367	83	83	384	265	m49	168	m58
Internal Link Dist (ft)	773				760				728			
Turn Bay Length (ft)	190	150		200	200		215	285		155	165	
Base Capacity (vph)	608	1421	652	189	1311	568	258	1095	829	239	1096	703
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.43	0.10	0.98	0.61	0.14	0.33	0.69	0.40	0.36	0.63	0.20

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 6.5 (5%), Referenced to phase 2:SETL and 6:NWTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 39.0

Intersection LOS: D

Intersection Capacity Utilization 69.8%

ICU Level of Service C

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

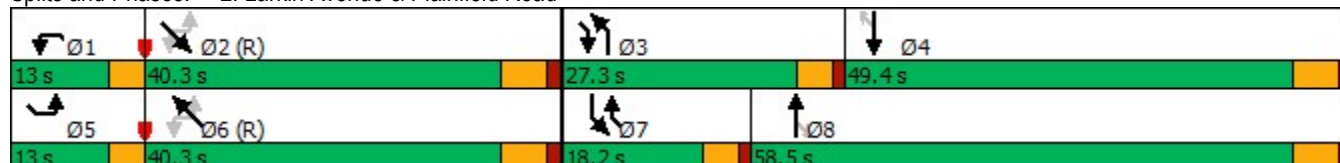
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: Larkin Avenue & Plainfield Road



HCM 6th TWSC 3: Theodore Street & Knapp Street

11/08/2024

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	62	671	714	109	68	113
Future Vol, veh/h	62	671	714	109	68	113
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	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	4	3	2	1	1
Mvmt Flow	66	714	760	116	72	120
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	876	0	-	0	1307	438
Stage 1	-	-	-	-	818	-
Stage 2	-	-	-	-	489	-
Critical Hdwy	4.1	-	-	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	2.2	-	-	-	3.51	3.31
Pot Cap-1 Maneuver	779	-	-	-	153	569
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	585	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	779	-	-	-	132	569
Mov Cap-2 Maneuver	-	-	-	-	251	-
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	585	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.4	0		23.3		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	779	-	-	-	386	
HCM Lane V/C Ratio	0.085	-	-	-	0.499	
HCM Control Delay (s)	10	0.6	-	-	23.3	
HCM Lane LOS	B	A	-	-	C	
HCM 95th %tile Q(veh)	0.3	-	-	-	2.7	

Intersection

Int Delay, s/veh 2.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	966	0	0	851	0	0	0	0	50	0	0
Future Vol, veh/h	0	966	0	0	851	0	0	0	0	50	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	10	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	2	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	0	1039	0	0	915	0	0	0	0	54	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	915	0	0	1039	0	0	1497	1954	520	1435	1954	458
Stage 1	-	-	-	-	-	-	1039	1039	-	915	915	-
Stage 2	-	-	-	-	-	-	458	915	-	520	1039	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	754	-	-	677	-	-	86	65	506	96	65	555
Stage 1	-	-	-	-	-	-	250	310	-	298	354	-
Stage 2	-	-	-	-	-	-	557	354	-	512	310	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	754	-	-	677	-	-	86	65	506	96	65	555
Mov Cap-2 Maneuver	-	-	-	-	-	-	86	65	-	96	65	-
Stage 1	-	-	-	-	-	-	250	310	-	298	354	-
Stage 2	-	-	-	-	-	-	557	354	-	512	310	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0	0	0	82.3
HCM LOS			A	F

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	-	677	-	-	754	-	96
HCM Lane V/C Ratio	-	-	-	-	-	-	0.56
HCM Control Delay (s)	0	0	-	-	0	-	82.3
HCM Lane LOS	A	A	-	-	A	-	F
HCM 95th %tile Q(veh)	-	0	-	-	0	-	2.6

Intersection												
Int Delay, s/veh	0.9											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	2	182	0	0	170	18	0	0	0	25	0	7
Future Vol, veh/h	2	182	0	0	170	18	0	0	0	25	0	7
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	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	2	196	0	0	183	19	0	0	0	27	0	8
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	202	0	0	196	0	0	397	402	196	393	393	193
Stage 1	-	-	-	-	-	-	200	200	-	193	193	-
Stage 2	-	-	-	-	-	-	197	202	-	200	200	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1382	-	-	1389	-	-	567	540	850	570	546	854
Stage 1	-	-	-	-	-	-	806	739	-	813	745	-
Stage 2	-	-	-	-	-	-	809	738	-	806	739	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1382	-	-	1389	-	-	561	539	850	569	545	854
Mov Cap-2 Maneuver	-	-	-	-	-	-	561	539	-	569	545	-
Stage 1	-	-	-	-	-	-	804	738	-	811	745	-
Stage 2	-	-	-	-	-	-	802	738	-	804	738	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	0.1			0			0			11.2		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1			
Capacity (veh/h)	-	-	1389	-	-	1382	-	-	614			
HCM Lane V/C Ratio	-	-	-	-	-	0.002	-	-	0.056			
HCM Control Delay (s)	0	0	0	-	-	7.6	0	-	11.2			
HCM Lane LOS	A	A	A	-	-	A	A	-	B			
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0.2			

Capacity Analysis Summary Sheets
Existing Saturday Midday Peak Hour

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	17	411	228	118	443	255	206	566	40	92	549	164
Future Volume (vph)	17	411	228	118	443	255	206	566	40	92	549	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	180		0	125		0	310		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	115			115			220			150		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.947			0.945			0.990			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3363	0	1787	3353	0	1787	3476	0	1787	3437	0
Flt Permitted	0.314			0.255			0.181			0.353		
Satd. Flow (perm)	597	3363	0	480	3353	0	340	3476	0	664	3437	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		933			319			463			1681	
Travel Time (s)		18.2			6.2			9.0			32.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	1%	1%	1%	3%	1%	3%	0%	1%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	659	0	122	720	0	212	625	0	95	735	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	6.5	21.0		6.5	21.0		6.5	21.0		6.5	21.0	
Total Split (s)	13.2	45.6		13.2	45.6		21.6	48.0		13.2	39.6	
Total Split (%)	11.0%	38.0%		11.0%	38.0%		18.0%	40.0%		11.0%	33.0%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	50.1	41.4		56.1	49.7		56.6	42.1		47.2	36.2	
Actuated g/C Ratio	0.42	0.34		0.47	0.41		0.47	0.35		0.39	0.30	

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.06	0.57		0.38	0.52		0.63	0.51		0.28	0.71	
Control Delay	18.4	35.0		22.3	29.1		16.5	21.9		20.0	41.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.4	35.0		22.3	29.1		16.5	21.9		20.0	41.9	
LOS	B	C		C	C		B	C		B	D	
Approach Delay		34.5			28.1			20.5			39.4	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	7	223		53	205		100	207		39	262	
Queue Length 95th (ft)	21	285		92	306		m130	273		71	348	
Internal Link Dist (ft)		853			239			383			1601	
Turn Bay Length (ft)	180			125			310			270		
Base Capacity (vph)	364	1163		329	1389		378	1241		358	1036	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.57		0.37	0.52		0.56	0.50		0.27	0.71	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 7.2 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 30.4

Intersection LOS: C

Intersection Capacity Utilization 73.7%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 1: Plainfield Road & Theodore Street

			
Ø1	Ø2 (R)	Ø3	Ø4
13.2 s	45.6 s	13.2 s	48 s
			
Ø5	Ø6 (R)	Ø7	Ø8
13.2 s	45.6 s	21.6 s	39.6 s

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	381	561	92	139	615	81	88	608	324	95	591	146
Future Volume (vph)	381	561	92	139	615	81	88	608	324	95	591	146
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	190		150	200		200	215		285	155		165
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	220			175			250			110		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3762	1599	1787	3654	1599	1787	3725	1615	1805	3762	1583
Flt Permitted	0.950			0.950			0.284			0.269		
Satd. Flow (perm)	3467	3762	1599	1787	3654	1599	534	3725	1615	511	3762	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			40			35	
Link Distance (ft)		853			840			808			1222	
Travel Time (s)		16.6			16.4			13.8			23.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	4%	1%	1%	2%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	393	578	95	143	634	84	91	627	334	98	609	151
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		5	2	3	1	6	7
Permitted Phases			8			4	2		2	6		6
Detector Phase	3	8	8	7	4	4	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	7.5	21.0	21.0	7.5	21.0	21.0	6.5	21.0	7.5	6.5	21.0	7.5
Total Split (s)	24.0	52.8	52.8	16.8	45.6	45.6	13.2	37.2	24.0	13.2	37.2	16.8
Total Split (%)	20.0%	44.0%	44.0%	14.0%	38.0%	38.0%	11.0%	31.0%	20.0%	11.0%	31.0%	14.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5	1.0	0.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0	4.5	3.5	6.0	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effect Green (s)	17.9	42.8	42.8	11.9	36.8	36.8	47.6	36.6	60.4	47.9	36.7	54.6
Actuated g/C Ratio	0.15	0.36	0.36	0.10	0.31	0.31	0.40	0.30	0.50	0.40	0.31	0.46

