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# ***TRAFFIC IMPACT STUDY***

## ***PROPOSED MIXED-USE DEVELOPMENT***

***PLAINFIELD, INDIANA***

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***PREPARED FOR***



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***MAY 2021***

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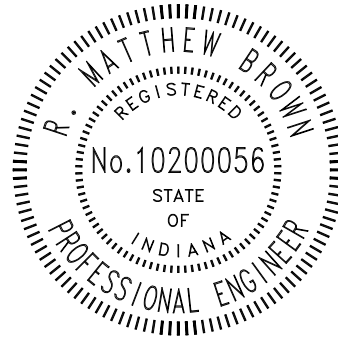
**CERTIFICATION**

I certify that this **TRAFFIC IMPACT STUDY** has been prepared by me and under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering.

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## ***INTRODUCTION***

This **TRAFFIC IMPACT STUDY**, prepared at the request of the Town of Plainfield on behalf of New City Development, is for a proposed mixed-use development that will be located in the northeast quadrant of Smith Road and Perry Road in Plainfield, Indiana.

## ***PURPOSE***

The purpose of this analysis is to determine what impact traffic generated by the proposed mixed-use development will have on the existing adjacent roadway system. This analysis will identify any existing roadway deficiencies or ones that may occur in the future.

Conclusions will be reached that will determine if the roadway system can accommodate the anticipated traffic volumes or will determine the modifications that will be required to the system if there are identified deficiencies.

Recommendations will be made that will address the conclusions resulting from this analysis. These recommendations will address feasible roadway system improvements to provide safe ingress and egress, to and from the proposed mixed-use development, with minimal interference to traffic on the public street system.

## ***SCOPE OF WORK***

The scope of work for this analysis is as follows:

First, obtain peak hour turning movement traffic volume counts between the hours of 6:30 AM to 8:30 AM and 4:00 PM to 7:00 PM at the following intersections:

- US 40 & Smith Road
- US 40 & Perry Road
- US 40 & Plainfield Commons Drive/  
Williams Trace
- US 40 & Plainfield Village Drive
- Smith Road & Perry Road
- Klondike Road & Frontage Road

Second, adjust existing traffic volumes to account for the reduction in traffic volumes caused by COVID-19.

Third, estimate year 2031 background traffic volumes by applying a 1.0% per year growth rate to the adjusted counts.

Fourth, estimate the number of peak hour trips that will be generated by the proposed development.

Fifth, assign and distribute the generated peak hour traffic from the proposed development to the study intersections.

Sixth, prepare a capacity analysis, level of service analysis, and turn lane analysis at each of the study intersections for each of the following scenarios:

*Scenario 1: Adjusted Existing Traffic Volumes* – Based on adjusted existing traffic volumes.

*Scenario 2: Proposed Development Traffic Volumes* – Based on the sum of adjusted existing traffic volumes and generated traffic volumes from the proposed development.

*Scenario 3: Year 2031 Background Traffic Volumes* – Based on applying an annual growth rate to the adjusted existing traffic volumes.

*Scenario 4: Year 2031 Proposed Development Traffic Volumes* – Based on the sum of year 2031 background traffic volumes and generated traffic volumes from the proposed development.

Seventh, perform queue length analysis at several critical locations to determine if vehicles will spill back into adjacent intersections.

Eighth, prepare recommendations for the roadway geometrics that will be needed to accommodate the total traffic volumes for each of the above scenarios.

Finally, prepare a **TRAFFIC IMPACT STUDY** report documenting all data, analyses, conclusions, and recommendations to provide for the safe and efficient movement of traffic through the study area.

### ***DESCRIPTION OF THE PROPOSED DEVELOPMENT***

The proposed mixed-use development will be located in the northeast quadrant of Smith Road and Perry Road in Plainfield, Indiana. The proposed development will consist of multiple land uses that are summarized in Table 2. As part of this project, Frontage Road will be extended to intersect with Perry Road. As proposed, the site will be served by 7 full access drives along the Frontage Road Extension and 2 full access drives along Smith Road. **Figure 1** is an area map showing the location and general layout of the proposed site.

### ***STUDY AREA***

The study area for this analysis has been defined to include the following intersections:

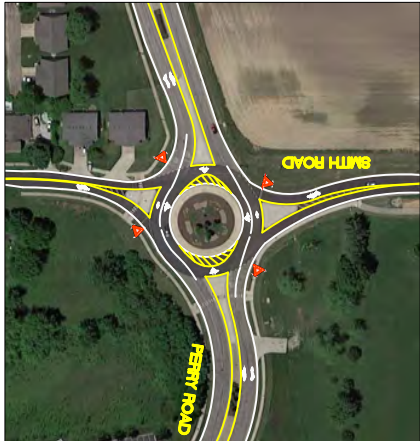
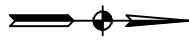
- US 40 & Smith Road
- US 40 & Perry Road
- US 40 & Plainfield Commons Drive/  
Williams Trace
- US 40 & Plainfield Village Drive
- Smith Road & Perry Road
- Klondike Road & Frontage Road
- Smith Road & Access A
- Smith Road & Access B
- Frontage Road Extension & Access C
- Frontage Road Extension & Access D
- Frontage Road Extension & Access E
- Frontage Road Extension & Access F
- Frontage Road Extension & Access G
- Frontage Road Extension & Access H
- Frontage Road Extension & Access I
- Frontage Road & Plainfield Village Drive
- Frontage Road & Perry Road

**Figure 2** shows the existing intersection geometrics at the study intersections.

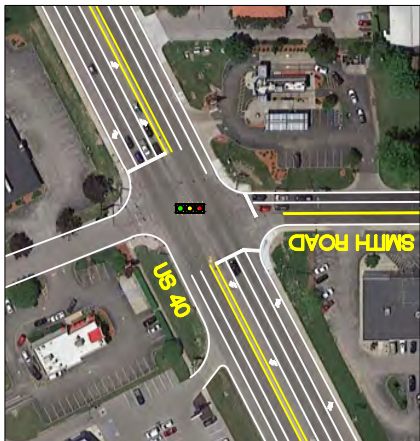


**FIGURE 1**  
**AREA MAP**

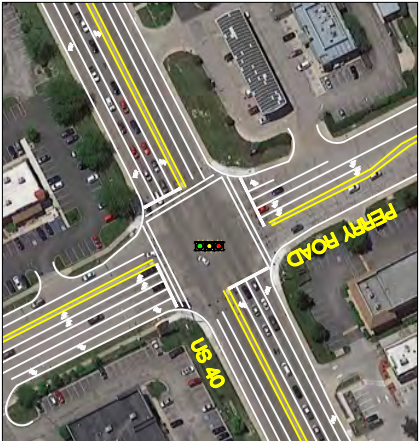
**TRAFFIC IMPACT STUDY**  
**NEW CITY DEVELOPMENT**  
**PLAINFIELD, IN**



**SMITH ROAD & PERRY ROAD**



**SMITH ROAD & US 40**



**PERRY ROAD & US 40**



**PLAINFIELD COMMONS DRIVE & US 40**



**PLAINFIELD VILLAGE DRIVE & US 40**



**KLONDIKE ROAD & FRONTAGE ROAD**

**TRAFFIC IMPACT STUDY  
NEW CITY DEVELOPMENT  
PLAINFIELD, IN**

**FIGURE 2  
EXISTING INTERSECTION  
GEOMETRICS**

## ***DESCRIPTION OF ABUTTING STREET SYSTEM***

The proposed development will be primarily served by the public roadway system that includes US 40, Smith Road, Perry Road, Plainfield Commons Drive, Williams Trace, Plainfield Village Drive, Klondike Road and Frontage Road.

TABLE 1 – DESCRIPTION OF THE ABUTTING STREET SYSTEM

<b>STREET NAME</b>	<b>NUMBER OF LANES</b>	<b>SPEED LIMIT (MPH)</b>	<b>FUNCTIONAL CLASSIFICATION</b>
US 40	4	45	Principal Arterial
Smith Road	2	40	Major Collector
Perry Road	4	35	Major Collector
Plainfield Commons Drive/Williams Trace	2	N/A	Local Road
Plainfield Village Drive	2	N/A	Local Road
Klondike Road	2	N/A	Local Road
Frontage Road	2	N/A	Local Road

N/A – Not Available

## ***EXISTING TRAFFIC VOLUMES***

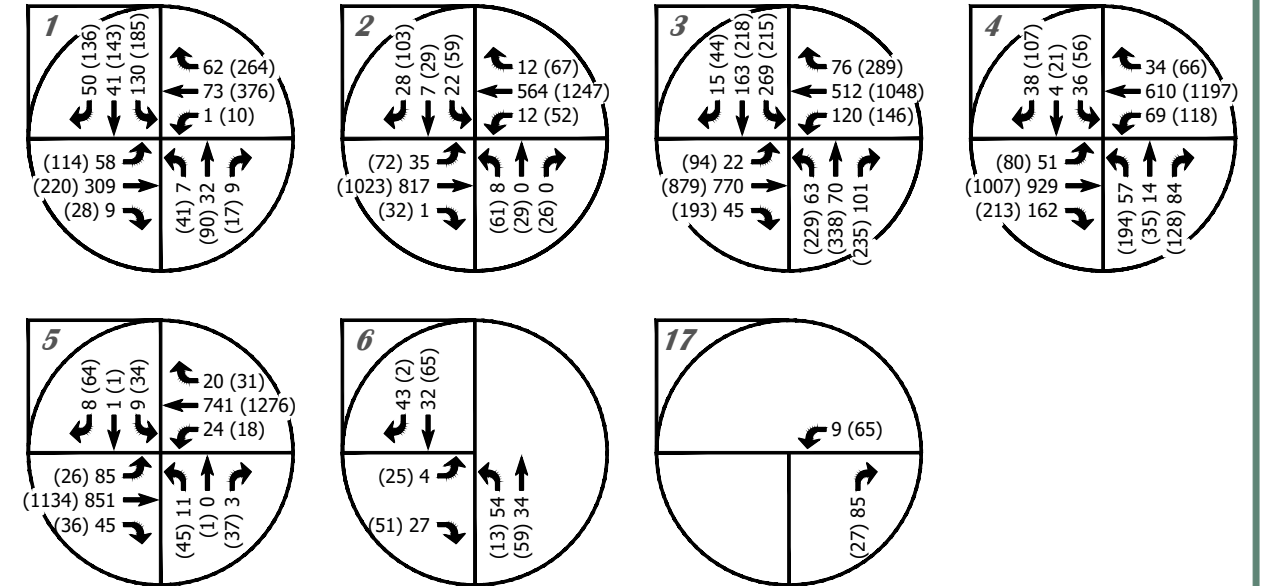
Turning movement traffic volume counts were collected by A&F Engineering at the study intersections between the hours of 6:30 AM and 8:30 AM and 4:00 PM and 7:00 PM during a typical weekday in January 2021 under good weather conditions. The intersection count output summary sheets and the peak hour volumes are included in the **Appendix**.

## ***ADJUSTED EXISTING TRAFFIC VOLUMES***

The existing traffic counts were compared to historic traffic volume data from INDOT to account for the traffic reductions caused by COVID-19. A comparison of the data sets has shown that 2019 traffic volumes are approximately 35% higher than 2021 traffic volumes in the AM peak hour and 10% higher than 2021 traffic volumes in the PM peak hour. Therefore, an adjustment factor of 1.35 was applied to the AM traffic volumes and an adjustment factor of 1.10 was applied to the PM traffic volumes to calculate the adjusted existing traffic volumes shown in **Figure 3**.

## ***YEAR 2031 BACKGROUND TRAFFIC VOLUMES***

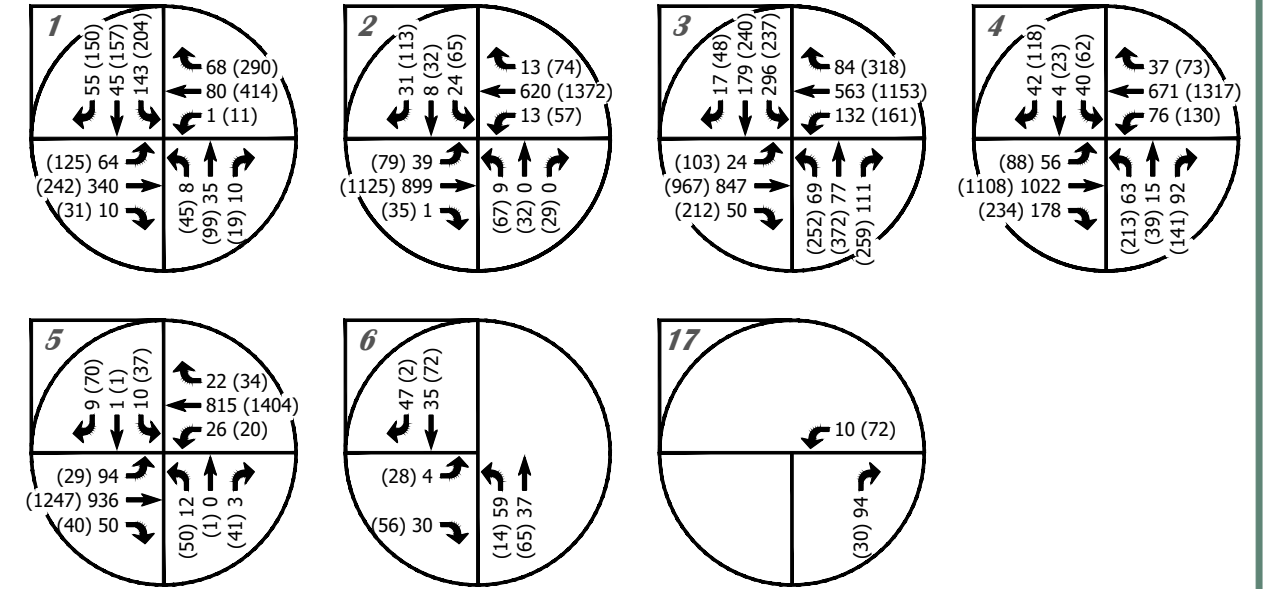
In order to account for annual growth in traffic that would occur due to future development, a 1% annual growth rate was applied to the adjusted existing traffic volumes. Therefore, a growth factor of 1.10 was applied to the adjusted existing traffic volumes to calculate the year 2031 background traffic volumes. **Figure 4** summaries of these traffic volumes.



**LEGEND**  
 XX = A.M. PEAK HOUR  
 (XX) = P.M. PEAK HOUR  
 \* = NEGLIGIBLE

**TRAFFIC IMPACT STUDY  
 NEW CITY DEVELOPMENT  
 PLAINFIELD, IN**

**FIGURE 3  
 ADJUSTED EXISTING  
 TRAFFIC VOLUMES**



**LEGEND**  
 XX = A.M. PEAK HOUR  
 (XX) = P.M. PEAK HOUR  
 \* = NEGLIGIBLE

**FIGURE 4**  
**YEAR 2031 BACKGROUND**  
**TRAFFIC VOLUMES**

**TRAFFIC IMPACT STUDY**  
**NEW CITY DEVELOPMENT**  
**PLAINFIELD, IN**

## **GENERATED TRIPS FOR PROPOSED DEVELOPMENT**

The estimate of newly generated traffic is a function of the development size and of the character of the land use. The *ITE Trip Generation Manual*<sup>1</sup> was used to calculate the number of trips that will be generated by the proposed residential development. This report is a compilation of trip data for various land uses as collected by transportation professionals throughout the United States in order to establish the average number of trips generated by those land uses. **Table 2** summarizes the total trips that will be generated by the subject site.

TABLE 2 – TOTAL GENERATED TRIPS FOR PROPOSED DEVELOPMENT

DEVELOPMENT INFORMATION			GENERATED TRIPS			
LAND USE	ITE CODE	SIZE	AM PEAK		PM PEAK	
			IN	OUT	IN	OUT
Multi-Family Housing	221	132 DU	12	33	35	23
Shopping Center	820	33,100 SF	19	12	115	124
General Office Building	710	99,000 SF	103	17	18	95
Multi-Family Housing	221	60 DU	5	16	16	11
Shopping Center	820	22,000 SF	13	8	85	92
Multi-Family Housing	221	140 DU	12	36	37	24
Multi-Family Housing	221	72 DU	7	18	20	12
Multi-Family Housing	221	216 DU	19	54	57	36
Senior Adult Housing	252	120 DU	8	16	17	14
Single-Family Housing	210	267 DU	49	145	164	97
High-Cube Parcel Hub Warehouse	156	233,000 SF	82	81	101	48
High-Cube Parcel Hub Warehouse	156	263,000 SF	92	92	114	54
General Light Industrial	110	20,000 SF	12	2	2	10
<b>Total</b>			<b>433</b>	<b>530</b>	<b>781</b>	<b>640</b>

<sup>1</sup> *Trip Generation Manual*, Institute of Transportation Engineers, Tenth Edition, 2017.

## PASS-BY & INTERNAL TRIPS

Pass-by trips are trips that are already in the existing traffic stream along the adjacent public roadway system that enter a site, utilize the site, and then return back to the existing traffic stream. A significant number of the generated trips from the retail portion of the proposed development will be pass-by trips. Therefore, the pass-by trip procedures outlined within the *ITE Trip Generation Handbook*<sup>2</sup> were used to estimate the pass-by trips.

An internal trip results when a trip is made between two or more land uses without traversing the external public roadway system. The proposed development will generate internal trips between the land uses. A summary of the internal and pass-by trip reductions for the proposed development are shown in **Table 3**.

TABLE 3 – PASS-BY AND INTERNAL TRIP REDUCTIONS FOR THE PROPOSED DEVELOPMENT

DEVELOPMENT INFORMATION			GENERATED TRIPS			
LAND USE	ITE CODE	SIZE	AM PEAK		PM PEAK	
			IN	OUT	IN	OUT
<b>Multi-Family Housing</b>	<b>221</b>	<b>132 DU</b>	<b>12</b>	<b>33</b>	<b>35</b>	<b>23</b>
Internal Trips			0	1	6	3
External Trips			12	32	29	20
<b>Shopping Center</b>	<b>820</b>	<b>33,100 SF</b>	<b>19</b>	<b>12</b>	<b>115</b>	<b>124</b>
Internal Trips			8	5	21	34
External Trips			11	7	94	90
External Pass-By Trips			2	2	31	31
External Non-Pass-By Trips			9	5	63	59
<b>General Office</b>	<b>710</b>	<b>99,000 SF</b>	<b>103</b>	<b>17</b>	<b>18</b>	<b>95</b>
Internal Trips			7	5	5	12
External Trips			96	12	13	83
<b>Multi-Family Housing</b>	<b>221</b>	<b>60 DU</b>	<b>5</b>	<b>16</b>	<b>16</b>	<b>11</b>
Internal Trips			0	0	3	1
External Trips			5	16	13	10
<b>Shopping Center</b>	<b>820</b>	<b>22,000 SF</b>	<b>13</b>	<b>8</b>	<b>85</b>	<b>92</b>
Internal Trips			5	3	15	26
External Trips			8	5	70	66
External Pass-By Trips			2	2	22	22
External Non-Pass-By Trips			6	3	48	44
<b>Multi-Family Housing</b>	<b>221</b>	<b>140 DU</b>	<b>12</b>	<b>36</b>	<b>37</b>	<b>24</b>
Internal Trips			0	1	6	3
External Trips			12	35	31	21

<sup>2</sup> *Trip Generation Handbook 3<sup>rd</sup> Edition*, Institute of Transportation Engineers, 2017.

<b>Multi-Family Housing</b>	<b>221</b>	<b>72 DU</b>	<b>7</b>	<b>18</b>	<b>20</b>	<b>12</b>
		Internal Trips	0	1	4	2
		External Trips	7	17	16	10
<b>Multi-Family Housing</b>	<b>221</b>	<b>216 DU</b>	<b>19</b>	<b>54</b>	<b>57</b>	<b>36</b>
		Internal Trips	1	2	10	5
		External Trips	18	52	47	31
<b>Senior Adult Housing</b>	<b>252</b>	<b>120 DU</b>	<b>8</b>	<b>16</b>	<b>17</b>	<b>14</b>
		Internal Trips	0	0	3	2
		External Trips	8	16	14	12
<b>Single-Family Housing</b>	<b>210</b>	<b>267 DU</b>	<b>49</b>	<b>145</b>	<b>164</b>	<b>97</b>
		Internal Trips	1	4	28	13
		External Trips	48	141	136	84
<b>DEVELOPMENT INFORMATION</b>			<b>GENERATED TRIPS</b>			
<b>LAND USE</b>	<b>ITE CODE</b>	<b>SIZE</b>	<b>AM PEAK</b>		<b>PM PEAK</b>	
			<b>IN</b>	<b>OUT</b>	<b>IN</b>	<b>OUT</b>
<b>High-Cube Parcel Hub Warehouse</b>	<b>156</b>	<b>233,000 SF</b>	<b>82</b>	<b>81</b>	<b>101</b>	<b>48</b>
		Passenger Trips	78	77	100	48
		Truck Trips	4	4	1	0
		Internal Trips	4	4	6	5
		External Trips	78	77	95	43
		External Passenger Vehicle Trips	74	73	94	43
		External Truck Trips	4	4	1	0
<b>High-Cube Parcel Hub Warehouse</b>	<b>156</b>	<b>263,000 SF</b>	<b>92</b>	<b>92</b>	<b>114</b>	<b>54</b>
		Passenger Trips	87	87	113	53
		Truck Trips	5	5	1	1
		Internal Trips	4	5	6	5
		External Trips	88	87	108	49
		External Passenger Vehicle Trips	83	82	107	48
		External Truck Trips	5	5	1	1
<b>General Light Industrial</b>	<b>110</b>	<b>20,000 SF</b>	<b>12</b>	<b>2</b>	<b>2</b>	<b>10</b>
		Passenger Trips	12	2	2	10
		Truck Trips	0	0	0	0
		Internal Trips	0	0	0	1
		External Trips	12	2	2	9
		External Passenger Vehicle Trips	12	2	2	9
		External Truck Trips	0	0	0	0
<b>TOTAL TRIPS</b>			<b>433</b>	<b>530</b>	<b>781</b>	<b>640</b>
<b>TOTAL PASSENGER TRIPS</b>			<b>424</b>	<b>521</b>	<b>779</b>	<b>639</b>
<b>TOTAL TRUCK TRIPS</b>			<b>9</b>	<b>9</b>	<b>2</b>	<b>1</b>
<b>TOTAL INTERNAL TRIPS</b>			<b>30</b>	<b>31</b>	<b>113</b>	<b>112</b>
<b>TOTAL EXTERNAL PASS-BY TRIPS</b>			<b>4</b>	<b>4</b>	<b>53</b>	<b>53</b>
<b>TOTAL EXTERNAL NON-PASS-BY TRIPS</b>			<b>399</b>	<b>495</b>	<b>615</b>	<b>475</b>

## ***ASSIGNMENT AND DISTRIBUTION OF GENERATED TRIPS***

The study methodology used to determine the traffic volumes from the site that will be added to the street system is defined as follows:

1. The volume of traffic that will enter and exit the proposed development must be assigned to the access points and to the public street system. Using the traffic volume data collected for this analysis, traffic to and from the site development has been assigned to the proposed driveways and to the public street system that will be serving the site.
2. To determine the volumes of traffic that will be added to the public roadway system, the generated traffic must be distributed by direction to the public roadways at their intersection with the driveways. For the proposed development, the trip distribution was based on the location of the development, the existing traffic patterns, and the assignment of generated traffic.

**Figure 5A** illustrates the percentage distribution of generated trips from the residential portion of the proposed development.

**Figure 5B** illustrates the percentage distribution of generated non-pass-by trips from the retail and office portion of the proposed development.

**Figure 5C** illustrates the percentage distribution of generated trips from the warehousing portion of the proposed development.

**Figure 5D** illustrates the percentage distribution of generated pass-by trips from the retail and office portion of the proposed development.



**LEGEND**  
 XX = INBOUND TRAFFIC  
 XX = OUTBOUND TRAFFIC  
 \* = NEGLIGIBLE

**FIGURE 5A**  
**PERCENTAGE DISTRIBUTION OF**  
**GENERATED TRAFFIC VOLUMES FROM**  
**PROPOSED DEVELOPMENT**  
**(RESIDENTIAL)**

**TRAFFIC IMPACT STUDY**  
**NEW CITY DEVELOPMENT**  
**PLAINFIELD, IN**

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**LEGEND**  
 XX = INBOUND TRAFFIC  
 XX = OUTBOUND TRAFFIC  
 \* = NEGLIGIBLE

**TRAFFIC IMPACT STUDY  
 NEW CITY DEVELOPMENT  
 PLAINFIELD, IN**

**FIGURE 5B**  
**PERCENTAGE DISTRIBUTION OF  
 GENERATED NON-PASS-BY TRAFFIC  
 VOLUMES FROM PROPOSED  
 DEVELOPMENT  
 (RETAIL/OFFICE)**



**LEGEND**  
 XX = INBOUND TRAFFIC  
 XX = OUTBOUND TRAFFIC  
 \* = NEGLIGIBLE

**FIGURE 5C**  
**PERCENTAGE DISTRIBUTION OF  
 GENERATED TRAFFIC VOLUMES FROM  
 PROPOSED DEVELOPMENT  
 (WAREHOUSING)**

**TRAFFIC IMPACT STUDY  
 NEW CITY DEVELOPMENT  
 PLAINFIELD, IN**



**LEGEND**  
 XX = A.M. PEAK HOUR  
 (XX) = P.M. PEAK HOUR  
 \* = NEGLIGIBLE

**FIGURE 5D**  
**PERCENTAGE DISTRIBUTION OF**  
**GENERATED PASS-BY TRAFFIC**  
**VOLUMES FROM PROPOSED**  
**DEVELOPMENT**  
**(RETAIL)**

**TRAFFIC IMPACT STUDY**  
**NEW CITY DEVELOPMENT**  
**PLAINFIELD, IN**

### **GENERATED TRIPS ADDED TO THE STREET SYSTEM**

The total generated traffic volumes that can be expected from the proposed development have been assigned to each of the study intersections. These volumes were determined based on the previously discussed trip generation data, assignment of generated traffic and distribution of generated traffic. The total peak hour generated traffic volumes from the proposed development are shown in **Figure 6**. **Figure 7** shows the sum of adjusted existing traffic volumes and generated traffic volumes from the proposed development, while **Figure 8** shows the sum of year 2031 background traffic volumes and generated traffic volumes from the proposed development.

### **TURN LANE WARRANT ANALYSIS**

A turn lane analysis was conducted to determine if exclusive turn lanes would be warranted at the proposed access drives along Smith Road, Perry Road, and Frontage Road Extension when the proposed development is constructed. This analysis was done in accordance with the INDOT *Driveway Permit Manual*<sup>3</sup>. The results are summarized in the following table.

<b>PERRY ROAD &amp; FRONTAGE ROAD EXTENSION</b>		
<b>SCENARIO</b>	<b>RIGHT-TURN LANE</b>	<b>LEFT-TURN LANE</b>
Adjusted Existing Traffic Volumes + Proposed Development Traffic Volumes	✓	X
Year 2031 Background Traffic Volumes + Proposed Development Traffic Volumes	✓	X
<b>SMITH ROAD &amp; PROPOSED ACCESS DRIVE A</b>		
<b>SCENARIO</b>	<b>RIGHT-TURN LANE</b>	<b>LEFT-TURN LANE</b>
Adjusted Existing Traffic Volumes + Proposed Development Traffic Volumes	X	X
Year 2031 Background Traffic Volumes + Proposed Development Traffic Volumes	X	X
<b>SMITH ROAD &amp; PROPOSED ACCESS DRIVE B</b>		
<b>SCENARIO</b>	<b>RIGHT-TURN LANE</b>	<b>LEFT-TURN LANE</b>
Adjusted Existing Traffic Volumes + Proposed Development Traffic Volumes	✓	X
Year 2031 Background Traffic Volumes + Proposed Development Traffic Volumes	✓	X
<b>FRONTAGE ROAD EXTENSION &amp; PROPOSED ACCESS DRIVE C</b>		
<b>SCENARIO</b>	<b>RIGHT-TURN LANE</b>	<b>LEFT-TURN LANE</b>
Adjusted Existing Traffic Volumes + Proposed Development Traffic Volumes	X	✓
Year 2031 Background Traffic Volumes + Proposed Development Traffic Volumes	X	✓

✓ = Turn lane warranted; X = Turn lane not warranted

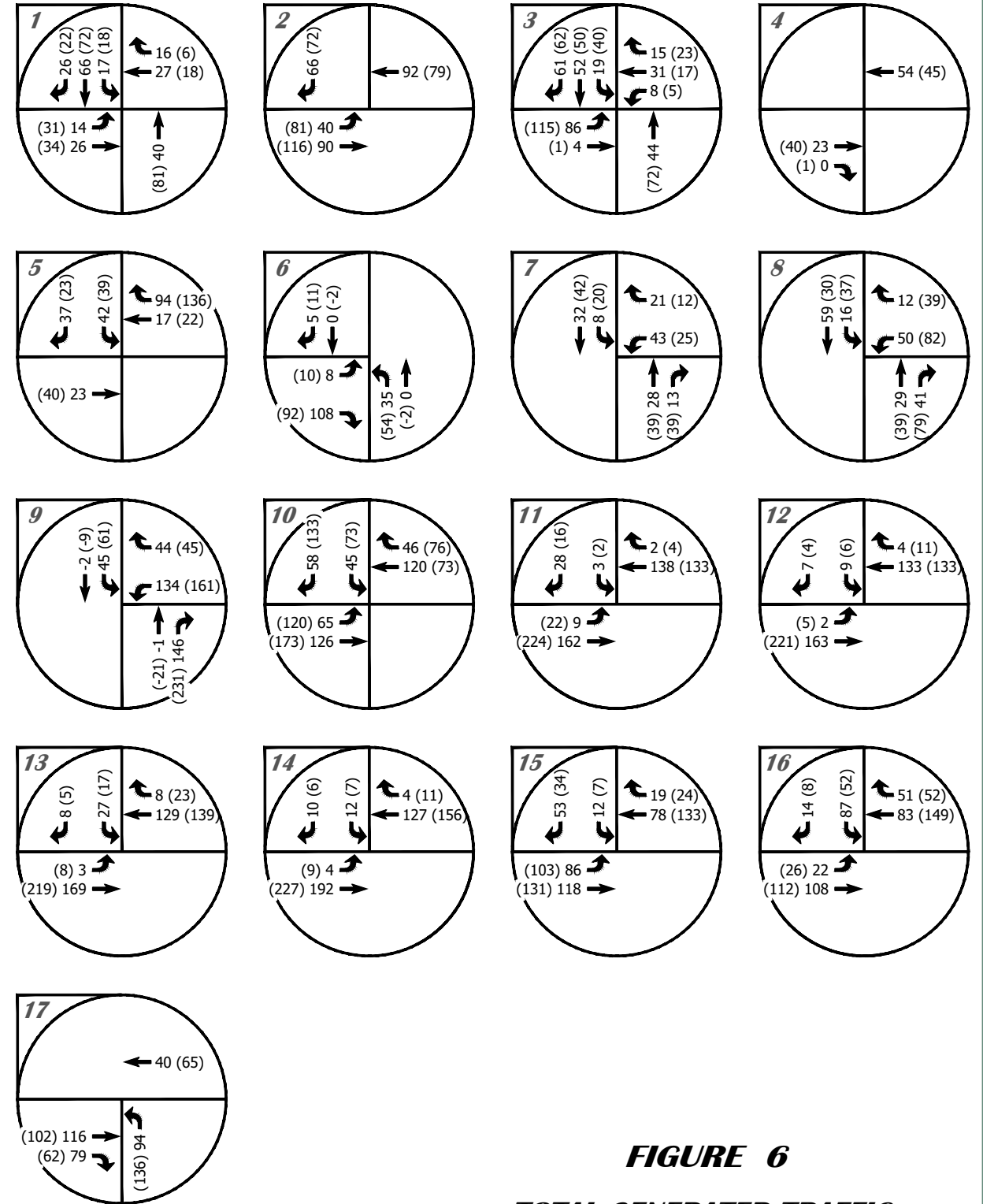
<sup>3</sup> INDOT *Driveway Permit Manual*, Indiana Department of Transportation, 2018

<b>FRONTAGE ROAD EXTENSION &amp; PROPOSED ACCESS DRIVE D</b>		
<b>SCENARIO</b>	<b>RIGHT-TURN LANE</b>	<b>LEFT-TURN LANE</b>
Adjusted Existing Traffic Volumes + Proposed Development Traffic Volumes	X	X
Year 2031 Background Traffic Volumes + Proposed Development Traffic Volumes	X	X
<b>FRONTAGE ROAD EXTENSION &amp; PROPOSED ACCESS DRIVE E</b>		
<b>SCENARIO</b>	<b>RIGHT-TURN LANE</b>	<b>LEFT-TURN LANE</b>
Adjusted Existing Traffic Volumes + Proposed Development Traffic Volumes	X	X
Year 2031 Background Traffic Volumes + Proposed Development Traffic Volumes	X	X
<b>FRONTAGE ROAD EXTENSION &amp; PROPOSED ACCESS DRIVE F</b>		
<b>SCENARIO</b>	<b>RIGHT-TURN LANE</b>	<b>LEFT-TURN LANE</b>
Adjusted Existing Traffic Volumes + Proposed Development Traffic Volumes	X	X
Year 2031 Background Traffic Volumes + Proposed Development Traffic Volumes	X	X
<b>FRONTAGE ROAD EXTENSION &amp; PROPOSED ACCESS DRIVE G</b>		
<b>SCENARIO</b>	<b>RIGHT-TURN LANE</b>	<b>LEFT-TURN LANE</b>
Adjusted Existing Traffic Volumes + Proposed Development Traffic Volumes	X	X
Year 2031 Background Traffic Volumes + Proposed Development Traffic Volumes	X	X
<b>FRONTAGE ROAD EXTENSION &amp; PROPOSED ACCESS DRIVE H</b>		
<b>SCENARIO</b>	<b>RIGHT-TURN LANE</b>	<b>LEFT-TURN LANE</b>
Adjusted Existing Traffic Volumes + Proposed Development Traffic Volumes	X	X
Year 2031 Background Traffic Volumes + Proposed Development Traffic Volumes	X	X
<b>FRONTAGE ROAD EXTENSION &amp; PROPOSED ACCESS DRIVE I</b>		
<b>SCENARIO</b>	<b>RIGHT-TURN LANE</b>	<b>LEFT-TURN LANE</b>
Adjusted Existing Traffic Volumes + Proposed Development Traffic Volumes	X	X
Year 2031 Background Traffic Volumes + Proposed Development Traffic Volumes	X	X

✓ = Turn lane warranted; X = Turn lane not warranted

Where turn lanes are not shown to be warranted, it should be noted that the Town of Plainfield could require turn treatments at these locations based on local standards.

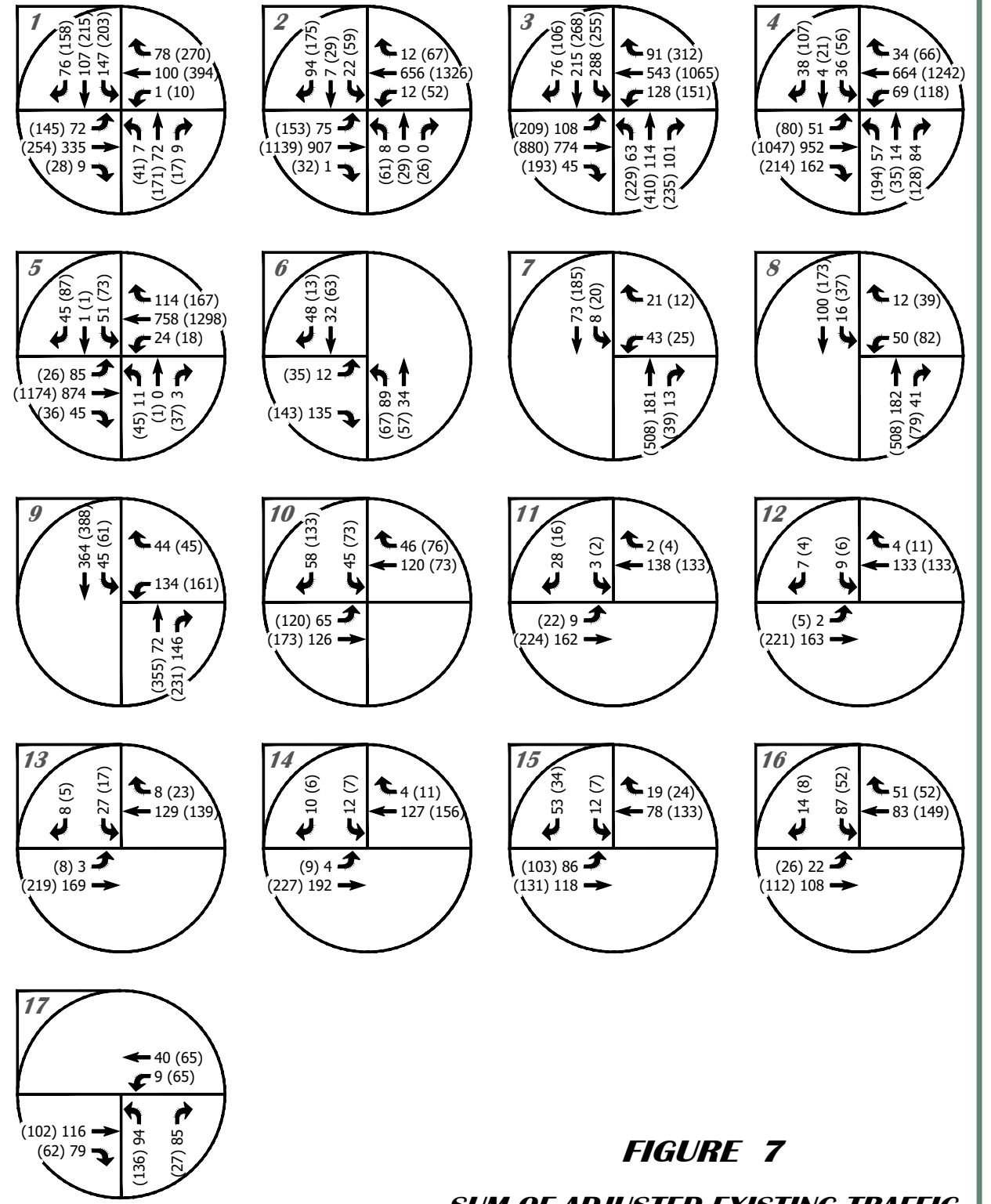
The graphs that depict the left-turn and right-turn lane warrant criteria for each intersection are shown in the **Appendix**.