Lanes, Volumes, Timings
2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.76	0.43	0.17	0.81	0.57	0.17	0.30	0.55	0.41	0.33	0.53	0.21
Control Delay	59.1	29.8	25.8	85.0	36.6	30.3	25.4	38.6	21.6	17.6	30.2	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	29.8	25.8	85.0	36.6	30.3	25.4	38.6	21.6	17.6	30.2	14.6
LOS	E	C	C	F	D	C	C	D	C	B	C	B
Approach Delay	40.3				44.1				32.1		26.0	
Approach LOS	D				D				C		C	
Queue Length 50th (ft)	150	167	47	110	208	46	45	227	167	27	221	83
Queue Length 95th (ft)	204	217	86	#217	267	86	81	293	247	m48	320	m119
Internal Link Dist (ft)	773				760				728		1142	
Turn Bay Length (ft)	190			150	200			215			285	155
Base Capacity (vph)	563	1467	623	183	1205	527	318	1134	835	312	1150	725
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.39	0.15	0.78	0.53	0.16	0.29	0.55	0.40	0.31	0.53	0.21

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 7.2 (6%), Referenced to phase 2:SETL and 6:NWTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 35.7

Intersection LOS: D

Intersection Capacity Utilization 65.3%

ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: Larkin Avenue & Plainfield Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13.2 s	37.2 s	24 s	45.6 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
13.2 s	37.2 s	16.8 s	52.8 s

HCM 6th TWSC
3: Theodore Street & Knapp Street

11/08/2024

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	736	703	95	100	113
Future Vol, veh/h	45	736	703	95	100	113
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	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	1	2	0	0	1
Mvmt Flow	47	767	732	99	104	118
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	831	0	-	0	1260	416
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	478	-
Critical Hdwy	4.1	-	-	-	6.8	6.92
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.31
Pot Cap-1 Maneuver	810	-	-	-	165	588
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	810	-	-	-	148	588
Mov Cap-2 Maneuver	-	-	-	-	273	-
Stage 1	-	-	-	-	375	-
Stage 2	-	-	-	-	595	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		26.8		
HCM LOS				D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	810	-	-	-	381	
HCM Lane V/C Ratio	0.058	-	-	-	0.582	
HCM Control Delay (s)	9.7	0.4	-	-	26.8	
HCM Lane LOS	A	A	-	-	D	
HCM 95th %tile Q(veh)	0.2	-	-	-	3.5	

Intersection												
Int Delay, s/veh	0											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	812	0	0	821	0	0	0	0	0	0	0
Future Vol, veh/h	0	812	0	0	821	0	0	0	0	0	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	10	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	2	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	0	873	0	0	883	0	0	0	0	0	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	883	0	0	873	0	0	1315	1756	437	1320	1756	442
Stage 1	-	-	-	-	-	-	873	873	-	883	883	-
Stage 2	-	-	-	-	-	-	442	883	-	437	873	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	775	-	-	781	-	-	118	86	573	117	86	569
Stage 1	-	-	-	-	-	-	316	370	-	311	367	-
Stage 2	-	-	-	-	-	-	570	367	-	574	370	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	775	-	-	781	-	-	118	86	573	117	86	569
Mov Cap-2 Maneuver	-	-	-	-	-	-	118	86	-	117	86	-
Stage 1	-	-	-	-	-	-	316	370	-	311	367	-
Stage 2	-	-	-	-	-	-	570	367	-	574	370	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	0			0			0			0		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1					
Capacity (veh/h)	-	781	-	-	775	-	-	-				
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-				
HCM Control Delay (s)	0	0	-	-	0	-	-	0				
HCM Lane LOS	A	A	-	-	A	-	-	A				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-				

Intersection												
Int Delay, s/veh	0.3											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	1	222	0	0	158	16	0	0	0	9	0	2
Future Vol, veh/h	1	222	0	0	158	16	0	0	0	9	0	2
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	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	252	0	0	180	18	0	0	0	10	0	2
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	198	0	0	252	0	0	444	452	252	443	443	189
Stage 1	-	-	-	-	-	-	254	254	-	189	189	-
Stage 2	-	-	-	-	-	-	190	198	-	254	254	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1387	-	-	1325	-	-	528	506	792	528	512	858
Stage 1	-	-	-	-	-	-	755	701	-	817	748	-
Stage 2	-	-	-	-	-	-	816	741	-	755	701	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1387	-	-	1325	-	-	526	505	792	527	511	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	526	505	-	527	511	-
Stage 1	-	-	-	-	-	-	754	700	-	816	748	-
Stage 2	-	-	-	-	-	-	814	741	-	754	700	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	0			0			0			11.5		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NELn1		NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1		
Capacity (veh/h)	-		-	1325	-	-	1387	-	-	567		
HCM Lane V/C Ratio	-		-	-	-	-	0.001	-	-	0.022		
HCM Control Delay (s)	0		0	0	-	-	7.6	0	-	11.5		
HCM Lane LOS	A		A	A	-	-	A	A	-	B		
HCM 95th %tile Q(veh)	-		-	0	-	-	0	-	-	0.1		

Capacity Analysis Summary Sheets
Year 2030 No-Build Weekday Morning Peak Hour

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	12	190	174	74	338	202	97	642	20	122	446	88
Future Volume (vph)	12	190	174	74	338	202	97	642	20	122	446	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	180		0	125		0	310		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	115			115			220			150		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.928			0.944			0.995			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3251	0	1671	3309	0	1736	3490	0	1752	3434	0
Flt Permitted	0.391			0.435			0.322			0.222		
Satd. Flow (perm)	743	3251	0	765	3309	0	588	3490	0	410	3434	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		933			319			463			1681	
Travel Time (s)		18.2			6.2			9.0			32.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	2%	8%	3%	3%	4%	3%	0%	3%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	400	0	81	593	0	107	727	0	134	587	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	6.5	21.0		6.5	21.0		6.5	21.0		6.5	21.0	
Total Split (s)	13.2	42.9		13.2	42.7		13.2	40.7		13.2	40.7	
Total Split (%)	12.0%	39.0%		12.0%	38.8%		12.0%	37.0%		12.0%	37.0%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	47.6	40.3		52.4	46.1		46.4	35.3		47.4	35.8	
Actuated g/C Ratio	0.43	0.37		0.48	0.42		0.42	0.32		0.43	0.33	

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.03	0.34		0.19	0.43		0.32	0.65		0.47	0.53	
Control Delay	15.9	27.5		17.4	25.0		6.8	22.3		22.9	32.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.9	27.5		17.4	25.0		6.8	22.3		22.9	32.3	
LOS	B	C		B	C		A	C		C	C	
Approach Delay		27.2			24.1			20.3			30.5	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	5	116		33	152		3	234		50	168	
Queue Length 95th (ft)	15	154		58	223		m8	m296		93	236	
Internal Link Dist (ft)		853			239			383			1601	
Turn Bay Length (ft)	180			125			310			270		
Base Capacity (vph)	435	1205		445	1387		355	1142		298	1134	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.03	0.33		0.18	0.43		0.30	0.64		0.45	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 11 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 25.1

Intersection LOS: C

Intersection Capacity Utilization 61.0%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 1: Plainfield Road & Theodore Street

				
Ø1	Ø2 (R)		Ø3	Ø4
13.2 s	42.9 s		13.2 s	40.7 s
				
Ø5	Ø6 (R)		Ø7	Ø8
13.2 s	42.7 s		13.2 s	40.7 s

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	201	561	84	118	536	28	58	610	213	73	443	173
Future Volume (vph)	201	561	84	118	536	28	58	610	213	73	443	173
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	190		150	200		200	215		285	155		165
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	220			175			250			110		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3519	1599	1736	3585	1455	1656	3689	1568	1805	3689	1599
Flt Permitted	0.950			0.950			0.396			0.262		
Satd. Flow (perm)	3400	3519	1599	1736	3585	1455	690	3689	1568	498	3689	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			40			35	
Link Distance (ft)		853			840			808			1222	
Travel Time (s)		16.6			16.4			13.8			23.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	8%	1%	4%	6%	11%	9%	3%	3%	0%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	623	93	131	596	31	64	678	237	81	492	192
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		5	2	3	1	6	7
Permitted Phases			8			4	2		2	6		6
Detector Phase	3	8	8	7	4	4	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	7.5	21.0	21.0	7.5	21.0	21.0	6.5	21.0	7.5	6.5	21.0	7.5
Total Split (s)	14.3	46.2	46.2	14.3	46.2	46.2	13.2	36.3	14.3	13.2	36.3	14.3
Total Split (%)	13.0%	42.0%	42.0%	13.0%	42.0%	42.0%	12.0%	33.0%	13.0%	12.0%	33.0%	13.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5	1.0	0.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0	4.5	3.5	6.0	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effect Green (s)	9.7	36.5	36.5	9.8	36.6	36.6	46.6	37.4	53.1	47.1	37.6	53.5
Actuated g/C Ratio	0.09	0.33	0.33	0.09	0.33	0.33	0.42	0.34	0.48	0.43	0.34	0.49

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.75	0.53	0.18	0.85	0.50	0.06	0.18	0.54	0.31	0.26	0.39	0.25
Control Delay	65.0	31.1	25.6	91.3	30.4	23.5	20.3	33.4	21.1	15.6	26.3	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.0	31.1	25.6	91.3	30.4	23.5	20.3	33.4	21.1	15.6	26.3	17.0
LOS	E	C	C	F	C	C	C	C	C	B	C	B
Approach Delay	38.6				40.6				29.6		22.8	
Approach LOS	D				D				C		C	
Queue Length 50th (ft)	80	176	44	93	166	14	27	220	110	37	145	99
Queue Length 95th (ft)	#134	230	82	#203	218	35	55	288	177	64	231	161
Internal Link Dist (ft)	773				760				728		1142	
Turn Bay Length (ft)	190	150		200	200		215	285		155	165	
Base Capacity (vph)	302	1286	584	154	1310	531	383	1253	757	331	1262	777
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.48	0.16	0.85	0.45	0.06	0.17	0.54	0.31	0.24	0.39	0.25

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 16.5 (15%), Referenced to phase 2:SETL and 6:NWTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 33.0

Intersection LOS: C

Intersection Capacity Utilization 58.4%

ICU Level of Service B

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Larkin Avenue & Plainfield Road

			
Ø1	Ø2 (R)	Ø3	Ø4
13.2 s	36.3 s	14.3 s	46.2 s
			
Ø5	Ø6 (R)	Ø7	Ø8
13.2 s	36.3 s	14.3 s	46.2 s

HCM 6th TWSC

3: Theodore Street & Knapp Street

11/08/2024

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	319	554	135	42	60
Future Vol, veh/h	56	319	554	135	42	60
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	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	4	5	2	0
Mvmt Flow	59	336	583	142	44	63
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	725	0	-	0	940	363
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	4.1	-	-	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.2	-	-	-	3.52	3.3
Pot Cap-1 Maneuver	887	-	-	-	262	640
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	737	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	887	-	-	-	241	640
Mov Cap-2 Maneuver	-	-	-	-	350	-
Stage 1	-	-	-	-	440	-
Stage 2	-	-	-	-	737	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.7	0		14.7		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	887	-	-	-	477	
HCM Lane V/C Ratio	0.066	-	-	-	0.225	
HCM Control Delay (s)	9.3	0.3	-	-	14.7	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9	

Intersection

Int Delay, s/veh 6.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	759	1	0	660	0	0	0	0	0	0	0
Future Vol, veh/h	0	759	1	0	660	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	10	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	4	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	0	834	1	0	725	0	0	0	0	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	364	1	1	419	1	0	1	0	0	0	0	0
Stage 1	1	1	-	0	0	-	-	-	-	-	-	-
Stage 2	363	0	-	419	1	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.54	6.2	7.1	6.55	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.54	-	6.1	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.54	-	6.1	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.036	3.3	3.5	4.045	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	596	891	1090	548	889	-	1635	-	-	-	-	-
Stage 1	1027	891	-	-	-	-	-	-	-	-	-	-
Stage 2	660	-	-	616	889	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	891	1090	94	889	-	1635	-	-	-	-	-
Mov Cap-2 Maneuver	-	891	-	94	889	-	-	-	-	-	-	-
Stage 1	1027	891	-	-	-	-	-	-	-	-	-	-
Stage 2	660	-	-	39	889	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.6		0	0
HCM LOS	B	-		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	NWLn2	SELn1	SELn2	SELn3	SWL	SWT	SWR	
Capacity (veh/h)	1635	-	-	889	-	-	891	891	-	-	-
HCM Lane V/C Ratio	-	-	-	0.408	-	-	0.468	0.469	-	-	-
HCM Control Delay (s)	0	-	-	11.8	-	0	12.5	12.6	0	-	-
HCM Lane LOS	A	-	-	B	-	A	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2	-	-	2.5	2.5	-	-	-

Intersection

Int Delay, s/veh 0.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	1	100	0	1	172	14	0	0	0	2	0	1
Future Vol, veh/h	1	100	0	1	172	14	0	0	0	2	0	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	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	3	7	0	1	0	0	0	0	0	0	0
Mvmt Flow	1	115	0	1	198	16	0	0	0	2	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	214	0	0	115	0	0	326	333	115	325	325	206
Stage 1	-	-	-	-	-	-	117	117	-	208	208	-
Stage 2	-	-	-	-	-	-	209	216	-	117	117	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1368	-	-	1487	-	-	631	590	943	632	596	840
Stage 1	-	-	-	-	-	-	892	803	-	799	734	-
Stage 2	-	-	-	-	-	-	798	728	-	892	803	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1368	-	-	1487	-	-	629	589	943	631	595	840
Mov Cap-2 Maneuver	-	-	-	-	-	-	629	589	-	631	595	-
Stage 1	-	-	-	-	-	-	891	802	-	798	733	-
Stage 2	-	-	-	-	-	-	796	727	-	891	802	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.1	0	0	10.3
HCM LOS			A	B

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	-	-	1487	-	-	1368	-	-
HCM Lane V/C Ratio	-	-	0.001	-	-	0.001	-	-
HCM Control Delay (s)	0	0	7.4	0	-	7.6	0	-
HCM Lane LOS	A	A	A	A	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-

Capacity Analysis Summary Sheets
Year 2030 No-Build Weekday Evening Peak Hour

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	33	435	257	115	504	239	244	740	18	203	611	82
Future Volume (vph)	33	435	257	115	504	239	244	740	18	203	611	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	180		0	125		0	310		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	115			115			220			150		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.944			0.952			0.997			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3321	0	1719	3369	0	1736	3525	0	1752	3442	0
Flt Permitted	0.274			0.240			0.193			0.179		
Satd. Flow (perm)	521	3321	0	434	3369	0	353	3525	0	330	3442	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		933			319			463			1681	
Travel Time (s)		18.2			6.2			9.0			32.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	2%	5%	2%	2%	4%	2%	6%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	706	0	117	758	0	249	773	0	207	707	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	6.5	21.0		6.5	21.0		6.5	21.0		6.5	21.0	
Total Split (s)	13.0	52.0		13.0	52.0		24.7	40.3		24.7	40.3	
Total Split (%)	10.0%	40.0%		10.0%	40.0%		19.0%	31.0%		19.0%	31.0%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	56.7	47.4		61.4	53.2		58.6	39.3		55.7	37.8	
Actuated g/C Ratio	0.44	0.36		0.47	0.41		0.45	0.30		0.43	0.29	

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.12	0.58		0.40	0.55		0.74	0.73		0.67	0.71	
Control Delay	19.7	36.3		23.7	32.4		42.1	58.4		32.3	46.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.7	36.3		23.7	32.4		42.1	58.4		32.3	46.1	
LOS	B	D		C	C		D	E		C	D	
Approach Delay		35.5			31.2			54.4			43.0	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	15	255		55	269		209	363		102	277	
Queue Length 95th (ft)	34	321		93	342		m279	m415		157	366	
Internal Link Dist (ft)		853			239			383			1601	
Turn Bay Length (ft)	180			125			310			270		
Base Capacity (vph)	332	1227		298	1379		388	1064		383	1000	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.58		0.39	0.55		0.64	0.73		0.54	0.71	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 33.8 (26%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 41.8

Intersection LOS: D

Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 1: Plainfield Road & Theodore Street

				
Ø1	Ø2 (R)		Ø3	Ø4
13 s	52 s		24.7 s	40.3 s
				
Ø5	Ø6 (R)		Ø7	Ø8
13 s	52 s		24.7 s	40.3 s

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	293	618	66	189	813	78	85	764	338	88	698	145
Future Volume (vph)	293	618	66	189	813	78	85	764	338	88	698	145
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	190		150	200		200	215		285	155		165
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	220			175			250			110		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3519	1615	1736	3619	1568	1770	3689	1599	1805	3689	1553
Flt Permitted	0.950			0.950			0.196			0.153		
Satd. Flow (perm)	3467	3519	1615	1736	3619	1568	365	3689	1599	291	3689	1553
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			40			35	
Link Distance (ft)		853			840			808			1222	
Travel Time (s)		16.6			16.4			13.8			23.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	0%	4%	5%	3%	2%	3%	1%	0%	3%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	631	67	193	830	80	87	780	345	90	712	148
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		5	2	3	1	6	7
Permitted Phases			8			4	2		2	6		6
Detector Phase	3	8	8	7	4	4	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	7.5	21.0	21.0	7.5	21.0	21.0	6.5	21.0	7.5	6.5	21.0	7.5
Total Split (s)	27.3	58.5	58.5	18.2	49.4	49.4	13.0	40.3	27.3	13.0	40.3	18.2
Total Split (%)	21.0%	45.0%	45.0%	14.0%	38.0%	38.0%	10.0%	31.0%	21.0%	10.0%	31.0%	14.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5	1.0	0.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0	4.5	3.5	6.0	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effect Green (s)	16.8	50.0	50.0	13.7	47.0	47.0	48.7	37.6	60.4	48.7	37.6	57.3
Actuated g/C Ratio	0.13	0.38	0.38	0.11	0.36	0.36	0.37	0.29	0.46	0.37	0.29	0.44

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.67	0.47	0.11	1.05	0.64	0.14	0.38	0.73	0.46	0.43	0.67	0.22
Control Delay	61.1	30.9	25.1	137.3	37.1	28.8	30.7	47.5	26.7	29.3	28.4	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	30.9	25.1	137.3	37.1	28.8	30.7	47.5	26.7	29.3	28.4	15.6
LOS	E	C	C	F	D	C	C	D	C	C	C	B
Approach Delay	39.5				54.1				40.3		26.5	
Approach LOS	D				D				D		C	
Queue Length 50th (ft)	125	201	35	~178	292	44	47	324	205	28	140	40
Queue Length 95th (ft)	167	254	67	#334	385	85	85	401	274	m63	195	m59
Internal Link Dist (ft)	773				760				728		1142	
Turn Bay Length (ft)	190		150		200		200		215		285	
Base Capacity (vph)	608	1421	652	183	1315	570	241	1065	816	221	1066	685
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.44	0.10	1.05	0.63	0.14	0.36	0.73	0.42	0.41	0.67	0.22

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 6.5 (5%), Referenced to phase 2:SETL and 6:NWTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 40.6