**FIGURE 6**  
**TOTAL GENERATED TRAFFIC VOLUMES FROM PROPOSED DEVELOPMENT**

**LEGEND**  
 XX = A.M. PEAK HOUR  
 (XX) = P.M. PEAK HOUR  
 \* = NEGLIGIBLE

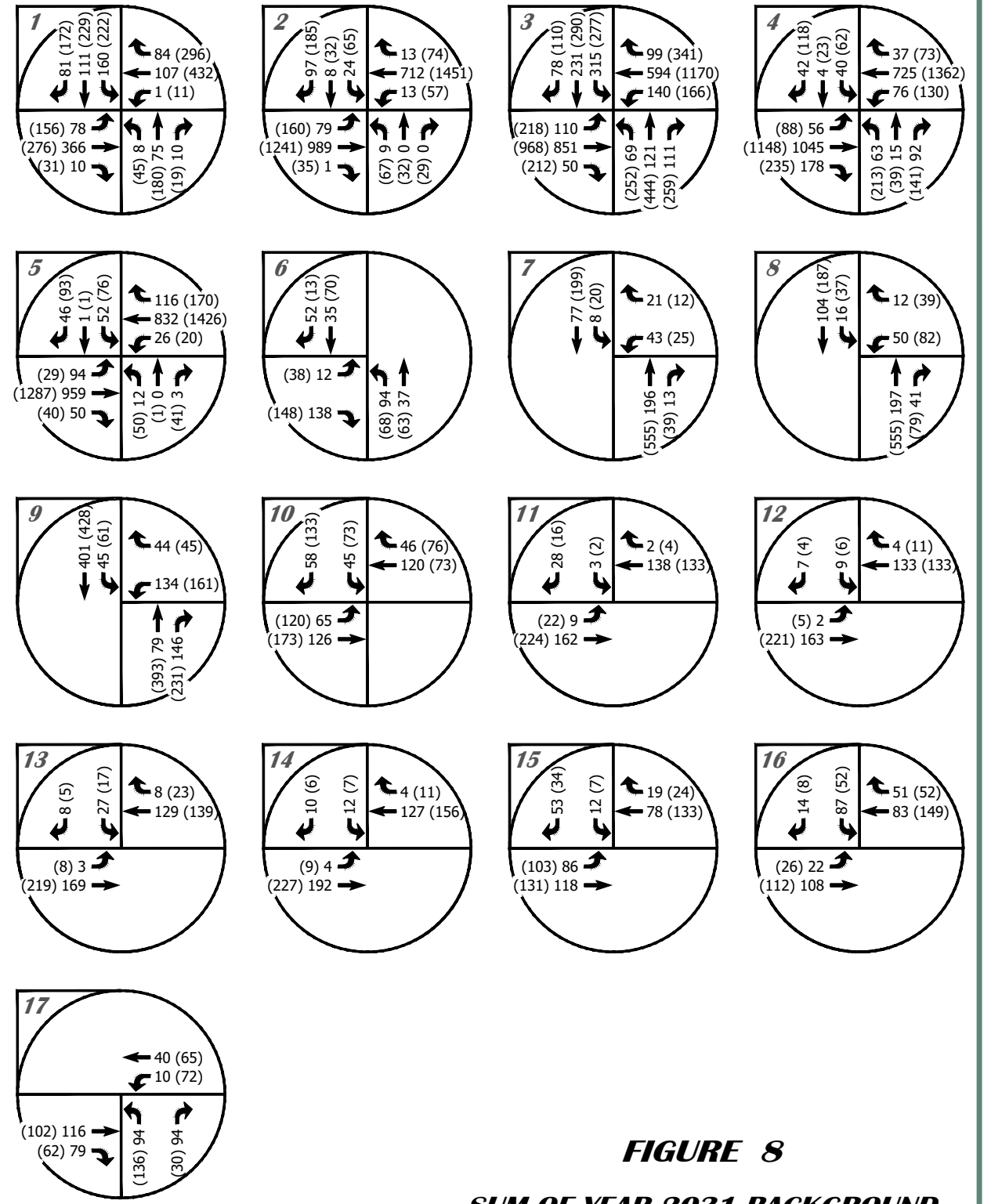
**TRAFFIC IMPACT STUDY**  
**NEW CITY DEVELOPMENT**  
**PLAINFIELD, IN**



**FIGURE 7**  
**SUM OF ADJUSTED EXISTING TRAFFIC VOLUMES & GENERATED TRAFFIC VOLUMES FROM PROPOSED DEVELOPMENT**

**LEGEND**  
 XX = A.M. PEAK HOUR  
 (XX) = P.M. PEAK HOUR  
 \* = NEGLIGIBLE

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 PLAINFIELD, IN**



**LEGEND**  
 XX = A.M. PEAK HOUR  
 (XX) = P.M. PEAK HOUR  
 \* = NEGLIGIBLE

**FIGURE 8**  
**SUM OF YEAR 2031 BACKGROUND TRAFFIC VOLUMES & GENERATED TRAFFIC VOLUMES FROM PROPOSED DEVELOPMENT**

**TRAFFIC IMPACT STUDY  
 NEW CITY DEVELOPMENT  
 PLAINFIELD, IN**

## CAPACITY ANALYSIS

The "efficiency" of an intersection is based on its ability to accommodate the traffic volumes that approach the intersection. It is defined by the Level-of-Service (LOS) of the intersection. The LOS is determined by a series of calculations commonly called a "capacity analysis". Input data into a capacity analysis include traffic volumes, intersection geometry, and number and use of lanes. To determine the LOS at each of the study intersections, a capacity analysis has been made using the recognized computer program *Synchro/SimTraffic*<sup>4</sup>. This program allows intersections to be analyzed and optimized using the capacity calculation methods outlined within the *Highway Capacity Manual (HCM 6<sup>th</sup> Edition)*<sup>5</sup>. The following list shows the delays related to the levels of service for roundabout, unsignalized and signalized intersections:

<u>Level of Service</u>	<u>Control Delay (seconds/vehicle)</u>	
	<u>UNSIGNALIZED/ROUNDBOUT</u>	<u>SIGNALIZED</u>
A	Less than or equal to 10	Less than or equal to 10
B	Between 10.1 and 15	Between 10.1 and 20
C	Between 15.1 and 25	Between 20.1 and 35
D	Between 25.1 and 35	Between 35.1 and 55
E	Between 35.1 and 50	Between 55.1 and 80
F	greater than 50	greater than 80

## CAPACITY ANALYSIS SCENARIOS

To evaluate the proposed development's effect on the public street system, a series of traffic volume scenarios were analyzed to determine the adequacy of the existing roadway network. From this analysis, necessary recommendations can be made to improve the public street system so it will accommodate the future traffic volumes. An analysis has been made for the peak hours at each of the study intersections for the following traffic volume scenarios:

*Scenario 1: Adjusted Existing Traffic Volumes* – Based on adjusted existing traffic volumes. **Figure 3** is a summary of these volumes.

*Scenario 2: Proposed Development Traffic Volumes* – Based on the sum of adjusted existing traffic volumes and generated traffic volumes from the proposed development. **Figure 7** is a summary of these volumes.

*Scenario 3: Year 2031 Background Traffic Volumes* – Based on applying an annual growth rate to the adjusted existing traffic volumes. **Figure 4** is a summary of these volumes.

*Scenario 4: Year 2031 Proposed Development Traffic Volumes* – Based on the sum of year 2031 background traffic volumes and generated traffic volumes from the proposed development. **Figure 8** is a summary of these volumes.

<sup>4</sup> *Synchro/SimTraffic 11*, Trafficware, 2020.

<sup>5</sup> *Highway Capacity Manual (HCM), 6<sup>th</sup> Edition* Transportation Research Board, National Research Council, Washington, DC, 2016.

The following tables summarize the peak hour level of service results at each of the study intersections. The *Synchro (HCM 6<sup>th</sup> Edition)* intersection reports illustrating the capacity analysis results are included in the **Appendix**.

TABLE 4 – LEVEL OF SERVICE SUMMARY: US 40 & SMITH ROAD

APPROACH	AM PEAK				PM PEAK			
	Scenarios				Scenarios			
	1	2	3	4	1	2	3	4
Northbound Approach	C	C	C	C	C	C	C	C
Southbound Approach	C	C	C	C	C	D	C	D
Eastbound Approach	B	B	B	B	B	B	B	B
Westbound Approach	A	B	A	B	B	C	B	C
<b>Intersection</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>C</b>	<b>B</b>	<b>C</b>

TABLE 5 – LEVEL OF SERVICE SUMMARY: US 40 & PERRY ROAD

APPROACH	AM PEAK				PM PEAK			
	Scenarios				Scenarios			
	1	2	3	4	1	2	3	4
Northbound Approach	C	C	C	C	C	C	C	D
Southbound Approach	C	C	C	C	C	D	C	D
Eastbound Approach	B	C	C	C	C	C	C	C
Westbound Approach	B	B	B	B	C	C	C	D
<b>Intersection</b>	<b>B</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>D</b>

TABLE 6 – LEVEL OF SERVICE SUMMARY: US 40 & PLAINFIELD COMMONS DRIVE/WILLIAMS TRACE

APPROACH	AM PEAK				PM PEAK			
	Scenarios				Scenarios			
	1	2	3	4	1	2	3	4
Northbound Approach	C	C	C	C	C	C	D	D
Southbound Approach	C	C	C	C	D	D	D	D
Eastbound Approach	B	B	B	B	B	B	C	B
Westbound Approach	B	B	B	B	B	C	C	C
<b>Intersection</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>

**TABLE 7 – LEVEL OF SERVICE SUMMARY: US 40 & PLAINFIELD VILLAGE DRIVE**

APPROACH	AM PEAK							
	Scenarios							
	1A	1B	2A	2B	3A	3B	4A	4B
Northbound Approach	E	B	E	C	E	B	F	C
Southbound Approach	C	C	D	C	D	C	E	C
Eastbound Left-Turn	B	B	B	B	B	B	B	B
Westbound Left-Turn	B	B	B	B	B	B	B	B
<b>Intersection</b>	-	<b>B</b>	-	<b>B</b>	-	<b>B</b>	-	<b>B</b>
APPROACH	PM PEAK							
	Scenarios							
	1A	1B	2A	2B	3A	3B	4A	4B
Northbound Approach	E	C	E	C	F	C	F	C
Southbound Approach	D	C	F	C	E	C	F	C
Eastbound Left-Turn	B	B	B	B	B	B	C	B
Westbound Left-Turn	B	B	B	B	B	B	B	B
<b>Intersection</b>	-	<b>B</b>	-	<b>B</b>	-	<b>B</b>	-	<b>B</b>

Scenario A: Existing intersection conditions.

Scenario B: Proposed signal control at this intersection.

**TABLE 8 – LEVEL OF SERVICE SUMMARY: SMITH ROAD & PERRY ROAD**

APPROACH	AM PEAK				PM PEAK			
	Scenarios				Scenarios			
	1	2	3	4	1	2	3	4
Northbound Approach	A	A	A	A	A	A	A	A
Southbound Approach	A	A	A	A	A	B	B	C
Eastbound Approach	A	A	A	A	A	A	A	A
Westbound Approach	A	A	A	A	A	A	A	A
<b>Intersection</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>B</b>

**TABLE 9 – LEVEL OF SERVICE SUMMARY: KLONDIKE ROAD & FRONTAGE ROAD**

APPROACH	AM PEAK				PM PEAK			
	Scenarios				Scenarios			
	1	2	3	4	1	2	3	4
Northbound Left-Turn	A	A	A	A	A	A	A	A
Eastbound Approach	A	B	A	B	A	B	A	B

**TABLE 10 – LEVEL OF SERVICE SUMMARY: PERRY ROAD & FRONTAGE ROAD EXTENSION**

APPROACH	AM PEAK				PM PEAK			
	Scenarios				Scenarios			
	2A*	2B*	4A*	4B*	2A*	2B*	4A*	4B*
Southbound Left-Turn	A	A	A	A	A	A	A	A
Westbound Approach	B	B	B	B	D	C	E	D

Scenario A: No northbound right-turn lane included.

Scenario B: Northbound right-turn lane included.

\*The proposed intersection conditions include construction of the westbound approach (Frontage Road Extension) with at least one inbound lane and two outbound lanes that will stop for Perry Road.

**TABLE 11 – LEVEL OF SERVICE SUMMARY: SMITH ROAD & PROPOSED ACCESS DRIVE A**

APPROACH	AM PEAK		PM PEAK	
	Scenario 2*	Scenario 4*	Scenario 2*	Scenario 4*
Southbound Left-Turn	A	A	A	A
Westbound Approach	B	B	C	C

\*The proposed intersection conditions include construction of the westbound access drive with at least one inbound and two outbound lanes that will stop for Smith Road.

**TABLE 12 – LEVEL OF SERVICE SUMMARY: SMITH ROAD & PROPOSED ACCESS DRIVE B**

APPROACH	AM PEAK		PM PEAK	
	Scenario 2*	Scenario 4*	Scenario 2*	Scenario 4*
Southbound Left-Turn	A	A	A	A
Westbound Approach	B	B	C	C

\*The proposed intersection conditions include construction of the westbound access drive with at least one inbound and two outbound lanes that will stop for Smith Road; and the addition of an exclusive northbound right-turn lane along Smith Road.

**TABLE 13 – LEVEL OF SERVICE SUMMARY: FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE C**

APPROACH	AM PEAK		PM PEAK	
	Scenario 2*	Scenario 4*	Scenario 2*	Scenario 4*
Southbound Approach	B	B	B	B
Eastbound Left-Turn	A	A	A	A

\*The proposed intersection conditions include the construction of the southbound approach with at least one inbound and two outbound lanes that will stop for Frontage Road Extension; and the addition of an exclusive eastbound left-turn lane along Frontage Road Extension.

**TABLE 14 – LEVEL OF SERVICE SUMMARY: FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE D**

APPROACH	AM PEAK		PM PEAK	
	Scenario 2*	Scenario 4*	Scenario 2*	Scenario 4*
Southbound Approach	A	A	A	A
Eastbound Left-Turn	A	A	A	A

\*The proposed intersection conditions include construction of the southbound access drive with at least one inbound and two outbound lanes that will stop for Frontage Road Extension.

**TABLE 15 – LEVEL OF SERVICE SUMMARY: FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE E**

APPROACH	AM PEAK		PM PEAK	
	Scenario 2*	Scenario 4*	Scenario 2*	Scenario 4*
Southbound Approach	A	A	B	B
Eastbound Left-Turn	A	A	A	A

\*The proposed intersection conditions include construction of the southbound access drive with at least one inbound and two outbound lanes that will stop for Frontage Road Extension.

**TABLE 16 – LEVEL OF SERVICE SUMMARY: FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE F**

APPROACH	AM PEAK		PM PEAK	
	Scenario 2*	Scenario 4*	Scenario 2*	Scenario 4*
Southbound Approach	B	B	B	B
Eastbound Left-Turn	A	A	A	A

\*The proposed intersection conditions include the construction of the southbound approach with at least one inbound and two outbound lanes that will stop for Frontage Road Extension.

**TABLE 17 – LEVEL OF SERVICE SUMMARY: FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE G**

APPROACH	AM PEAK		PM PEAK	
	Scenario 2*	Scenario 4*	Scenario 2*	Scenario 4*
Southbound Approach	A	A	B	B
Eastbound Left-Turn	A	A	A	A

\*The proposed intersection conditions include construction of the southbound access drive with at least one inbound and two outbound lanes that will stop for Frontage Road Extension.

**TABLE 18 – LEVEL OF SERVICE SUMMARY: FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE H**

APPROACH	AM PEAK		PM PEAK	
	Scenario 2*	Scenario 4*	Scenario 2*	Scenario 4*
Southbound Approach	A	A	A	A
Eastbound Left-Turn	A	A	A	A

\*The proposed intersection conditions include construction of the southbound access drive with at least one inbound and two outbound lanes that will stop for Frontage Road Extension.

**TABLE 19 – LEVEL OF SERVICE SUMMARY: FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE I**

APPROACH	AM PEAK		PM PEAK	
	Scenario 2*	Scenario 4*	Scenario 2*	Scenario 4*
Southbound Approach	B	B	B	B
Eastbound Left-Turn	A	A	A	A

\*The proposed intersection conditions include construction of the southbound access drive with at least one inbound and two outbound lanes that will stop for Frontage Road Extension.

**TABLE 20 – LEVEL OF SERVICE SUMMARY: FRONTAGE ROAD & PLAINFIELD VILLAGE DRIVE**

APPROACH	AM PEAK		PM PEAK	
	Scenario 2*	Scenario 4*	Scenario 2*	Scenario 4*
Northbound Approach	B	B	B	B
Westbound Left-Turn	A	A	A	A

\*The proposed intersection conditions include construction of the eastbound approach (Frontage Road Extension) with Plainfield Village Drive stopping for Frontage Road.

### **QUEUE LENGTH ANALYSIS**

A queue length analysis has been conducted using Synchro 11 software at each of the following intersections to determine if vehicles will spill back into adjacent intersections:

- Frontage Road & Klondike Road
- Frontage Road & Plainfield Village Drive
- Frontage Road & Perry Road
- US 40 & Perry Road

The following tables summarize the segment lengths between the adjacent intersections and the 95<sup>th</sup> percentile queue lengths at each location:

**TABLE 21 – QUEUE LENGTH SUMMARY FOR SCENARIO 2**

Intersection	Approach	Segment Length	95 <sup>th</sup> Percentile Queue Length	
			AM Peak	PM Peak
Frontage Road & Klondike Road	Northbound	405 ft	25 ft	25 ft
Frontage Road & Plainfield Village Drive	Northbound	710 ft	25 ft	28 ft
Frontage Road & Perry Road	Southbound	415 ft	25 ft	25 ft
US 40 & Perry Road	Southbound	265 ft	130 ft	133 ft

Note: Vehicle length was assumed to be 25 ft.

**TABLE 22 – QUEUE LENGTH SUMMARY FOR SCENARIO 4**

Intersection	Approach	Segment Length	95 <sup>th</sup> Percentile Queue Length	
			AM Peak	PM Peak
Frontage Road & Klondike Road	Northbound	405 ft	25 ft	25 ft
Frontage Road & Plainfield Village Drive	Northbound	710 ft	25 ft	30 ft
Frontage Road & Perry Road	Southbound	415 ft	25 ft	25 ft
US 40 & Perry Road	Southbound	265 ft	142 ft	162 ft

Note: Vehicle length was assumed to be 25 ft.

Based on queue analysis results, it is anticipated that the 95<sup>th</sup> percentile queue lengths will not exceed the lengths of their critical segments. Therefore, queue lengths are not expected to cause operational problems at these locations.

## ***CONCLUSIONS & RECOMMENDATIONS***

The conclusions that follow are based on existing traffic volume data, trip generation, assignment and distribution of generated traffic, capacity analyses/level of service/turn lane analysis results and a field review conducted at the site. Based on the analyses and the resulting conclusions, the following recommendations are formulated.

### FRONTAGE ROAD EXTENSION

It is recommended that the Frontage Road Extension be constructed with a width of at least 24 feet. The area between the intersection of Perry Road & Frontage Road Extension and the intersection of Frontage Road Extension & Access Drive G should be constructed as a two-lane boulevard with an eastbound left-turn lane at Frontage Road & Access Drive C. The Frontage Road Extension should then transition to a three-lane industrial road for Access Drive H and Access Drive I.

### US 40 & SMITH ROAD

Capacity analyses for all traffic volume scenarios have shown that this intersection operates and will continue to operate at acceptable levels of service during the AM and PM peak hours with existing intersection conditions. Therefore, no improvements are recommended at this location.

### US 40 & PERRY ROAD

Capacity analyses for all traffic volume scenarios have shown that this intersection operates and will continue to operate at acceptable levels of service during the AM and PM peak hours with existing intersection conditions. Therefore, no improvements are recommended at this location.

### US 40 & PLAINFIELD COMMONS DRIVE/WILLIAMS TRACE

Capacity analyses for all traffic volume scenarios have shown that this intersection operates and will continue to operate at acceptable levels of service during the AM and PM peak hours with existing intersection conditions. Therefore, no improvements are recommended at this location.

US 40 & PLAINFIELD VILLAGE DRIVE

Capacity analyses for adjusted existing traffic volumes and year 2031 background traffic volumes have shown that the northbound and southbound approaches to this intersection will experience increased delays and will continue to experience increased delays during the AM and PM peak hours with existing intersection conditions when the proposed development traffic volumes are considered. However, a previous study conducted by Traffic Engineering showed that this intersection will likely warrant a future traffic signal. Capacity analyses with a traffic signal have shown that this intersection will operate at acceptable levels of service under future traffic volumes during the AM and PM peak hours.

SMITH ROAD & PERRY ROAD

Capacity analyses for all traffic volume scenarios have shown that this intersection operates and will continue to operate at acceptable levels of service during the AM and PM peak hours with existing intersection conditions. Therefore, no improvements are recommended at this location.

KLONDIKE ROAD & FRONTAGE ROAD

Capacity analyses for all traffic volume scenarios have shown that all approaches to this intersection operate and will continue to operate at acceptable levels of service during the AM and PM peak hours with existing intersection conditions. Therefore, no improvements are recommended at this location.

### PERRY ROAD & FRONTAGE ROAD EXTENSION

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following recommended intersection conditions:

- Construction of the westbound approach (Frontage Road Extension) with at least one inbound lane and two outbound lanes.
- The intersection should be stop controlled with the Frontage Road Extension stopping for Perry Road.

While a northbound right-turn lane along Perry Road is warranted, one is not necessary for the intersection to operate at an acceptable level of service.

A queue length analysis has shown that when the proposed development traffic volumes are added to the roadway network, southbound left-turn queues at this intersection are not expected to spill back into the roundabout at Smith Road. However, it should be noted if future development and more traffic intense redevelopment occurs between the Frontage Road Extension and US 40; this intersection should be monitored, and alternative geometric/control measures should be considered if southbound queuing impacts the nearby roundabout.

### SMITH ROAD & PROPOSED ACCESS DRIVE A

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following recommended intersection conditions:

- Construction of the westbound approach (access drive) with at least one inbound lane and two outbound lanes.
- The intersection should be stop controlled with the access drive stopping for Smith Road.

### SMITH ROAD & PROPOSED ACCESS DRIVE B

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following recommended intersection conditions:

- Construction of the westbound approach (access drive) with at least one inbound lane and two outbound lanes.
- Construction of an exclusive northbound right-turn lane along Smith Road.
- The intersection should be stop controlled with the access drive stopping for Smith Road.

### FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE C

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following recommended intersection conditions:

- Construction of the southbound approach (access drive) with at least one inbound lane and two outbound lanes.
- The intersection should be stop controlled with the access drive stopping for Frontage Road Extension.

### FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE D

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following recommended intersection conditions:

- Construction of the southbound approach (access drive) with at least one inbound lane and two outbound lanes.
- The intersection should be stop controlled with the access drive stopping for Frontage Road Extension.

FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE E

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following recommended intersection conditions:

- Construction of the southbound approach (access drive) with at least one inbound lane and two outbound lanes.
- The intersection should be stop controlled with the access drive stopping for Frontage Road Extension.

FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE F

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following recommended intersection conditions:

- Construction of the southbound approach (access drive) with at least one inbound lane and two outbound lanes.
- The intersection should be stop controlled with the access drive stopping for Frontage Road Extension.

In the future Williams Trace will be extended to connect at this location, creating a northbound approach.

FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE G

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following recommended intersection conditions:

- Construction of the southbound approach (access drive) with at least one inbound lane and two outbound lanes.
- The intersection should be stop controlled with the access drive stopping for Frontage Road Extension.

### FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE H

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following recommended intersection conditions:

- Construction of the southbound approach (access drive) with at least one inbound lane and two outbound lanes.
- The intersection should be stop controlled with the access drive stopping for Frontage Road Extension.

### FRONTAGE ROAD EXTENSION & PROPOSED ACCESS DRIVE I

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following recommended intersection conditions:

- Construction of the southbound approach (access drive) with at least one inbound lane and two outbound lanes.
- The intersection should be stop controlled with the access drive stopping for Frontage Road Extension.

### FRONTAGE ROAD & PLAINFIELD VILLAGE DRIVE

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following recommended intersection conditions:

- Construction of the eastbound approach (Frontage Road Extension).
- The intersection should be stop controlled with the northbound approach stopping for Frontage Road Extension.

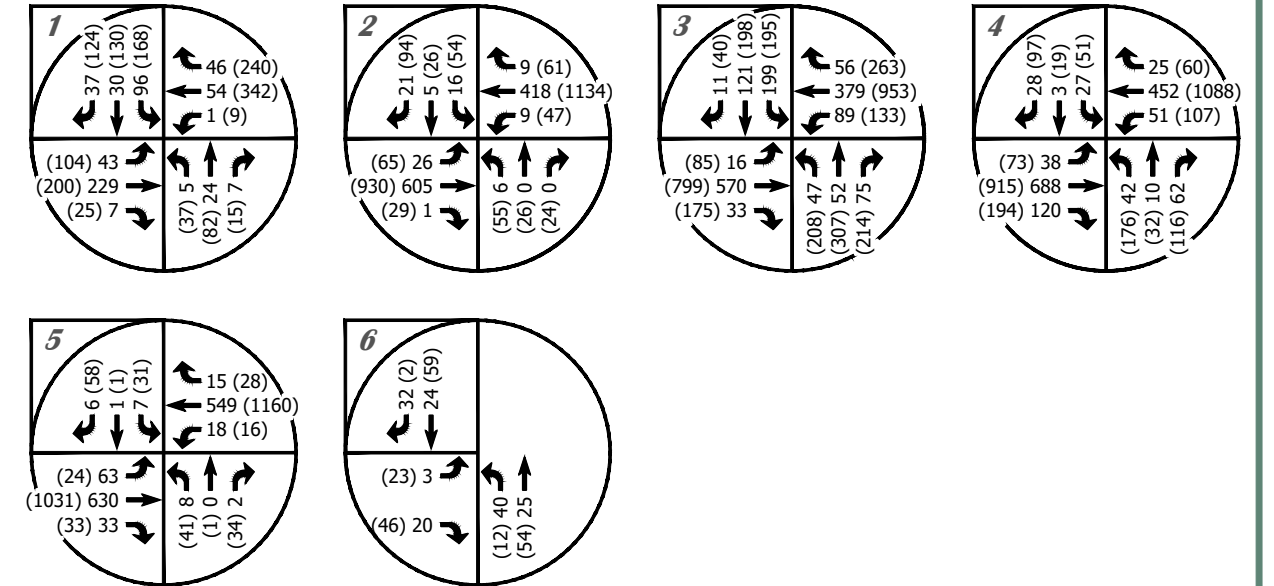
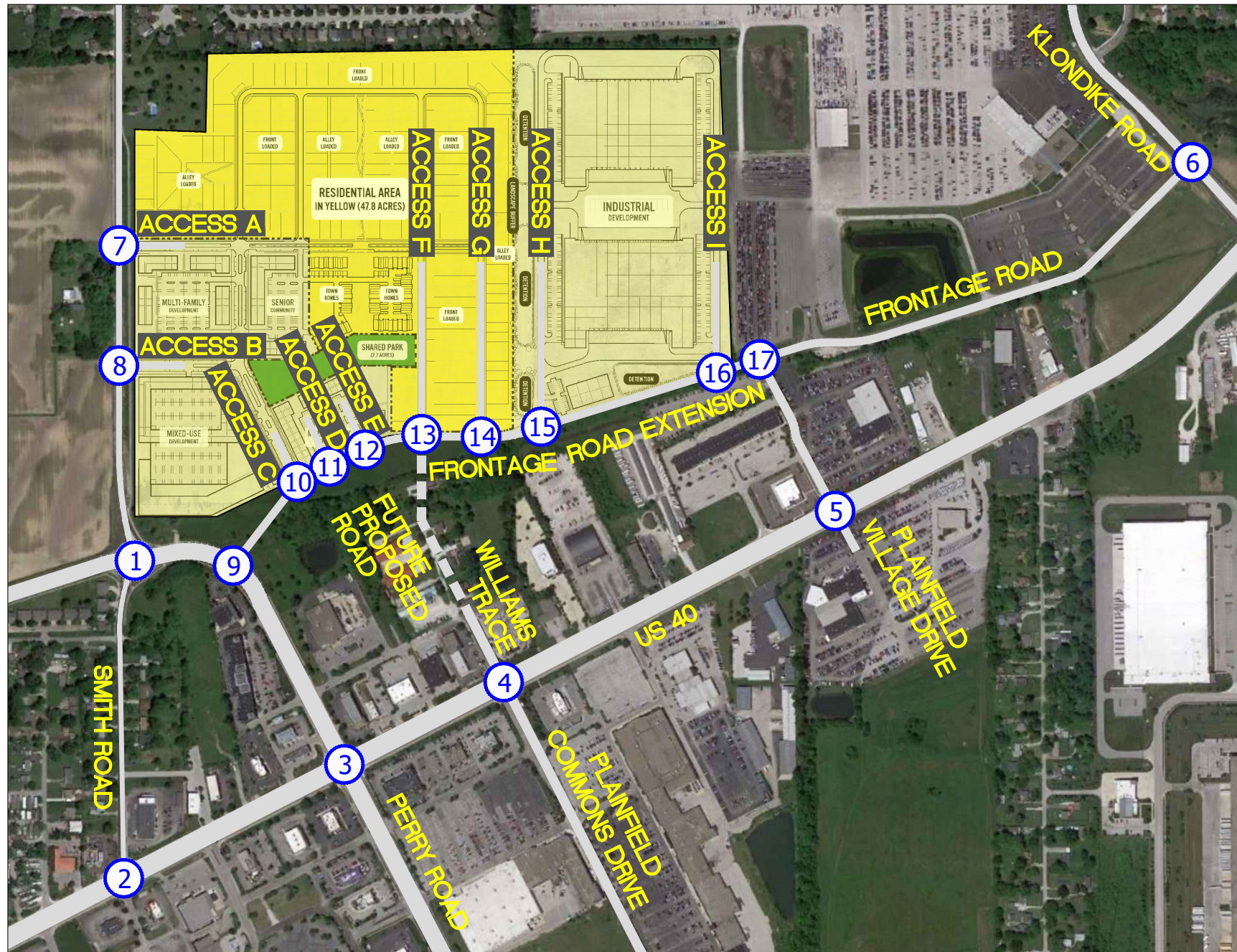
# ***TRAFFIC IMPACT STUDY***

## ***APPENDIX***



***8365 Keystone Crossing Boulevard, Suite 201  
Indianapolis, IN 46240  
Phone: (317) 202-0864 Fax: (317) 202-0908***

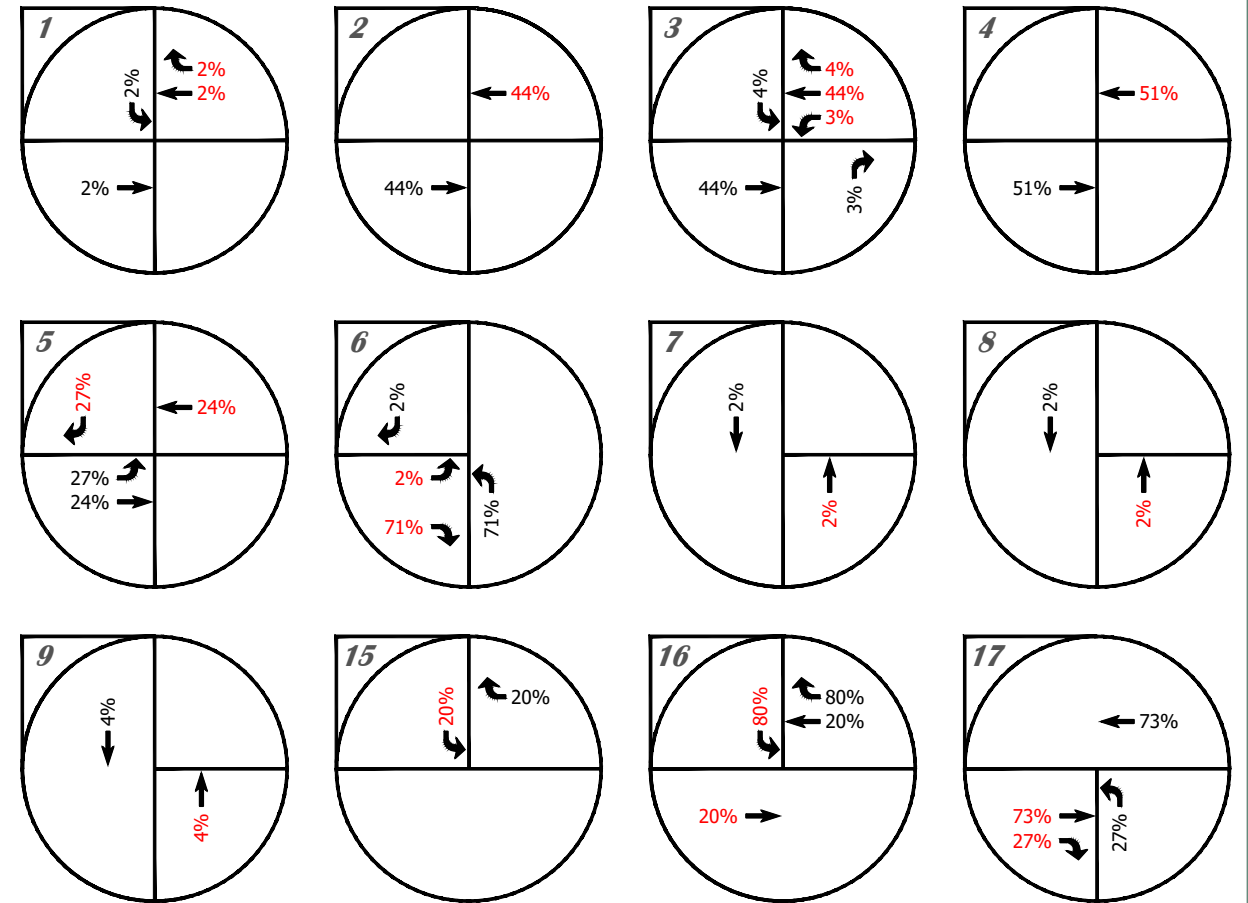
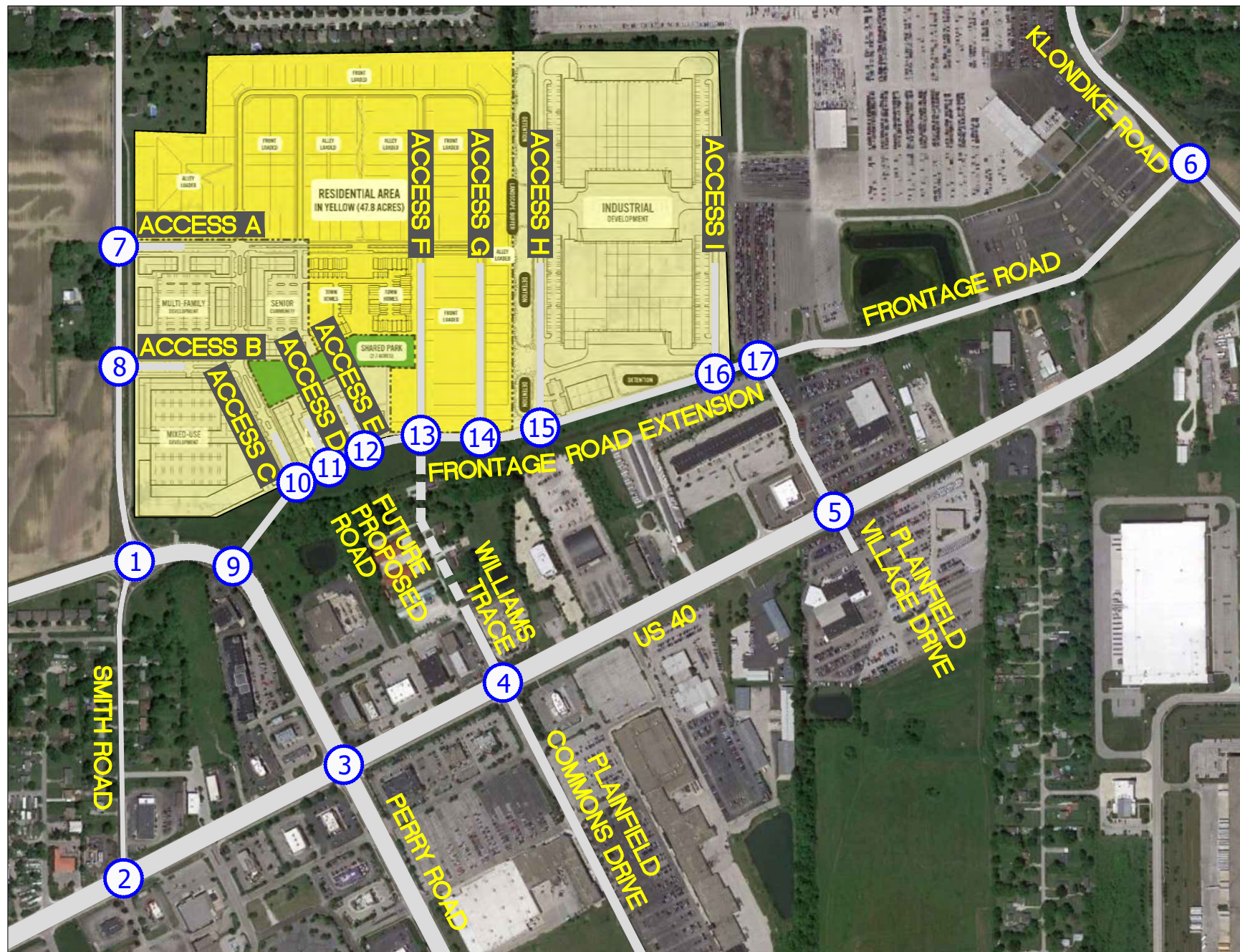
## *ADDITIONAL FIGURES*



**LEGEND**  
 XX = A.M. PEAK HOUR  
 (XX) = P.M. PEAK HOUR  
 \* = NEGLIGIBLE

**FIGURE A**  
**EXISTING TRAFFIC VOLUMES**

**TRAFFIC IMPACT STUDY**  
**NEW CITY DEVELOPMENT**  
**PLAINFIELD, IN**



**FIGURE B**  
**ASSIGNMENT & DISTRIBUTION**  
**OF GENERATED TRAFFIC VOLUMES**  
**FROM PROPOSED DEVELOPMENT**  
**(WAREHOUSING TRUCKS)**