Intersection LOS: D

Intersection Capacity Utilization 71.7%

ICU Level of Service C

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

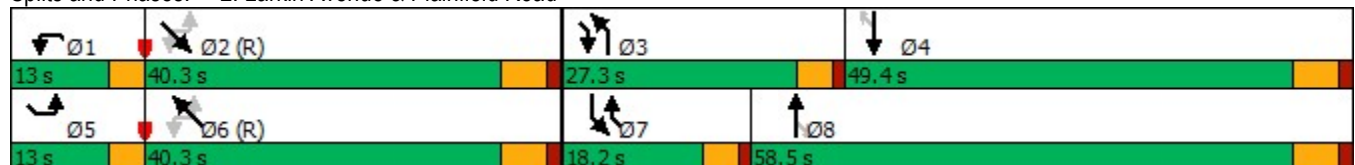
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: Larkin Avenue & Plainfield Road



HCM 6th TWSC
3: Theodore Street & Knapp Street

11/08/2024

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	62	699	745	109	68	113
Future Vol, veh/h	62	699	745	109	68	113
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	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	4	3	2	1	1
Mvmt Flow	66	744	793	116	72	120

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	909	0	0 1355 455
Stage 1	-	-	- 851 -
Stage 2	-	-	- 504 -
Critical Hdwy	4.1	-	- 6.82 6.92
Critical Hdwy Stg 1	-	-	- 5.82 -
Critical Hdwy Stg 2	-	-	- 5.82 -
Follow-up Hdwy	2.2	-	- 3.51 3.31
Pot Cap-1 Maneuver	757	-	- 142 555
Stage 1	-	-	- 381 -
Stage 2	-	-	- 575 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	757	-	- 121 555
Mov Cap-2 Maneuver	-	-	- 238 -
Stage 1	-	-	- 324 -
Stage 2	-	-	- 575 -

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	24.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	757	-	-	-	370
HCM Lane V/C Ratio	0.087	-	-	-	0.52
HCM Control Delay (s)	10.2	0.6	-	-	24.8
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.9

Intersection

Int Delay, s/veh 0

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	1002	0	0	883	0	0	0	0	0	0	0
Future Vol, veh/h	0	1002	0	0	883	0	0	0	0	0	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	10	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	2	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	0	1077	0	0	949	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	949	0	0	1077	0	0	1552	2026	539	1488	2026	475
Stage 1	-	-	-	-	-	-	1077	1077	-	949	949	-
Stage 2	-	-	-	-	-	-	475	949	-	539	1077	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	732	-	-	655	-	-	79	58	492	88	58	541
Stage 1	-	-	-	-	-	-	237	298	-	284	342	-
Stage 2	-	-	-	-	-	-	545	342	-	499	298	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	732	-	-	655	-	-	79	58	492	88	58	541
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	58	-	88	58	-
Stage 1	-	-	-	-	-	-	237	298	-	284	342	-
Stage 2	-	-	-	-	-	-	545	342	-	499	298	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	-	655	-	-	732	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	0
HCM Lane LOS	A	A	-	-	A	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-

Intersection												
Int Delay, s/veh	0.9											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	2	182	0	0	170	18	0	0	0	25	0	7
Future Vol, veh/h	2	182	0	0	170	18	0	0	0	25	0	7
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	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	2	196	0	0	183	19	0	0	0	27	0	8
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	202	0	0	196	0	0	397	402	196	393	393	193
Stage 1	-	-	-	-	-	-	200	200	-	193	193	-
Stage 2	-	-	-	-	-	-	197	202	-	200	200	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1382	-	-	1389	-	-	567	540	850	570	546	854
Stage 1	-	-	-	-	-	-	806	739	-	813	745	-
Stage 2	-	-	-	-	-	-	809	738	-	806	739	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1382	-	-	1389	-	-	561	539	850	569	545	854
Mov Cap-2 Maneuver	-	-	-	-	-	-	561	539	-	569	545	-
Stage 1	-	-	-	-	-	-	804	738	-	811	745	-
Stage 2	-	-	-	-	-	-	802	738	-	804	738	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	0.1			0			0			11.2		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1			
Capacity (veh/h)	-	-	1389	-	-	1382	-	-	614			
HCM Lane V/C Ratio	-	-	-	-	-	0.002	-	-	0.056			
HCM Control Delay (s)	0	0	0	-	-	7.6	0	-	11.2			
HCM Lane LOS	A	A	A	-	-	A	A	-	B			
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0.2			

Capacity Analysis Summary Sheets
Year 2030 No-Build Saturday Midday Peak Hour

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	18	426	236	122	459	264	214	587	41	95	569	170
Future Volume (vph)	18	426	236	122	459	264	214	587	41	95	569	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	180		0	125		0	310		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	115			115			220			150		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.947			0.945			0.990			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3363	0	1787	3353	0	1787	3476	0	1787	3437	0
Flt Permitted	0.297			0.243			0.165			0.337		
Satd. Flow (perm)	564	3363	0	457	3353	0	310	3476	0	634	3437	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		933			319			463			1681	
Travel Time (s)		18.2			6.2			9.0			32.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	1%	1%	1%	3%	1%	3%	0%	1%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	682	0	126	745	0	221	647	0	98	762	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	6.5	21.0		6.5	21.0		6.5	21.0		6.5	21.0	
Total Split (s)	13.2	45.6		13.2	45.6		21.6	48.0		13.2	39.6	
Total Split (%)	11.0%	38.0%		11.0%	38.0%		18.0%	40.0%		11.0%	33.0%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	50.0	41.3		56.0	49.6		56.7	42.1		47.1	36.0	
Actuated g/C Ratio	0.42	0.34		0.47	0.41		0.47	0.35		0.39	0.30	

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

11/08/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.06	0.59		0.40	0.54		0.68	0.53		0.30	0.74	
Control Delay	18.4	35.4		22.6	29.5		18.1	22.0		20.3	43.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.4	35.4		22.6	29.5		18.1	22.0		20.3	43.2	
LOS	B	D		C	C		B	C		C	D	
Approach Delay		34.9			28.5			21.0			40.6	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	8	232		55	214		101	214		41	275	
Queue Length 95th (ft)	22	297		94	320		m131	286		73	363	
Internal Link Dist (ft)		853			239			383			1601	
Turn Bay Length (ft)	180			125			310			270		
Base Capacity (vph)	351	1156		320	1387		368	1229		348	1030	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.59		0.39	0.54		0.60	0.53		0.28	0.74	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 7.2 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 31.0

Intersection LOS: C

Intersection Capacity Utilization 75.8%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 1: Plainfield Road & Theodore Street

			
Ø1	Ø2 (R)	Ø3	Ø4
13.2 s	45.6 s	13.2 s	48 s
			
Ø5	Ø6 (R)	Ø7	Ø8
13.2 s	45.6 s	21.6 s	39.6 s

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	395	582	95	144	638	84	91	630	336	99	613	151
Future Volume (vph)	395	582	95	144	638	84	91	630	336	99	613	151
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	190		150	200		200	215		285	155		165
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	220			175			250			110		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3762	1599	1787	3654	1599	1787	3725	1615	1805	3762	1583
Flt Permitted	0.950			0.950			0.262			0.249		
Satd. Flow (perm)	3467	3762	1599	1787	3654	1599	493	3725	1615	473	3762	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			40			35	
Link Distance (ft)		853			840			808			1222	
Travel Time (s)		16.6			16.4			13.8			23.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	4%	1%	1%	2%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	407	600	98	148	658	87	94	649	346	102	632	156
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		5	2	3	1	6	7
Permitted Phases			8			4	2		2	6		6
Detector Phase	3	8	8	7	4	4	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	7.5	21.0	21.0	7.5	21.0	21.0	6.5	21.0	7.5	6.5	21.0	7.5
Total Split (s)	24.0	52.8	52.8	16.8	45.6	45.6	13.2	37.2	24.0	13.2	37.2	16.8
Total Split (%)	20.0%	44.0%	44.0%	14.0%	38.0%	38.0%	11.0%	31.0%	20.0%	11.0%	31.0%	14.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5	1.0	0.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0	4.5	3.5	6.0	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effect Green (s)	18.0	43.5	43.5	12.0	37.4	37.4	46.9	35.8	59.8	47.2	35.9	53.9
Actuated g/C Ratio	0.15	0.36	0.36	0.10	0.31	0.31	0.39	0.30	0.50	0.39	0.30	0.45

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

11/08/2024

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.78	0.44	0.17	0.83	0.58	0.17	0.33	0.58	0.43	0.36	0.56	0.22
Control Delay	60.1	29.7	25.7	87.6	36.6	30.2	26.2	39.7	22.2	18.2	30.7	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	29.7	25.7	87.6	36.6	30.2	26.2	39.7	22.2	18.2	30.7	14.8
LOS	E	C	C	F	D	C	C	D	C	B	C	B
Approach Delay	40.5				44.5				33.0		26.5	
Approach LOS	D				D				C		C	
Queue Length 50th (ft)	156	175	49	114	218	48	46	237	175	27	232	86
Queue Length 95th (ft)	211	225	88	#226	278	88	84	304	258	m49	331	m117
Internal Link Dist (ft)	773				760				728		1142	
Turn Bay Length (ft)	190			150	200			215			285	155
Base Capacity (vph)	563	1467	623	183	1205	527	301	1110	824	297	1125	714
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.41	0.16	0.81	0.55	0.17	0.31	0.58	0.42	0.34	0.56	0.22

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 7.2 (6%), Referenced to phase 2:SETL and 6:NWTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 36.2

Intersection LOS: D

Intersection Capacity Utilization 67.1%

ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: Larkin Avenue & Plainfield Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13.2 s	37.2 s	24 s	45.6 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
13.2 s	37.2 s	16.8 s	52.8 s

HCM 6th TWSC
3: Theodore Street & Knapp Street

11/08/2024

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	765	732	95	100	113
Future Vol, veh/h	45	765	732	95	100	113
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	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	1	2	0	0	1
Mvmt Flow	47	797	763	99	104	118

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	862	0	0	1306	431
Stage 1	-	-	-	813	-
Stage 2	-	-	-	493	-
Critical Hdwy	4.1	-	-	6.8	6.92
Critical Hdwy Stg 1	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	3.5	3.31
Pot Cap-1 Maneuver	789	-	-	154	575
Stage 1	-	-	-	402	-
Stage 2	-	-	-	585	-
Platoon blocked, %	-	-	-		
Mov Cap-1 Maneuver	789	-	-	138	575
Mov Cap-2 Maneuver	-	-	-	261	-
Stage 1	-	-	-	359	-
Stage 2	-	-	-	585	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	28.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	789	-	-	-	367
HCM Lane V/C Ratio	0.059	-	-	-	0.605
HCM Control Delay (s)	9.9	0.5	-	-	28.7
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	3.8

Intersection

Int Delay, s/veh 0

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	842	0	0	851	0	0	0	0	0	0	0
Future Vol, veh/h	0	842	0	0	851	0	0	0	0	0	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	10	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	2	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	0	905	0	0	915	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	915	0	0	905	0	0	1363	1820	453	1368	1820	458
Stage 1	-	-	-	-	-	-	905	905	-	915	915	-
Stage 2	-	-	-	-	-	-	458	915	-	453	905	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	754	-	-	760	-	-	109	78	559	108	78	555
Stage 1	-	-	-	-	-	-	302	358	-	298	354	-
Stage 2	-	-	-	-	-	-	557	354	-	561	358	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	754	-	-	760	-	-	109	78	559	108	78	555
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	78	-	108	78	-
Stage 1	-	-	-	-	-	-	302	358	-	298	354	-
Stage 2	-	-	-	-	-	-	557	354	-	561	358	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	-	760	-	-	754	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	0
HCM Lane LOS	A	A	-	-	A	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-

Intersection												
Int Delay, s/veh	0.3											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	1	222	0	0	158	16	0	0	0	9	0	2
Future Vol, veh/h	1	222	0	0	158	16	0	0	0	9	0	2
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	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	252	0	0	180	18	0	0	0	10	0	2
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	198	0	0	252	0	0	444	452	252	443	443	189
Stage 1	-	-	-	-	-	-	254	254	-	189	189	-
Stage 2	-	-	-	-	-	-	190	198	-	254	254	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1387	-	-	1325	-	-	528	506	792	528	512	858
Stage 1	-	-	-	-	-	-	755	701	-	817	748	-
Stage 2	-	-	-	-	-	-	816	741	-	755	701	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1387	-	-	1325	-	-	526	505	792	527	511	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	526	505	-	527	511	-
Stage 1	-	-	-	-	-	-	754	700	-	816	748	-
Stage 2	-	-	-	-	-	-	814	741	-	754	700	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s	0			0			0			11.5		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1			
Capacity (veh/h)	-	-	1325	-	-	1387	-	-	567			
HCM Lane V/C Ratio	-	-	-	-	-	0.001	-	-	0.022			
HCM Control Delay (s)	0	0	0	-	-	7.6	0	-	11.5			
HCM Lane LOS	A	A	A	-	-	A	A	-	B			
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0.1			

Capacity Analysis Summary Sheets
Year 2030 Total Projected Weekday Morning Peak Hour

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

02/28/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	32	194	174	66	346	200	108	673	38	119	479	82
Future Volume (vph)	32	194	174	66	346	200	108	673	38	119	479	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	180		0	125		0	310		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	115			115			220			150		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.929			0.945			0.992			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3254	0	1671	3312	0	1736	3482	0	1752	3442	0
Flt Permitted	0.358			0.441			0.303			0.199		
Satd. Flow (perm)	680	3254	0	776	3312	0	554	3482	0	367	3442	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		933			319			234			1681	
Travel Time (s)		18.2			6.2			4.6			32.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	2%	8%	3%	3%	4%	3%	0%	3%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	404	0	73	600	0	119	782	0	131	616	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	6.5	21.0		6.5	21.0		6.5	21.0		6.5	21.0	
Total Split (s)	13.2	42.9		13.2	42.7		13.2	40.7		13.2	40.7	
Total Split (%)	12.0%	39.0%		12.0%	38.8%		12.0%	37.0%		12.0%	37.0%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	47.7	39.6		50.6	42.8		47.6	36.2		48.0	36.4	
Actuated g/C Ratio	0.43	0.36		0.46	0.39		0.43	0.33		0.44	0.33	

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

02/28/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.10	0.35		0.17	0.47		0.36	0.68		0.48	0.54	
Control Delay	16.6	27.8		17.4	27.6		10.3	24.6		23.2	32.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.6	27.8		17.4	27.6		10.3	24.6		23.2	32.3	
LOS	B	C		B	C		B	C		C	C	
Approach Delay		26.9			26.5			22.7			30.7	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	13	112		28	174		13	261		51	186	
Queue Length 95th (ft)	31	156		54	231		m22	m319		91	249	
Internal Link Dist (ft)		853			239			154			1601	
Turn Bay Length (ft)	180			125			310			270		
Base Capacity (vph)	407	1193		439	1287		348	1150		285	1142	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.09	0.34		0.17	0.47		0.34	0.68		0.46	0.54	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 11 (10%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 26.5

Intersection LOS: C

Intersection Capacity Utilization 62.4%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 1: Plainfield Road & Theodore Street

			
Ø1	Ø2 (R)	Ø3	Ø4
13.2 s	42.9 s	13.2 s	40.7 s
			
Ø5	Ø6 (R)	Ø7	Ø8
13.2 s	42.7 s	13.2 s	40.7 s

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

02/28/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	201	561	84	130	536	28	58	640	213	73	474	185
Future Volume (vph)	201	561	84	130	536	28	58	640	213	73	474	185
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	190		150	200		200	215		285	155		165
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	220			175			250			110		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3519	1599	1736	3585	1455	1656	3689	1568	1805	3689	1599
Flt Permitted	0.950			0.950			0.367			0.239		
Satd. Flow (perm)	3400	3519	1599	1736	3585	1455	640	3689	1568	454	3689	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			40			35	
Link Distance (ft)		853			840			808			1023	
Travel Time (s)		16.6			16.4			13.8			19.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	8%	1%	4%	6%	11%	9%	3%	3%	0%	3%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	623	93	144	596	31	64	711	237	81	527	206
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		5	2	3	1	6	7
Permitted Phases			8			4	2		2	6		6
Detector Phase	3	8	8	7	4	4	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	7.5	21.0	21.0	7.5	21.0	21.0	6.5	21.0	7.5	6.5	21.0	7.5
Total Split (s)	14.3	46.2	46.2	14.3	46.2	46.2	13.2	36.3	14.3	13.2	36.3	14.3
Total Split (%)	13.0%	42.0%	42.0%	13.0%	42.0%	42.0%	12.0%	33.0%	13.0%	12.0%	33.0%	13.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5	1.0	0.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0	4.5	3.5	6.0	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effect Green (s)	9.7	36.5	36.5	10.2	37.1	37.1	46.2	36.9	52.6	46.7	37.2	53.5
Actuated g/C Ratio	0.09	0.33	0.33	0.09	0.34	0.34	0.42	0.34	0.48	0.42	0.34	0.49

Lanes, Volumes, Timings
2: Larkin Avenue & Plainfield Road

02/28/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.75	0.53	0.18	0.89	0.49	0.06	0.19	0.57	0.32	0.28	0.42	0.27
Control Delay	65.0	31.1	25.6	98.2	30.1	23.5	20.5	34.2	21.2	17.5	28.8	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.0	31.1	25.6	98.2	30.1	23.5	20.5	34.2	21.2	17.5	28.8	17.4
LOS	E	C	C	F	C	C	C	C	C	B	C	B
Approach Delay	38.6				42.6				30.3		24.8	
Approach LOS	D				D				C		C	
Queue Length 50th (ft)	80	176	44	103	166	14	27	233	110	34	181	105
Queue Length 95th (ft)	#134	230	82	#226	218	35	55	304	177	61	244	172
Internal Link Dist (ft)	773				760				728		943	
Turn Bay Length (ft)	190	150		200	200		215	285		155	165	
Base Capacity (vph)	302	1286	584	161	1310	531	364	1238	751	315	1248	777
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.48	0.16	0.89	0.45	0.06	0.18	0.57	0.32	0.26	0.42	0.27

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 16.5 (15%), Referenced to phase 2:SETL and 6:NWTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 33.9

Intersection LOS: C

Intersection Capacity Utilization 59.9%

ICU Level of Service B

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Larkin Avenue & Plainfield Road

			
Ø1	Ø2 (R)	Ø3	Ø4
13.2 s	36.3 s	14.3 s	46.2 s
			
Ø5	Ø6 (R)	Ø7	Ø8
13.2 s	36.3 s	14.3 s	46.2 s

HCM 6th TWSC

3: Theodore Street & Knapp Street

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	67	317	520	186	62	92
Future Vol, veh/h	67	317	520	186	62	92
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	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	4	5	2	0
Mvmt Flow	71	334	547	196	65	97