**LEGEND**  
 XX = INBOUND TRAFFIC  
 XX = OUTBOUND TRAFFIC  
 \* = NEGLIGIBLE

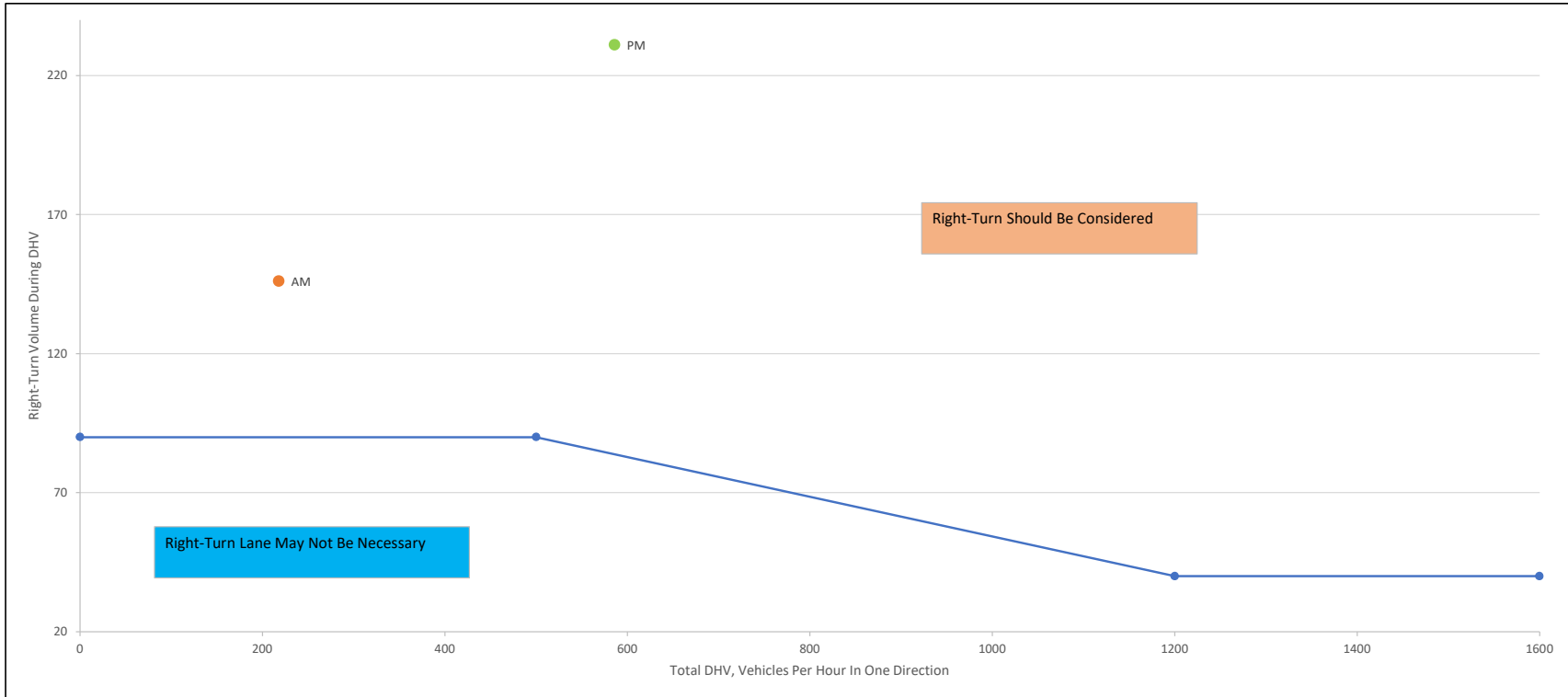
**TRAFFIC IMPACT STUDY**  
**NEW CITY DEVELOPMENT**  
**PLAINFIELD, IN**

# *TURN LANE WARRANT ANALYSIS*

Total Volume	RT Volume
0	90
500	90
1200	40
1600	40

Perry Road & Frontage Road - Existing + Proposed

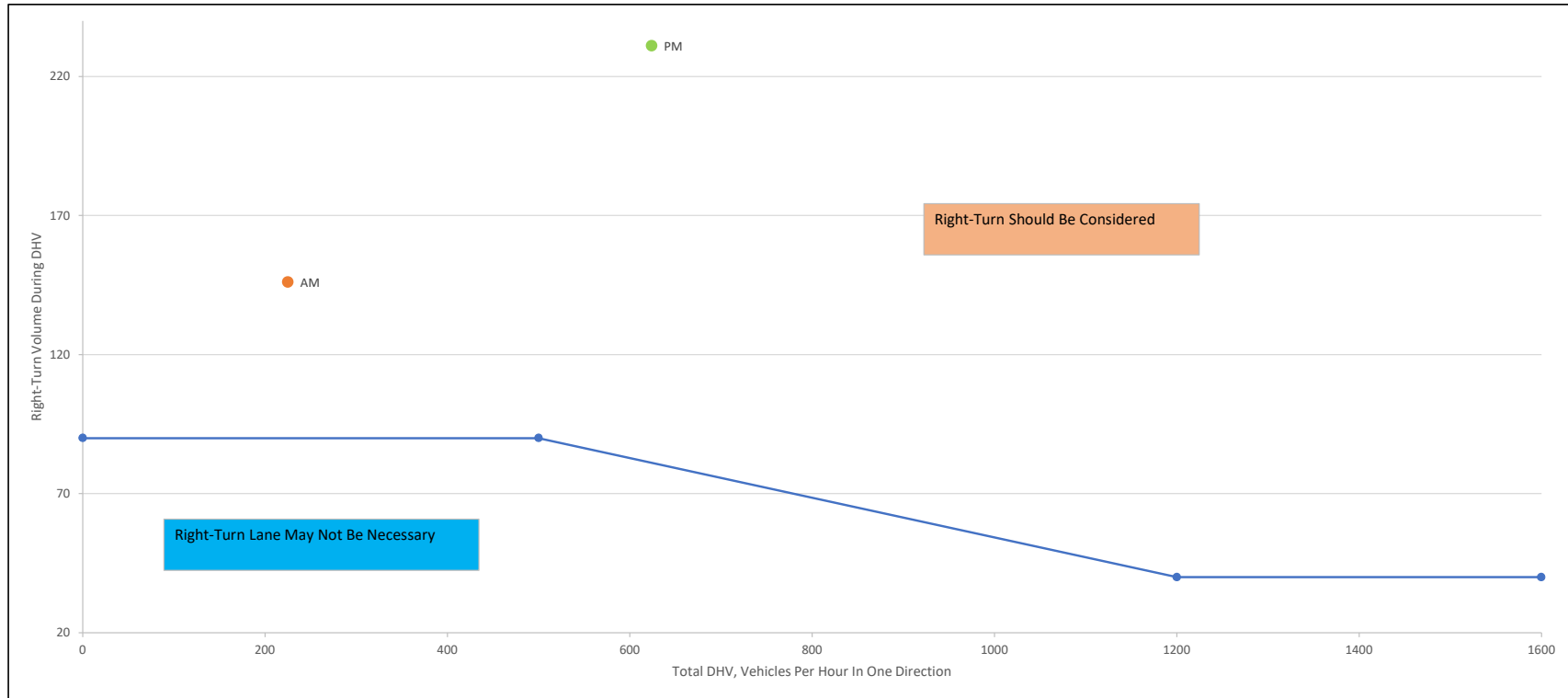
Time	Input	Met?
AM	RT Volume	146
	Total Volume	218
PM	RT Volume	231
	Total Volume	586



Perry Road & Frontage Road - Background + Proposed

Total Volume	RT Volume
0	90
500	90
1200	40
1600	40

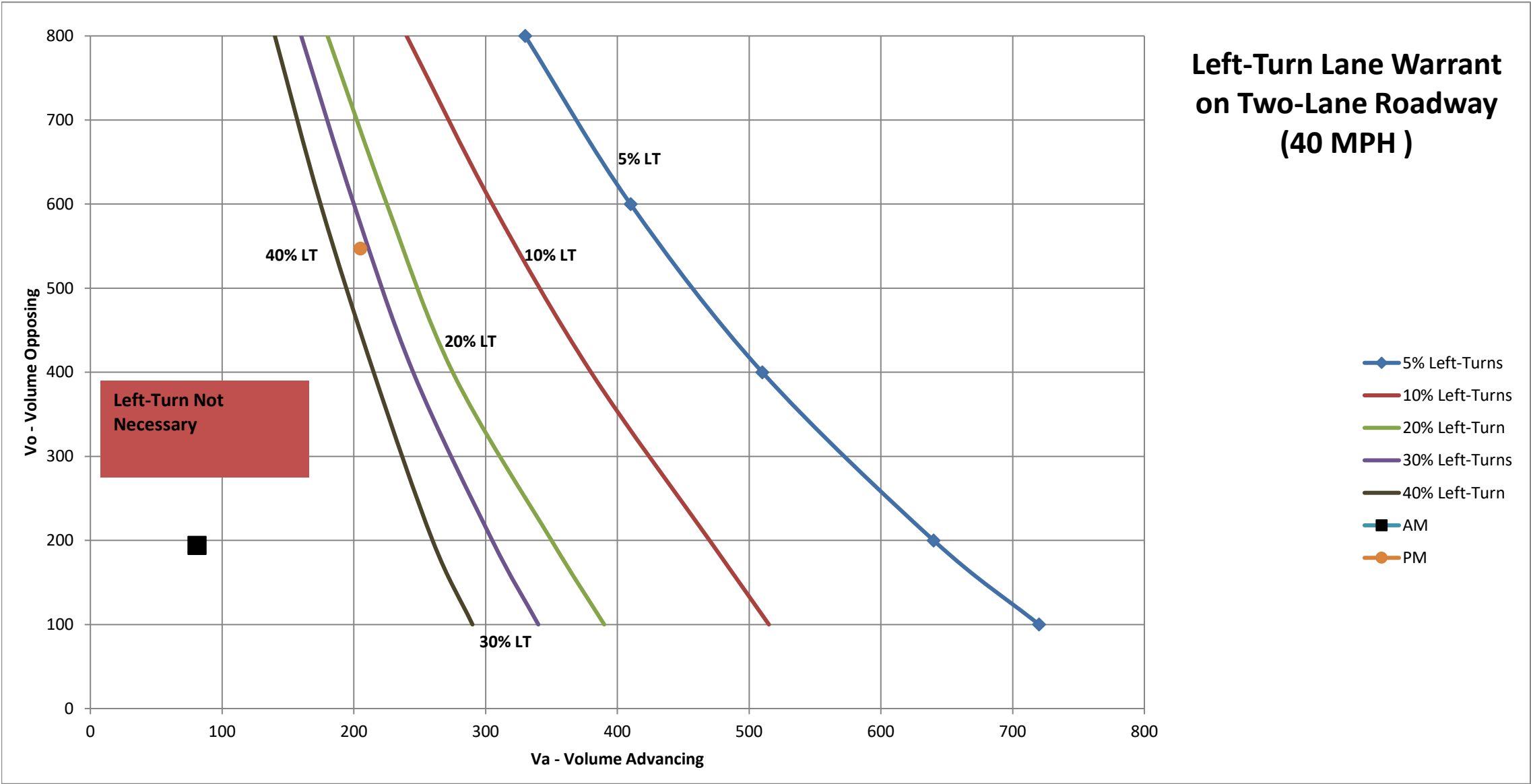
Time	Input	Met?
AM	RT Volume	146
	Total Volume	225
PM	RT Volume	231
	Total Volume	624



**Smith Road & Access Drive A - Existing + Proposed**

Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)							
		5% Left Turns	10% Left Turns	15% Left Turns	20% Left Turns	25% Left Turns	30% Left Turns	35% Left Turns	40% Left Turns
40	800	330	240	210	180	170	160	150	140
	600	410	305	265	225	213	200	187	175
	400	510	380	328	275	260	245	230	215
	200	640	470	410	350	328	305	282	260
	100	720	515	453	390	365	340	315	290

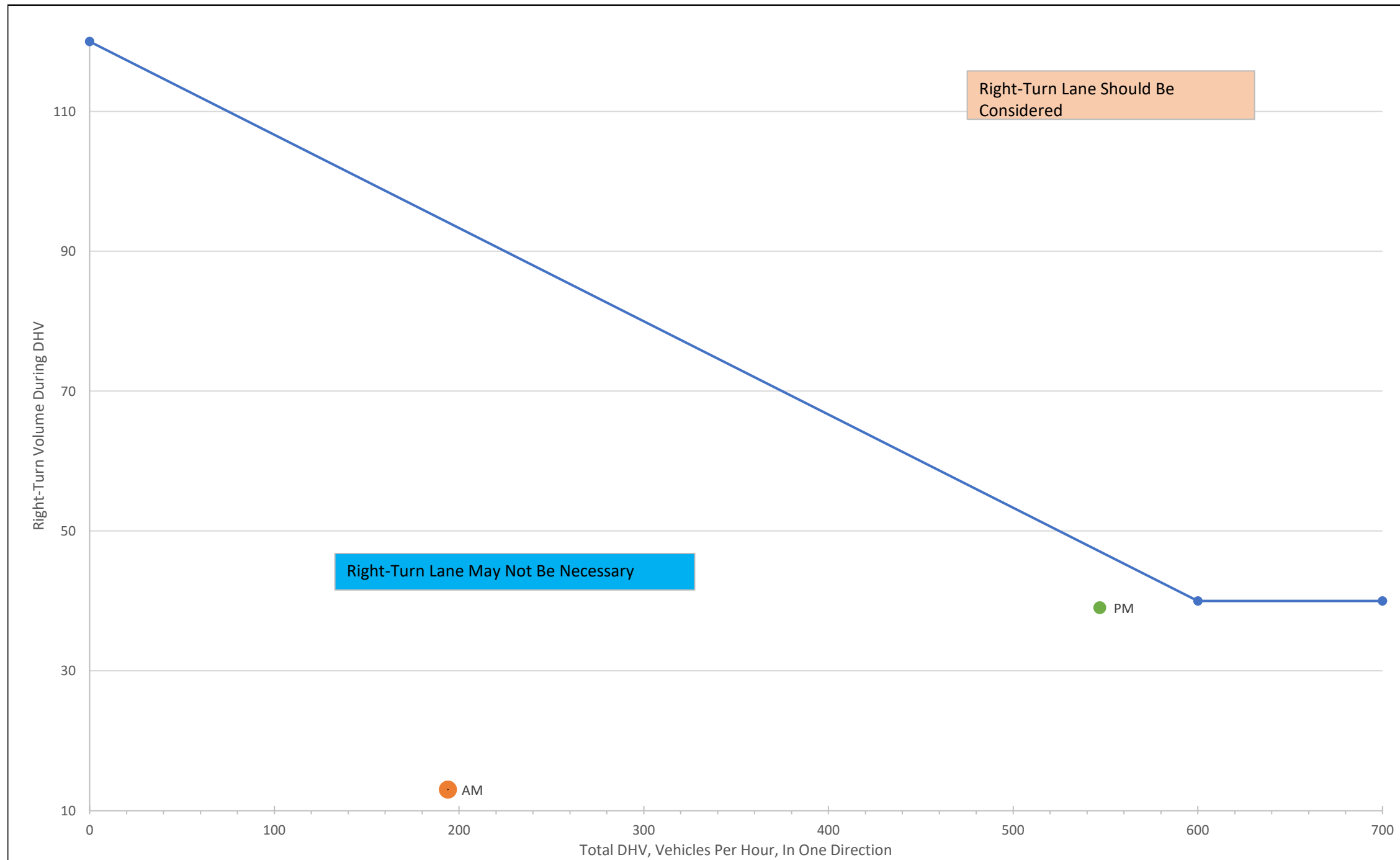
	INPUT		Warrant?
AM	Advancing Volume (Va)	81	NO
	Opposing Volume (Vo)	194	
	Left-turn Volume	8	
	Left-turn %	10%	
PM	Advancing Volume (Va)	205	NO
	Opposing Volume (Vo)	547	
	Left-turn Volume	20	
	Left-turn %	10%	



Smith Road & Access Drive A - Existing + Proposed

Total Volume	RT Volume
0	120
600	40
700	40

Time	Input	Met?
AM	RT Volume	13
	Total Volume	194
PM	RT Volume	39
	Total Volume	547

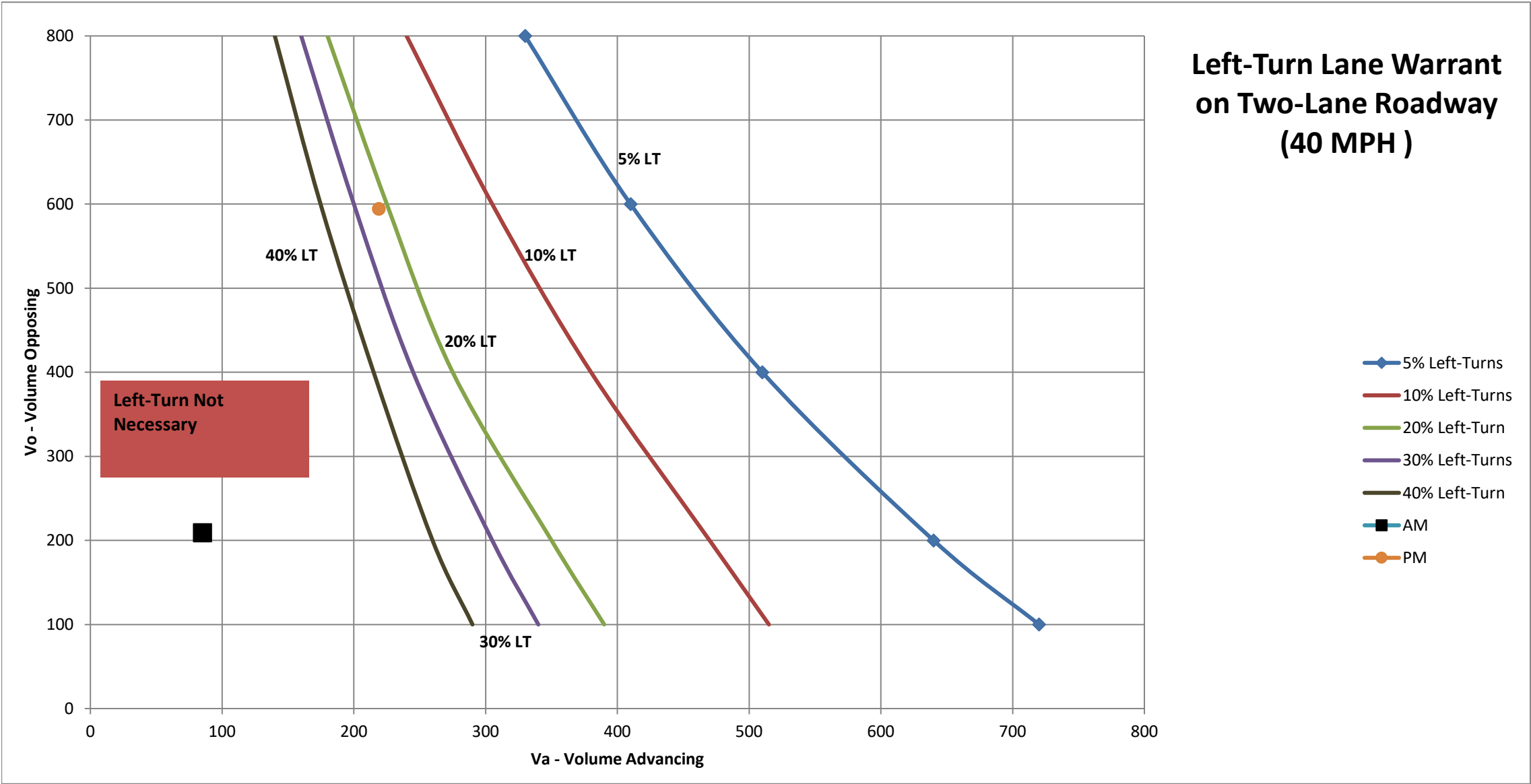


**NOTE : For highways with a design speed below 80 km/h (50 mph) with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.**

**Smith Road & Access Drive A - Background + Proposed**

Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)							
		5% Left Turns	10% Left Turns	15% Left Turns	20% Left Turns	25% Left Turns	30% Left Turns	35% Left Turns	40% Left Turns
40	800	330	240	210	180	170	160	150	140
	600	410	305	265	225	213	200	187	175
	400	510	380	328	275	260	245	230	215
	200	640	470	410	350	328	305	282	260
	100	720	515	453	390	365	340	315	290

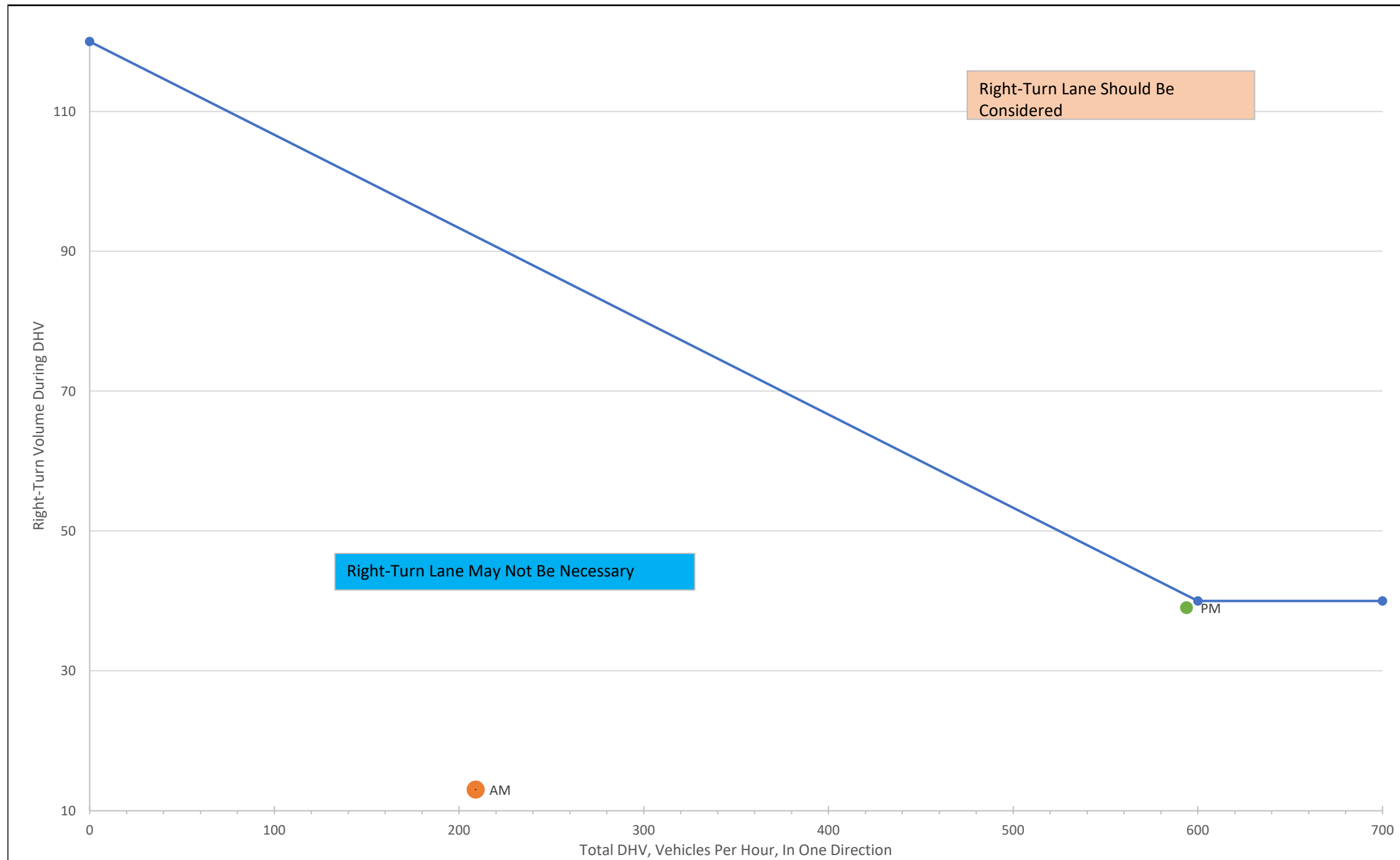
	INPUT		Warrant?
AM	Advancing Volume (Va)	85	NO
	Opposing Volume (Vo)	209	
	Left-turn Volume	8	
	Left-turn %	9%	
PM	Advancing Volume (Va)	219	NO
	Opposing Volume (Vo)	594	
	Left-turn Volume	20	
	Left-turn %	9%	



Smith Road & Access Drive A - Background + Proposed

Total Volume	RT Volume
0	120
600	40
700	40

Time	Input	Met?
AM	RT Volume	13
	Total Volume	209
PM	RT Volume	39
	Total Volume	594

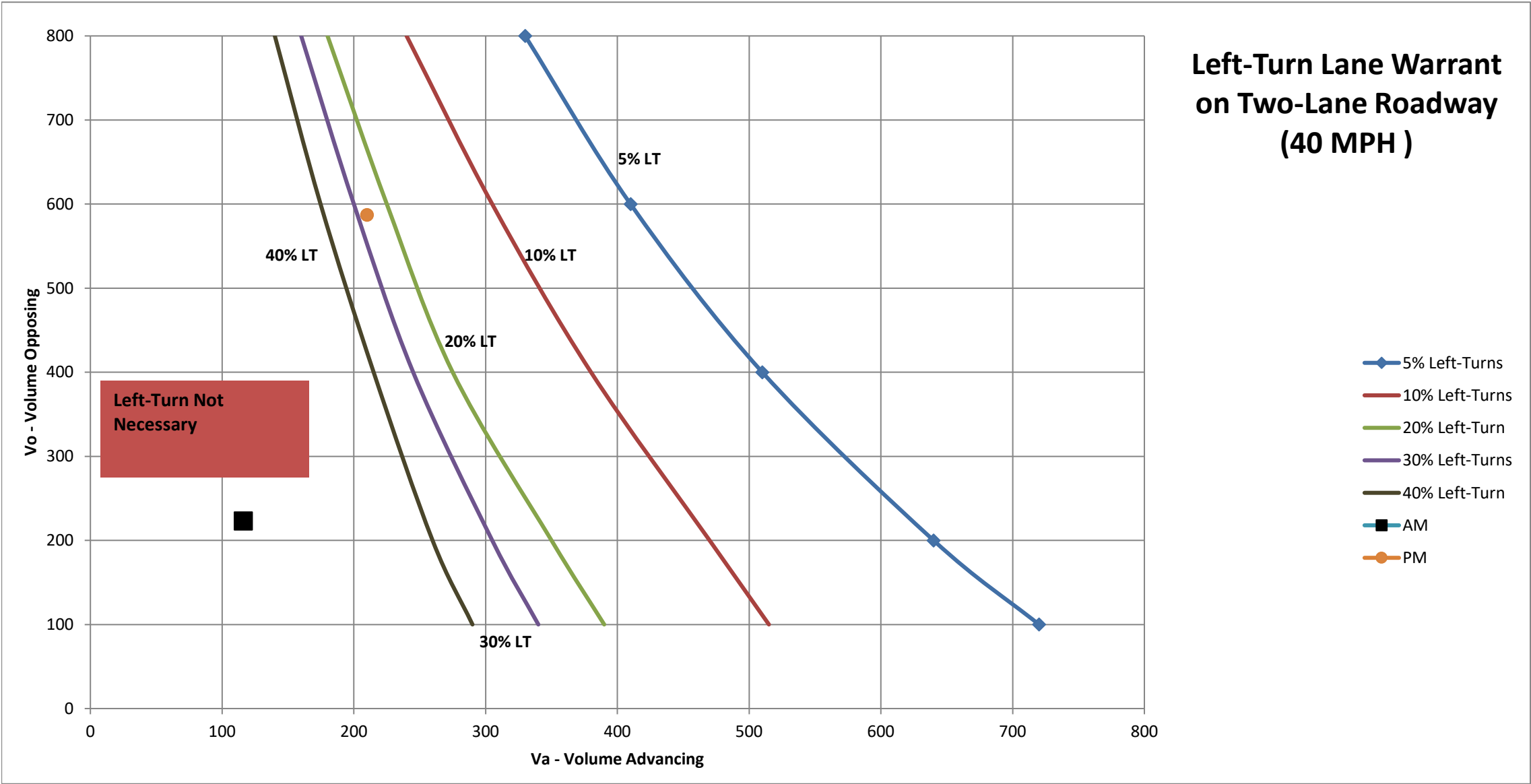


**NOTE : For highways with a design speed below 80 km/h (50 mph) with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.**

**Smith Road & Access Drive B - Existing + Proposed**

Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)							
		5% Left Turns	10% Left Turns	15% Left Turns	20% Left Turns	25% Left Turns	30% Left Turns	35% Left Turns	40% Left Turns
40	800	330	240	210	180	170	160	150	140
	600	410	305	265	225	213	200	187	175
	400	510	380	328	275	260	245	230	215
	200	640	470	410	350	328	305	282	260
	100	720	515	453	390	365	340	315	290

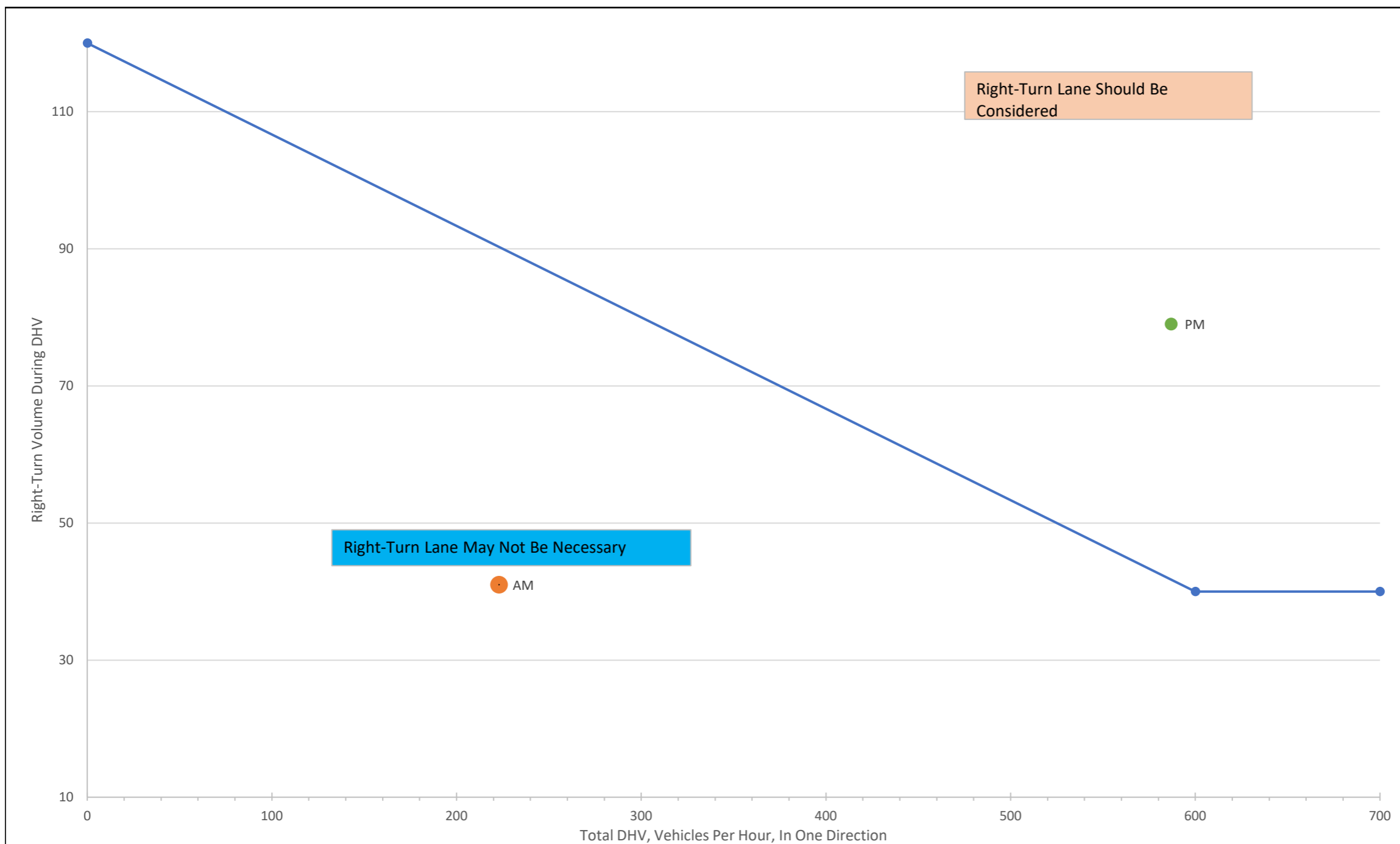
	INPUT		Warrant?
AM	Advancing Volume (Va)	116	NO
	Opposing Volume (Vo)	223	
	Left-turn Volume	41	
	Left-turn %	35%	
PM	Advancing Volume (Va)	210	NO
	Opposing Volume (Vo)	587	
	Left-turn Volume	37	
	Left-turn %	18%	



Smith Road & Access Drive B - Existing + Proposed

Total Volume	RT Volume
0	120
600	40
700	40

Time	Input		Met?
AM	RT Volume	41	NO
	Total Volume	223	
PM	RT Volume	79	YES
	Total Volume	587	

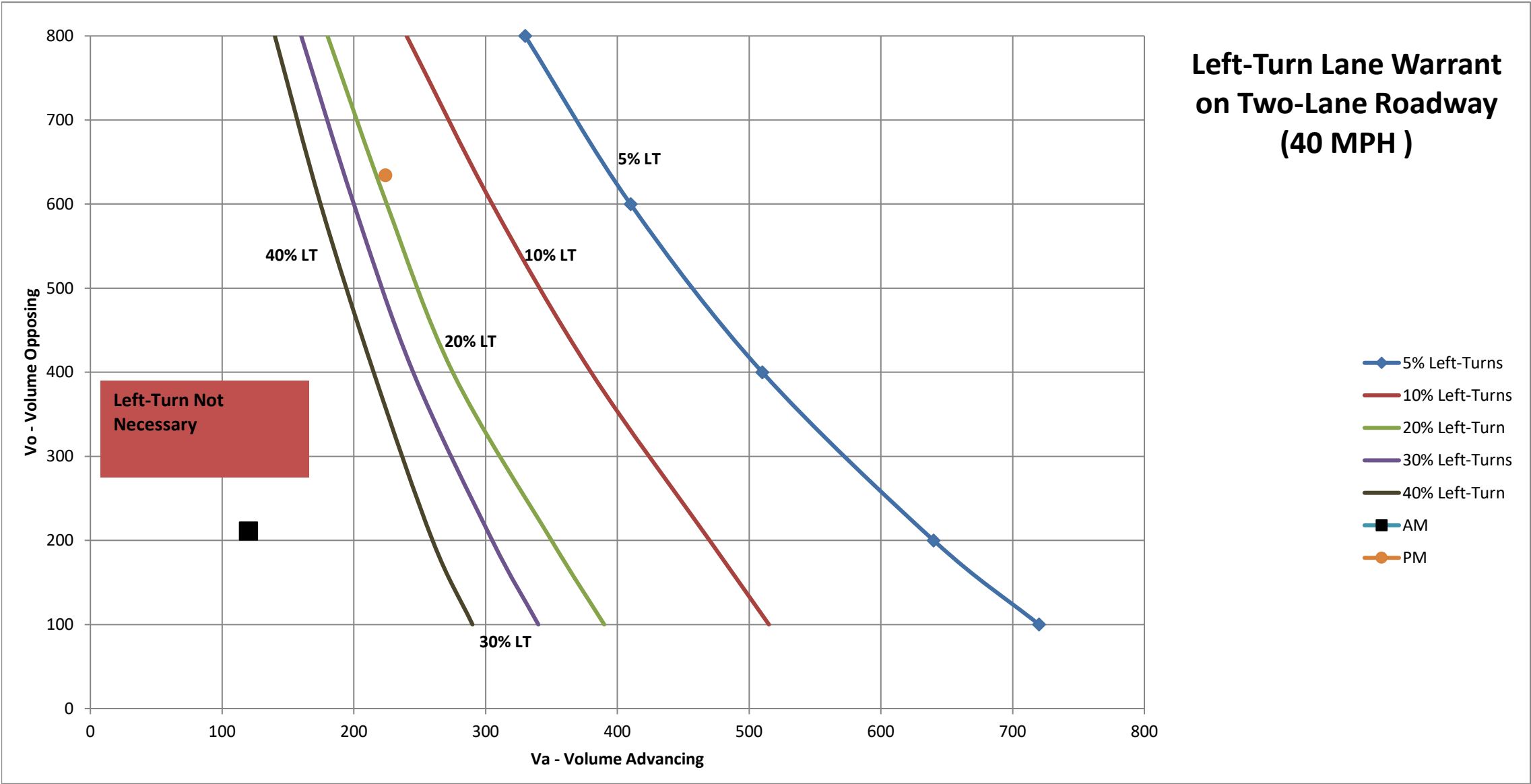


**NOTE : For highways with a design speed below 80 km/h (50 mph) with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.**

**Smith Road & Access Drive B - Background + Proposed**

Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)							
		5% Left Turns	10% Left Turns	15% Left Turns	20% Left Turns	25% Left Turns	30% Left Turns	35% Left Turns	40% Left Turns
40	800	330	240	210	180	170	160	150	140
	600	410	305	265	225	213	200	187	175
	400	510	380	328	275	260	245	230	215
	200	640	470	410	350	328	305	282	260
	100	720	515	453	390	365	340	315	290

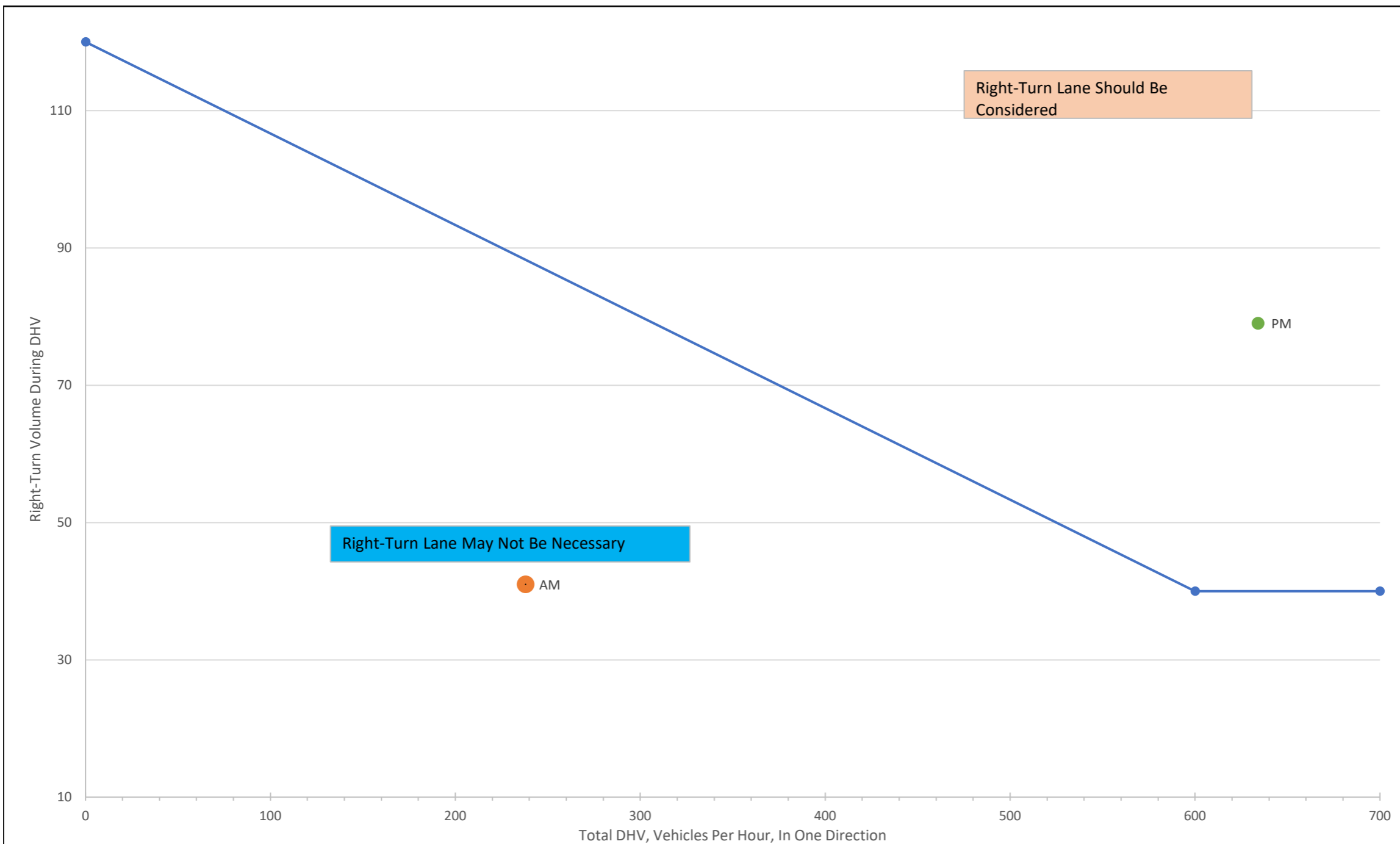
	INPUT		Warrant?
AM	Advancing Volume (Va)	120	NO
	Opposing Volume (Vo)	211	
	Left-turn Volume	16	
	Left-turn %	13%	
PM	Advancing Volume (Va)	224	NO
	Opposing Volume (Vo)	634	
	Left-turn Volume	37	
	Left-turn %	17%	



Smith Road & Access Drive B - Background + Proposed

Total Volume	RT Volume
0	120
600	40
700	40

Time	Input		Met?
AM	RT Volume	41	NO
	Total Volume	238	
PM	RT Volume	79	YES
	Total Volume	634	

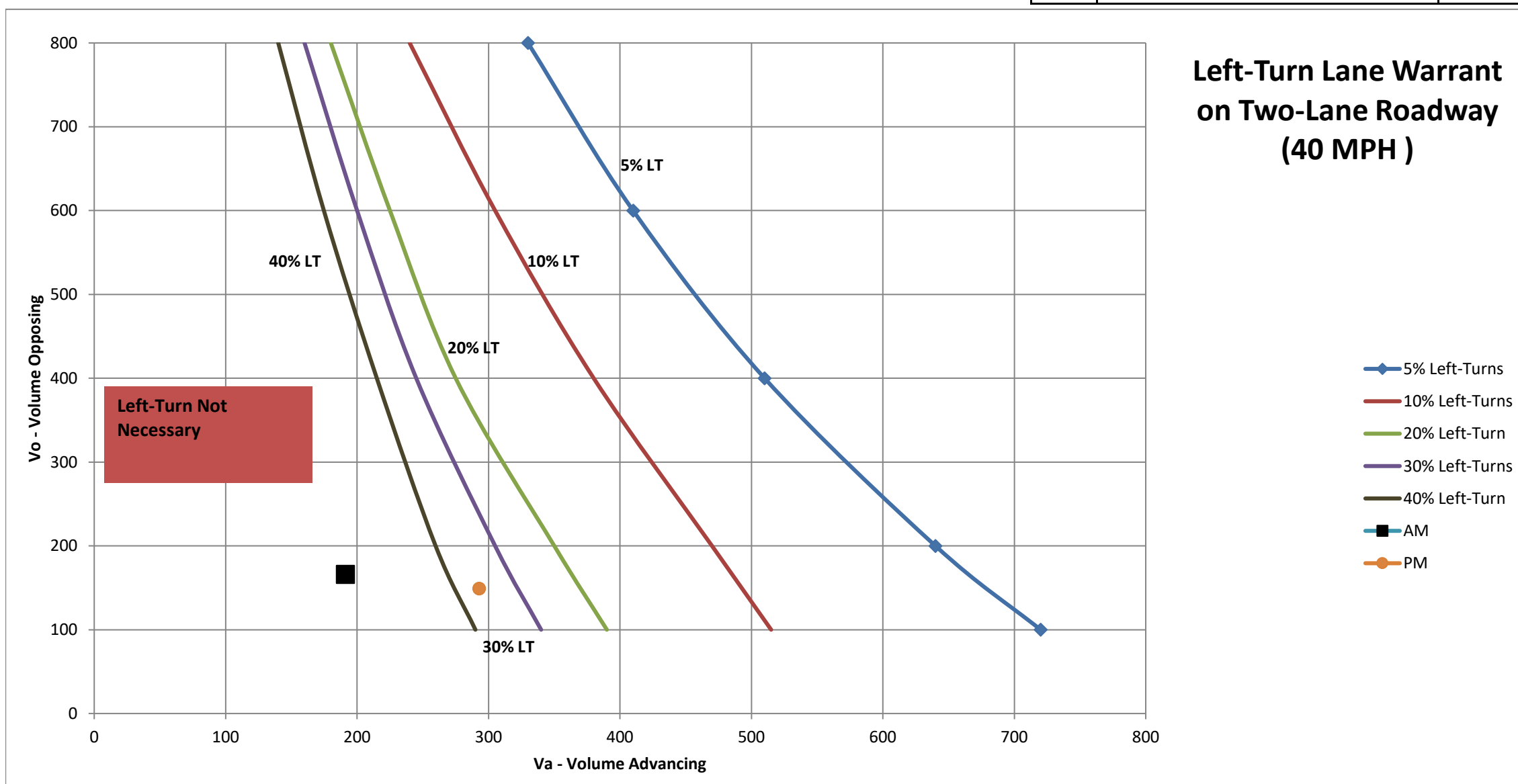


**NOTE : For highways with a design speed below 80 km/h (50 mph) with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.**

### Frontage Road & Access Drive C

Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)							
		5% Left Turns	10% Left Turns	15% Left Turns	20% Left Turns	25% Left Turns	30% Left Turns	35% Left Turns	40% Left Turns
40	800	330	240	210	180	170	160	150	140
	600	410	305	265	225	213	200	187	175
	400	510	380	328	275	260	245	230	215
	200	640	470	410	350	328	305	282	260
	100	720	515	453	390	365	340	315	290

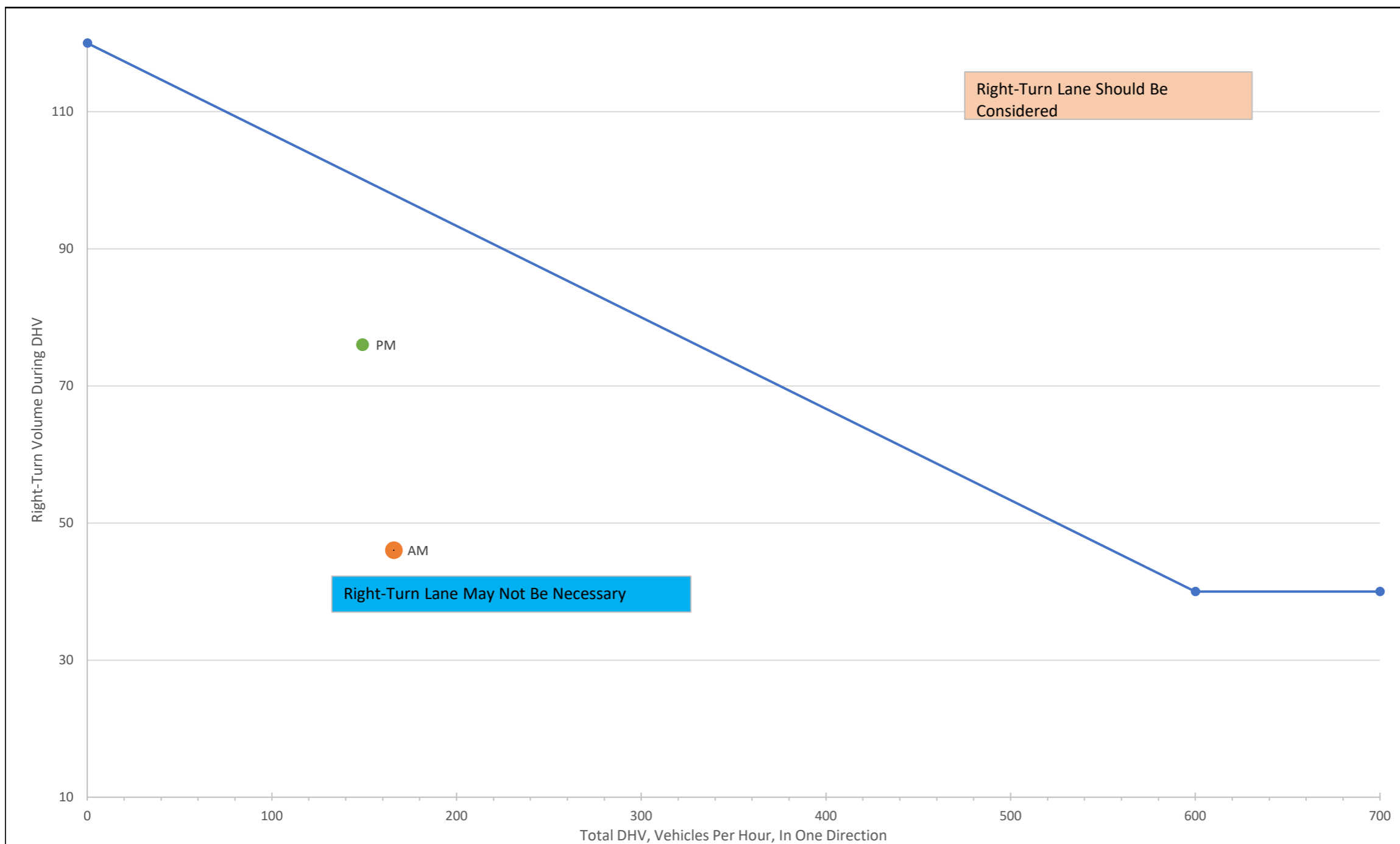
	INPUT		Warrant?
AM	<b>Advancing Volume (Va)</b>	191	NO
	<b>Opposing Volume (Vo)</b>	166	
	<b>Left-turn Volume</b>	65	
	<b>Left-turn %</b>	34%	
PM	<b>Advancing Volume (Va)</b>	293	YES
	<b>Opposing Volume (Vo)</b>	149	
	<b>Left-turn Volume</b>	120	
	<b>Left-turn %</b>	41%	



Frontage Road & Access Drive C

Total Volume	RT Volume
0	120
600	40
700	40

Time	Input		Met?
AM	RT Volume	46	NO
	Total Volume	166	
PM	RT Volume	76	NO
	Total Volume	149	

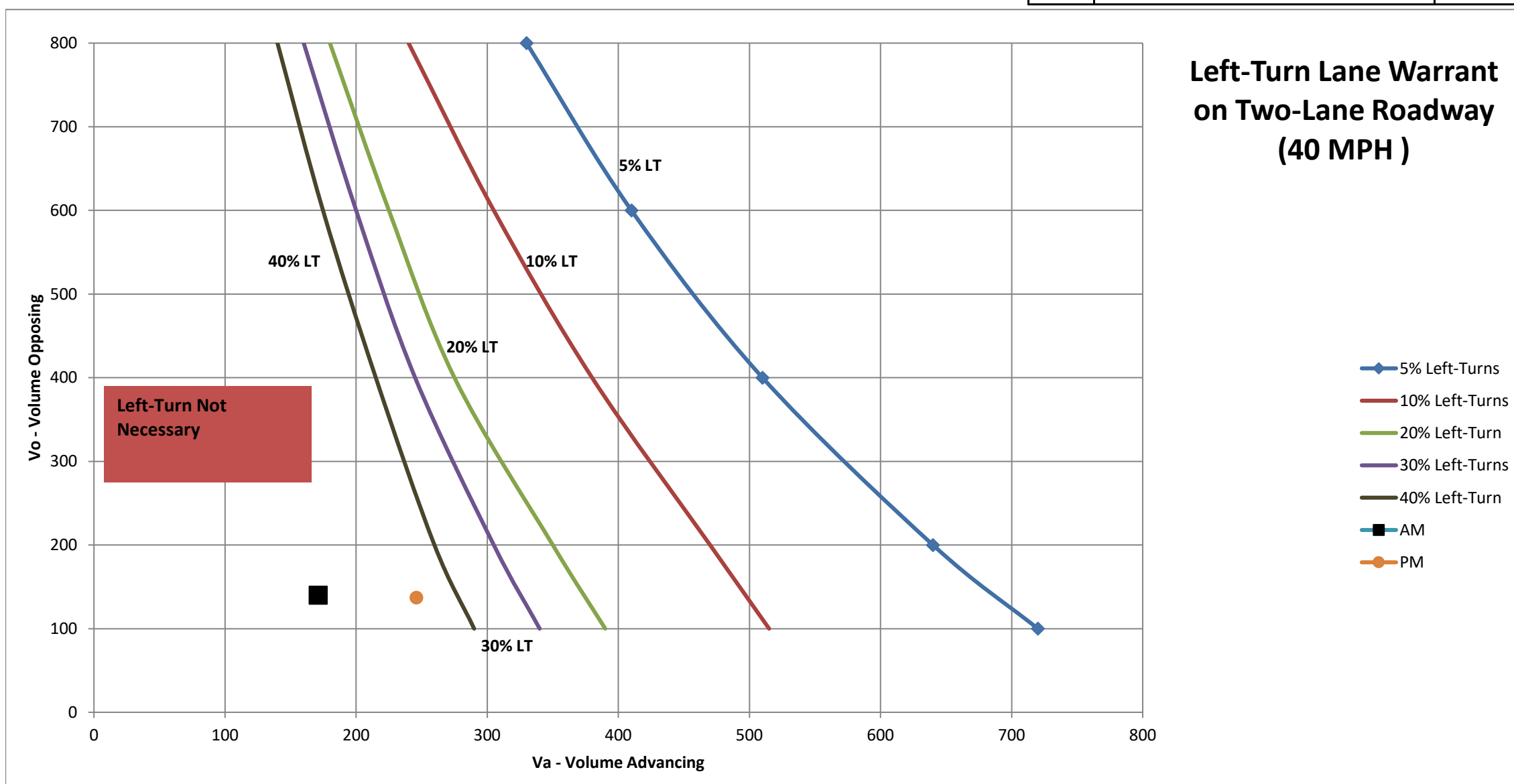


**NOTE : For highways with a design speed below 80 km/h (50 mph) with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.**

### Frontage Road & Access Drive D

Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)							
		5% Left Turns	10% Left Turns	15% Left Turns	20% Left Turns	25% Left Turns	30% Left Turns	35% Left Turns	40% Left Turns
40	800	330	240	210	180	170	160	150	140
	600	410	305	265	225	213	200	187	175
	400	510	380	328	275	260	245	230	215
	200	640	470	410	350	328	305	282	260
	100	720	515	453	390	365	340	315	290

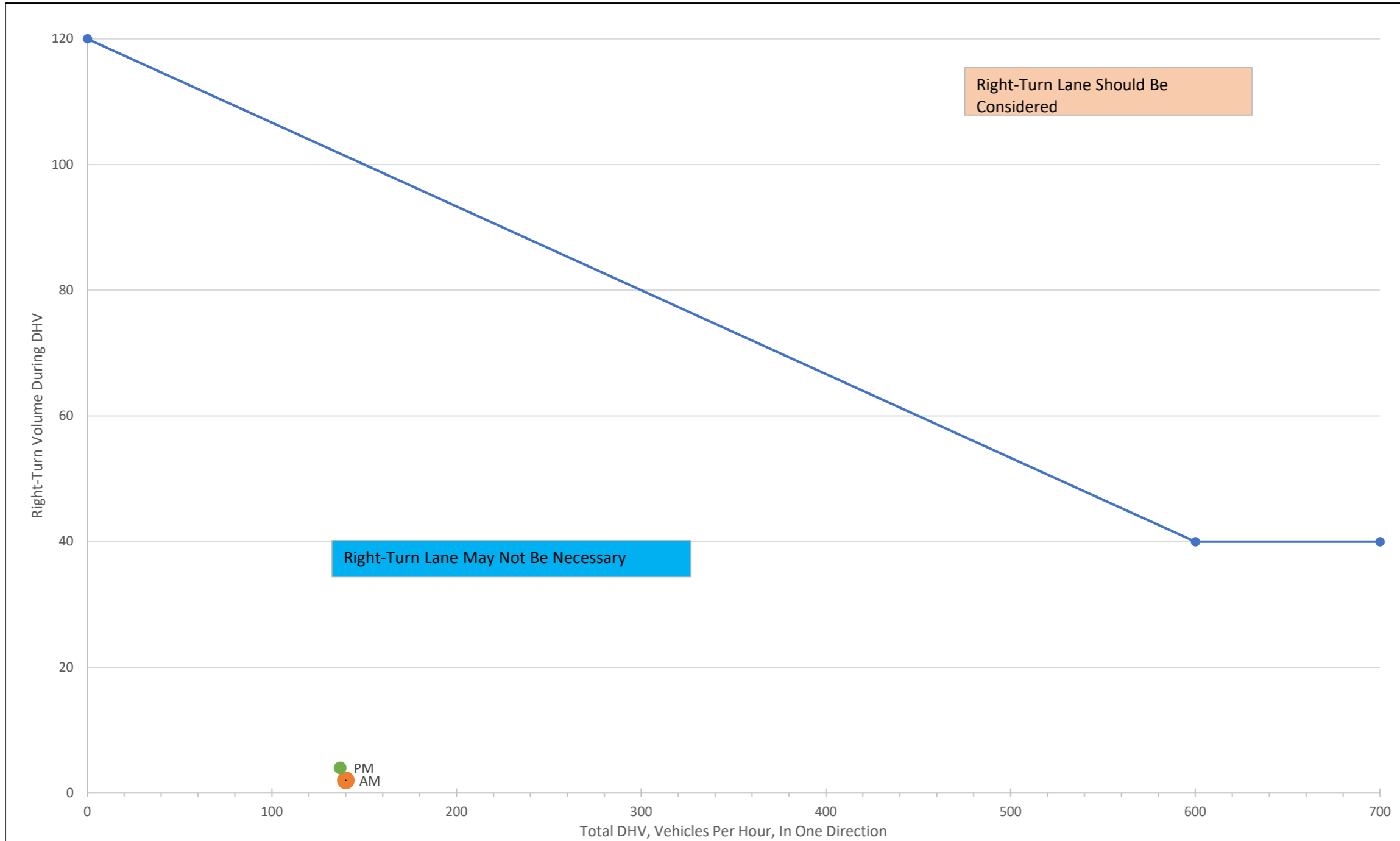
	INPUT		Warrant?
AM	Advancing Volume (Va)	171	NO
	Opposing Volume (Vo)	140	
	Left-turn Volume	9	
	Left-turn %	5%	
PM	Advancing Volume (Va)	246	NO
	Opposing Volume (Vo)	137	
	Left-turn Volume	22	
	Left-turn %	9%	



Total Volume	RT Volume
0	120
600	40
700	40

**Frontage Road & Access Drive D**

Time	Input		Met?
AM	RT Volume	2	NO
	Total Volume	140	
PM	RT Volume	4	NO
	Total Volume	137	

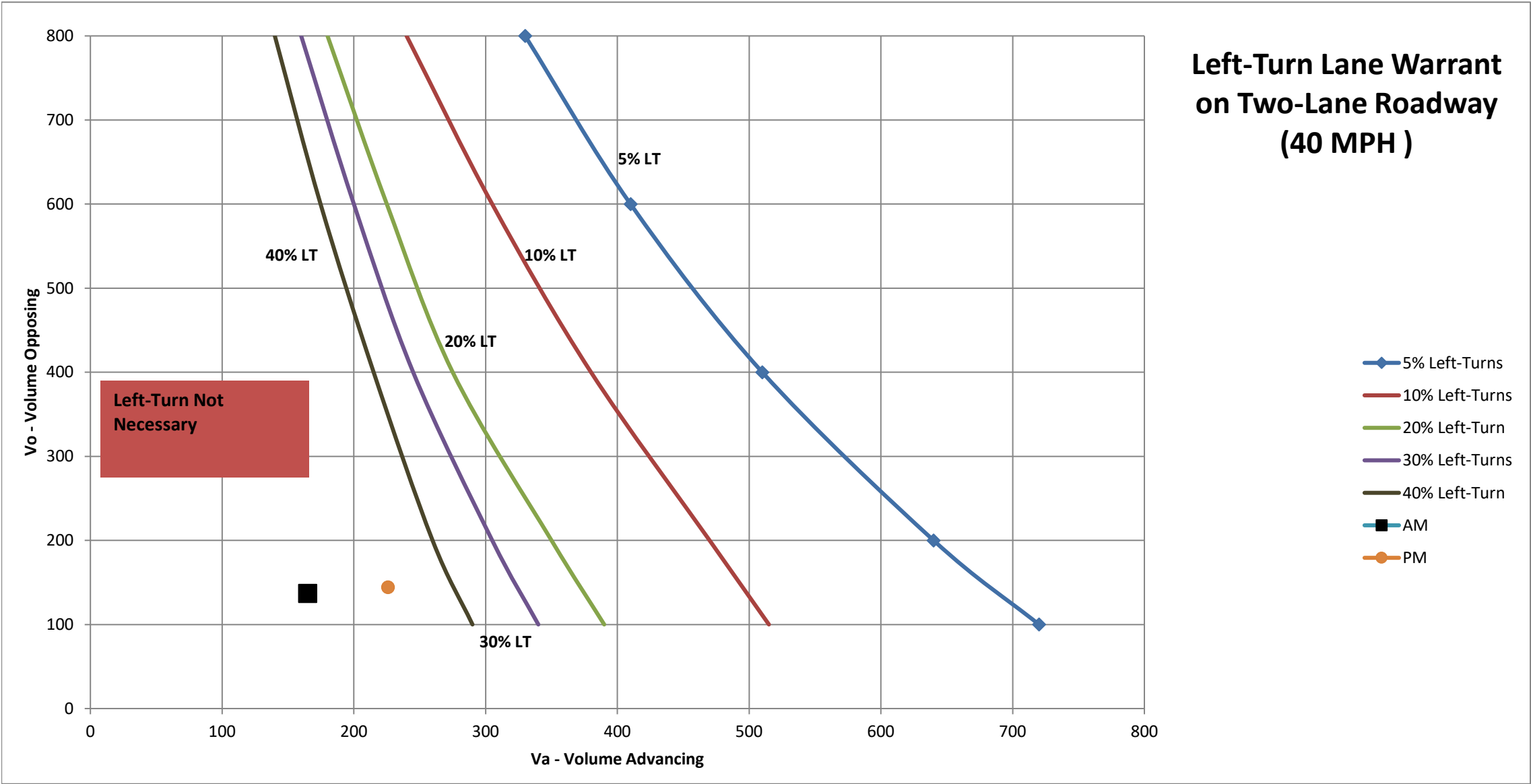


**NOTE : For highways with a design speed below 80 km/h (50 mph) with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.**

**Frontage Road & Access Drive E**

Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)							
		5% Left Turns	10% Left Turns	15% Left Turns	20% Left Turns	25% Left Turns	30% Left Turns	35% Left Turns	40% Left Turns
40	800	330	240	210	180	170	160	150	140
	600	410	305	265	225	213	200	187	175
	400	510	380	328	275	260	245	230	215
	200	640	470	410	350	328	305	282	260
	100	720	515	453	390	365	340	315	290

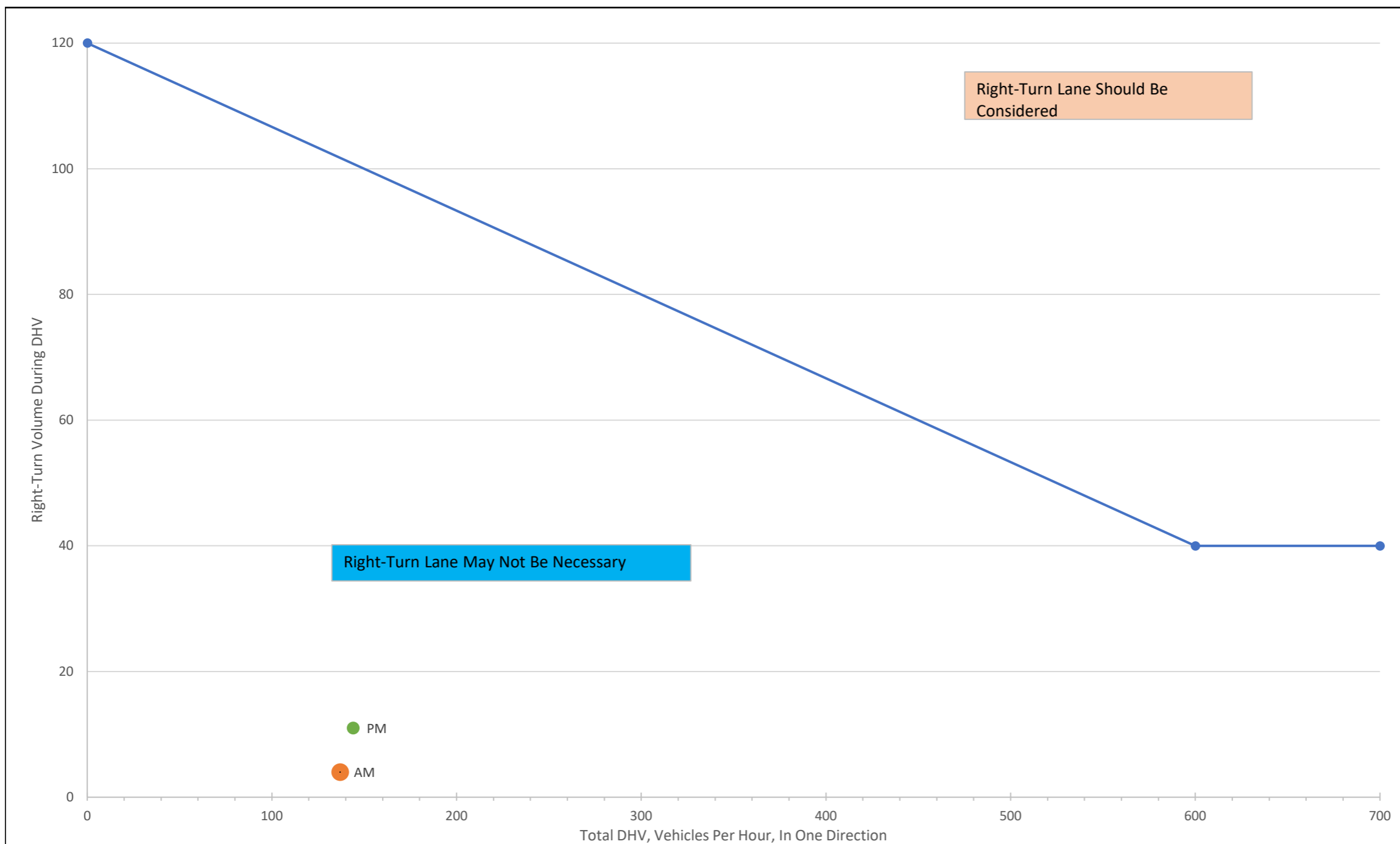
	INPUT		Warrant?
AM	<b>Advancing Volume (Va)</b>	165	NO
	<b>Opposing Volume (Vo)</b>	137	
	<b>Left-turn Volume</b>	2	
	<b>Left-turn %</b>	1%	
PM	<b>Advancing Volume (Va)</b>	226	NO
	<b>Opposing Volume (Vo)</b>	144	
	<b>Left-turn Volume</b>	5	
	<b>Left-turn %</b>	2%	



**Frontage Road & Access Drive E**

Total Volume	RT Volume
0	120
600	40
700	40

Time	Input		Met?
AM	RT Volume	4	NO
	Total Volume	137	
PM	RT Volume	11	NO
	Total Volume	144	

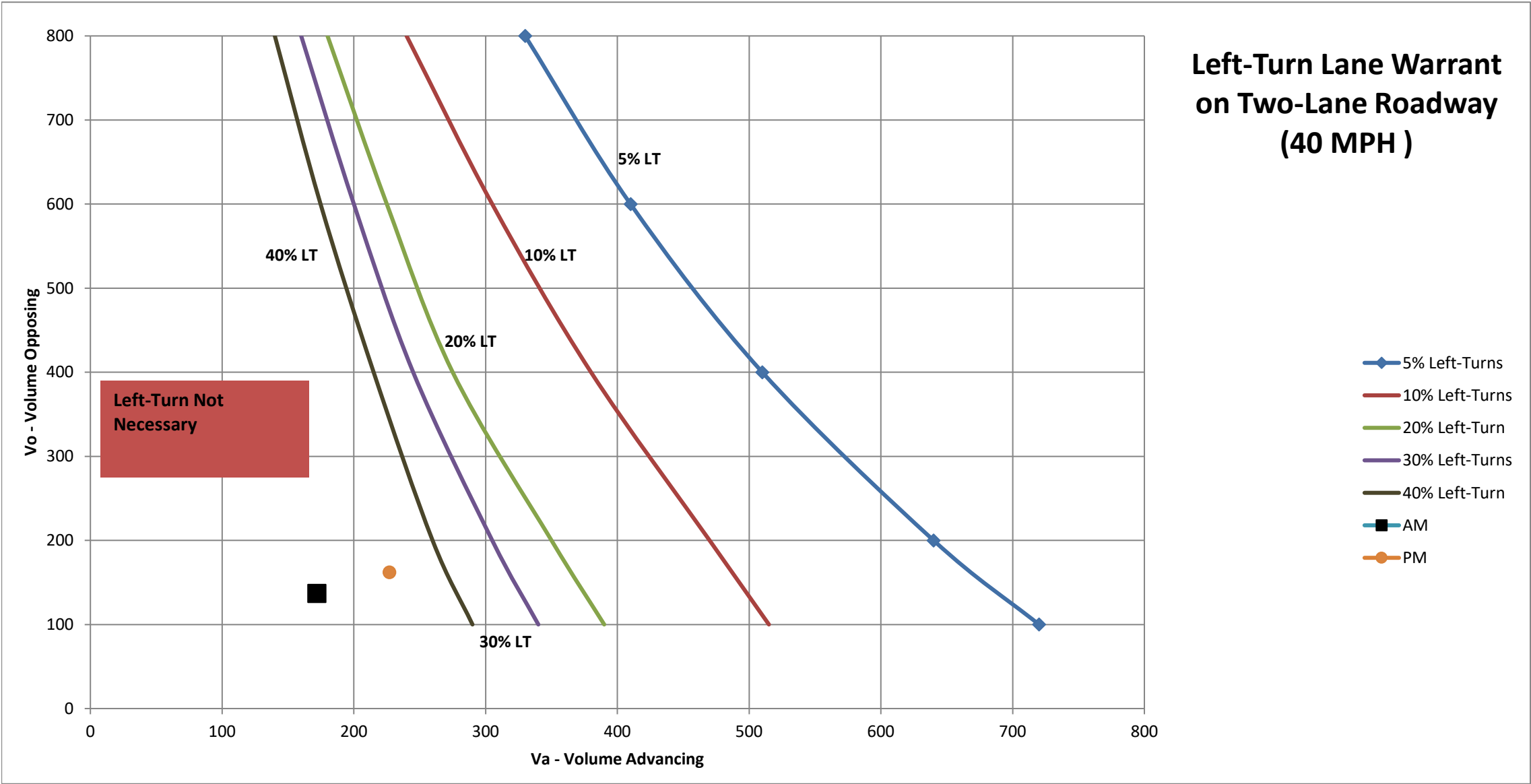


**NOTE : For highways with a design speed below 80 km/h (50 mph) with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.**

**Frontage Road & Access Drive F**

Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)							
		5% Left Turns	10% Left Turns	15% Left Turns	20% Left Turns	25% Left Turns	30% Left Turns	35% Left Turns	40% Left Turns
40	800	330	240	210	180	170	160	150	140
	600	410	305	265	225	213	200	187	175
	400	510	380	328	275	260	245	230	215
	200	640	470	410	350	328	305	282	260
	100	720	515	453	390	365	340	315	290

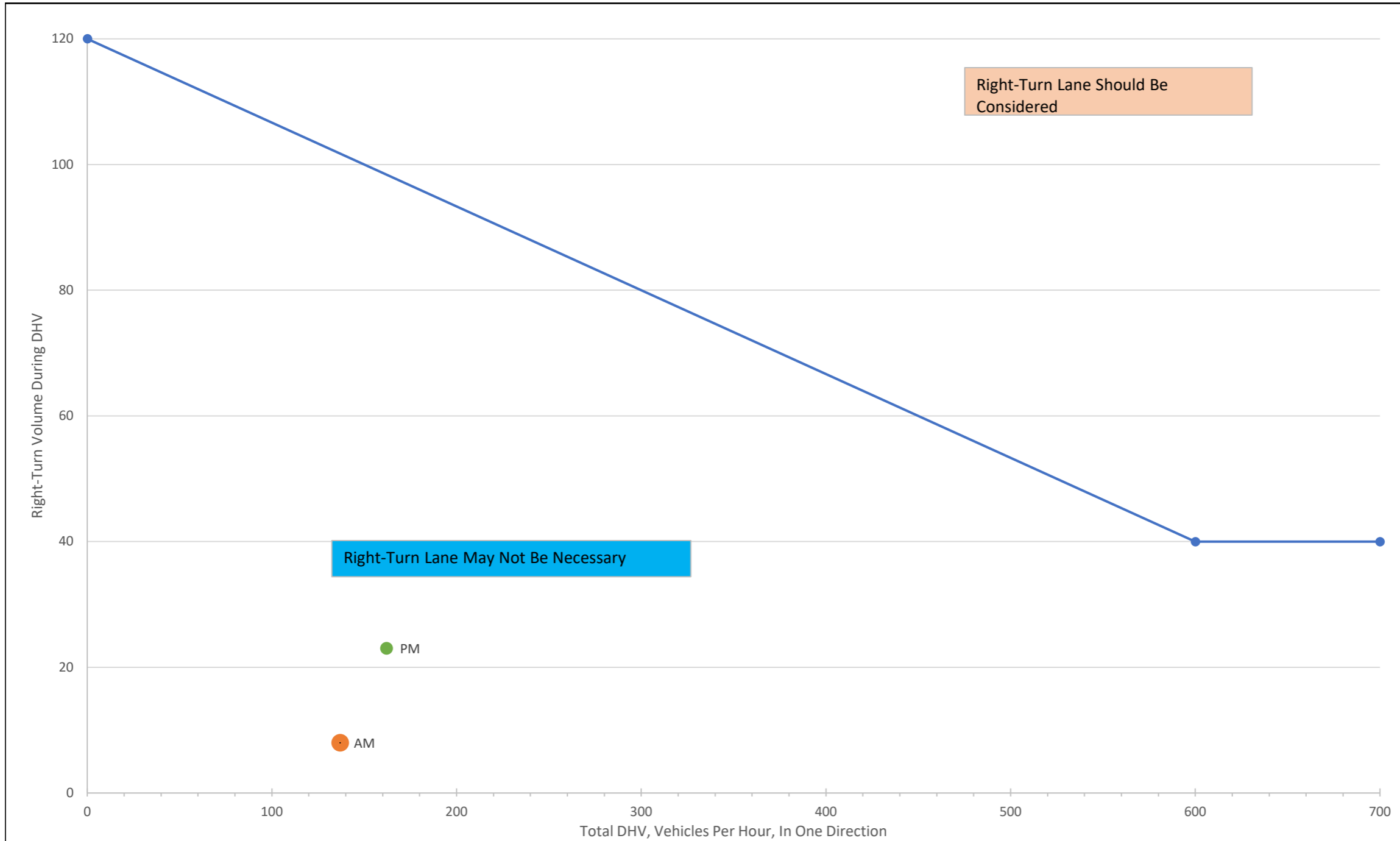
	INPUT		Warrant?
AM	Advancing Volume (Va)	172	NO
	Opposing Volume (Vo)	137	
	Left-turn Volume	3	
	Left-turn %	2%	
PM	Advancing Volume (Va)	227	NO
	Opposing Volume (Vo)	162	
	Left-turn Volume	8	
	Left-turn %	4%	



Total Volume	RT Volume
0	120
600	40
700	40

**Frontage Road & Access Drive F**

Time	Input		Met?
AM	RT Volume	8	NO
	Total Volume	137	
PM	RT Volume	23	NO
	Total Volume	162	

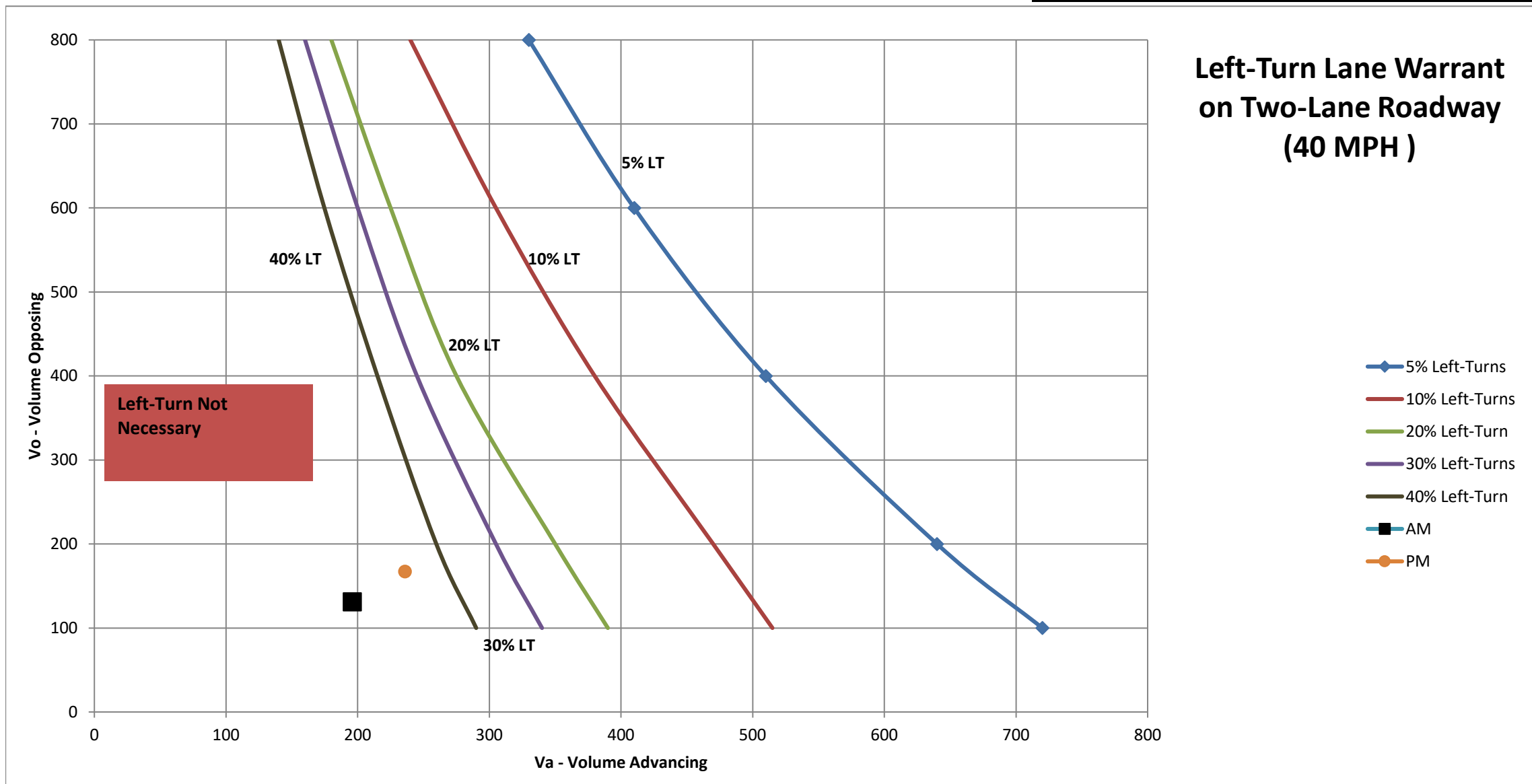


**NOTE : For highways with a design speed below 80 km/h (50 mph) with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.**