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	743	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	873	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	873	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.9	0	16.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	873	-	-	-	472
HCM Lane V/C Ratio	0.081	-	-	-	0.343
HCM Ctrl Dly (s/v)	9.5	0.3	-	-	16.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q (veh)	0.3	-	-	-	1.5

HCM 6th TWSC

4: Access Drive/East Access Drive & Plainfield Road

Intersection												
Int Delay, s/veh	0.6											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑			↑↑	↑		↑				↑
Traffic Vol, veh/h	0	819	1	0	636	75	0	0	0	0	0	78
Future Vol, veh/h	0	819	1	0	636	75	0	0	0	0	0	78
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	-	-	Free	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	115	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	4	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	0	900	1	0	699	82	0	0	0	0	0	86
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	901	0	0	1251	1600	451	-	-	350
Stage 1	-	-	-	-	-	-	901	901	-	-	-	-
Stage 2	-	-	-	-	-	-	350	699	-	-	-	-
Critical Hdwy	-	-	-	4.1	-	-	7.5	6.5	6.9	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	763	-	0	131	107	561	0	0	652
Stage 1	0	-	-	-	-	0	303	360	-	0	0	-
Stage 2	0	-	-	-	-	0	645	445	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	763	-	-	114	107	561	-	-	652
Mov Cap-2 Maneuver	-	-	-	-	-	-	114	107	-	-	-	-
Stage 1	-	-	-	-	-	-	303	360	-	-	-	-
Stage 2	-	-	-	-	-	-	560	445	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Ctrl Dly, s/v	0			0			0			11.4		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SERSWLn1							
Capacity (veh/h)	-	763	-	-	-	652						
HCM Lane V/C Ratio	-	-	-	-	-	0.131						
HCM Ctrl Dly (s/v)	0	0	-	-	-	11.4						
HCM Lane LOS	A	A	-	-	-	B						
HCM 95th %tile Q (veh)	-	0	-	-	-	0.5						

HCM 6th TWSC

7: Site Access/Willow Circle Drive & Knapp Street

Intersection												
Int Delay, s/veh	3.4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	1	94	20	79	159	14	28	0	60	2	0	1
Future Vol, veh/h	1	94	20	79	159	14	28	0	60	2	0	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	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	3	7	0	1	0	0	0	0	0	0	0
Mvmt Flow	1	108	23	91	183	16	32	0	69	2	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	199	0	0	131	0	0	496	503	120	529	506	191
Stage 1	-	-	-	-	-	-	122	122	-	373	373	-
Stage 2	-	-	-	-	-	-	374	381	-	156	133	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1385	-	-	1467	-	-	487	474	937	463	472	856
Stage 1	-	-	-	-	-	-	887	799	-	652	622	-
Stage 2	-	-	-	-	-	-	651	617	-	851	790	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1385	-	-	1467	-	-	460	440	937	406	438	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	460	440	-	406	438	-
Stage 1	-	-	-	-	-	-	886	798	-	651	578	-
Stage 2	-	-	-	-	-	-	605	574	-	788	789	-
Approach	SE			NW			NE			SW		
HCM Ctrl Dly, s/v	0.1			2.4			10.5			12.4		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NELn1		NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1		
Capacity (veh/h)	460		937	1467	-	-	1385	-	-	492		
HCM Lane V/C Ratio	0.07		0.074	0.062	-	-	0.001	-	-	0.007		
HCM Ctrl Dly (s/v)	13.4		9.1	7.6	0	-	7.6	0	-	12.4		
HCM Lane LOS	B		A	A	A	-	A	A	-	B		
HCM 95th %tile Q (veh)	0.2		0.2	0.2	-	-	0	-	-	0		

HCM 6th TWSC

8: Plainfield Road & West Site Access Drive

Intersection

Int Delay, s/veh 4.8

Movement

	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	76	726	680	34	94	23
Future Vol, veh/h	76	726	680	34	94	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	4	5	0	0	0
Mvmt Flow	80	764	716	36	99	24

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	752	0	0	1258	358
Stage 1	-	-	-	716	-
Stage 2	-	-	-	542	-
Critical Hdwy	4.1	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	3.5	3.3
Pot Cap-1 Maneuver	867	-	-	166	644
Stage 1	-	-	-	450	-
Stage 2	-	-	-	553	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	867	-	-	151	644
Mov Cap-2 Maneuver	-	-	-	151	-
Stage 1	-	-	-	409	-
Stage 2	-	-	-	553	-

Approach

	SE	NW	SW
HCM Ctrl Dly, s/v	0.9	0	61.3
HCM LOS			F

Minor Lane/Major Mvmt

	NWT	NWR	SEL	SETSWLn1
Capacity (veh/h)	-	-	867	- 178
HCM Lane V/C Ratio	-	-	0.092	- 0.692
HCM Ctrl Dly (s/v)	-	-	9.6	- 61.3
HCM Lane LOS	-	-	A	- F
HCM 95th %tile Q (veh)	-	-	0.3	- 4.2

Capacity Analysis Summary Sheets
Year 2030 Total Projected Weekday Evening Peak Hour

Lanes, Volumes, Timings
1: Plainfield Road & Theodore Street

02/28/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	52	436	257	108	511	237	252	766	32	201	637	78
Future Volume (vph)	52	436	257	108	511	237	252	766	32	201	637	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	180		0	125		0	310		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	115			115			220			150		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.944			0.952			0.994			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3321	0	1719	3369	0	1736	3512	0	1752	3449	0
Flt Permitted	0.251			0.244			0.174			0.155		
Satd. Flow (perm)	477	3321	0	442	3369	0	318	3512	0	286	3449	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		933			319			234			1681	
Travel Time (s)		18.2			6.2			4.6			32.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	2%	5%	2%	2%	4%	2%	6%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	707	0	110	763	0	257	815	0	205	730	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	6.5	21.0		6.5	21.0		6.5	21.0		6.5	21.0	
Total Split (s)	13.0	52.0		13.0	52.0		24.7	40.3		24.7	40.3	
Total Split (%)	10.0%	40.0%		10.0%	40.0%		19.0%	31.0%		19.0%	31.0%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	57.4	47.4		60.5	50.6		59.1	39.2		55.4	37.4	
Actuated g/C Ratio	0.44	0.36		0.47	0.39		0.45	0.30		0.43	0.29	

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

02/28/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.18	0.58		0.38	0.58		0.77	0.77		0.69	0.74	
Control Delay	20.3	36.1		23.1	34.6		43.4	58.6		35.2	47.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.3	36.1		23.1	34.6		43.4	58.6		35.2	47.6	
LOS	C	D		C	C		D	E		D	D	
Approach Delay		35.0			33.2			55.0			44.9	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	24	256		51	274		210	380		101	290	
Queue Length 95th (ft)	48	322		88	351		m274	m433		166	380	
Internal Link Dist (ft)		853			239			154			1601	
Turn Bay Length (ft)	180			125			310			270		
Base Capacity (vph)	314	1213		299	1310		377	1058		369	991	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.17	0.58		0.37	0.58		0.68	0.77		0.56	0.74	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 33.8 (26%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 43.0

Intersection LOS: D

Intersection Capacity Utilization 77.0%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 1: Plainfield Road & Theodore Street

				
Ø1	Ø2 (R)		Ø3	Ø4
13 s	52 s		24.7 s	40.3 s
				
Ø5	Ø6 (R)		Ø7	Ø8
13 s	52 s		24.7 s	40.3 s

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

02/28/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	293	618	66	199	813	78	85	789	338	88	723	154
Future Volume (vph)	293	618	66	199	813	78	85	789	338	88	723	154
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	190		150	200		200	215		285	155		165
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	220			175			250			110		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3519	1615	1736	3619	1568	1770	3689	1599	1805	3689	1553
Flt Permitted	0.950			0.950			0.180			0.139		
Satd. Flow (perm)	3467	3519	1615	1736	3619	1568	335	3689	1599	264	3689	1553
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			40			35	
Link Distance (ft)		853			840			808			1023	
Travel Time (s)		16.6			16.4			13.8			19.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	0%	4%	5%	3%	2%	3%	1%	0%	3%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	631	67	203	830	80	87	805	345	90	738	157
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		5	2	3	1	6	7
Permitted Phases			8			4	2		2	6		6
Detector Phase	3	8	8	7	4	4	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	7.5	21.0	21.0	7.5	21.0	21.0	6.5	21.0	7.5	6.5	21.0	7.5
Total Split (s)	27.3	58.5	58.5	18.2	49.4	49.4	13.0	40.3	27.3	13.0	40.3	18.2
Total Split (%)	21.0%	45.0%	45.0%	14.0%	38.0%	38.0%	10.0%	31.0%	21.0%	10.0%	31.0%	14.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5	1.0	0.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0	4.5	3.5	6.0	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effect Green (s)	16.8	50.1	50.1	13.7	47.0	47.0	48.7	37.6	60.4	48.7	37.6	57.3
Actuated g/C Ratio	0.13	0.39	0.39	0.11	0.36	0.36	0.37	0.29	0.46	0.37	0.29	0.44

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

02/28/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.67	0.47	0.11	1.12	0.64	0.14	0.39	0.76	0.46	0.45	0.69	0.23
Control Delay	61.1	30.9	25.1	153.1	37.1	28.8	31.2	48.4	26.7	31.9	32.0	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	30.9	25.1	153.1	37.1	28.8	31.2	48.4	26.7	31.9	32.0	16.4
LOS	E	C	C	F	D	C	C	D	C	C	C	B
Approach Delay	39.5				57.7				41.1		29.5	
Approach LOS	D				E				D		C	
Queue Length 50th (ft)	125	201	35	~195	292	44	47	337	205	31	166	46
Queue Length 95th (ft)	167	254	67	#353	385	85	85	417	274	m67	254	m66
Internal Link Dist (ft)	773				760				728		943	
Turn Bay Length (ft)	190		150		200		200		215		285	
Base Capacity (vph)	608	1421	652	182	1315	570	232	1065	816	213	1066	684
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.44	0.10	1.12	0.63	0.14	0.38	0.76	0.42	0.42	0.69	0.23