### Frontage Road & Access Drive G

Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)							
		5% Left Turns	10% Left Turns	15% Left Turns	20% Left Turns	25% Left Turns	30% Left Turns	35% Left Turns	40% Left Turns
40	800	330	240	210	180	170	160	150	140
	600	410	305	265	225	213	200	187	175
	400	510	380	328	275	260	245	230	215
	200	640	470	410	350	328	305	282	260
	100	720	515	453	390	365	340	315	290

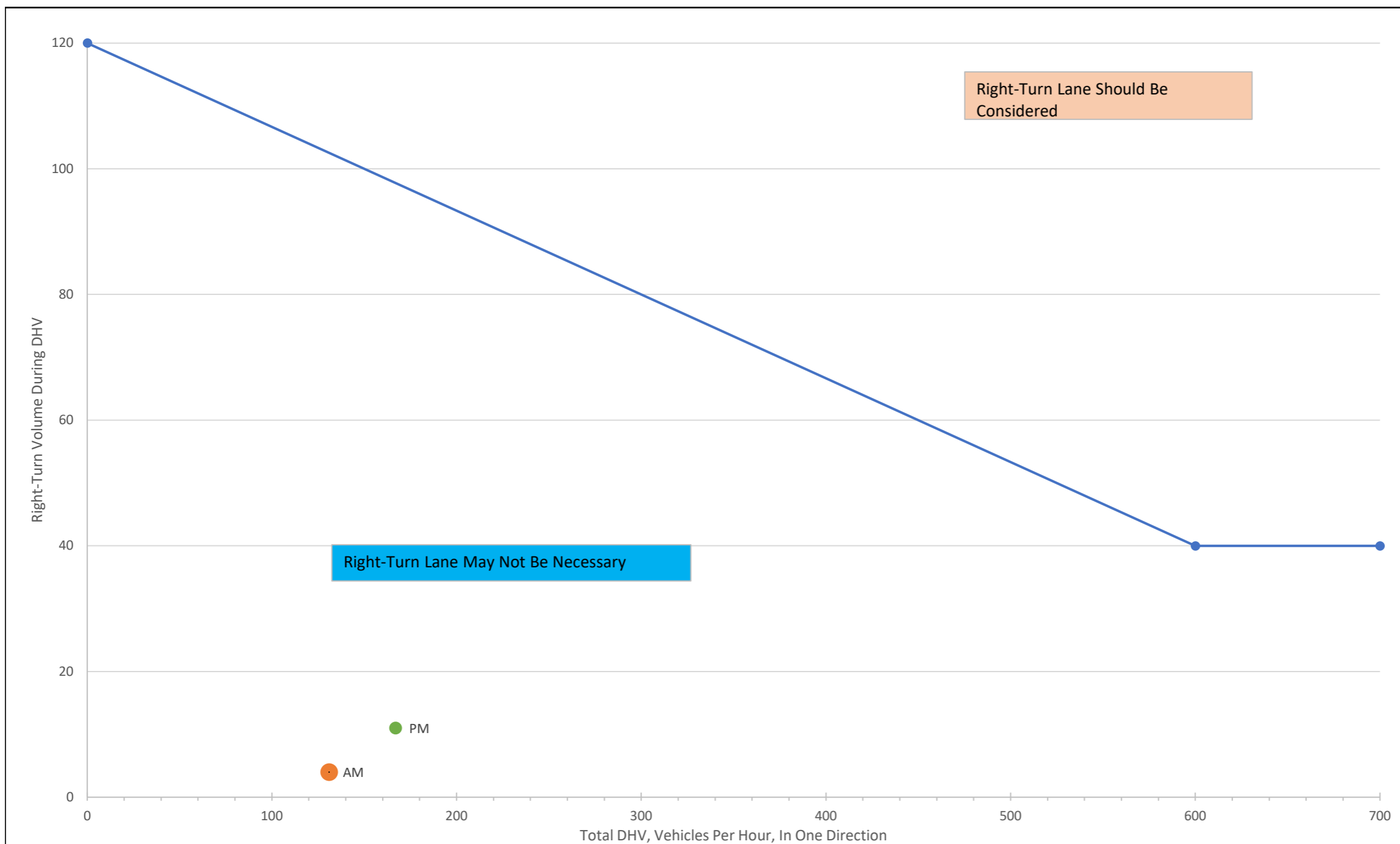
	INPUT		Warrant?
AM	<b>Advancing Volume (Va)</b>	196	NO
	<b>Opposing Volume (Vo)</b>	131	
	<b>Left-turn Volume</b>	4	
	<b>Left-turn %</b>	2%	
PM	<b>Advancing Volume (Va)</b>	236	NO
	<b>Opposing Volume (Vo)</b>	167	
	<b>Left-turn Volume</b>	9	
	<b>Left-turn %</b>	4%	



**Frontage Road & Access Drive G**

Total Volume	RT Volume
0	120
600	40
700	40

Time	Input		Met?
AM	RT Volume	4	NO
	Total Volume	131	
PM	RT Volume	11	NO
	Total Volume	167	

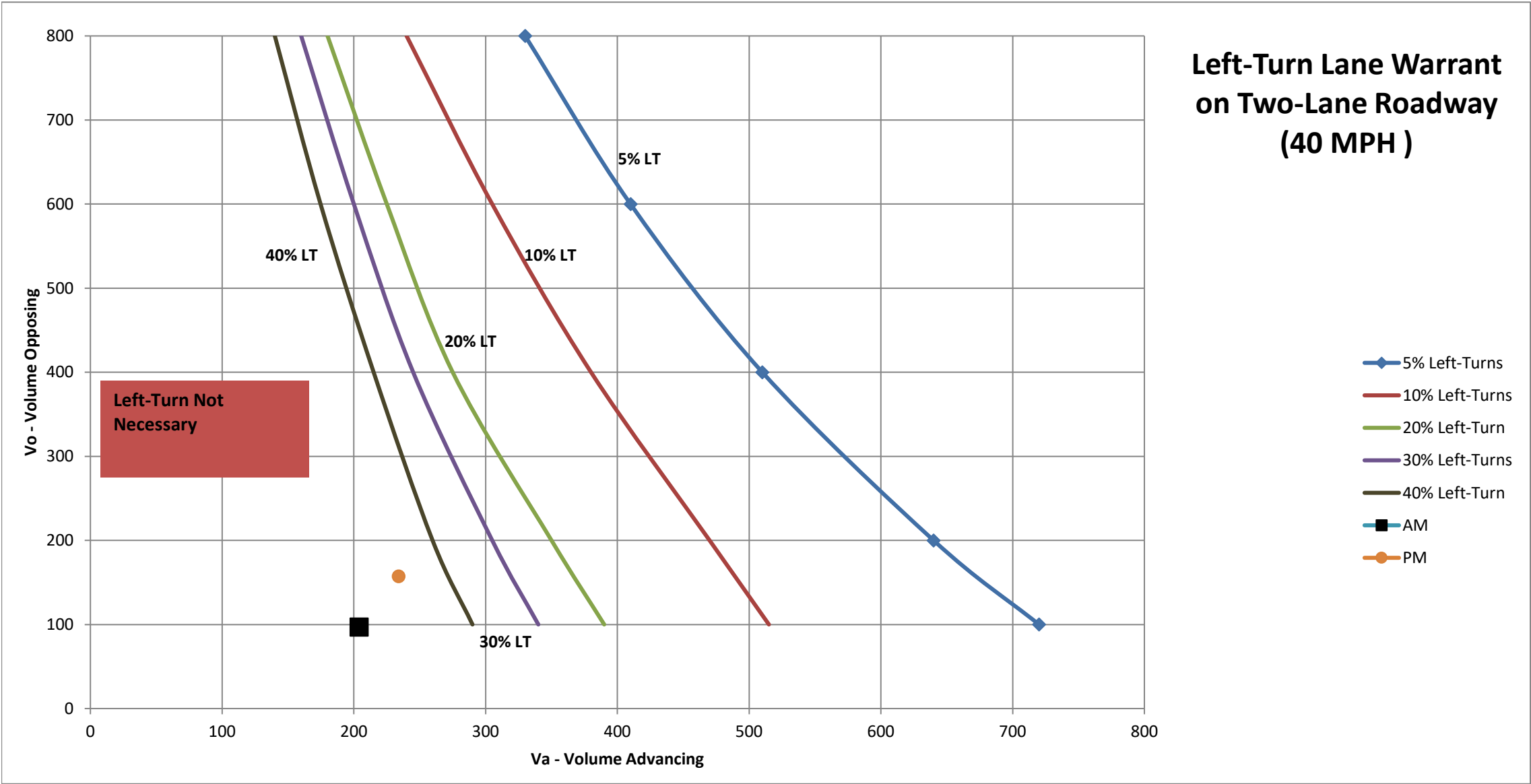


**NOTE : For highways with a design speed below 80 km/h (50 mph) with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.**

**Frontage Road & Access Drive H**

Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)							
		5% Left Turns	10% Left Turns	15% Left Turns	20% Left Turns	25% Left Turns	30% Left Turns	35% Left Turns	40% Left Turns
40	800	330	240	210	180	170	160	150	140
	600	410	305	265	225	213	200	187	175
	400	510	380	328	275	260	245	230	215
	200	640	470	410	350	328	305	282	260
	100	720	515	453	390	365	340	315	290

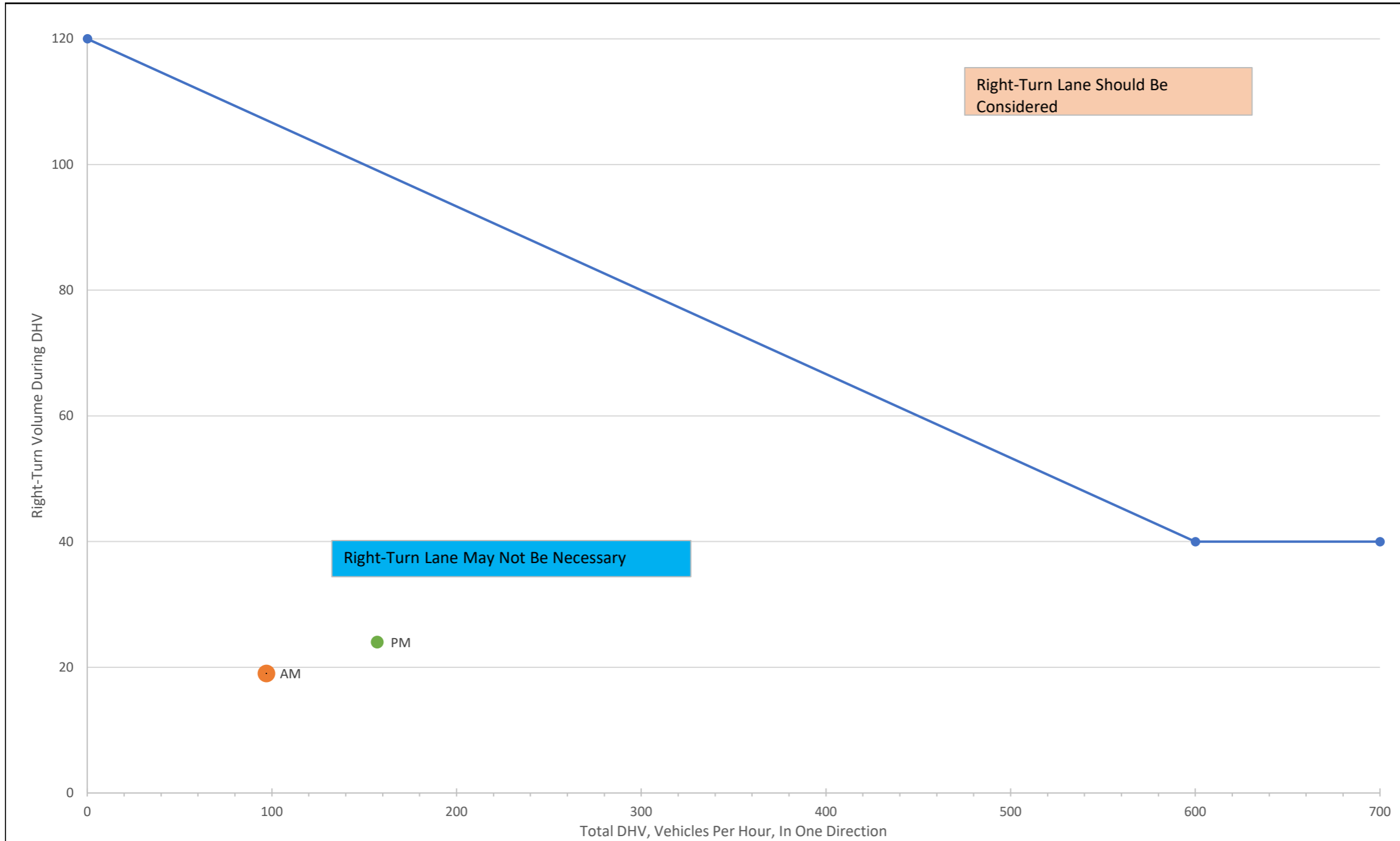
	INPUT		Warrant?
AM	Advancing Volume (Va)	204	NO
	Opposing Volume (Vo)	97	
	Left-turn Volume	86	
	Left-turn %	42%	
PM	Advancing Volume (Va)	234	NO
	Opposing Volume (Vo)	157	
	Left-turn Volume	103	
	Left-turn %	44%	



Total Volume	RT Volume
0	120
600	40
700	40

**Frontage Road & Access Drive H**

Time	Input		Met?
AM	RT Volume	19	NO
	Total Volume	97	
PM	RT Volume	24	NO
	Total Volume	157	

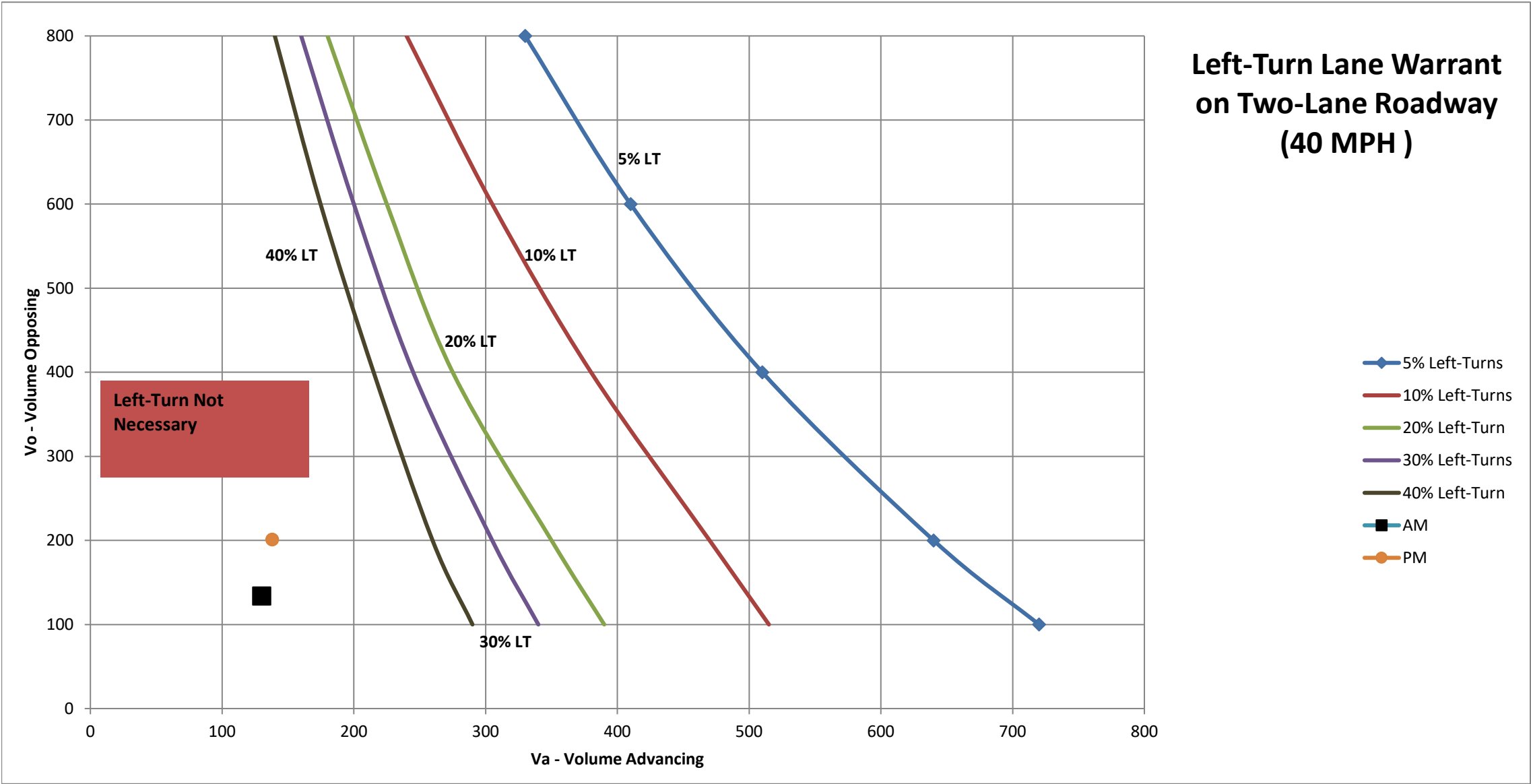


**NOTE : For highways with a design speed below 80 km/h (50 mph) with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.**

**Frontage Road & Access Drive I**

Operating Speed (mph)	Opposing Volume (veh/h)	Advancing Volume (veh/h)							
		5% Left Turns	10% Left Turns	15% Left Turns	20% Left Turns	25% Left Turns	30% Left Turns	35% Left Turns	40% Left Turns
40	800	330	240	210	180	170	160	150	140
	600	410	305	265	225	213	200	187	175
	400	510	380	328	275	260	245	230	215
	200	640	470	410	350	328	305	282	260
	100	720	515	453	390	365	340	315	290

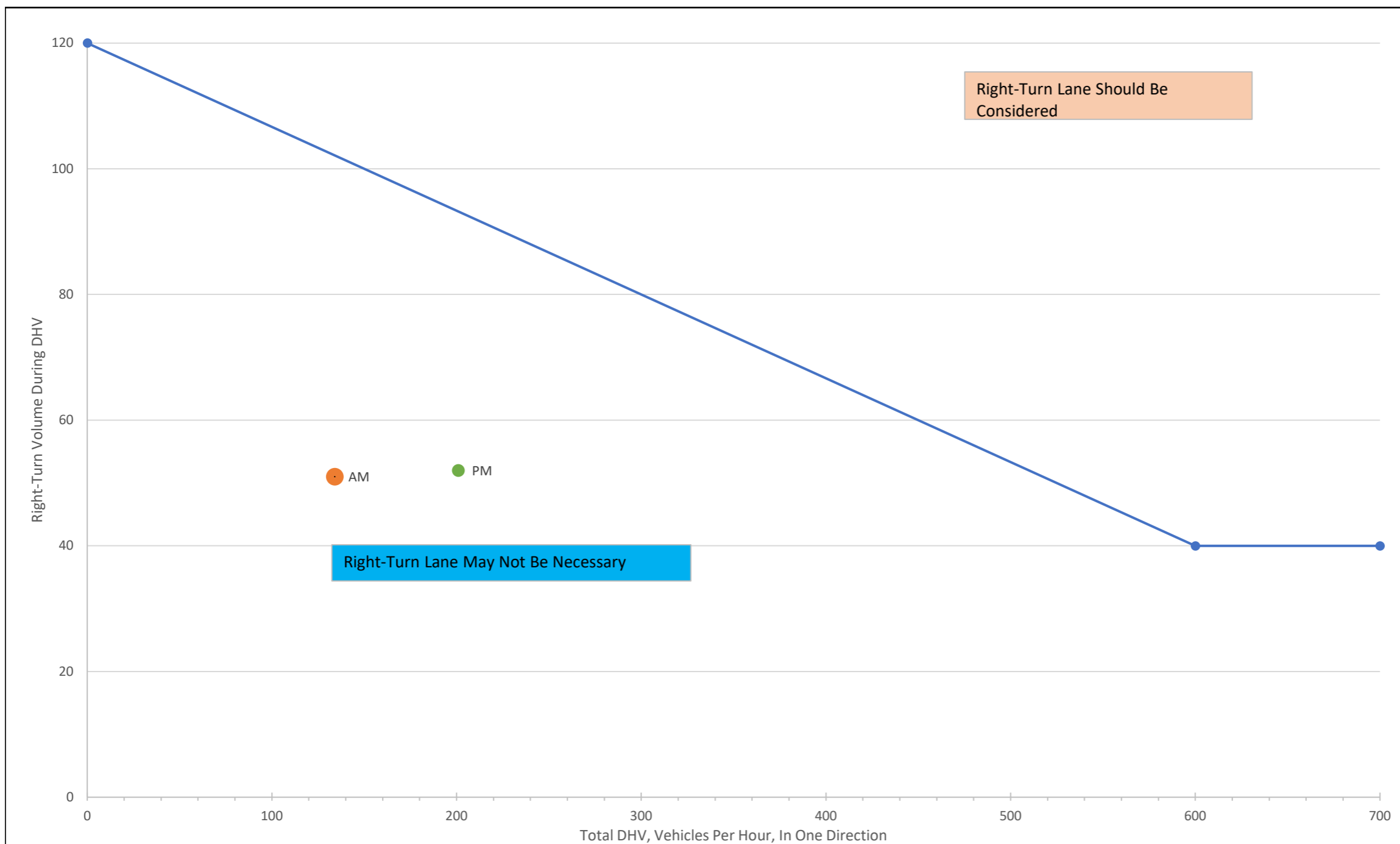
	INPUT		Warrant?
AM	Advancing Volume (Va)	130	NO
	Opposing Volume (Vo)	134	
	Left-turn Volume	22	
	Left-turn %	17%	
PM	Advancing Volume (Va)	138	NO
	Opposing Volume (Vo)	201	
	Left-turn Volume	26	
	Left-turn %	19%	



**Frontage Road & Access Drive I**

Total Volume	RT Volume
0	120
600	40
700	40

Time	Input		Met?
AM	RT Volume	51	NO
	Total Volume	134	
PM	RT Volume	52	NO
	Total Volume	201	



**NOTE : For highways with a design speed below 80 km/h (50 mph) with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.**

# *US 40 & SMITH ROAD*

## *TRAFFIC VOLUME COUNTS CAPACITY ANALYSIS*

SMITH RD & US 40 - TMC

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807919, Location: 39.71619, -86.36131



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 6:30AM	0	0	0	0	0	1	0	8	0	9	16	139	0	0	155	0	49	1	0	50	214
6:45AM	0	0	2	0	2	2	0	8	0	10	5	147	1	0	153	3	79	1	0	83	248
Hourly Total	0	0	2	0	2	3	0	16	0	19	21	286	1	0	308	3	128	2	0	133	462
7:00AM	2	1	2	0	5	1	0	5	0	6	5	158	1	0	164	0	76	0	0	76	251
7:15AM	2	1	0	0	3	4	0	6	0	10	4	162	0	0	166	0	88	3	0	91	270
7:30AM	0	0	0	0	0	3	2	6	0	11	7	178	1	0	186	0	87	1	1	89	286
7:45AM	2	0	0	0	2	3	1	6	0	10	4	159	0	0	163	3	112	1	0	116	291
Hourly Total	6	2	2	0	10	11	3	23	0	37	20	657	2	0	679	3	363	5	1	372	1098
8:00AM	1	0	0	0	1	5	2	3	0	10	10	119	0	0	129	1	110	4	0	115	255
8:15AM	3	0	0	0	3	5	0	6	0	11	5	149	0	0	154	5	109	3	0	117	285
Hourly Total	4	0	0	0	4	10	2	9	0	21	15	268	0	0	283	6	219	7	0	232	540
4:00PM	16	4	9	0	29	7	3	15	0	25	13	225	2	0	240	8	292	12	0	312	606
4:15PM	18	7	16	0	41	8	5	11	0	24	9	209	11	0	229	13	244	9	0	266	560
4:30PM	16	6	5	0	27	7	4	14	0	25	13	234	11	0	258	11	287	9	0	307	617
4:45PM	11	5	6	0	22	12	3	23	0	38	19	239	10	0	268	14	267	16	1	298	626
Hourly Total	61	22	36	0	119	34	15	63	0	112	54	907	34	0	995	46	1090	46	1	1183	2409
5:00PM	17	11	6	0	34	15	7	30	0	52	14	218	3	0	235	10	290	19	1	320	641
5:15PM	11	4	7	0	22	20	12	27	0	59	19	239	5	0	263	12	290	17	0	319	663
5:30PM	15	16	7	0	38	11	7	14	0	32	16	244	9	0	269	8	246	14	1	269	608
5:45PM	12	5	13	0	30	11	3	26	0	40	18	216	9	0	243	6	239	12	1	258	571
Hourly Total	55	36	33	0	124	57	29	97	0	183	67	917	26	0	1010	36	1065	62	3	1166	2483
6:00PM	12	6	9	0	27	14	5	15	0	34	9	229	7	0	245	8	275	13	0	296	602
6:15PM	13	6	10	0	29	12	6	12	0	30	14	233	7	0	254	7	194	13	0	214	527
6:30PM	13	4	5	0	22	6	3	8	0	17	12	190	3	0	205	7	204	15	1	227	471
6:45PM	15	5	2	0	22	3	3	12	0	18	3	143	3	0	149	9	187	8	0	204	393
Hourly Total	53	21	26	0	100	35	17	47	0	99	38	795	20	0	853	31	860	49	1	941	1993
7:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	179	81	99	0	359	150	66	255	0	471	215	3830	83	0	4128	125	3725	171	6	4027	8985
<b>% Approach</b>	49.9%	22.6%	27.6%	0%	-	31.8%	14.0%	54.1%	0%	-	5.2%	92.8%	2.0%	0%	-	3.1%	92.5%	4.2%	0.1%	-	-
<b>% Total</b>	2.0%	0.9%	1.1%	0%	4.0%	1.7%	0.7%	2.8%	0%	5.2%	2.4%	42.6%	0.9%	0%	45.9%	1.4%	41.5%	1.9%	0.1%	44.8%	-
<b>Lights and Motorcycles</b>	177	80	98	0	355	147	66	252	0	465	212	3715	82	0	4009	124	3680	169	6	3979	8808
<b>% Lights and Motorcycles</b>	98.9%	98.8%	99.0%	0%	98.9%	98.0%	100%	98.8%	0%	98.7%	98.6%	97.0%	98.8%	0%	97.1%	99.2%	98.8%	98.8%	100%	98.8%	98.0%
<b>Heavy</b>	2	1	1	0	4	3	0	3	0	6	3	115	1	0	119	1	45	2	0	48	177
<b>% Heavy</b>	1.1%	1.2%	1.0%	0%	1.1%	2.0%	0%	1.2%	0%	1.3%	1.4%	3.0%	1.2%	0%	2.9%	0.8%	1.2%	1.2%	0%	1.2%	2.0%

\* L: Left, R: Right, T: Thru, U: U-Turn

SMITH RD & US 40 - TMC

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

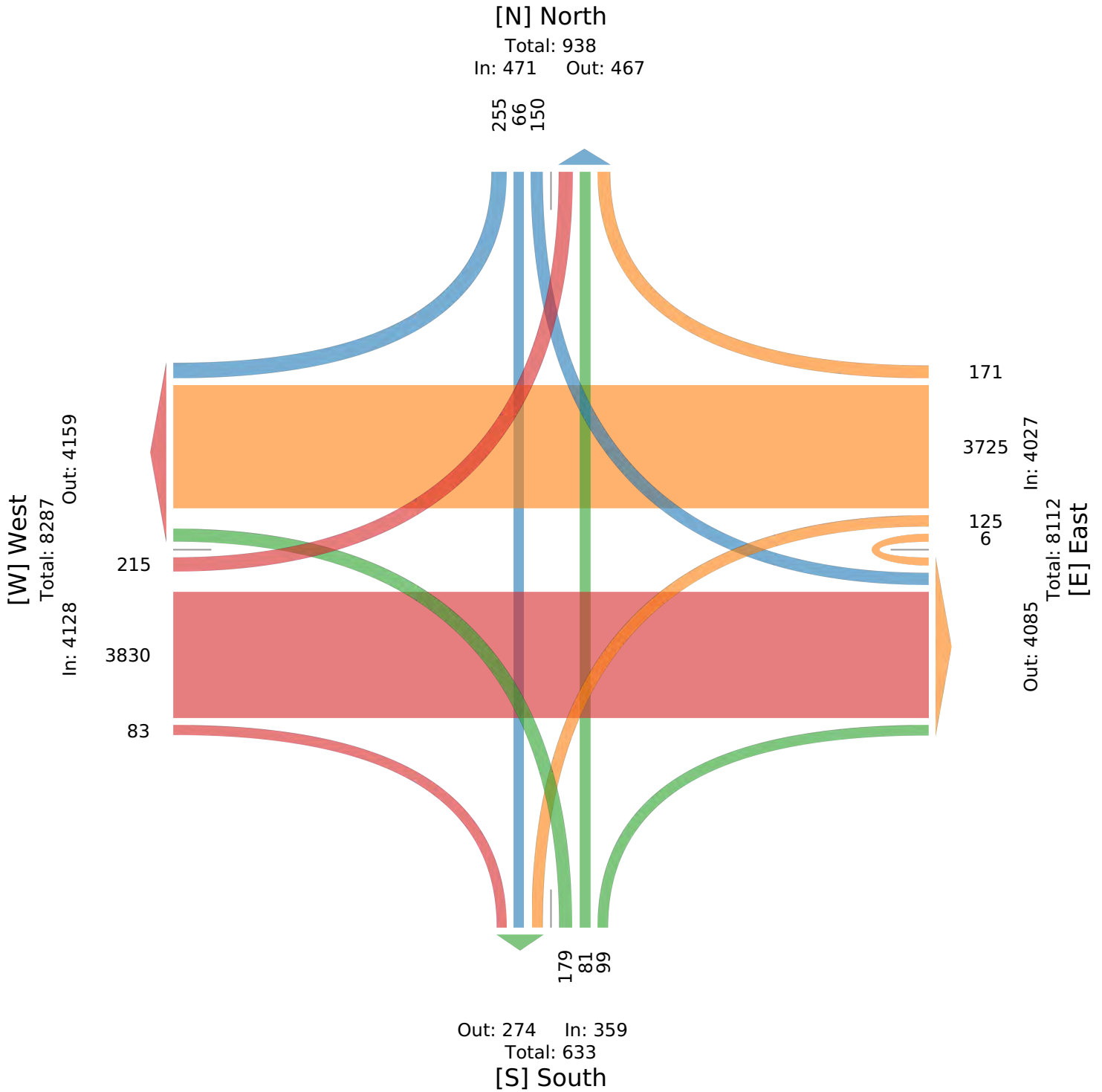
All Movements

ID: 807919, Location: 39.71619, -86.36131



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



SMITH RD & US 40 - TMC

Wed Jan 6, 2021

AM Peak (7:30 AM - 8:30 AM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807919, Location: 39.71619, -86.36131



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 7:30AM	0	0	0	0	0	3	2	6	0	11	7	178	1	0	186	0	87	1	1	89	286
7:45AM	2	0	0	0	2	3	1	6	0	10	4	159	0	0	163	3	112	1	0	116	291
8:00AM	1	0	0	0	1	5	2	3	0	10	10	119	0	0	129	1	110	4	0	115	255
8:15AM	3	0	0	0	3	5	0	6	0	11	5	149	0	0	154	5	109	3	0	117	285
<b>Total</b>	6	0	0	0	6	16	5	21	0	42	26	605	1	0	632	9	418	9	1	437	1117
<b>% Approach</b>	100%	0%	0%	0%	-	38.1%	11.9%	50.0%	0%	-	4.1%	95.7%	0.2%	0%	-	2.1%	95.7%	2.1%	0.2%	-	-
<b>% Total</b>	0.5%	0%	0%	0%	0.5%	1.4%	0.4%	1.9%	0%	3.8%	2.3%	54.2%	0.1%	0%	56.6%	0.8%	37.4%	0.8%	0.1%	39.1%	-
<b>PHF</b>	0.500	-	-	-	0.500	0.800	0.625	0.875	-	0.955	0.650	0.850	0.250	-	0.849	0.450	0.933	0.563	0.250	0.934	0.960
<b>Lights and Motorcycles</b>	5	0	0	0	5	16	5	20	0	41	25	583	1	0	609	9	403	9	1	422	1077
<b>% Lights and Motorcycles</b>	83.3%	0%	0%	0%	83.3%	100%	100%	95.2%	0%	97.6%	96.2%	96.4%	100%	0%	96.4%	100%	96.4%	100%	100%	96.6%	96.4%
<b>Heavy</b>	1	0	0	0	1	0	0	1	0	1	1	22	0	0	23	0	15	0	0	15	40
<b>% Heavy</b>	16.7%	0%	0%	0%	16.7%	0%	0%	4.8%	0%	2.4%	3.8%	3.6%	0%	0%	3.6%	0%	3.6%	0%	0%	3.4%	3.6%

\*L: Left, R: Right, T: Thru, U: U-Turn

SMITH RD & US 40 - TMC

Wed Jan 6, 2021

AM Peak (7:30 AM - 8:30 AM)

All Classes (Lights and Motorcycles, Heavy)

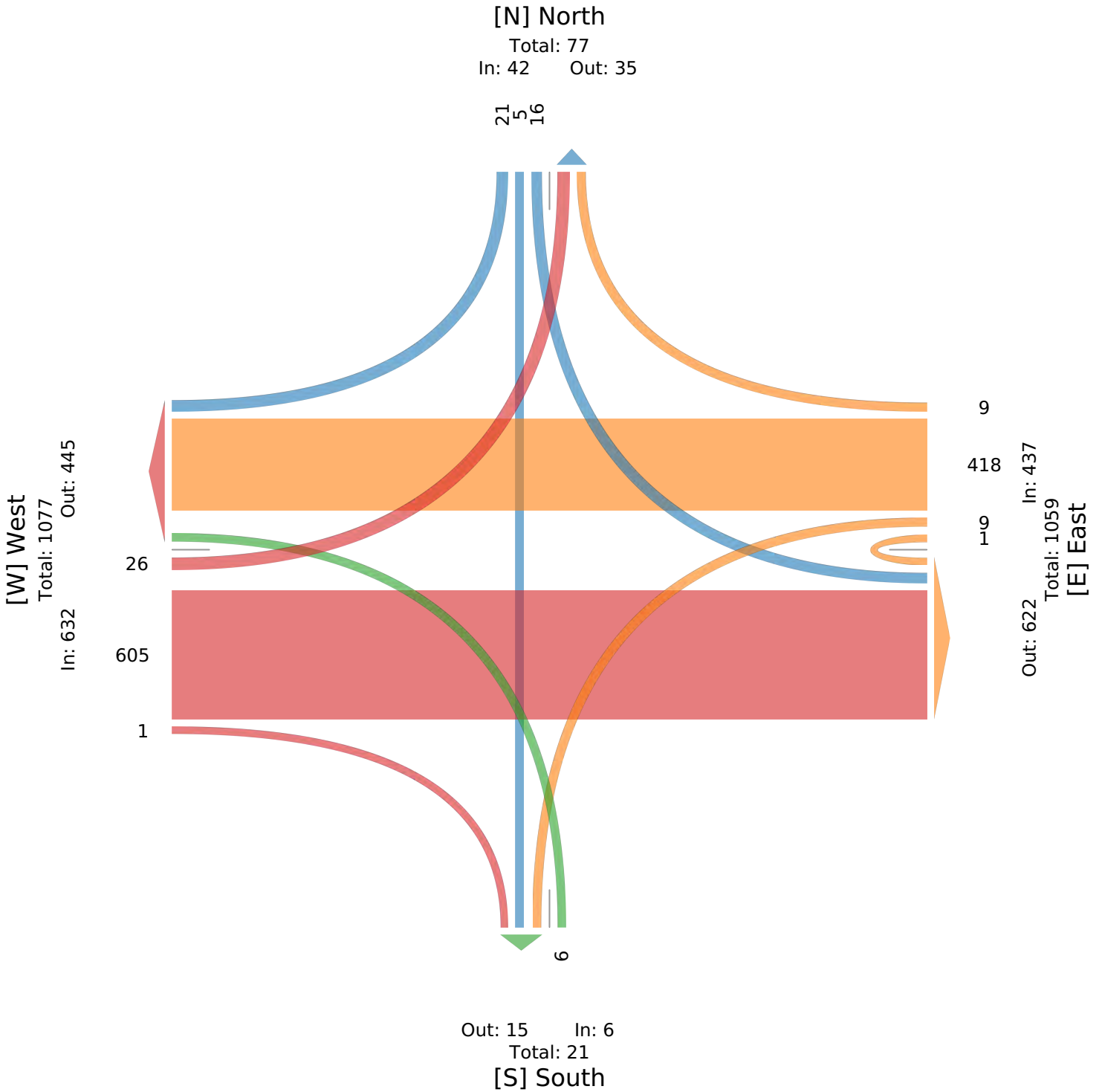
All Movements

ID: 807919, Location: 39.71619, -86.36131



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



SMITH RD & US 40 - TMC

Wed Jan 6, 2021

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807919, Location: 39.71619, -86.36131



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 4:30PM	16	6	5	0	27	7	4	14	0	25	13	234	11	0	258	11	287	9	0	307	617
4:45PM	11	5	6	0	22	12	3	23	0	38	19	239	10	0	268	14	267	16	1	298	626
5:00PM	17	11	6	0	34	15	7	30	0	52	14	218	3	0	235	10	290	19	1	320	641
5:15PM	11	4	7	0	22	20	12	27	0	59	19	239	5	0	263	12	290	17	0	319	663
<b>Total</b>	55	26	24	0	105	54	26	94	0	174	65	930	29	0	1024	47	1134	61	2	1244	2547
<b>% Approach</b>	52.4%	24.8%	22.9%	0%	-	31.0%	14.9%	54.0%	0%	-	6.3%	90.8%	2.8%	0%	-	3.8%	91.2%	4.9%	0.2%	-	-
<b>% Total</b>	2.2%	1.0%	0.9%	0%	4.1%	2.1%	1.0%	3.7%	0%	6.8%	2.6%	36.5%	1.1%	0%	40.2%	1.8%	44.5%	2.4%	0.1%	48.8%	-
<b>PHF</b>	0.809	0.591	0.857	-	0.772	0.675	0.542	0.783	-	0.737	0.855	0.973	0.659	-	0.955	0.839	0.978	0.803	0.500	0.972	0.960
<b>Lights and Motorcycles</b>	54	25	24	0	103	53	26	92	0	171	65	903	28	0	996	47	1126	60	2	1235	2505
<b>% Lights and Motorcycles</b>	98.2%	96.2%	100%	0%	98.1%	98.1%	100%	97.9%	0%	98.3%	100%	97.1%	96.6%	0%	97.3%	100%	99.3%	98.4%	100%	99.3%	98.4%
<b>Heavy</b>	1	1	0	0	2	1	0	2	0	3	0	27	1	0	28	0	8	1	0	9	42
<b>% Heavy</b>	1.8%	3.8%	0%	0%	1.9%	1.9%	0%	2.1%	0%	1.7%	0%	2.9%	3.4%	0%	2.7%	0%	0.7%	1.6%	0%	0.7%	1.6%

\*L: Left, R: Right, T: Thru, U: U-Turn

SMITH RD & US 40 - TMC

Wed Jan 6, 2021

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

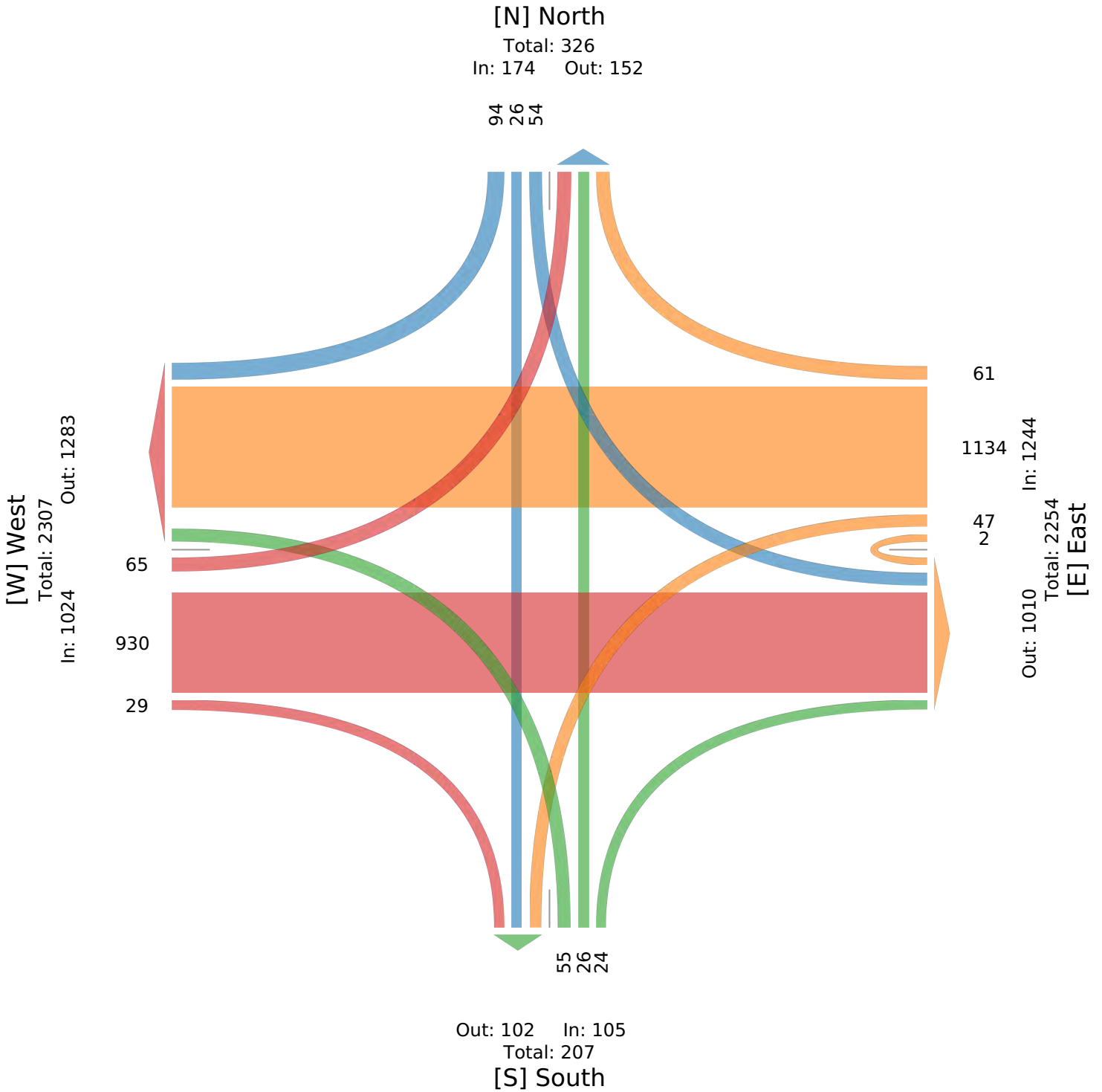
All Movements

ID: 807919, Location: 39.71619, -86.36131



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



HCM 6th Signalized Intersection Summary  
2: Smith Road & US 40

Existing AM PEAK  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	817	1	12	564	12	8	0	0	22	7	28
Future Volume (veh/h)	35	817	1	12	564	12	8	0	0	22	7	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1900	1900	1841	1900	1648	1900	1900	1900	1900	1826
Adj Flow Rate, veh/h	36	851	1	12	588	12	8	0	0	23	7	29
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	0	0	4	0	17	0	0	0	0	5
Cap, veh/h	544	1340	641	537	1657	825	241	106	0	301	26	106
Arrive On Green	0.06	0.38	0.38	0.15	0.47	0.47	0.01	0.00	0.00	0.04	0.08	0.08
Sat Flow, veh/h	1753	3497	1610	1810	3497	1610	1570	1900	0	1810	323	1337
Grp Volume(v), veh/h	36	851	1	12	588	12	8	0	0	23	0	36
Grp Sat Flow(s),veh/h/ln	1753	1749	1610	1810	1749	1610	1570	1900	0	1810	0	1659
Q Serve(g_s), s	0.6	9.5	0.0	0.1	5.1	0.2	0.2	0.0	0.0	0.6	0.0	1.0
Cycle Q Clear(g_c), s	0.6	9.5	0.0	0.1	5.1	0.2	0.2	0.0	0.0	0.6	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.81
Lane Grp Cap(c), veh/h	544	1340	641	537	1657	825	241	106	0	301	0	132
V/C Ratio(X)	0.07	0.64	0.00	0.02	0.35	0.01	0.03	0.00	0.00	0.08	0.00	0.27
Avail Cap(c_a), veh/h	776	2925	1370	612	2925	1408	513	556	0	571	0	486
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.7	12.0	8.7	5.8	8.0	5.7	20.8	0.0	0.0	19.9	0.0	20.7
Incr Delay (d2), s/veh	0.1	0.5	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.1	0.0	0.0	1.5	0.0	0.1	0.0	0.0	0.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	12.5	8.7	5.8	8.1	5.7	20.8	0.0	0.0	20.0	0.0	21.8
LnGrp LOS	A	B	A	A	A	A	C	A	A	B	A	C
Approach Vol, veh/h	888			612			8			59		
Approach Delay, s/veh	12.3			8.0			20.8			21.1		
Approach LOS	B			A			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.8	7.7	11.0	23.3	4.7	8.8	6.7	27.7				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	14.0	9.0	40.0	9.0	14.0	9.0	40.0					
Max Q Clear Time (g_c+1), s	0.0	0.0	2.1	11.5	2.2	3.0	2.6	7.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	6.8	0.0	0.1	0.0	4.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			11.0									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary  
2: Smith Road & US 40

Existing PM PEAK  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	1023	32	52	1247	67	61	29	26	59	29	103
Future Volume (veh/h)	72	1023	32	52	1247	67	61	29	26	59	29	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1856	1900	1885	1870	1870	1841	1900	1870	1900	1870
Adj Flow Rate, veh/h	75	1066	33	54	1299	70	64	30	27	61	30	107
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	3	3	0	1	2	2	4	0	2	0	2
Cap, veh/h	317	1594	824	400	1707	866	274	103	92	342	41	147
Arrive On Green	0.08	0.45	0.45	0.10	0.48	0.48	0.07	0.11	0.11	0.07	0.11	0.11
Sat Flow, veh/h	1810	3526	1572	1810	3582	1585	1781	893	803	1781	365	1301
Grp Volume(v), veh/h	75	1066	33	54	1299	70	64	0	57	61	0	137
Grp Sat Flow(s),veh/h/ln	1810	1763	1572	1810	1791	1585	1781	0	1696	1781	0	1666
Q Serve(g_s), s	1.4	16.4	0.7	0.9	20.5	1.4	2.1	0.0	2.1	2.0	0.0	5.5
Cycle Q Clear(g_c), s	1.4	16.4	0.7	0.9	20.5	1.4	2.1	0.0	2.1	2.0	0.0	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.78
Lane Grp Cap(c), veh/h	317	1594	824	400	1707	866	274	0	195	342	0	188
V/C Ratio(X)	0.24	0.67	0.04	0.13	0.76	0.08	0.23	0.00	0.29	0.18	0.00	0.73
Avail Cap(c_a), veh/h	360	2201	1094	400	2236	1100	328	0	369	399	0	363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.1	14.8	8.0	9.2	14.8	7.4	24.0	0.0	27.9	23.8	0.0	29.5
Incr Delay (d2), s/veh	0.4	0.5	0.0	0.2	1.1	0.0	0.4	0.0	0.8	0.2	0.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.9	0.2	0.3	7.5	0.4	0.9	0.0	0.9	0.8	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	15.3	8.0	9.4	16.0	7.5	24.4	0.0	28.7	24.1	0.0	34.8
LnGrp LOS	B	B	A	A	B	A	C	A	C	C	A	C
Approach Vol, veh/h		1174			1423			121			198	
Approach Delay, s/veh		14.9			15.3			26.4			31.5	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	12.9	11.0	36.2	8.9	12.8	9.3	37.8				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	7.0	15.0	7.0	43.0	7.0	15.0	7.0	43.0				
Max Q Clear Time (g_c+1), s	4.1	4.1	2.9	18.4	4.1	7.5	3.4	22.5				
Green Ext Time (p_c), s	0.0	0.1	0.0	8.8	0.0	0.4	0.0	10.3				

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary  
2: Smith Road & US 40

Background AM PEAK  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗		↘	↗	
Traffic Volume (veh/h)	39	899	1	13	620	13	9	0	0	24	8	31
Future Volume (veh/h)	39	899	1	13	620	13	9	0	0	24	8	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1900	1900	1841	1900	1648	1900	1900	1900	1900	1826
Adj Flow Rate, veh/h	41	936	1	14	646	14	9	0	0	25	8	32
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	0	0	4	0	17	0	0	0	0	5
Cap, veh/h	530	1434	687	508	1703	850	237	110	0	299	27	110
Arrive On Green	0.06	0.41	0.41	0.14	0.49	0.49	0.02	0.00	0.00	0.04	0.08	0.08
Sat Flow, veh/h	1753	3497	1610	1810	3497	1610	1570	1900	0	1810	332	1329
Grp Volume(v), veh/h	41	936	1	14	646	14	9	0	0	25	0	40
Grp Sat Flow(s),veh/h/ln	1753	1749	1610	1810	1749	1610	1570	1900	0	1810	0	1661
Q Serve(g_s), s	0.6	11.0	0.0	0.2	5.9	0.2	0.3	0.0	0.0	0.6	0.0	1.2
Cycle Q Clear(g_c), s	0.6	11.0	0.0	0.2	5.9	0.2	0.3	0.0	0.0	0.6	0.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.80
Lane Grp Cap(c), veh/h	530	1434	687	508	1703	850	237	110	0	299	0	137
V/C Ratio(X)	0.08	0.65	0.00	0.03	0.38	0.02	0.04	0.00	0.00	0.08	0.00	0.29
Avail Cap(c_a), veh/h	699	3022	1418	508	2953	1426	427	522	0	474	0	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.4	12.1	8.4	6.1	8.2	5.7	21.9	0.0	0.0	21.0	0.0	22.0
Incr Delay (d2), s/veh	0.1	0.5	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.6	0.0	0.0	1.8	0.1	0.1	0.0	0.0	0.3	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.4	12.6	8.4	6.1	8.4	5.7	22.0	0.0	0.0	21.1	0.0	23.1
LnGrp LOS	A	B	A	A	A	A	C	A	A	C	A	C
Approach Vol, veh/h		978			674			9				65
Approach Delay, s/veh		12.4			8.3			22.0				22.3
Approach LOS		B			A			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	11.0	25.9	4.8	9.2	7.1	29.8					
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	14.0	7.0	44.0	7.0	14.0	8.0	43.0					
Max Q Clear Time (g_c+1), s	0.0	2.2	13.0	2.3	3.2	2.6	7.9					
Green Ext Time (p_c), s	0.0	0.0	0.0	7.9	0.0	0.1	0.0	5.1				

Intersection Summary

HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary  
2: Smith Road & US 40

Background PM PEAK  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	1125	35	57	1372	74	67	32	29	65	32	113
Future Volume (veh/h)	79	1125	35	57	1372	74	67	32	29	65	32	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1856	1900	1885	1885	1870	1841	1900	1870	1900	1870
Adj Flow Rate, veh/h	82	1172	36	59	1429	77	70	33	30	68	33	118
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	3	3	0	1	1	2	4	0	2	0	2
Cap, veh/h	290	1687	865	366	1774	904	260	106	96	335	43	154
Arrive On Green	0.08	0.48	0.48	0.09	0.50	0.50	0.07	0.12	0.12	0.07	0.12	0.12
Sat Flow, veh/h	1810	3526	1572	1810	3582	1598	1781	888	807	1781	364	1302
Grp Volume(v), veh/h	82	1172	36	59	1429	77	70	0	63	68	0	151
Grp Sat Flow(s),veh/h/ln	1810	1763	1572	1810	1791	1598	1781	0	1695	1781	0	1666
Q Serve(g_s), s	1.6	19.6	0.8	1.1	25.3	1.7	2.5	0.0	2.6	2.4	0.0	6.6
Cycle Q Clear(g_c), s	1.6	19.6	0.8	1.1	25.3	1.7	2.5	0.0	2.6	2.4	0.0	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		0.78
Lane Grp Cap(c), veh/h	290	1687	865	366	1774	904	260	0	202	335	0	197
V/C Ratio(X)	0.28	0.69	0.04	0.16	0.81	0.09	0.27	0.00	0.31	0.20	0.00	0.77
Avail Cap(c_a), veh/h	320	2057	1030	366	2090	1045	299	0	315	375	0	309
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.8	15.4	7.8	10.1	16.0	7.5	26.1	0.0	30.4	25.8	0.0	32.2
Incr Delay (d2), s/veh	0.5	0.8	0.0	0.2	2.1	0.0	0.5	0.0	0.9	0.3	0.0	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.2	0.2	0.4	9.6	0.5	1.1	0.0	1.1	1.0	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	16.1	7.8	10.3	18.1	7.5	26.6	0.0	31.2	26.1	0.0	38.3
LnGrp LOS	B	B	A	B	B	A	C	A	C	C	A	D
Approach Vol, veh/h		1290			1565			133			219	
Approach Delay, s/veh		15.7			17.2			28.8			34.5	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	14.0	11.0	41.1	9.4	13.9	9.7	42.3				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	7.0	14.0	7.0	44.0	7.0	14.0	7.0	44.0				
Max Q Clear Time (g_c+1), s	4.6	4.6	3.1	21.6	4.5	8.6	3.6	27.3				
Green Ext Time (p_c), s	0.0	0.1	0.0	9.5	0.0	0.3	0.0	10.1				

Intersection Summary

HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary  
2: Smith Road & US 40

Existing + Proposed AM PEAK  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	907	1	12	656	12	8	0	0	22	7	94
Future Volume (veh/h)	75	907	1	12	656	12	8	0	0	22	7	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1885	1841	1900	1900	1841	1900	1722	1900	1900	1900	1900	1885
Adj Flow Rate, veh/h	78	945	1	12	683	12	8	0	0	23	7	98
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	4	0	0	4	0	12	0	0	0	0	1
Cap, veh/h	532	1411	673	484	1556	778	219	168	0	331	12	170
Arrive On Green	0.09	0.40	0.40	0.13	0.45	0.45	0.01	0.00	0.00	0.04	0.11	0.11
Sat Flow, veh/h	1795	3497	1610	1810	3497	1610	1640	1900	0	1810	108	1518
Grp Volume(v), veh/h	78	945	1	12	683	12	8	0	0	23	0	105
Grp Sat Flow(s),veh/h/ln	1795	1749	1610	1810	1749	1610	1640	1900	0	1810	0	1627
Q Serve(g_s), s	1.2	11.7	0.0	0.2	7.2	0.2	0.2	0.0	0.0	0.6	0.0	3.3
Cycle Q Clear(g_c), s	1.2	11.7	0.0	0.2	7.2	0.2	0.2	0.0	0.0	0.6	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.93
Lane Grp Cap(c), veh/h	532	1411	673	484	1556	778	219	168	0	331	0	182
V/C Ratio(X)	0.15	0.67	0.00	0.02	0.44	0.02	0.04	0.00	0.00	0.07	0.00	0.58
Avail Cap(c_a), veh/h	674	2697	1265	484	2565	1242	411	607	0	501	0	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.4	13.0	9.0	7.1	10.2	7.2	21.5	0.0	0.0	20.6	0.0	22.4
Incr Delay (d2), s/veh	0.1	0.6	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.1	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.0	0.0	0.0	2.3	0.1	0.1	0.0	0.0	0.2	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	13.5	9.0	7.1	10.4	7.2	21.6	0.0	0.0	20.6	0.0	25.3
LnGrp LOS	A	B	A	A	B	A	C	A	A	C	A	C
Approach Vol, veh/h		1024			707			8			128	
Approach Delay, s/veh		13.1			10.3			21.6			24.5	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	9.7	11.0	26.5	4.8	10.9	8.8	28.7				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	7.0	17.0	7.0	41.0	7.0	17.0	9.0	39.0				
Max Q Clear Time (g_c+1), s	0.0	0.0	2.2	13.7	2.2	5.3	3.2	9.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	7.7	0.0	0.4	0.1	5.3				

Intersection Summary

HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary  
2: Smith Road & US 40

Existing + Proposed PM PEAK  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	1139	32	52	1326	67	61	29	26	59	29	175
Future Volume (veh/h)	153	1139	32	52	1326	67	61	29	26	59	29	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1856	1900	1885	1870	1870	1856	1900	1870	1900	1885
Adj Flow Rate, veh/h	159	1186	33	54	1381	70	64	30	27	61	30	182
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	3	3	0	1	2	2	3	0	2	0	1
Cap, veh/h	295	1644	838	341	1680	846	242	139	125	375	36	216
Arrive On Green	0.09	0.47	0.47	0.09	0.47	0.47	0.07	0.15	0.15	0.07	0.15	0.15
Sat Flow, veh/h	1810	3526	1572	1810	3582	1585	1781	900	810	1781	233	1413
Grp Volume(v), veh/h	159	1186	33	54	1381	70	64	0	57	61	0	212
Grp Sat Flow(s),veh/h/ln	1810	1763	1572	1810	1791	1585	1781	0	1710	1781	0	1646
Q Serve(g_s), s	3.4	21.5	0.8	1.1	26.5	1.7	2.3	0.0	2.3	2.2	0.0	10.0
Cycle Q Clear(g_c), s	3.4	21.5	0.8	1.1	26.5	1.7	2.3	0.0	2.3	2.2	0.0	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.86
Lane Grp Cap(c), veh/h	295	1644	838	341	1680	846	242	0	264	375	0	252
V/C Ratio(X)	0.54	0.72	0.04	0.16	0.82	0.08	0.26	0.00	0.22	0.16	0.00	0.84
Avail Cap(c_a), veh/h	323	1948	974	341	1934	959	280	0	301	416	0	289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.7	17.1	8.9	11.5	18.3	9.0	25.8	0.0	29.4	25.2	0.0	32.8
Incr Delay (d2), s/veh	1.5	1.1	0.0	0.2	2.6	0.0	0.6	0.0	0.4	0.2	0.0	17.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	8.2	0.3	0.4	10.6	0.6	1.0	0.0	1.0	0.9	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	18.2	8.9	11.7	20.9	9.1	26.4	0.0	29.8	25.4	0.0	50.4
LnGrp LOS	B	B	A	B	C	A	C	A	C	C	A	D
Approach Vol, veh/h		1378			1505			121			273	
Approach Delay, s/veh		17.8			20.0			28.0			44.8	
Approach LOS		B			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	17.3	11.0	42.1	9.3	17.2	10.8	42.3				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	7.0	14.0	7.0	44.0	7.0	14.0	8.0	43.0				
Max Q Clear Time (g_c+1), s	4.3	4.3	3.1	23.5	4.3	12.0	5.4	28.5				
Green Ext Time (p_c), s	0.0	0.1	0.0	9.2	0.0	0.2	0.1	8.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					21.5							
HCM 6th LOS					C							

HCM 6th Signalized Intersection Summary  
2: Smith Road & US 40

Background + Proposed AM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	989	1	13	712	13	9	0	0	24	8	97
Future Volume (veh/h)	79	989	1	13	712	13	9	0	0	24	8	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1841	1900	1900	1841	1900	1737	1900	1900	1900	1900	1885
Adj Flow Rate, veh/h	82	1030	1	14	742	14	9	0	0	25	8	101
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	4	0	0	4	0	11	0	0	0	0	1
Cap, veh/h	518	1498	716	460	1620	811	210	162	0	324	13	165
Arrive On Green	0.09	0.43	0.43	0.12	0.46	0.46	0.02	0.00	0.00	0.04	0.11	0.11
Sat Flow, veh/h	1795	3497	1610	1810	3497	1610	1654	1900	0	1810	120	1509
Grp Volume(v), veh/h	82	1030	1	14	742	14	9	0	0	25	0	109
Grp Sat Flow(s),veh/h/ln	1795	1749	1610	1810	1749	1610	1654	1900	0	1810	0	1628
Q Serve(g_s), s	1.3	13.4	0.0	0.2	8.1	0.2	0.3	0.0	0.0	0.7	0.0	3.6
Cycle Q Clear(g_c), s	1.3	13.4	0.0	0.2	8.1	0.2	0.3	0.0	0.0	0.7	0.0	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.93
Lane Grp Cap(c), veh/h	518	1498	716	460	1620	811	210	162	0	324	0	178
V/C Ratio(X)	0.16	0.69	0.00	0.03	0.46	0.02	0.04	0.00	0.00	0.08	0.00	0.61
Avail Cap(c_a), veh/h	580	2682	1261	460	2682	1300	389	508	0	477	0	436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	13.0	8.6	7.3	10.3	7.0	22.8	0.0	0.0	21.7	0.0	23.8
Incr Delay (d2), s/veh	0.1	0.6	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.1	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.5	0.0	0.1	2.6	0.1	0.1	0.0	0.0	0.3	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.3	13.5	8.6	7.3	10.5	7.0	22.9	0.0	0.0	21.8	0.0	27.2
LnGrp LOS	A	B	A	A	B	A	C	A	A	C	A	C
Approach Vol, veh/h	1113			770			9			134		
Approach Delay, s/veh	13.1			10.3			22.9			26.2		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.3	9.8	11.0	29.0	4.9	11.1	9.0	31.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	15.0	7.0	43.0	7.0	15.0	7.0	43.0					
Max Q Clear Time (g_c+1), s	0.0	2.2	15.4	2.3	5.6	3.3	10.1					
Green Ext Time (p_c), s	0.0	0.0	0.0	8.6	0.0	0.3	0.0	6.0				

Intersection Summary

HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary  
2: Smith Road & US 40

Background + Proposed PM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	1241	35	57	1451	74	67	32	29	65	32	185
Future Volume (veh/h)	160	1241	35	57	1451	74	67	32	29	65	32	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1856	1900	1885	1885	1870	1856	1900	1870	1900	1885
Adj Flow Rate, veh/h	167	1293	36	59	1511	77	70	33	30	68	33	193
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	3	3	0	1	1	2	3	0	2	0	1
Cap, veh/h	265	1700	863	309	1732	878	231	142	129	371	38	223
Arrive On Green	0.08	0.48	0.48	0.08	0.48	0.48	0.07	0.16	0.16	0.07	0.16	0.16
Sat Flow, veh/h	1810	3526	1572	1810	3582	1598	1781	895	814	1781	240	1406
Grp Volume(v), veh/h	167	1293	36	59	1511	77	70	0	63	68	0	226
Grp Sat Flow(s),veh/h/ln	1810	1763	1572	1810	1791	1598	1781	0	1709	1781	0	1647
Q Serve(g_s), s	3.8	25.6	0.9	1.3	32.1	1.9	2.7	0.0	2.7	2.6	0.0	11.4
Cycle Q Clear(g_c), s	3.8	25.6	0.9	1.3	32.1	1.9	2.7	0.0	2.7	2.6	0.0	11.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		0.85
Lane Grp Cap(c), veh/h	265	1700	863	309	1732	878	231	0	272	371	0	261
V/C Ratio(X)	0.63	0.76	0.04	0.19	0.87	0.09	0.30	0.00	0.23	0.18	0.00	0.87
Avail Cap(c_a), veh/h	268	1861	934	309	1848	929	259	0	281	400	0	270
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	18.1	8.9	12.8	19.7	9.1	27.5	0.0	31.3	26.7	0.0	35.0
Incr Delay (d2), s/veh	4.6	1.7	0.0	0.3	4.7	0.0	0.7	0.0	0.4	0.2	0.0	23.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	10.0	0.3	0.5	13.3	0.6	1.2	0.0	1.1	1.1	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	19.8	8.9	13.1	24.3	9.1	28.2	0.0	31.7	27.0	0.0	59.0
LnGrp LOS	C	B	A	B	C	A	C	A	C	C	A	E
Approach Vol, veh/h		1496			1647			133			294	
Approach Delay, s/veh		19.8			23.2			29.9			51.6	
Approach LOS		B			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	18.6	11.0	46.1	9.7	18.5	10.9	46.2				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	7.0	14.0	7.0	45.0	7.0	14.0	7.0	44.0				
Max Q Clear Time (g_c+1), s	4.6	4.7	3.3	27.6	4.7	13.4	5.8	34.1				
Green Ext Time (p_c), s	0.0	0.1	0.0	9.2	0.0	0.1	0.1	7.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											24.4	
HCM 6th LOS											C	

# *US 40 & PERRY ROAD*

## *TRAFFIC VOLUME COUNTS CAPACITY ANALYSIS*

PERRY RD & US 40 - TMC

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807911, Location: 39.71764, -86.357651



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 6:30AM	7	1	17	0	25	33	31	1	0	65	3	121	8	0	132	35	48	10	0	93	315
6:45AM	11	13	13	0	37	36	44	2	0	82	2	132	14	0	148	31	86	7	0	124	391
Hourly Total	18	14	30	0	62	69	75	3	0	147	5	253	22	0	280	66	134	17	0	217	706
7:00AM	18	14	21	0	53	32	35	0	0	67	1	151	9	1	162	20	77	7	0	104	386
7:15AM	7	10	11	0	28	56	24	4	0	84	2	160	7	0	169	20	78	10	0	108	389
7:30AM	9	8	15	0	32	38	25	2	0	65	6	162	12	1	181	22	88	11	0	121	399
7:45AM	13	22	27	0	62	50	47	2	0	99	4	131	8	1	144	29	115	20	0	164	469
Hourly Total	47	54	74	0	175	176	131	8	0	315	13	604	36	3	656	91	358	48	0	497	1643
8:00AM	18	12	22	0	52	55	25	3	0	83	4	117	6	1	128	18	98	15	0	131	394
8:15AM	18	20	15	0	53	43	21	2	0	66	7	129	10	0	146	11	96	12	1	120	385
8:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	36	32	37	0	105	98	46	5	0	149	11	246	16	1	274	29	194	27	1	251	779
4:00PM	56	48	48	0	152	45	26	16	0	87	22	204	35	3	264	34	250	61	0	345	848
4:15PM	49	44	51	0	144	39	40	13	0	92	21	148	44	3	216	47	203	39	0	289	741
4:30PM	48	63	55	0	166	33	24	6	0	63	11	194	44	1	250	31	258	57	0	346	825
4:45PM	48	77	60	1	186	51	43	10	0	104	19	191	45	1	256	33	220	66	0	319	865
Hourly Total	201	232	214	1	648	168	133	45	0	346	73	737	168	8	986	145	931	223	0	1299	3279
5:00PM	58	63	52	1	174	39	43	14	0	96	20	207	40	0	267	37	252	70	0	359	896
5:15PM	57	98	44	0	199	57	64	6	0	127	25	194	43	2	264	31	251	58	1	341	931
5:30PM	45	69	58	0	172	48	48	10	0	106	21	207	47	1	276	32	230	69	0	331	885
5:45PM	57	64	33	1	155	51	47	16	0	114	27	168	45	1	241	37	187	47	0	271	781
Hourly Total	217	294	187	2	700	195	202	46	0	443	93	776	175	4	1048	137	920	244	1	1302	3493
6:00PM	52	67	41	1	161	28	29	14	0	71	28	210	43	1	282	35	221	44	0	300	814
6:15PM	47	68	30	0	145	35	49	7	0	91	23	169	43	4	239	36	143	44	0	223	698
6:30PM	45	49	28	0	122	23	26	9	0	58	18	155	51	0	224	26	154	51	0	231	635
6:45PM	50	38	30	1	119	33	39	10	0	82	20	116	24	1	161	18	149	24	0	191	553
Hourly Total	194	222	129	2	547	119	143	40	0	302	89	650	161	6	906	115	667	163	0	945	2700
7:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
<b>Total</b>	713	848	671	5	2237	825	730	147	0	1702	284	3266	578	22	4150	583	3205	722	2	4512	12601
<b>% Approach</b>	31.9%	37.9%	30.0%	0.2%	-	48.5%	42.9%	8.6%	0%	-	6.8%	78.7%	13.9%	0.5%	-	12.9%	71.0%	16.0%	0%	-	-
<b>% Total</b>	5.7%	6.7%	5.3%	0%	17.8%	6.5%	5.8%	1.2%	0%	13.5%	2.3%	25.9%	4.6%	0.2%	32.9%	4.6%	25.4%	5.7%	0%	35.8%	-
<b>Lights and Motorcycles</b>	708	844	638	5	2195	818	727	144	0	1689	283	3164	565	22	4034	564	3162	708	2	4436	12354
<b>% Lights and Motorcycles</b>	99.3%	99.5%	95.1%	100%	98.1%	99.2%	99.6%	98.0%	0%	99.2%	99.6%	96.9%	97.8%	100%	97.2%	96.7%	98.7%	98.1%	100%	98.3%	98.0%
<b>Heavy</b>	5	4	33	0	42	7	3	3	0	13	1	102	13	0	116	19	43	14	0	76	247
<b>% Heavy</b>	0.7%	0.5%	4.9%	0%	1.9%	0.8%	0.4%	2.0%	0%	0.8%	0.4%	3.1%	2.2%	0%	2.8%	3.3%	1.3%	1.9%	0%	1.7%	2.0%

\* L: Left, R: Right, T: Thru, U: U-Turn

**PERRY RD & US 40 - TMC**

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

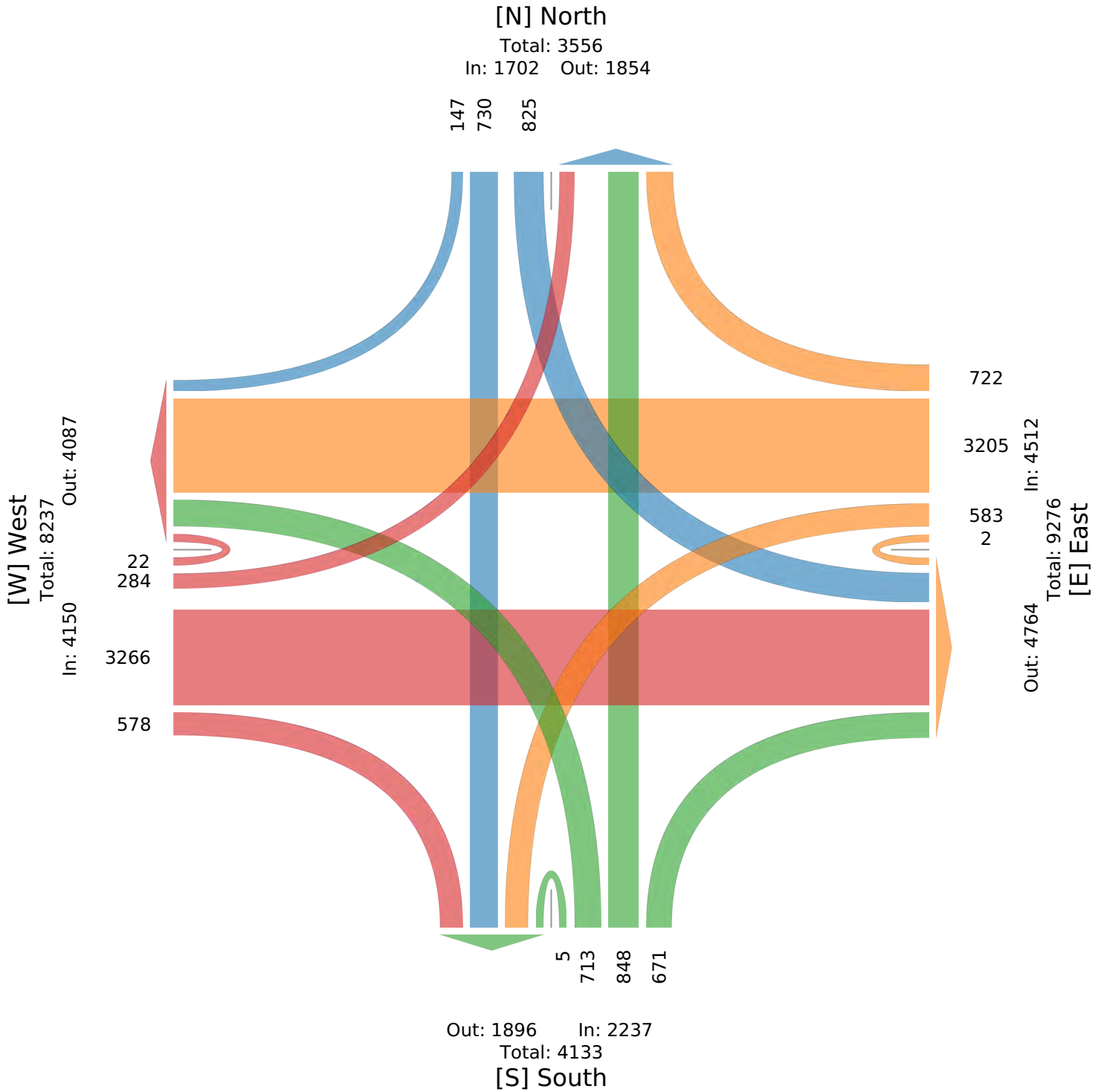
All Movements

ID: 807911, Location: 39.71764, -86.357651



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



PERRY RD & US 40 - TMC

Wed Jan 6, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807911, Location: 39.71764, -86.357651



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 7:15AM	7	10	11	0	<b>28</b>	56	24	4	0	<b>84</b>	2	160	7	0	<b>169</b>	20	78	10	0	<b>108</b>	<b>389</b>
7:30AM	9	8	15	0	<b>32</b>	38	25	2	0	<b>65</b>	6	162	12	1	<b>181</b>	22	88	11	0	<b>121</b>	<b>399</b>
7:45AM	13	22	27	0	<b>62</b>	50	47	2	0	<b>99</b>	4	131	8	1	<b>144</b>	29	115	20	0	<b>164</b>	<b>469</b>
8:00AM	18	12	22	0	<b>52</b>	55	25	3	0	<b>83</b>	4	117	6	1	<b>128</b>	18	98	15	0	<b>131</b>	<b>394</b>
<b>Total</b>	47	52	75	0	<b>174</b>	199	121	11	0	<b>331</b>	16	570	33	3	<b>622</b>	89	379	56	0	<b>524</b>	<b>1651</b>
<b>% Approach</b>	27.0%	29.9%	43.1%	0%	-	60.1%	36.6%	3.3%	0%	-	2.6%	91.6%	5.3%	0.5%	-	17.0%	72.3%	10.7%	0%	-	-
<b>% Total</b>	2.8%	3.1%	4.5%	0%	<b>10.5%</b>	12.1%	7.3%	0.7%	0%	<b>20.0%</b>	1.0%	34.5%	2.0%	0.2%	<b>37.7%</b>	5.4%	23.0%	3.4%	0%	<b>31.7%</b>	-
<b>PHF</b>	0.653	0.591	0.694	-	<b>0.702</b>	0.888	0.644	0.688	-	<b>0.836</b>	0.667	0.880	0.688	0.750	<b>0.859</b>	0.767	0.824	0.700	-	<b>0.799</b>	0.880
<b>Lights and Motorcycles</b>	47	50	68	0	<b>165</b>	195	121	9	0	<b>325</b>	16	547	32	3	<b>598</b>	87	368	54	0	<b>509</b>	1597
<b>% Lights and Motorcycles</b>	100%	96.2%	90.7%	0%	<b>94.8%</b>	98.0%	100%	81.8%	0%	<b>98.2%</b>	100%	96.0%	97.0%	100%	<b>96.1%</b>	97.8%	97.1%	96.4%	0%	<b>97.1%</b>	96.7%
<b>Heavy</b>	0	2	7	0	<b>9</b>	4	0	2	0	<b>6</b>	0	23	1	0	<b>24</b>	2	11	2	0	<b>15</b>	54
<b>% Heavy</b>	0%	3.8%	9.3%	0%	<b>5.2%</b>	2.0%	0%	18.2%	0%	<b>1.8%</b>	0%	4.0%	3.0%	0%	<b>3.9%</b>	2.2%	2.9%	3.6%	0%	<b>2.9%</b>	3.3%