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 6.5 (5%), Referenced to phase 2:SETL and 6:NWTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.12

Intersection Signal Delay: 42.4

Intersection LOS: D

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

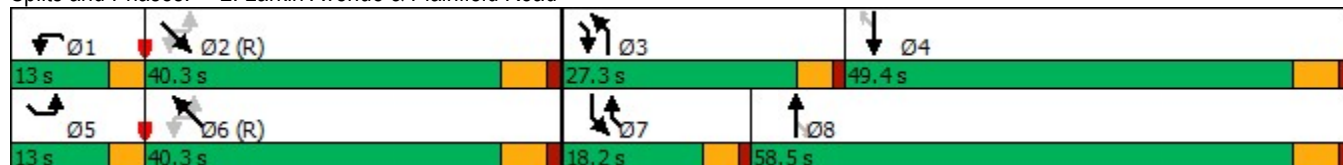
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: Larkin Avenue & Plainfield Road



HCM 6th TWSC 3: Theodore Street & Knapp Street

Intersection						
Int Delay, s/veh	4.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	74	692	718	151	89	138
Future Vol, veh/h	74	692	718	151	89	138
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	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	4	3	2	1	1
Mvmt Flow	79	736	764	161	95	147
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	925	0	-	0	1371	463
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	526	-
Critical Hdwy	4.1	-	-	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	2.2	-	-	-	3.51	3.31
Pot Cap-1 Maneuver	747	-	-	-	138	548
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	560	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	747	-	-	-	113	548
Mov Cap-2 Maneuver	-	-	-	-	230	-
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	560	-
Approach	EB	WB		SB		
HCM Ctrl Dly, s/v	1.7	0		34.2		
HCM LOS				D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	747	-	-	-	355	
HCM Lane V/C Ratio	0.105	-	-	-	0.68	
HCM Ctrl Dly (s/v)	10.4	0.8	-	-	34.2	
HCM Lane LOS	B	A	-	-	D	
HCM 95th %tile Q (veh)	0.4	-	-	-	4.8	

HCM 6th TWSC

4: Access Drive/East Access Drive & Plainfield Road

Intersection												
Int Delay, s/veh	0.4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑			↑↑	↑		↑				↑
Traffic Vol, veh/h	0	1050	0	0	858	68	0	0	0	0	0	66
Future Vol, veh/h	0	1050	0	0	858	68	0	0	0	0	0	66
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	-	-	Free	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	115	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	2	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	0	1129	0	0	923	73	0	0	0	0	0	71
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	1129	0	0	1591	2052	565	-	-	462
Stage 1	-	-	-	-	-	-	1129	1129	-	-	-	-
Stage 2	-	-	-	-	-	-	462	923	-	-	-	-
Critical Hdwy	-	-	-	4.1	-	-	7.5	6.5	6.9	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	626	-	0	73	56	473	0	0	552
Stage 1	0	-	-	-	-	0	221	281	-	0	0	-
Stage 2	0	-	-	-	-	0	554	351	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	626	-	-	64	56	473	-	-	552
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	56	-	-	-	-
Stage 1	-	-	-	-	-	-	221	281	-	-	-	-
Stage 2	-	-	-	-	-	-	483	351	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Ctrl Dly, s/v	0			0			0			12.5		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SERSWLn1							
Capacity (veh/h)	-	626	-	-	-	-	552					
HCM Lane V/C Ratio	-	-	-	-	-	-	0.129					
HCM Ctrl Dly (s/v)	0	0	-	-	-	-	12.5					
HCM Lane LOS	A	A	-	-	-	-	B					
HCM 95th %tile Q (veh)	-	0	-	-	-	-	0.4					

HCM 6th TWSC

7: Site Access/Willow Circle Drive & Knapp Street

Intersection												
Int Delay, s/veh	3.1											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕	↗		↕	
Traffic Vol, veh/h	2	173	19	61	163	18	16	0	55	25	0	7
Future Vol, veh/h	2	173	19	61	163	18	16	0	55	25	0	7
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	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	2	186	20	66	175	19	17	0	59	27	0	8
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	194	0	0	206	0	0	521	526	196	547	527	185
Stage 1	-	-	-	-	-	-	200	200	-	317	317	-
Stage 2	-	-	-	-	-	-	321	326	-	230	210	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1391	-	-	1377	-	-	469	460	850	451	459	862
Stage 1	-	-	-	-	-	-	806	739	-	698	658	-
Stage 2	-	-	-	-	-	-	695	652	-	777	732	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1391	-	-	1377	-	-	445	434	850	402	433	862
Mov Cap-2 Maneuver	-	-	-	-	-	-	445	434	-	402	433	-
Stage 1	-	-	-	-	-	-	804	738	-	697	622	-
Stage 2	-	-	-	-	-	-	652	617	-	721	731	-
Approach	SE			NW			NE			SW		
HCM Ctrl Dly, s/v	0.1			2			10.5			13.6		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NELn1 NELn2		NWL	NWT	NWR	SEL	SET	SER	SWLn1			
Capacity (veh/h)	445 850		1377	-	-	1391	-	-	455			
HCM Lane V/C Ratio	0.039 0.07		0.048	-	-	0.002	-	-	0.076			
HCM Ctrl Dly (s/v)	13.4 9.6		7.7	0	-	7.6	0	-	13.6			
HCM Lane LOS	B A		A A	A	-	A A	A	-	B			
HCM 95th %tile Q (veh)	0.1 0.2		0.2	-	-	0	-	-	0.2			

HCM 6th TWSC

8: Plainfield Road & West Site Access Drive

Intersection

Int Delay, s/veh 6

Movement SEL SET NWT NWR SWL SWR

Lane Configurations 

Traffic Vol, veh/h 61 976 899 25 74 18

Future Vol, veh/h 61 976 899 25 74 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 50 - - 0 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 95 95 95 95 95 95

Heavy Vehicles, % 0 2 3 0 0 0

Mvmt Flow 64 1027 946 26 78 19

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 972 0 - 0 1588 473

Stage 1 - - - - 946 -

Stage 2 - - - - 642 -

Critical Hdwy 4.1 - - - 6.8 6.9

Critical Hdwy Stg 1 - - - - 5.8 -

Critical Hdwy Stg 2 - - - - 5.8 -

Follow-up Hdwy 2.2 - - - 3.5 3.3

Pot Cap-1 Maneuver 717 - - - 101 543

Stage 1 - - - - 343 -

Stage 2 - - - - 492 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 717 - - - 92 543

Mov Cap-2 Maneuver - - - - 92 -

Stage 1 - - - - 312 -

Stage 2 - - - - 492 -

Approach SE NW SW

HCM Ctrl Dly, s/v 0.6 0 127.8

HCM LOS F

Minor Lane/Major Mvmt NWT NWR SEL SETSWLn1

Capacity (veh/h) - - 717 - 110

HCM Lane V/C Ratio - - 0.09 - 0.88

HCM Ctrl Dly (s/v) - - 10.5 - 127.8

HCM Lane LOS - - B - F

HCM 95th %tile Q (veh) - - 0.3 - 5.3

Capacity Analysis Summary Sheets
Year 2030 Total Projected Saturday Midday Peak Hour

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

02/28/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	40	427	236	115	461	266	227	614	60	94	600	163
Future Volume (vph)	40	427	236	115	461	266	227	614	60	94	600	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	180		0	125		0	310		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	115			115			220			150		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.947			0.945			0.987			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3363	0	1787	3353	0	1787	3468	0	1787	3445	0
Flt Permitted	0.258			0.242			0.151			0.309		
Satd. Flow (perm)	490	3363	0	455	3353	0	284	3468	0	581	3445	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		933			319			234			1681	
Travel Time (s)		18.2			6.2			4.6			32.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	1%	1%	1%	3%	1%	3%	0%	1%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	683	0	119	749	0	234	695	0	97	787	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	6.5	21.0		6.5	21.0		6.5	21.0		6.5	21.0	
Total Split (s)	13.2	45.6		13.2	45.6		21.6	48.0		13.2	39.6	
Total Split (%)	11.0%	38.0%		11.0%	38.0%		18.0%	40.0%		11.0%	33.0%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	4.5		3.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	50.5	41.0		54.8	44.7		57.1	42.5		47.0	35.9	
Actuated g/C Ratio	0.42	0.34		0.46	0.37		0.48	0.35		0.39	0.30	

Lanes, Volumes, Timings

1: Plainfield Road & Theodore Street

02/28/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.14	0.59		0.39	0.60		0.72	0.57		0.31	0.76	
Control Delay	19.3	35.6		22.5	33.8		20.1	20.6		20.6	44.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.3	35.6		22.5	33.8		20.1	20.6		20.6	44.3	
LOS	B	D		C	C		C	C		C	D	
Approach Delay		34.7			32.3			20.4			41.7	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	17	233		52	252		58	230		40	287	
Queue Length 95th (ft)	38	297		89	327		m100	m282		72	377	
Internal Link Dist (ft)		853			239			154			1601	
Turn Bay Length (ft)	180			125			310			270		
Base Capacity (vph)	323	1148		316	1249		361	1228		330	1031	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.59		0.38	0.60		0.65	0.57		0.29	0.76	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 7.2 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 32.0