\*L: Left, R: Right, T: Thru, U: U-Turn

PERRY RD & US 40 - TMC

Wed Jan 6, 2021

AM Peak (7:15 AM - 8:15 AM)

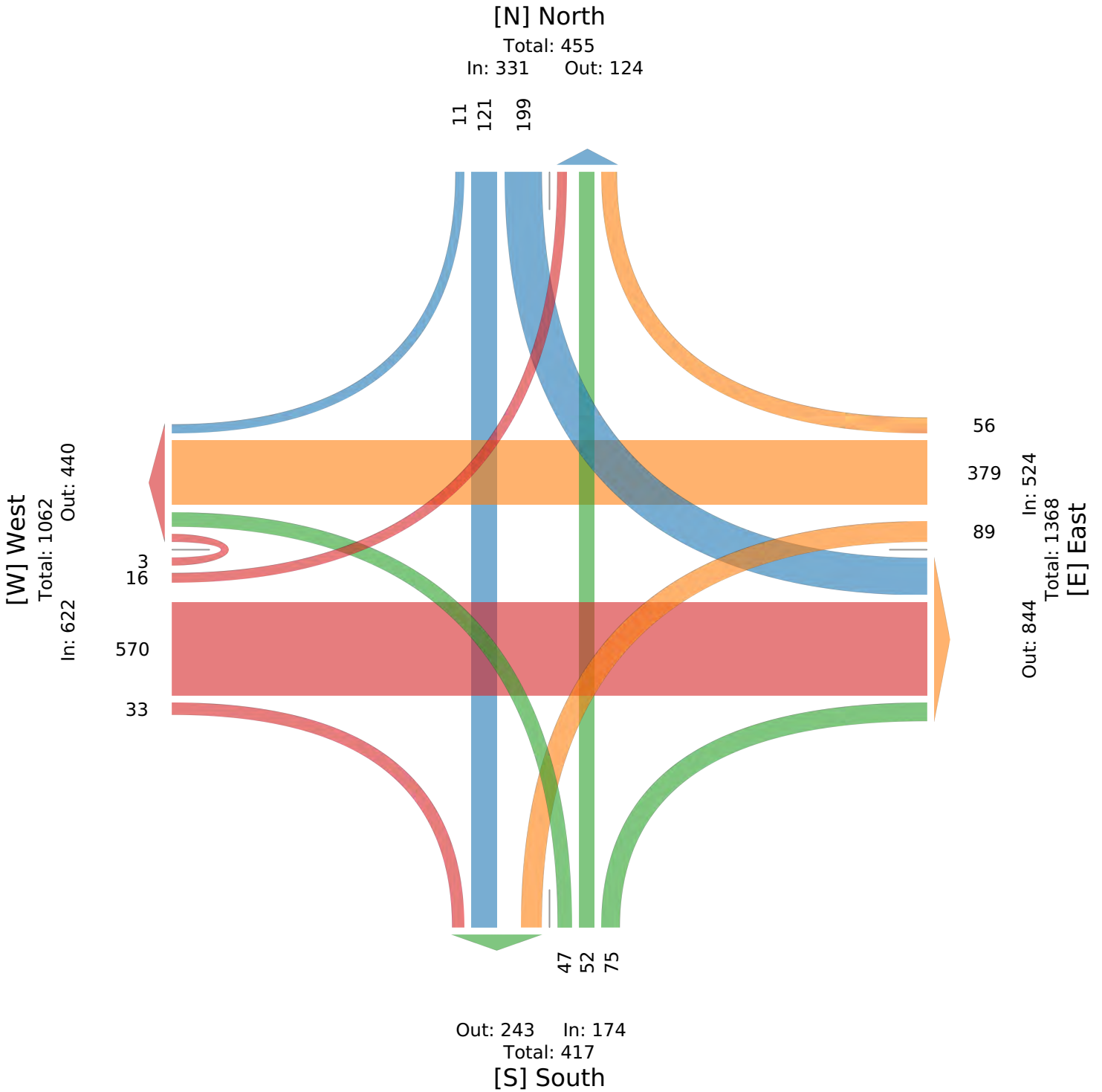
All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807911, Location: 39.71764, -86.357651



Provided by: A&F Engineering  
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



PERRY RD & US 40 - TMC

Wed Jan 6, 2021

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807911, Location: 39.71764, -86.357651



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2021-01-06 4:45PM	48	77	60	1	<b>186</b>	51	43	10	0	<b>104</b>	19	191	45	1	<b>256</b>	33	220	66	0	<b>319</b>	<b>865</b>
5:00PM	58	63	52	1	<b>174</b>	39	43	14	0	<b>96</b>	20	207	40	0	<b>267</b>	37	252	70	0	<b>359</b>	<b>896</b>
5:15PM	57	98	44	0	<b>199</b>	57	64	6	0	<b>127</b>	25	194	43	2	<b>264</b>	31	251	58	1	<b>341</b>	<b>931</b>
5:30PM	45	69	58	0	<b>172</b>	48	48	10	0	<b>106</b>	21	207	47	1	<b>276</b>	32	230	69	0	<b>331</b>	<b>885</b>
<b>Total</b>	208	307	214	2	<b>731</b>	195	198	40	0	<b>433</b>	85	799	175	4	<b>1063</b>	133	953	263	1	<b>1350</b>	<b>3577</b>
<b>% Approach</b>	28.5%	42.0%	29.3%	0.3%	-	45.0%	45.7%	9.2%	0%	-	8.0%	75.2%	16.5%	0.4%	-	9.9%	70.6%	19.5%	0.1%	-	-
<b>% Total</b>	5.8%	8.6%	6.0%	0.1%	<b>20.4%</b>	5.5%	5.5%	1.1%	0%	<b>12.1%</b>	2.4%	22.3%	4.9%	0.1%	<b>29.7%</b>	3.7%	26.6%	7.4%	0%	<b>37.7%</b>	-
<b>PHF</b>	0.897	0.783	0.892	0.500	<b>0.918</b>	0.855	0.773	0.714	-	<b>0.852</b>	0.850	0.965	0.931	0.500	<b>0.963</b>	0.899	0.945	0.939	0.250	<b>0.940</b>	0.961
<b>Lights and Motorcycles</b>	207	307	203	2	<b>719</b>	195	196	40	0	<b>431</b>	85	777	169	4	<b>1035</b>	127	944	262	1	<b>1334</b>	3519
<b>% Lights and Motorcycles</b>	99.5%	100%	94.9%	100%	<b>98.4%</b>	100%	99.0%	100%	0%	<b>99.5%</b>	100%	97.2%	96.6%	100%	<b>97.4%</b>	95.5%	99.1%	99.6%	100%	<b>98.8%</b>	98.4%
<b>Heavy</b>	1	0	11	0	<b>12</b>	0	2	0	0	<b>2</b>	0	22	6	0	<b>28</b>	6	9	1	0	<b>16</b>	58
<b>% Heavy</b>	0.5%	0%	5.1%	0%	<b>1.6%</b>	0%	1.0%	0%	0%	<b>0.5%</b>	0%	2.8%	3.4%	0%	<b>2.6%</b>	4.5%	0.9%	0.4%	0%	<b>1.2%</b>	1.6%

\*L: Left, R: Right, T: Thru, U: U-Turn

PERRY RD & US 40 - TMC

Wed Jan 6, 2021

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

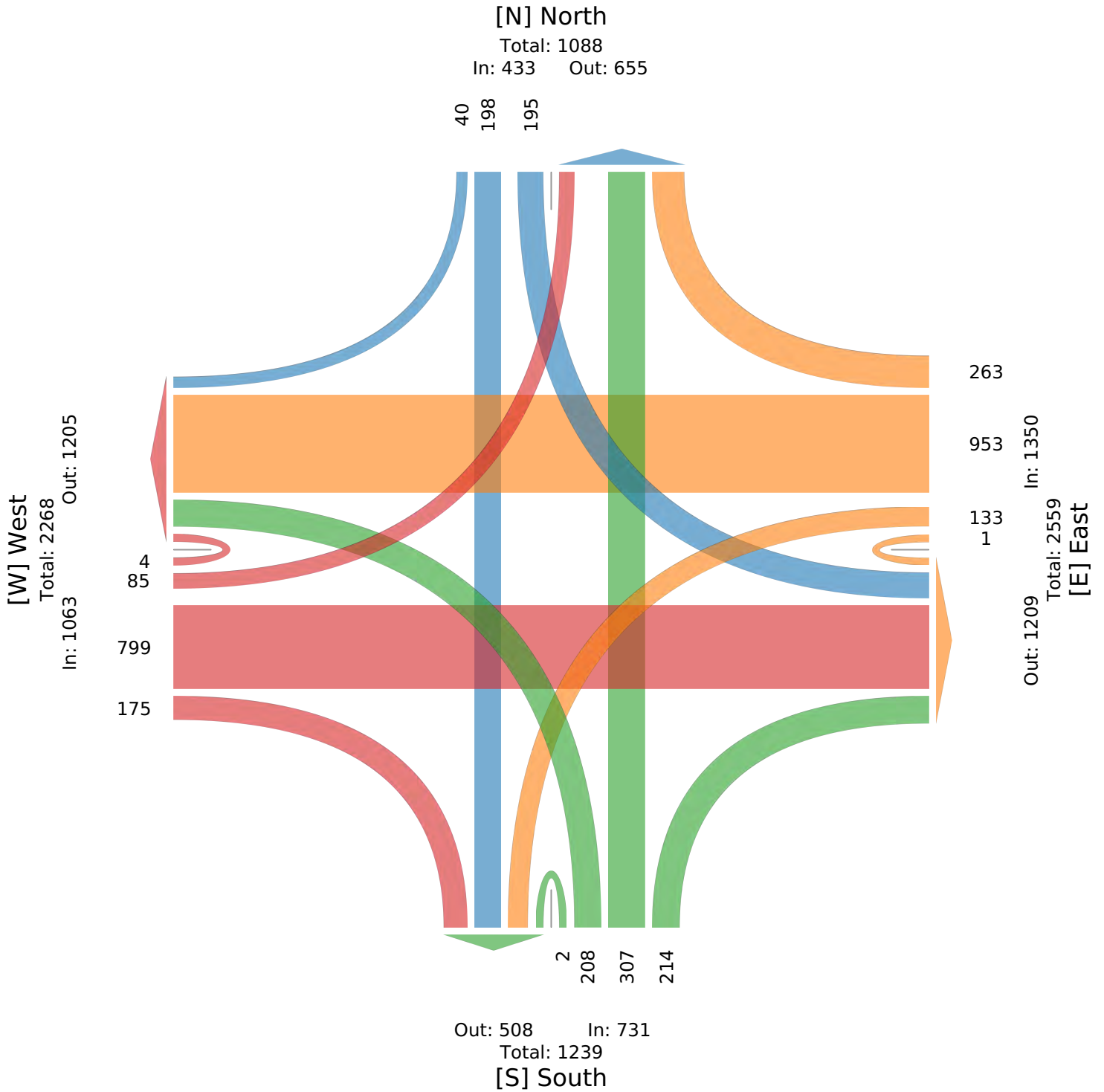
All Movements

ID: 807911, Location: 39.71764, -86.357651



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



HCM 6th Signalized Intersection Summary  
3: Perry Road & US 40

Existing AM PEAK  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	770	45	120	512	76	63	70	101	269	163	15
Future Volume (veh/h)	22	770	45	120	512	76	63	70	101	269	163	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1841	1856	1870	1856	1841	1900	1841	1767	1870	1900	1633
Adj Flow Rate, veh/h	25	875	51	136	582	86	72	80	115	306	185	17
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	4	3	2	3	4	0	4	9	2	0	18
Cap, veh/h	72	1224	679	186	1463	848	286	408	331	444	590	281
Arrive On Green	0.04	0.35	0.35	0.10	0.41	0.41	0.08	0.12	0.12	0.13	0.16	0.16
Sat Flow, veh/h	1810	3497	1572	1781	3526	1560	3510	3497	1497	3456	3610	1384
Grp Volume(v), veh/h	25	875	51	136	582	86	72	80	115	306	185	17
Grp Sat Flow(s),veh/h/ln	1810	1749	1572	1781	1763	1560	1755	1749	1497	1728	1805	1384
Q Serve(g_s), s	0.8	13.0	1.1	4.4	6.9	1.6	1.2	1.2	3.9	5.1	2.7	0.6
Cycle Q Clear(g_c), s	0.8	13.0	1.1	4.4	6.9	1.6	1.2	1.2	3.9	5.1	2.7	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	72	1224	679	186	1463	848	286	408	331	444	590	281
V/C Ratio(X)	0.35	0.71	0.08	0.73	0.40	0.10	0.25	0.20	0.35	0.69	0.31	0.06
Avail Cap(c_a), veh/h	211	1867	967	446	2352	1241	468	583	406	865	1024	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	16.9	10.0	26.0	12.3	6.6	25.8	23.9	19.7	25.0	22.1	19.3
Incr Delay (d2), s/veh	2.9	0.8	0.0	5.4	0.2	0.1	0.5	0.2	0.6	1.9	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.8	0.4	2.0	2.4	0.4	0.5	0.5	1.3	2.1	1.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	17.7	10.1	31.4	12.5	6.7	26.3	24.2	20.3	26.9	22.4	19.4
LnGrp LOS	C	B	B	C	B	A	C	C	C	C	C	B
Approach Vol, veh/h		951			804			267			508	
Approach Delay, s/veh		17.6			15.1			23.1			25.0	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	12.0	10.3	26.0	8.9	14.8	6.4	29.9				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	15.0	10.0	15.0	32.0	8.0	17.0	7.0	40.0				
Max Q Clear Time (g_c+1), s	15.0	5.9	6.4	15.0	3.2	4.7	2.8	8.9				
Green Ext Time (p_c), s	0.7	0.3	0.2	6.0	0.1	0.9	0.0	4.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											18.9	
HCM 6th LOS											B	

HCM 6th Signalized Intersection Summary  
3: Perry Road & US 40

Existing PM PEAK  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	879	193	146	1048	289	229	338	235	215	218	44
Future Volume (veh/h)	94	879	193	146	1048	289	229	338	235	215	218	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1856	1826	1885	1900	1885	1900	1826	1900	1885	1900
Adj Flow Rate, veh/h	98	916	201	152	1092	301	239	352	245	224	227	46
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	3	3	5	1	0	1	0	5	0	1	0
Cap, veh/h	145	1275	718	190	1399	775	332	635	441	319	615	406
Arrive On Green	0.08	0.36	0.36	0.11	0.39	0.39	0.10	0.18	0.18	0.09	0.17	0.17
Sat Flow, veh/h	1810	3526	1572	1739	3582	1610	3483	3610	1547	3510	3582	1610
Grp Volume(v), veh/h	98	916	201	152	1092	301	239	352	245	224	227	46
Grp Sat Flow(s),veh/h/ln	1810	1763	1572	1739	1791	1610	1742	1805	1547	1755	1791	1610
Q Serve(g_s), s	4.0	17.1	6.1	6.5	20.4	9.1	5.1	6.8	10.3	4.7	4.3	1.7
Cycle Q Clear(g_c), s	4.0	17.1	6.1	6.5	20.4	9.1	5.1	6.8	10.3	4.7	4.3	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	1275	718	190	1399	775	332	635	441	319	615	406
V/C Ratio(X)	0.67	0.72	0.28	0.80	0.78	0.39	0.72	0.55	0.56	0.70	0.37	0.11
Avail Cap(c_a), veh/h	214	1433	789	319	1691	907	457	758	494	414	705	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	21.0	12.9	33.1	20.4	12.6	33.5	28.7	23.1	33.6	27.9	22.0
Incr Delay (d2), s/veh	5.4	1.5	0.2	7.6	2.0	0.3	3.4	0.8	1.1	3.6	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9	6.9	2.0	3.1	8.3	3.1	2.2	2.9	3.7	2.1	1.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	22.5	13.1	40.7	22.4	12.9	36.9	29.5	24.2	37.2	28.3	22.1
LnGrp LOS	D	C	B	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		1215			1545			836			497	
Approach Delay, s/veh		22.3			22.3			30.1			31.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	18.4	13.3	32.6	12.3	18.1	11.1	34.8				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	16.0	14.0	31.0	10.0	15.0	9.0	36.0					
Max Q Clear Time (g_c+1), s	12.3	8.5	19.1	7.1	6.3	6.0	22.4					
Green Ext Time (p_c), s	0.2	1.2	0.2	5.6	0.2	1.0	0.1	7.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					25.1							
HCM 6th LOS					C							

# HCM 6th Signalized Intersection Summary

## 3: Perry Road & US 40

Background AM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	847	50	132	563	84	69	77	111	296	179	17
Future Volume (veh/h)	24	847	50	132	563	84	69	77	111	296	179	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1841	1856	1870	1856	1841	1900	1841	1767	1870	1900	1633
Adj Flow Rate, veh/h	27	962	57	150	640	95	78	88	126	336	203	19
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	4	3	2	3	4	0	4	9	2	0	18
Cap, veh/h	74	1274	697	192	1519	877	278	360	315	454	560	271
Arrive On Green	0.04	0.36	0.36	0.11	0.43	0.43	0.08	0.10	0.10	0.13	0.16	0.16
Sat Flow, veh/h	1810	3497	1572	1781	3526	1560	3510	3497	1497	3456	3610	1384
Grp Volume(v), veh/h	27	962	57	150	640	95	78	88	126	336	203	19
Grp Sat Flow(s),veh/h/ln	1810	1749	1572	1781	1763	1560	1755	1749	1497	1728	1805	1384
Q Serve(g_s), s	1.0	16.4	1.4	5.6	8.6	1.9	1.4	1.6	4.9	6.4	3.4	0.8
Cycle Q Clear(g_c), s	1.0	16.4	1.4	5.6	8.6	1.9	1.4	1.6	4.9	6.4	3.4	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	74	1274	697	192	1519	877	278	360	315	454	560	271
V/C Ratio(X)	0.36	0.76	0.08	0.78	0.42	0.11	0.28	0.24	0.40	0.74	0.36	0.07
Avail Cap(c_a), veh/h	186	1747	910	392	2175	1167	361	360	315	711	742	342
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	19.0	10.9	29.6	13.5	6.9	29.5	28.1	23.2	28.4	25.8	22.3
Incr Delay (d2), s/veh	2.9	1.3	0.0	6.8	0.2	0.1	0.5	0.4	0.8	2.4	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.3	0.5	2.7	3.1	0.6	0.6	0.7	1.7	2.7	1.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	20.3	11.0	36.4	13.7	7.0	30.1	28.5	24.0	30.8	26.1	22.4
LnGrp LOS	C	C	B	D	B	A	C	C	C	C	C	C
Approach Vol, veh/h		1046			885			292			558	
Approach Delay, s/veh		20.1			16.8			27.0			28.8	
Approach LOS		C			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	12.0	12.3	29.8	10.4	15.6	7.8	34.3				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	14.0	7.0	15.0	34.0	7.0	14.0	7.0	42.0				
Max Q Clear Time (g_c+1), s	10.4	6.9	7.6	18.4	3.4	5.4	3.0	10.6				
Green Ext Time (p_c), s	0.6	0.0	0.2	6.4	0.1	0.8	0.0	5.3				

### Intersection Summary

HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

# HCM 6th Signalized Intersection Summary

## 3: Perry Road & US 40

Background PM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	967	212	161	1153	318	252	372	259	237	240	48
Future Volume (veh/h)	103	967	212	161	1153	318	252	372	259	237	240	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1856	1826	1885	1900	1885	1900	1826	1900	1885	1900
Adj Flow Rate, veh/h	107	1007	221	168	1201	331	262	388	270	247	250	50
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	3	3	5	1	0	1	0	5	0	1	0
Cap, veh/h	142	1247	712	204	1405	784	345	680	473	331	658	422
Arrive On Green	0.08	0.35	0.35	0.12	0.39	0.39	0.10	0.19	0.19	0.09	0.18	0.18
Sat Flow, veh/h	1810	3526	1572	1739	3582	1610	3483	3610	1547	3510	3582	1610
Grp Volume(v), veh/h	107	1007	221	168	1201	331	262	388	270	247	250	50
Grp Sat Flow(s),veh/h/ln	1810	1763	1572	1739	1791	1610	1742	1805	1547	1755	1791	1610
Q Serve(g_s), s	4.7	21.0	7.3	7.7	24.9	10.8	5.9	7.9	11.9	5.6	5.0	1.9
Cycle Q Clear(g_c), s	4.7	21.0	7.3	7.7	24.9	10.8	5.9	7.9	11.9	5.6	5.0	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	1247	712	204	1405	784	345	680	473	331	658	422
V/C Ratio(X)	0.75	0.81	0.31	0.83	0.85	0.42	0.76	0.57	0.57	0.75	0.38	0.12
Avail Cap(c_a), veh/h	201	1390	776	236	1501	827	386	801	524	389	795	484
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	23.7	14.1	35.0	22.5	13.5	35.6	29.9	23.7	35.8	29.1	22.8
Incr Delay (d2), s/veh	9.5	3.3	0.2	18.6	4.8	0.4	7.7	0.8	1.2	6.4	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	8.8	2.5	4.2	10.7	3.7	2.8	3.4	4.3	2.6	2.1	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.1	27.0	14.4	53.6	27.4	13.8	43.3	30.7	24.9	42.2	29.4	22.9
LnGrp LOS	D	C	B	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		1335			1700			920			547	
Approach Delay, s/veh		26.5			27.3			32.6			34.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.7	20.3	14.5	33.7	13.0	19.9	11.4	36.8				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	18.0	11.0	32.0	9.0	18.0	9.0	34.0					
Max Q Clear Time (g_c+1), s	13.9	9.7	23.0	7.9	7.0	6.7	26.9					
Green Ext Time (p_c), s	0.1	1.4	0.1	5.0	0.1	1.2	0.0	4.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					29.0							
HCM 6th LOS					C							

HCM 6th Signalized Intersection Summary  
3: Perry Road & US 40

Existing + Proposed AM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	774	45	128	543	91	63	114	101	288	215	76
Future Volume (veh/h)	108	774	45	128	543	91	63	114	101	288	215	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1841	1870	1870	1841	1841	1900	1856	1767	1870	1900	1841
Adj Flow Rate, veh/h	123	880	51	145	617	103	72	130	115	327	244	86
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	4	2	2	4	4	0	3	9	2	0	4
Cap, veh/h	175	1199	668	187	1227	752	277	385	320	453	583	403
Arrive On Green	0.10	0.34	0.34	0.10	0.35	0.35	0.08	0.11	0.11	0.13	0.16	0.16
Sat Flow, veh/h	1810	3497	1585	1781	3497	1560	3510	3526	1497	3456	3610	1560
Grp Volume(v), veh/h	123	880	51	145	617	103	72	130	115	327	244	86
Grp Sat Flow(s),veh/h/ln	1810	1749	1585	1781	1749	1560	1755	1763	1497	1728	1805	1560
Q Serve(g_s), s	4.2	14.2	1.2	5.1	8.9	2.3	1.2	2.2	4.2	5.8	3.9	2.8
Cycle Q Clear(g_c), s	4.2	14.2	1.2	5.1	8.9	2.3	1.2	2.2	4.2	5.8	3.9	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	1199	668	187	1227	752	277	385	320	453	583	403
V/C Ratio(X)	0.70	0.73	0.08	0.78	0.50	0.14	0.26	0.34	0.36	0.72	0.42	0.21
Avail Cap(c_a), veh/h	339	1745	916	389	1854	1032	383	550	391	754	957	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	18.5	11.1	28.0	16.4	9.2	27.8	26.4	21.5	26.7	24.2	18.7
Incr Delay (d2), s/veh	5.0	0.9	0.0	6.8	0.3	0.1	0.5	0.5	0.7	2.2	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	5.3	0.4	2.4	3.3	0.7	0.5	0.9	1.4	2.4	1.6	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	19.4	11.1	34.7	16.7	9.3	28.3	26.9	22.1	28.9	24.7	18.9
LnGrp LOS	C	B	B	C	B	A	C	C	C	C	C	B
Approach Vol, veh/h		1054			865			317			657	
Approach Delay, s/veh		20.6			18.9			25.5			26.0	
Approach LOS		C			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	12.0	11.7	27.0	10.1	15.4	11.2	27.5				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	14.0	10.0	14.0	32.0	7.0	17.0	12.0	34.0				
Max Q Clear Time (g_c+1), s	17.8	6.2	7.1	16.2	3.2	5.9	6.2	10.9				
Green Ext Time (p_c), s	0.6	0.4	0.2	5.8	0.0	1.3	0.1	4.7				

Intersection Summary

HCM 6th Ctrl Delay		21.9										
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary  
3: Perry Road & US 40

Existing + Proposed PM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	880	193	151	1065	312	229	410	235	255	268	106
Future Volume (veh/h)	209	880	193	151	1065	312	229	410	235	255	268	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1841	1826	1885	1900	1900	1900	1826	1900	1885	1900
Adj Flow Rate, veh/h	218	917	201	157	1109	325	239	427	245	266	279	110
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	3	4	5	1	0	0	0	5	0	1	0
Cap, veh/h	255	1348	740	191	1257	723	322	627	439	345	644	517
Arrive On Green	0.14	0.38	0.38	0.11	0.35	0.35	0.09	0.17	0.17	0.10	0.18	0.18
Sat Flow, veh/h	1810	3526	1560	1739	3582	1610	3510	3610	1547	3510	3582	1610
Grp Volume(v), veh/h	218	917	201	157	1109	325	239	427	245	266	279	110
Grp Sat Flow(s),veh/h/ln	1810	1763	1560	1739	1791	1610	1755	1805	1547	1755	1791	1610
Q Serve(g_s), s	10.0	18.4	6.6	7.5	24.7	11.8	5.6	9.4	11.4	6.3	5.9	4.2
Cycle Q Clear(g_c), s	10.0	18.4	6.6	7.5	24.7	11.8	5.6	9.4	11.4	6.3	5.9	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	1348	740	191	1257	723	322	627	439	345	644	517
V/C Ratio(X)	0.85	0.68	0.27	0.82	0.88	0.45	0.74	0.68	0.56	0.77	0.43	0.21
Avail Cap(c_a), veh/h	278	1373	751	226	1310	747	414	724	480	373	676	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	21.8	13.4	36.9	25.8	16.1	37.5	32.8	25.9	37.3	30.9	21.0
Incr Delay (d2), s/veh	20.7	1.3	0.2	18.5	7.2	0.4	5.2	2.2	1.2	8.9	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	7.5	2.2	4.1	11.2	4.2	2.6	4.2	4.2	3.1	2.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	23.2	13.6	55.4	33.0	16.5	42.7	35.0	27.0	46.2	31.4	21.2
LnGrp LOS	E	C	B	E	C	B	D	C	C	D	C	C
Approach Vol, veh/h		1336			1591			911			655	
Approach Delay, s/veh		27.1			31.9			34.9			35.7	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	19.7	14.3	37.4	12.8	20.2	17.0	34.7				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	17.0	11.0	33.0	10.0	16.0	13.0	31.0					
Max Q Clear Time (g_c+1), s	13.4	9.5	20.4	7.6	7.9	12.0	26.7					
Green Ext Time (p_c), s	0.1	1.3	0.1	5.8	0.2	1.3	0.1	3.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											31.6	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Summary  
3: Perry Road & US 40

Background + Proposed AM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	851	50	140	594	99	69	121	111	315	231	78
Future Volume (veh/h)	110	851	50	140	594	99	69	121	111	315	231	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1841	1870	1870	1841	1856	1900	1870	1767	1870	1900	1841
Adj Flow Rate, veh/h	125	967	57	159	675	112	78	138	126	358	262	89
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	4	2	2	4	3	0	2	9	2	0	4
Cap, veh/h	165	1257	694	201	1333	814	275	370	325	473	587	396
Arrive On Green	0.09	0.36	0.36	0.11	0.38	0.38	0.08	0.10	0.10	0.14	0.16	0.16
Sat Flow, veh/h	1810	3497	1585	1781	3497	1572	3510	3554	1497	3456	3610	1560
Grp Volume(v), veh/h	125	967	57	159	675	112	78	138	126	358	262	89
Grp Sat Flow(s),veh/h/ln	1810	1749	1585	1781	1749	1572	1755	1777	1497	1728	1805	1560
Q Serve(g_s), s	4.7	17.1	1.5	6.1	10.3	2.6	1.5	2.5	5.0	7.0	4.6	3.1
Cycle Q Clear(g_c), s	4.7	17.1	1.5	6.1	10.3	2.6	1.5	2.5	5.0	7.0	4.6	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	165	1257	694	201	1333	814	275	370	325	473	587	396
V/C Ratio(X)	0.76	0.77	0.08	0.79	0.51	0.14	0.28	0.37	0.39	0.76	0.45	0.22
Avail Cap(c_a), veh/h	311	1654	874	357	1754	1004	352	458	362	693	828	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	19.8	11.4	30.1	16.6	8.7	30.3	29.1	23.4	29.0	26.4	20.6
Incr Delay (d2), s/veh	6.8	1.6	0.1	6.8	0.3	0.1	0.6	0.6	0.8	2.8	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	6.7	0.5	2.9	3.9	0.8	0.6	1.1	1.8	2.9	1.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	21.4	11.5	36.9	16.9	8.8	30.9	29.8	24.1	31.8	26.9	20.9
LnGrp LOS	D	C	B	D	B	A	C	C	C	C	C	C
Approach Vol, veh/h		1149			946			342			709	
Approach Delay, s/veh		22.7			19.3			27.9			28.6	
Approach LOS		C			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	12.3	12.9	30.1	10.5	16.4	11.4	31.6				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	14.0	9.0	14.0	33.0	7.0	16.0	12.0	35.0				
Max Q Clear Time (g_c+19.0), s	19.0	7.0	8.1	19.1	3.5	6.6	6.7	12.3				
Green Ext Time (p_c), s	0.6	0.2	0.2	6.0	0.0	1.3	0.1	5.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											23.6	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Summary  
3: Perry Road & US 40

Background + Proposed PM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	968	212	166	1170	341	252	444	259	277	290	110
Future Volume (veh/h)	218	968	212	166	1170	341	252	444	259	277	290	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1841	1826	1885	1900	1900	1900	1826	1900	1885	1900
Adj Flow Rate, veh/h	227	1008	221	173	1219	355	262	462	270	289	302	115
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	3	4	5	1	0	0	0	5	0	1	0
Cap, veh/h	262	1359	751	207	1288	724	337	649	462	317	623	513
Arrive On Green	0.14	0.39	0.39	0.12	0.36	0.36	0.10	0.18	0.18	0.09	0.17	0.17
Sat Flow, veh/h	1810	3526	1560	1739	3582	1610	3510	3610	1547	3510	3582	1610
Grp Volume(v), veh/h	227	1008	221	173	1219	355	262	462	270	289	302	115
Grp Sat Flow(s),veh/h/ln	1810	1763	1560	1739	1791	1610	1755	1805	1547	1755	1791	1610
Q Serve(g_s), s	10.9	21.8	7.6	8.6	29.3	13.8	6.5	10.7	13.1	7.2	6.7	4.6
Cycle Q Clear(g_c), s	10.9	21.8	7.6	8.6	29.3	13.8	6.5	10.7	13.1	7.2	6.7	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	262	1359	751	207	1288	724	337	649	462	317	623	513
V/C Ratio(X)	0.87	0.74	0.29	0.84	0.95	0.49	0.78	0.71	0.58	0.91	0.48	0.22
Avail Cap(c_a), veh/h	265	1359	751	235	1293	727	356	692	481	317	647	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	23.4	13.9	38.2	27.6	17.2	39.1	34.2	26.4	40.0	33.0	22.1
Incr Delay (d2), s/veh	24.5	2.2	0.2	20.4	14.2	0.5	10.0	3.2	1.7	29.2	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	9.1	2.6	4.8	14.4	5.0	3.2	4.9	4.9	4.4	2.9	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.5	25.7	14.1	58.6	41.7	17.7	49.1	37.4	28.1	69.2	33.6	22.4
LnGrp LOS	E	C	B	E	D	B	D	D	C	E	C	C
Approach Vol, veh/h		1456			1747			994			706	
Approach Delay, s/veh		29.5			38.5			38.0			46.4	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	20.9	15.5	39.2	13.5	20.4	17.8	36.9				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	17.0	17.0	12.0	33.0	9.0	16.0	13.0	32.0				
Max Q Clear Time (g_c+1/2), s	19.2	15.1	10.6	23.8	8.5	8.7	12.9	31.3				
Green Ext Time (p_c), s	0.0	0.8	0.1	5.1	0.1	1.3	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

# *US 40 & PLAINFIELD COMMONS DRIVE/WILLIAMS TRACE*

## *TRAFFIC VOLUME COUNTS CAPACITY ANALYSIS*

PLAINFIELD COMMONS DRIVE & US 40 - TMC

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807915, Location: 39.718683, -86.355034



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 6:30AM	3	0	17	0	20	1	0	1	0	2	1	146	15	0	162	14	93	1	0	108	292
6:45AM	5	5	12	0	22	0	1	0	0	1	2	154	34	0	190	15	120	1	0	136	349
Hourly Total	8	5	29	0	42	1	1	1	0	3	3	300	49	0	352	29	213	2	0	244	641
7:00AM	7	2	17	0	26	5	1	6	0	12	11	148	33	0	192	8	82	6	0	96	326
7:15AM	5	4	12	0	21	6	1	12	0	19	7	185	30	0	222	17	98	10	0	125	387
7:30AM	10	1	14	0	25	9	1	1	0	11	11	181	30	0	222	9	106	9	0	124	382
7:45AM	15	5	16	0	36	6	1	7	0	14	7	174	30	0	211	14	143	4	0	161	422
Hourly Total	37	12	59	0	108	26	4	26	0	56	36	688	123	0	847	48	429	29	0	506	1517
8:00AM	12	0	20	0	32	6	0	8	0	14	13	148	30	0	191	11	105	2	0	118	355
8:15AM	8	3	17	0	28	3	2	7	0	12	13	145	31	1	190	8	109	4	0	121	351
Hourly Total	20	3	37	0	60	9	2	15	0	26	26	293	61	1	381	19	214	6	0	239	706
4:00PM	36	1	27	0	64	9	8	22	0	39	17	234	39	0	290	38	280	12	3	333	726
4:15PM	37	3	27	0	67	7	4	17	0	28	14	211	28	0	253	27	237	18	0	282	630
4:30PM	40	7	29	0	76	18	3	25	0	46	20	208	42	0	270	32	282	21	2	337	729
4:45PM	54	9	32	0	95	12	8	21	0	41	24	238	51	2	315	22	245	10	0	277	728
Hourly Total	167	20	115	0	302	46	23	85	0	154	75	891	160	2	1128	119	1044	61	5	1229	2813
5:00PM	42	8	26	0	76	12	4	24	0	40	16	216	52	1	285	30	292	17	2	341	742
5:15PM	40	8	29	0	77	9	4	27	0	40	13	253	49	1	316	23	269	12	0	304	737
5:30PM	44	1	27	0	72	11	3	16	0	30	24	211	55	3	293	39	252	11	0	302	697
5:45PM	49	2	34	0	85	13	5	12	0	30	15	187	68	0	270	34	211	16	1	262	647
Hourly Total	175	19	116	0	310	45	16	79	0	140	68	867	224	5	1164	126	1024	56	3	1209	2823
6:00PM	42	5	37	0	84	18	3	13	0	34	12	199	52	4	267	35	234	5	1	275	660
6:15PM	44	3	28	0	75	7	1	9	0	17	8	196	48	1	253	38	164	4	0	206	551
6:30PM	53	3	28	0	84	10	3	6	0	19	7	152	46	0	205	30	171	8	0	209	517
6:45PM	37	5	29	0	71	5	2	5	0	12	3	127	46	0	176	23	150	5	1	179	438
Hourly Total	176	16	122	0	314	40	9	33	0	82	30	674	192	5	901	126	719	22	2	869	2166
7:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
<b>Total</b>	583	75	478	0	1136	167	55	239	0	461	238	3713	809	13	4773	467	3644	176	10	4297	10667
<b>% Approach</b>	51.3%	6.6%	42.1%	0%	-	36.2%	11.9%	51.8%	0%	-	5.0%	77.8%	16.9%	0.3%	-	10.9%	84.8%	4.1%	0.2%	-	-
<b>% Total</b>	5.5%	0.7%	4.5%	0%	10.6%	1.6%	0.5%	2.2%	0%	4.3%	2.2%	34.8%	7.6%	0.1%	44.7%	4.4%	34.2%	1.6%	0.1%	40.3%	-
<b>Lights and Motorcycles</b>	578	75	475	0	1128	164	54	239	0	457	238	3574	806	13	4631	463	3564	171	10	4208	10424
<b>% Lights and Motorcycles</b>	99.1%	100%	99.4%	0%	99.3%	98.2%	98.2%	100%	0%	99.1%	100%	96.3%	99.6%	100%	97.0%	99.1%	97.8%	97.2%	100%	97.9%	97.7%
<b>Heavy</b>	5	0	3	0	8	3	1	0	0	4	0	139	3	0	142	4	80	5	0	89	243
<b>% Heavy</b>	0.9%	0%	0.6%	0%	0.7%	1.8%	1.8%	0%	0%	0.9%	0%	3.7%	0.4%	0%	3.0%	0.9%	2.2%	2.8%	0%	2.1%	2.3%