Intersection LOS: C

Intersection Capacity Utilization 76.8%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 1: Plainfield Road & Theodore Street

			
Ø1	Ø2 (R)	Ø3	Ø4
13.2 s	45.6 s	13.2 s	48 s
			
Ø5	Ø6 (R)	Ø7	Ø8
13.2 s	45.6 s	21.6 s	39.6 s

Lanes, Volumes, Timings

2: Larkin Avenue & Plainfield Road

02/28/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	395	582	95	155	638	84	91	658	336	99	639	161
Future Volume (vph)	395	582	95	155	638	84	91	658	336	99	639	161
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	190		150	200		200	215		285	155		165
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	220			175			250			110		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3762	1599	1787	3654	1599	1787	3725	1615	1805	3762	1583
Flt Permitted	0.950			0.950			0.245			0.230		
Satd. Flow (perm)	3467	3762	1599	1787	3654	1599	461	3725	1615	437	3762	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			40			35	
Link Distance (ft)		853			840			808			1023	
Travel Time (s)		16.6			16.4			13.8			19.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	4%	1%	1%	2%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	407	600	98	160	658	87	94	678	346	102	659	166
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		5	2	3	1	6	7
Permitted Phases			8			4	2		2	6		6
Detector Phase	3	8	8	7	4	4	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	7.5	21.0	21.0	7.5	21.0	21.0	6.5	21.0	7.5	6.5	21.0	7.5
Total Split (s)	24.0	52.8	52.8	16.8	45.6	45.6	13.2	37.2	24.0	13.2	37.2	16.8
Total Split (%)	20.0%	44.0%	44.0%	14.0%	38.0%	38.0%	11.0%	31.0%	20.0%	11.0%	31.0%	14.0%
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	0.0	1.5	1.0	0.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	3.5	6.0	4.5	3.5	6.0	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effect Green (s)	18.0	43.2	43.2	12.2	37.4	37.4	46.9	35.8	59.8	47.2	35.9	54.1
Actuated g/C Ratio	0.15	0.36	0.36	0.10	0.31	0.31	0.39	0.30	0.50	0.39	0.30	0.45

Lanes, Volumes, Timings
2: Larkin Avenue & Plainfield Road

02/28/2025

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
v/c Ratio	0.78	0.44	0.17	0.88	0.58	0.17	0.34	0.61	0.43	0.38	0.59	0.23
Control Delay	60.1	29.8	25.7	94.7	36.6	30.2	26.5	40.3	22.2	21.9	34.6	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	29.8	25.7	94.7	36.6	30.2	26.5	40.3	22.2	21.9	34.6	16.0
LOS	E	C	C	F	D	C	C	D	C	C	C	B
Approach Delay	40.6				46.3				33.5		29.9	
Approach LOS	D				D				C		C	
Queue Length 50th (ft)	156	175	49	124	218	48	46	251	175	38	275	94
Queue Length 95th (ft)	211	225	88	#251	278	88	84	319	258	m50	337	m123
Internal Link Dist (ft)	773				760				728		943	
Turn Bay Length (ft)	190			150	200			215			285	155
Base Capacity (vph)	563	1467	623	183	1205	527	291	1110	824	285	1125	714
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.41	0.16	0.87	0.55	0.17	0.32	0.61	0.42	0.36	0.59	0.23

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 7.2 (6%), Referenced to phase 2:SETL and 6:NWTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 37.5

Intersection LOS: D

Intersection Capacity Utilization 67.9%

ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: Larkin Avenue & Plainfield Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13.2 s	37.2 s	24 s	45.6 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
13.2 s	37.2 s	16.8 s	52.8 s

HCM 6th TWSC

3: Theodore Street & Knapp Street

Intersection

Int Delay, s/veh 5.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations      

Traffic Vol, veh/h 58 759 709 134 121 133

Future Vol, veh/h 58 759 709 134 121 133

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 - 1 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 96 96 96 96 96 96

Heavy Vehicles, % 0 1 2 0 0 1

Mvmt Flow 60 791 739 140 126 139

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 879 0 - 0 1325 440

Stage 1 - - - - 809 -

Stage 2 - - - - 516 -

Critical Hdwy 4.1 - - - 6.8 6.92

Critical Hdwy Stg 1 - - - - 5.8 -

Critical Hdwy Stg 2 - - - - 5.8 -

Follow-up Hdwy 2.2 - - - 3.5 3.31

Pot Cap-1 Maneuver 777 - - - 150 568

Stage 1 - - - - 403 -

Stage 2 - - - - 570 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 777 - - - 129 568

Mov Cap-2 Maneuver - - - - 251 -

Stage 1 - - - - 347 -

Stage 2 - - - - 570 -

Approach EB WB SB

HCM Ctrl Dly, s/v 1.3 0 39.6

HCM LOS E

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h) 777 - - - 355

HCM Lane V/C Ratio 0.078 - - - 0.745

HCM Ctrl Dly (s/v) 10 0.6 - - 39.6

HCM Lane LOS B A - - E

HCM 95th %tile Q (veh) 0.3 - - - 5.8

HCM 6th TWSC

4: Access Drive/East Access Drive & Plainfield Road

Intersection												
Int Delay, s/veh	0.4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑↱			↰↑↑	↱		↰↱				↱
Traffic Vol, veh/h	0	901	0	0	842	64	0	0	0	0	0	61
Future Vol, veh/h	0	901	0	0	842	64	0	0	0	0	0	61
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	-	-	Free	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	115	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	2	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	0	969	0	0	905	69	0	0	0	0	0	66
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	969	0	0	1422	1874	485	-	-	453
Stage 1	-	-	-	-	-	-	969	969	-	-	-	-
Stage 2	-	-	-	-	-	-	453	905	-	-	-	-
Critical Hdwy	-	-	-	4.1	-	-	7.5	6.5	6.9	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	719	-	0	98	73	533	0	0	559
Stage 1	0	-	-	-	-	0	276	334	-	0	0	-
Stage 2	0	-	-	-	-	0	561	358	-	0	0	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	719	-	-	87	73	533	-	-	559
Mov Cap-2 Maneuver	-	-	-	-	-	-	87	73	-	-	-	-
Stage 1	-	-	-	-	-	-	276	334	-	-	-	-
Stage 2	-	-	-	-	-	-	495	358	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Ctrl Dly, s/v	0			0			0			12.3		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SERSWLn1							
Capacity (veh/h)	-	719	-	-	-	559						
HCM Lane V/C Ratio	-	-	-	-	-	0.117						
HCM Ctrl Dly (s/v)	0	0	-	-	-	12.3						
HCM Lane LOS	A	A	-	-	-	B						
HCM 95th %tile Q (veh)	-	0	-	-	-	0.4						

HCM 6th TWSC

7: Site Access/Willow Circle Drive & Knapp Street

Intersection												
Int Delay, s/veh	2.6											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	1	211	22	60	150	16	18	0	52	9	0	2
Future Vol, veh/h	1	211	22	60	150	16	18	0	52	9	0	2
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	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	240	25	68	170	18	20	0	59	10	0	2
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	188	0	0	265	0	0	571	579	253	599	582	179
Stage 1	-	-	-	-	-	-	255	255	-	315	315	-
Stage 2	-	-	-	-	-	-	316	324	-	284	267	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1398	-	-	1311	-	-	435	429	791	416	427	869
Stage 1	-	-	-	-	-	-	754	700	-	700	659	-
Stage 2	-	-	-	-	-	-	699	653	-	727	692	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1398	-	-	1311	-	-	414	404	791	368	402	869
Mov Cap-2 Maneuver	-	-	-	-	-	-	414	404	-	368	402	-
Stage 1	-	-	-	-	-	-	753	699	-	699	621	-
Stage 2	-	-	-	-	-	-	657	615	-	672	691	-
Approach	SE			NW			NE			SW		
HCM Ctrl Dly, s/v	0			2.1			11			14		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NELn1		NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1		
Capacity (veh/h)	414		791	1311	-	-	1398	-	-	411		
HCM Lane V/C Ratio	0.049		0.075	0.052	-	-	0.001	-	-	0.03		
HCM Ctrl Dly (s/v)	14.1		9.9	7.9	0	-	7.6	0	-	14		
HCM Lane LOS	B		A	A	A	-	A	A	-	B		
HCM 95th %tile Q (veh)	0.2		0.2	0.2	-	-	0	-	-	0.1		

HCM 6th TWSC

8: Plainfield Road & West Site Access Drive

Intersection						
Int Delay, s/veh	6.2					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	62	819	859	44	82	28
Future Vol, veh/h	62	819	859	44	82	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	50	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	65	862	904	46	86	29
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	950	0	-	0	1465	452
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	561	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	731	-	-	-	121	560
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	540	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	731	-	-	-	110	560
Mov Cap-2 Maneuver	-	-	-	-	110	-
Stage 1	-	-	-	-	328	-
Stage 2	-	-	-	-	540	-
Approach	SE	NW		SW		
HCM Ctrl Dly, s/v	0.7	0		100.5		
HCM LOS	F					
Minor Lane/Major Mvmt		NWT	NWR	SEL	SETSWLn1	
Capacity (veh/h)		-	-	731	-	138
HCM Lane V/C Ratio		-	-	0.089	-	0.839
HCM Ctrl Dly (s/v)		-	-	10.4	-	100.5
HCM Lane LOS		-	-	B	-	F
HCM 95th %tile Q (veh)		-	-	0.3	-	5.3