\* L: Left, R: Right, T: Thru, U: U-Turn

**PLAINFIELD COMMONS DRIVE & US 40 - TMC**

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

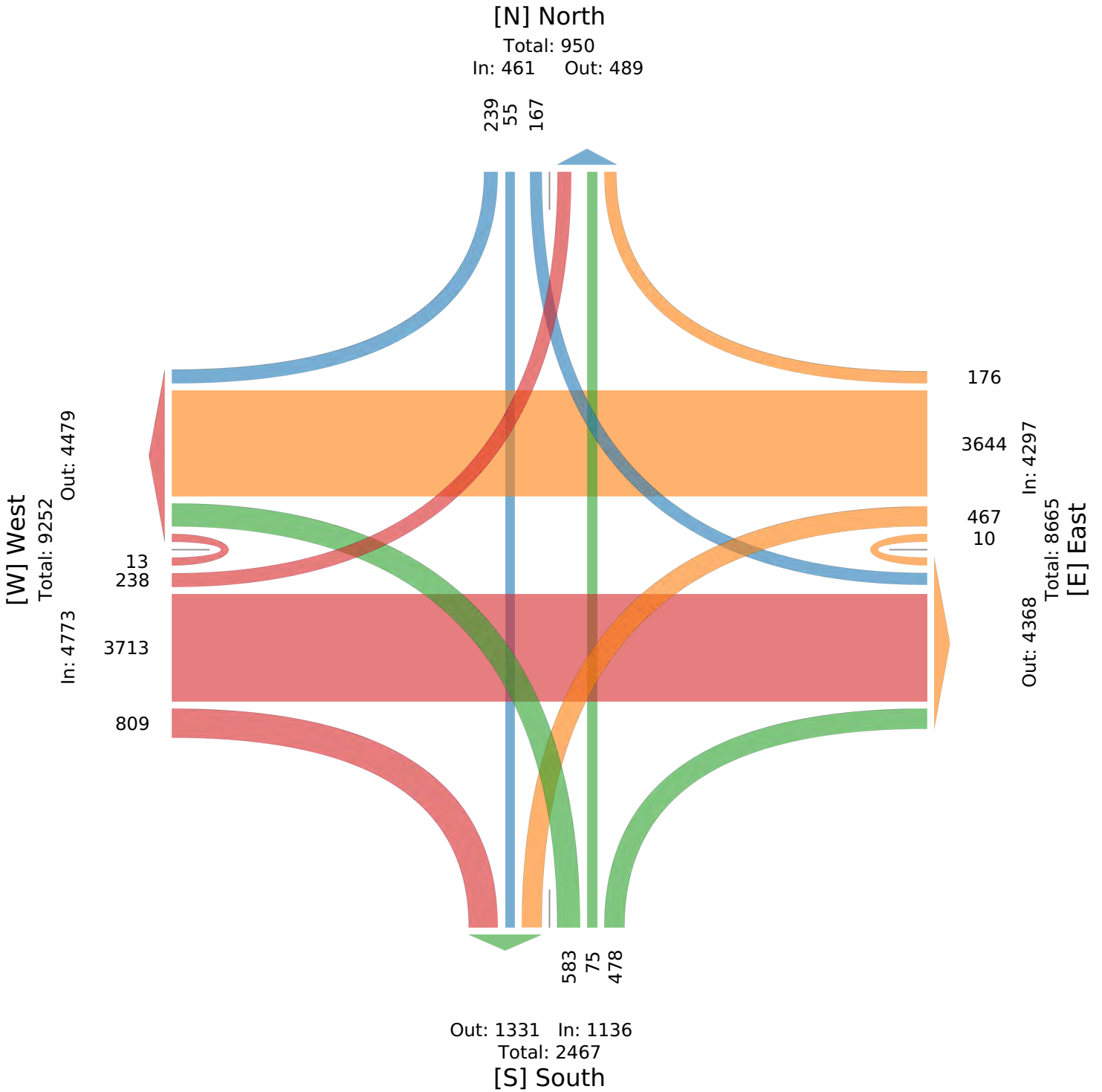
All Movements

ID: 807915, Location: 39.718683, -86.355034



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



PLAINFIELD COMMONS DRIVE & US 40 - TMC

Wed Jan 6, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807915, Location: 39.718683, -86.355034



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2021-01-06 7:15AM	5	4	12	0	21	6	1	12	0	19	7	185	30	0	222	17	98	10	0	125	387
7:30AM	10	1	14	0	25	9	1	1	0	11	11	181	30	0	222	9	106	9	0	124	382
7:45AM	15	5	16	0	36	6	1	7	0	14	7	174	30	0	211	14	143	4	0	161	422
8:00AM	12	0	20	0	32	6	0	8	0	14	13	148	30	0	191	11	105	2	0	118	355
<b>Total</b>	42	10	62	0	114	27	3	28	0	58	38	688	120	0	846	51	452	25	0	528	1546
<b>% Approach</b>	36.8%	8.8%	54.4%	0%	-	46.6%	5.2%	48.3%	0%	-	4.5%	81.3%	14.2%	0%	-	9.7%	85.6%	4.7%	0%	-	-
<b>% Total</b>	2.7%	0.6%	4.0%	0%	7.4%	1.7%	0.2%	1.8%	0%	3.8%	2.5%	44.5%	7.8%	0%	54.7%	3.3%	29.2%	1.6%	0%	34.2%	-
<b>PHF</b>	0.700	0.500	0.775	-	0.792	0.750	0.750	0.583	-	0.763	0.731	0.930	1.000	-	0.953	0.750	0.790	0.625	-	0.820	0.916
<b>Lights and Motorcycles</b>	40	10	62	0	112	25	3	28	0	56	38	657	119	0	814	50	437	25	0	512	1494
<b>% Lights and Motorcycles</b>	95.2%	100%	100%	0%	98.2%	92.6%	100%	100%	0%	96.6%	100%	95.5%	99.2%	0%	96.2%	98.0%	96.7%	100%	0%	97.0%	96.6%
<b>Heavy</b>	2	0	0	0	2	2	0	0	0	2	0	31	1	0	32	1	15	0	0	16	52
<b>% Heavy</b>	4.8%	0%	0%	0%	1.8%	7.4%	0%	0%	0%	3.4%	0%	4.5%	0.8%	0%	3.8%	2.0%	3.3%	0%	0%	3.0%	3.4%

\*L: Left, R: Right, T: Thru, U: U-Turn

PLAINFIELD COMMONS DRIVE & US 40 - TMC

Wed Jan 6, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy)

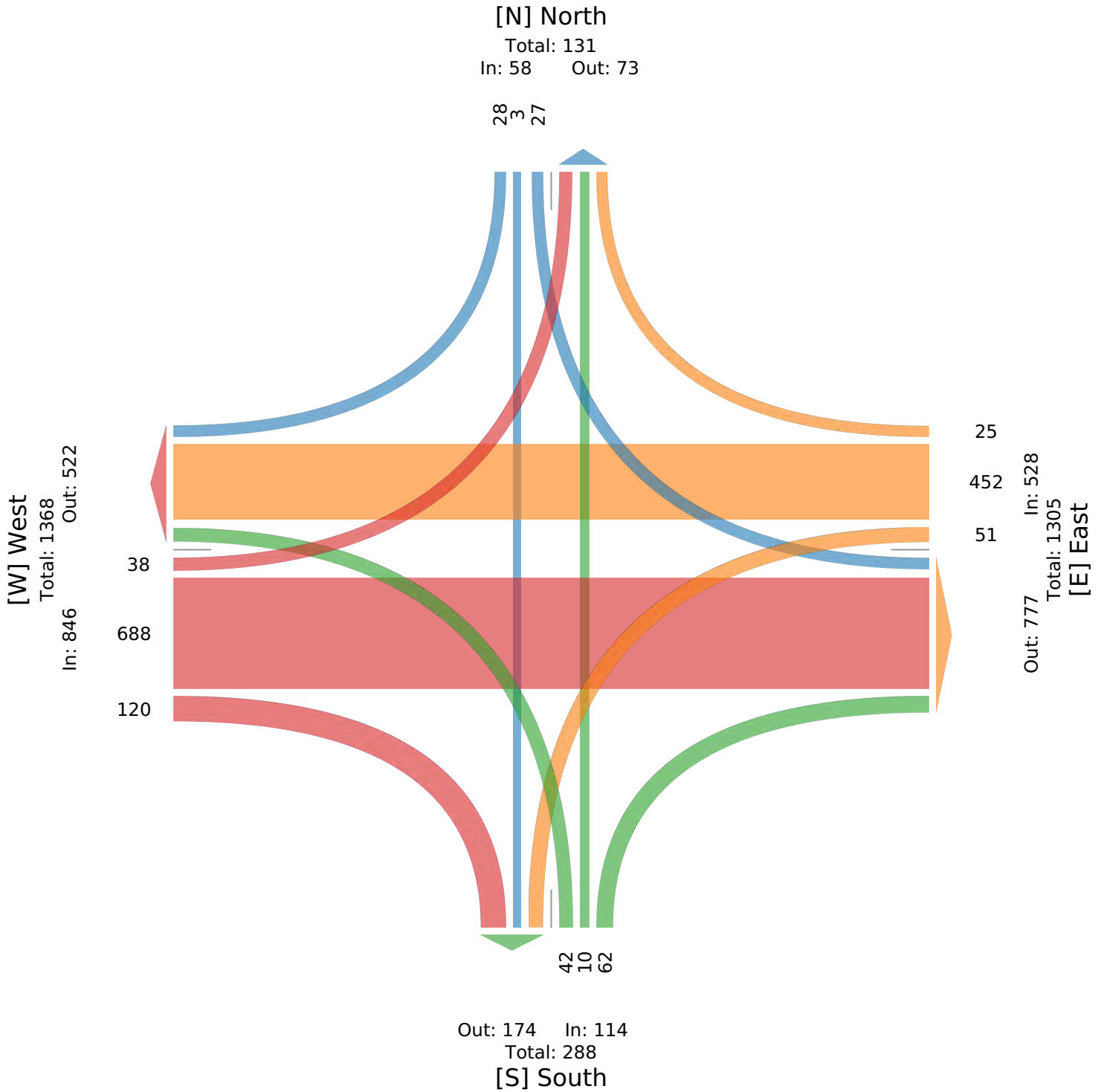
All Movements

ID: 807915, Location: 39.718683, -86.355034



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



PLAINFIELD COMMONS DRIVE & US 40 - TMC

Wed Jan 6, 2021

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807915, Location: 39.718683, -86.355034



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2021-01-06 4:30PM	40	7	29	0	76	18	3	25	0	46	20	208	42	0	270	32	282	21	2	337	729
4:45PM	54	9	32	0	95	12	8	21	0	41	24	238	51	2	315	22	245	10	0	277	728
5:00PM	42	8	26	0	76	12	4	24	0	40	16	216	52	1	285	30	292	17	2	341	742
5:15PM	40	8	29	0	77	9	4	27	0	40	13	253	49	1	316	23	269	12	0	304	737
<b>Total</b>	176	32	116	0	324	51	19	97	0	167	73	915	194	4	1186	107	1088	60	4	1259	2936
<b>% Approach</b>	54.3%	9.9%	35.8%	0%	-	30.5%	11.4%	58.1%	0%	-	6.2%	77.2%	16.4%	0.3%	-	8.5%	86.4%	4.8%	0.3%	-	-
<b>% Total</b>	6.0%	1.1%	4.0%	0%	11.0%	1.7%	0.6%	3.3%	0%	5.7%	2.5%	31.2%	6.6%	0.1%	40.4%	3.6%	37.1%	2.0%	0.1%	42.9%	-
<b>PHF</b>	0.815	0.889	0.906	-	0.853	0.708	0.594	0.898	-	0.908	0.760	0.904	0.933	0.500	0.938	0.836	0.932	0.714	0.500	0.923	0.989
<b>Lights and Motorcycles</b>	176	32	115	0	323	51	18	97	0	166	73	884	194	4	1155	107	1073	58	4	1242	2886
<b>% Lights and Motorcycles</b>	100%	100%	99.1%	0%	99.7%	100%	94.7%	100%	0%	99.4%	100%	96.6%	100%	100%	97.4%	100%	98.6%	96.7%	100%	98.6%	98.3%
<b>Heavy</b>	0	0	1	0	1	0	1	0	0	1	0	31	0	0	31	0	15	2	0	17	50
<b>% Heavy</b>	0%	0%	0.9%	0%	0.3%	0%	5.3%	0%	0%	0.6%	0%	3.4%	0%	0%	2.6%	0%	1.4%	3.3%	0%	1.4%	1.7%

\*L: Left, R: Right, T: Thru, U: U-Turn

PLAINFIELD COMMONS DRIVE & US 40 - TMC

Wed Jan 6, 2021

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

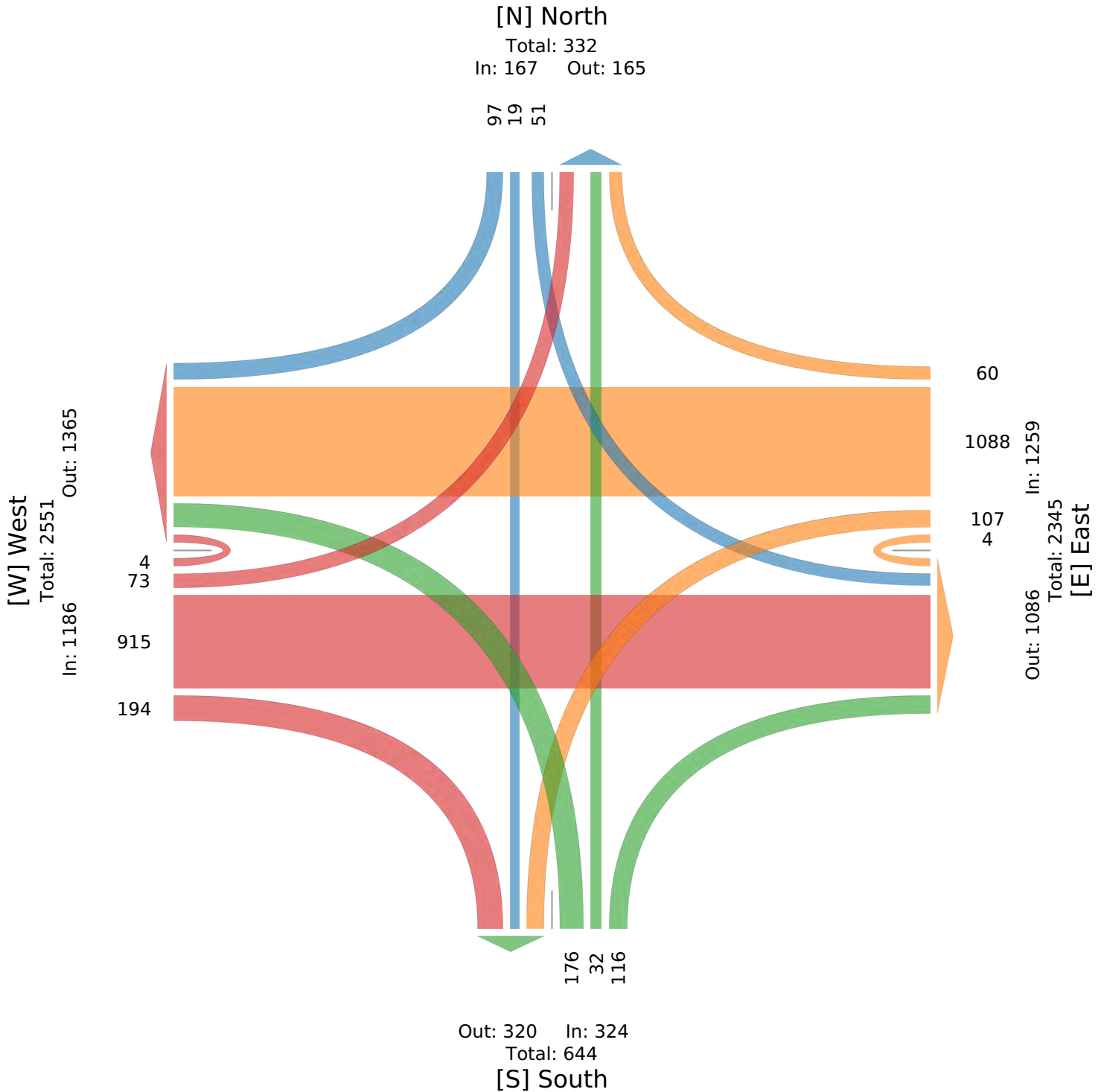
All Movements

ID: 807915, Location: 39.718683, -86.355034



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



HCM 6th Signalized Intersection Summary  
 4: Plainfield Commons Drive & US 40

Existing AM PEAK  
 04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	929	162	69	610	34	57	14	84	36	4	38
Future Volume (veh/h)	51	929	162	69	610	34	57	14	84	36	4	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1826	1885	1870	1856	1900	1826	1900	1900	1796	1900	1900
Adj Flow Rate, veh/h	55	1010	176	75	663	37	62	15	91	39	4	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	5	1	2	3	0	5	0	0	7	0	0
Cap, veh/h	484	1472	678	361	1544	705	94	243	341	69	17	169
Arrive On Green	0.07	0.42	0.42	0.08	0.44	0.44	0.05	0.13	0.13	0.04	0.11	0.11
Sat Flow, veh/h	1810	3469	1598	1781	3526	1610	1739	1900	1610	1711	145	1487
Grp Volume(v), veh/h	55	1010	176	75	663	37	62	15	91	39	0	45
Grp Sat Flow(s),veh/h/ln	1810	1735	1598	1781	1763	1610	1739	1900	1610	1711	0	1632
Q Serve(g_s), s	0.9	13.9	4.2	1.3	7.6	0.8	2.1	0.4	2.8	1.3	0.0	1.5
Cycle Q Clear(g_c), s	0.9	13.9	4.2	1.3	7.6	0.8	2.1	0.4	2.8	1.3	0.0	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.91
Lane Grp Cap(c), veh/h	484	1472	678	361	1544	705	94	243	341	69	0	186
V/C Ratio(X)	0.11	0.69	0.26	0.21	0.43	0.05	0.66	0.06	0.27	0.57	0.00	0.24
Avail Cap(c_a), veh/h	571	2481	1143	454	2581	1179	326	453	519	204	0	278
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	13.7	10.9	9.4	11.4	9.5	27.2	22.5	19.3	27.7	0.0	23.7
Incr Delay (d2), s/veh	0.1	0.6	0.2	0.3	0.2	0.0	7.6	0.1	0.4	7.2	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.8	1.3	0.4	2.6	0.2	1.0	0.2	1.0	0.6	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.3	14.3	11.1	9.6	11.6	9.5	34.8	22.6	19.7	34.9	0.0	24.4
LnGrp LOS	A	B	B	A	B	A	C	C	B	C	A	C
Approach Vol, veh/h	1241			775			168			84		
Approach Delay, s/veh	13.6			11.3			25.6			29.3		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	12.5	8.9	29.9	8.2	11.7	8.1	30.7				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	14.0	8.0	42.0	11.0	10.0	7.0	43.0					
Max Q Clear Time (g_c+1), s	4.8	3.3	15.9	4.1	3.5	2.9	9.6					
Green Ext Time (p_c), s	0.0	0.2	0.1	9.0	0.1	0.1	0.0	5.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	14.3											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary  
4: Plainfield Commons Drive & US 40

Existing PM PEAK  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	1007	213	118	1197	66	194	35	128	56	21	107
Future Volume (veh/h)	80	1007	213	118	1197	66	194	35	128	56	21	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1900	1885	1856	1900	1900	1885	1900	1826	1900
Adj Flow Rate, veh/h	81	1017	215	119	1209	67	196	35	129	57	21	108
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	3	0	0	1	3	0	0	1	0	5	0
Cap, veh/h	295	1504	687	335	1561	685	241	371	447	83	28	144
Arrive On Green	0.08	0.43	0.43	0.08	0.44	0.44	0.13	0.20	0.20	0.05	0.11	0.11
Sat Flow, veh/h	1810	3526	1610	1810	3582	1572	1810	1900	1598	1810	258	1328
Grp Volume(v), veh/h	81	1017	215	119	1209	67	196	35	129	57	0	129
Grp Sat Flow(s),veh/h/ln	1810	1763	1610	1810	1791	1572	1810	1900	1598	1810	0	1587
Q Serve(g_s), s	1.8	17.8	6.8	2.6	22.0	1.9	8.1	1.2	4.8	2.4	0.0	6.0
Cycle Q Clear(g_c), s	1.8	17.8	6.8	2.6	22.0	1.9	8.1	1.2	4.8	2.4	0.0	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.84
Lane Grp Cap(c), veh/h	295	1504	687	335	1561	685	241	371	447	83	0	172
V/C Ratio(X)	0.27	0.68	0.31	0.35	0.77	0.10	0.81	0.09	0.29	0.69	0.00	0.75
Avail Cap(c_a), veh/h	325	1932	882	396	2057	903	401	545	593	189	0	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.6	17.7	14.5	12.6	18.4	12.7	32.3	25.3	21.6	36.0	0.0	33.2
Incr Delay (d2), s/veh	0.5	0.6	0.3	0.6	1.4	0.1	6.5	0.1	0.4	9.6	0.0	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	6.8	2.4	1.0	8.6	0.6	3.9	0.5	1.8	1.2	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	18.3	14.8	13.2	19.8	12.8	38.8	25.4	22.0	45.6	0.0	39.6
LnGrp LOS	B	B	B	B	B	B	D	C	C	D	A	D
Approach Vol, veh/h		1313			1395			360			186	
Approach Delay, s/veh		17.5			18.9			31.5			41.5	
Approach LOS		B			B			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	20.0	10.4	37.7	15.2	13.3	9.8	38.4				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	30	22.0	9.0	42.0	17.0	13.0	7.0	44.0				
Max Q Clear Time (g_c+1), s	14.5	6.8	4.6	19.8	10.1	8.0	3.8	24.0				
Green Ext Time (p_c), s	0.0	0.5	0.1	8.7	0.3	0.2	0.0	9.4				

Intersection Summary

HCM 6th Ctrl Delay		21.0										
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary  
4: Plainfield Commons Drive & US 40

Background AM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	1022	178	76	671	37	63	15	92	40	4	42
Future Volume (veh/h)	56	1022	178	76	671	37	63	15	92	40	4	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1885	1870	1856	1900	1826	1900	1900	1796	1900	1900
Adj Flow Rate, veh/h	61	1111	193	83	729	40	68	16	100	43	4	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	5	1	2	3	0	5	0	0	7	0	0
Cap, veh/h	475	1564	720	347	1633	746	96	230	332	72	14	162
Arrive On Green	0.07	0.45	0.45	0.09	0.46	0.46	0.06	0.12	0.12	0.04	0.11	0.11
Sat Flow, veh/h	1810	3469	1598	1781	3526	1610	1739	1900	1610	1711	130	1500
Grp Volume(v), veh/h	61	1111	193	83	729	40	68	16	100	43	0	50
Grp Sat Flow(s),veh/h/ln	1810	1735	1598	1781	1763	1610	1739	1900	1610	1711	0	1630
Q Serve(g_s), s	1.0	16.3	4.8	1.4	8.8	0.9	2.4	0.5	3.3	1.6	0.0	1.8
Cycle Q Clear(g_c), s	1.0	16.3	4.8	1.4	8.8	0.9	2.4	0.5	3.3	1.6	0.0	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	475	1564	720	347	1633	746	96	230	332	72	0	176
V/C Ratio(X)	0.13	0.71	0.27	0.24	0.45	0.05	0.71	0.07	0.30	0.60	0.00	0.28
Avail Cap(c_a), veh/h	544	2418	1113	393	2457	1122	275	421	494	163	0	258
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.0	14.0	10.8	9.8	11.5	9.3	29.3	24.6	21.2	29.7	0.0	25.9
Incr Delay (d2), s/veh	0.1	0.6	0.2	0.4	0.2	0.0	9.2	0.1	0.5	7.8	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.6	1.5	0.5	3.1	0.3	1.2	0.2	1.2	0.8	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.1	14.6	11.0	10.1	11.7	9.4	38.6	24.7	21.7	37.5	0.0	26.8
LnGrp LOS	A	B	B	B	B	A	D	C	C	D	A	C
Approach Vol, veh/h		1365			852			184				93
Approach Delay, s/veh		13.8			11.4			28.2				31.7
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	12.7	9.4	33.5	8.5	11.8	8.6	34.2				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	14.0	14.0	7.0	44.0	10.0	10.0	7.0	44.0				
Max Q Clear Time (g_c+1), s	13.6	5.3	3.4	18.3	4.4	3.8	3.0	10.8				
Green Ext Time (p_c), s	0.0	0.2	0.0	10.1	0.1	0.1	0.0	6.0				

Intersection Summary

HCM 6th Ctrl Delay		14.7										
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary  
4: Plainfield Commons Drive & US 40

Background PM PEAK  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	1108	234	130	1317	73	213	39	141	62	23	118
Future Volume (veh/h)	88	1108	234	130	1317	73	213	39	141	62	23	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1900	1885	1856	1900	1900	1885	1900	1826	1900
Adj Flow Rate, veh/h	91	1142	241	134	1358	75	220	40	145	64	24	122
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
Percent Heavy Veh, %	0	3	0	0	1	3	0	0	1	0	5	0
Cap, veh/h	256	1559	712	294	1606	705	261	405	465	83	30	152
Arrive On Green	0.07	0.44	0.44	0.08	0.45	0.45	0.14	0.21	0.21	0.05	0.11	0.11
Sat Flow, veh/h	1810	3526	1610	1810	3582	1572	1810	1900	1598	1810	261	1326
Grp Volume(v), veh/h	91	1142	241	134	1358	75	220	40	145	64	0	146
Grp Sat Flow(s),veh/h/ln	1810	1763	1610	1810	1791	1572	1810	1900	1598	1810	0	1587
Q Serve(g_s), s	2.2	23.0	8.5	3.3	29.0	2.4	10.2	1.5	6.1	3.0	0.0	7.7
Cycle Q Clear(g_c), s	2.2	23.0	8.5	3.3	29.0	2.4	10.2	1.5	6.1	3.0	0.0	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.84
Lane Grp Cap(c), veh/h	256	1559	712	294	1606	705	261	405	465	83	0	182
V/C Ratio(X)	0.36	0.73	0.34	0.46	0.85	0.11	0.84	0.10	0.31	0.77	0.00	0.80
Avail Cap(c_a), veh/h	294	1760	804	321	1789	785	378	463	514	189	0	221
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.9	19.8	15.7	15.3	21.1	13.8	35.9	27.2	23.8	40.6	0.0	37.2
Incr Delay (d2), s/veh	0.8	1.4	0.3	1.1	3.6	0.1	10.9	0.1	0.4	13.8	0.0	15.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	9.1	3.0	1.3	12.1	0.8	5.2	0.7	2.3	1.6	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	21.2	16.0	16.4	24.7	13.8	46.8	27.3	24.2	54.5	0.0	53.1
LnGrp LOS	B	C	B	B	C	B	D	C	C	D	A	D
Approach Vol, veh/h		1474			1567			405			210	
Approach Delay, s/veh		20.1			23.5			36.8			53.5	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	23.4	10.7	43.1	17.4	14.9	10.2	43.6				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	21.0	8.0	43.0	18.0	12.0	8.0	43.0					
Max Q Clear Time (g_c+1), s	8.1	5.3	25.0	12.2	9.7	4.2	31.0					
Green Ext Time (p_c), s	0.0	0.5	0.1	8.9	0.3	0.1	7.6					
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					25.4							
HCM 6th LOS					C							

HCM 6th Signalized Intersection Summary  
 4: Plainfield Commons Drive/Williams Trace & US 40

Existing + Proposed AM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑	↗	↘	↗	↘
Traffic Volume (veh/h)	51	952	162	69	664	34	57	14	84	36	4	38
Future Volume (veh/h)	51	952	162	69	664	34	57	14	84	36	4	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1885	1885	1841	1900	1826	1900	1900	1781	1900	1900
Adj Flow Rate, veh/h	55	1035	176	75	722	37	62	15	91	39	4	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	5	1	1	4	0	5	0	0	8	0	0
Cap, veh/h	452	1476	680	349	1533	706	129	244	339	94	16	163
Arrive On Green	0.07	0.43	0.43	0.08	0.44	0.44	0.07	0.13	0.13	0.06	0.11	0.11
Sat Flow, veh/h	1810	3469	1598	1795	3497	1610	1739	1900	1610	1697	145	1487
Grp Volume(v), veh/h	55	1035	176	75	722	37	62	15	91	39	0	45
Grp Sat Flow(s),veh/h/ln	1810	1735	1598	1795	1749	1610	1739	1900	1610	1697	0	1632
Q Serve(g_s), s	1.0	15.0	4.4	1.3	9.0	0.8	2.1	0.4	2.9	1.4	0.0	1.6
Cycle Q Clear(g_c), s	1.0	15.0	4.4	1.3	9.0	0.8	2.1	0.4	2.9	1.4	0.0	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.91
Lane Grp Cap(c), veh/h	452	1476	680	349	1533	706	129	244	339	94	0	178
V/C Ratio(X)	0.12	0.70	0.26	0.22	0.47	0.05	0.48	0.06	0.27	0.42	0.00	0.25
Avail Cap(c_a), veh/h	532	2368	1090	405	2387	1099	311	463	525	193	0	292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.7	14.5	11.4	10.0	12.2	9.9	27.3	23.6	20.3	28.1	0.0	25.1
Incr Delay (d2), s/veh	0.1	0.6	0.2	0.3	0.2	0.0	2.7	0.1	0.4	2.9	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.2	1.4	0.5	3.1	0.3	0.9	0.2	1.1	0.6	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.8	15.1	11.6	10.3	12.5	10.0	30.1	23.7	20.7	31.0	0.0	25.8
LnGrp LOS	A	B	B	B	B	A	C	C	C	C	A	C
Approach Vol, veh/h		1266			834			168				84
Approach Delay, s/veh		14.3			12.2			24.5				28.2
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	12.9	9.1	31.2	9.6	11.7	8.3	32.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	15.0	7.0	42.0	11.0	11.0	7.0	42.0					
Max Q Clear Time (g_c+1), s	4.9	3.3	17.0	4.1	3.6	3.0	11.0					
Green Ext Time (p_c), s	0.0	0.2	0.0	9.1	0.1	0.1	0.0	5.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay												14.8
HCM 6th LOS												B

HCM 6th Signalized Intersection Summary  
 4: Plainfield Commons Drive/Williams Trace & US 40

Existing + Proposed PM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑	↗	↘	↗	↘
Traffic Volume (veh/h)	80	1047	214	118	1242	66	194	35	128	56	21	107
Future Volume (veh/h)	80	1047	214	118	1242	66	194	35	128	56	21	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1900	1885	1856	1900	1900	1885	1900	1826	1900
Adj Flow Rate, veh/h	81	1058	216	119	1255	67	196	35	129	57	21	108
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	3	0	0	1	3	0	0	1	0	5	0
Cap, veh/h	286	1499	685	327	1556	683	240	332	415	117	28	142
Arrive On Green	0.08	0.43	0.43	0.08	0.43	0.43	0.13	0.17	0.17	0.06	0.11	0.11
Sat Flow, veh/h	1810	3526	1610	1810	3582	1572	1810	1900	1598	1810	258	1328
Grp Volume(v), veh/h	81	1058	216	119	1255	67	196	35	129	57	0	129
Grp Sat Flow(s),veh/h/ln	1810	1763	1610	1810	1791	1572	1810	1900	1598	1810	0	1587
Q Serve(g_s), s	1.8	18.7	6.8	2.6	23.1	1.9	8.0	1.2	4.9	2.3	0.0	6.0
Cycle Q Clear(g_c), s	1.8	18.7	6.8	2.6	23.1	1.9	8.0	1.2	4.9	2.3	0.0	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.84
Lane Grp Cap(c), veh/h	286	1499	685	327	1556	683	240	332	415	117	0	169
V/C Ratio(X)	0.28	0.71	0.32	0.36	0.81	0.10	0.82	0.11	0.31	0.49	0.00	0.76
Avail Cap(c_a), veh/h	317	1721	786	389	1843	809	358	451	515	167	0	209
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.0	17.9	14.5	12.9	18.7	12.7	32.0	26.3	22.6	34.2	0.0	32.9
Incr Delay (d2), s/veh	0.5	1.1	0.3	0.7	2.3	0.1	8.8	0.1	0.4	3.1	0.0	12.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	7.2	2.3	1.0	9.2	0.6	4.0	0.5	1.8	1.1	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	19.0	14.7	13.6	21.0	12.7	40.8	26.4	23.0	37.4	0.0	45.0
LnGrp LOS	B	B	B	B	C	B	D	C	C	D	A	D
Approach Vol, veh/h		1355			1441			360			186	
Approach Delay, s/veh		18.1			20.0			33.0			42.7	
Approach LOS		B			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	18.3	10.4	37.2	15.1	13.1	9.7	37.9				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	18.0	9.0	37.0	15.0	10.0	7.0	39.0					
Max Q Clear Time (g_c+1), s	6.9	4.6	20.7	10.0	8.0	3.8	25.1					
Green Ext Time (p_c), s	0.0	0.4	0.1	7.7	0.2	0.1	0.0	7.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					21.9							
HCM 6th LOS					C							

HCM 6th Signalized Intersection Summary  
 4: Plainfield Commons Drive/Williams Trace & US 40

Background + Proposed AM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	1045	178	76	725	37	63	15	92	40	4	42
Future Volume (veh/h)	56	1045	178	76	725	37	63	15	92	40	4	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1885	1885	1841	1900	1826	1900	1900	1781	1900	1900
Adj Flow Rate, veh/h	61	1136	193	83	788	40	68	16	100	43	4	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	5	1	1	4	0	5	0	0	8	0	0
Cap, veh/h	444	1565	721	334	1618	745	131	230	328	98	13	155
Arrive On Green	0.07	0.45	0.45	0.08	0.46	0.46	0.08	0.12	0.12	0.06	0.10	0.10
Sat Flow, veh/h	1810	3469	1598	1795	3497	1610	1739	1900	1610	1697	130	1500
Grp Volume(v), veh/h	61	1136	193	83	788	40	68	16	100	43	0	50
Grp Sat Flow(s),veh/h/ln	1810	1735	1598	1795	1749	1610	1739	1900	1610	1697	0	1630
Q Serve(g_s), s	1.1	17.7	5.0	1.5	10.3	0.9	2.5	0.5	3.5	1.6	0.0	1.9
Cycle Q Clear(g_c), s	1.1	17.7	5.0	1.5	10.3	0.9	2.5	0.5	3.5	1.6	0.0	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	444	1565	721	334	1618	745	131	230	328	98	0	169
V/C Ratio(X)	0.14	0.73	0.27	0.25	0.49	0.05	0.52	0.07	0.30	0.44	0.00	0.30
Avail Cap(c_a), veh/h	506	2307	1062	375	2326	1071	263	373	450	179	0	246
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.6	14.8	11.3	10.5	12.3	9.8	29.4	25.8	22.4	30.1	0.0	27.4
Incr Delay (d2), s/veh	0.1	0.7	0.2	0.4	0.2	0.0	3.1	0.1	0.5	3.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.2	1.6	0.5	3.6	0.3	1.1	0.2	1.3	0.7	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.7	15.5	11.5	10.9	12.6	9.8	32.6	25.9	22.9	33.2	0.0	28.4
LnGrp LOS	A	B	B	B	B	A	C	C	C	C	A	C
Approach Vol, veh/h		1390			911			184				93
Approach Delay, s/veh		14.6			12.3			26.7				30.6
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	13.0	9.5	34.8	10.0	11.8	8.7	35.6				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	13.0	7.0	44.0	10.0	10.0	7.0	44.0					
Max Q Clear Time (g_c+1), s	5.5	3.5	19.7	4.5	3.9	3.1	12.3					
Green Ext Time (p_c), s	0.0	0.2	0.0	10.2	0.1	0.1	0.0	6.5				

Intersection Summary

HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary  
 4: Plainfield Commons Drive/Williams Trace & US 40

Background + Proposed PM PEAK

04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	1148	235	130	1362	73	213	39	141	62	23	118
Future Volume (veh/h)	88	1148	235	130	1362	73	213	39	141	62	23	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1900	1885	1856	1900	1900	1885	1900	1841	1900
Adj Flow Rate, veh/h	89	1160	237	131	1376	74	215	39	142	63	23	119
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	3	0	0	1	3	0	0	1	0	4	0
Cap, veh/h	257	1559	712	296	1607	706	254	356	426	116	29	149
Arrive On Green	0.07	0.44	0.44	0.08	0.45	0.45	0.14	0.19	0.19	0.06	0.11	0.11
Sat Flow, veh/h	1810	3526	1610	1810	3582	1572	1810	1900	1598	1810	259	1340
Grp Volume(v), veh/h	89	1160	237	131	1376	74	215	39	142	63	0	142
Grp Sat Flow(s),veh/h/ln	1810	1763	1610	1810	1791	1572	1810	1900	1598	1810	0	1599
Q Serve(g_s), s	2.1	22.9	8.1	3.1	28.8	2.3	9.7	1.4	6.0	2.8	0.0	7.3
Cycle Q Clear(g_c), s	2.1	22.9	8.1	3.1	28.8	2.3	9.7	1.4	6.0	2.8	0.0	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.84
Lane Grp Cap(c), veh/h	257	1559	712	296	1607	706	254	356	426	116	0	178
V/C Ratio(X)	0.35	0.74	0.33	0.44	0.86	0.10	0.85	0.11	0.33	0.54	0.00	0.80
Avail Cap(c_a), veh/h	276	1725	788	303	1753	770	302	363	432	173	0	191
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.6	19.4	15.3	15.0	20.7	13.4	35.1	28.3	24.7	38.0	0.0	36.3
Incr Delay (d2), s/veh	0.8	1.6	0.3	1.0	4.2	0.1	17.1	0.1	0.5	3.9	0.0	19.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	9.1	2.9	1.2	12.0	0.8	5.4	0.7	2.3	1.4	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.4	21.0	15.6	16.1	24.8	13.4	52.2	28.4	25.2	41.9	0.0	56.1
LnGrp LOS	B	C	B	B	C	B	D	C	C	D	A	E
Approach Vol, veh/h		1486			1581			396			205	
Approach Delay, s/veh		20.0			23.6			40.2			51.8	
Approach LOS		B			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	20.7	10.7	42.0	16.8	14.3	10.1	42.6				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	16.0	7.0	41.0	14.0	10.0	7.0	41.0					
Max Q Clear Time (g_c+1), s	14.8	8.0	5.1	24.9	11.7	9.3	4.1	30.8				
Green Ext Time (p_c), s	0.0	0.4	0.1	8.5	0.1	0.0	0.0	6.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			25.5									
HCM 6th LOS			C									

# *US 40 & PLAINFIELD VILLAGE DRIVE*

## *TRAFFIC VOLUME COUNTS CAPACITY ANALYSIS*

PLAINFIELD VILLAGE DRIVE & US 40 - TMC

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807916, Location: 39.720872, -86.349558



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 6:30AM	0	0	0	0	0	0	0	0	0	0	3	159	0	0	162	1	106	2	0	109	271
6:45AM	0	0	1	0	1	0	0	0	0	0	13	158	1	0	172	2	136	1	0	139	312
Hourly Total	0	0	1	0	1	0	0	0	0	0	16	317	1	0	334	3	242	3	0	248	583
7:00AM	1	0	0	0	1	2	0	1	0	3	2	147	7	0	156	3	99	3	0	105	265
7:15AM	3	0	0	0	3	0	1	0	0	1	6	179	9	0	194	4	126	1	0	131	329
7:30AM	0	0	0	0	0	2	0	1	0	3	14	162	9	0	185	1	136	5	0	142	330
7:45AM	3	0	2	0	5	4	0	4	0	8	31	148	9	0	188	8	173	6	0	187	388
Hourly Total	7	0	2	0	9	8	1	6	0	15	53	636	34	0	723	16	534	15	0	565	1312
8:00AM	2	0	0	0	2	1	0	1	0	2	12	141	6	0	159	5	114	3	0	122	285
8:15AM	3	0	3	0	6	3	1	2	0	6	13	140	12	0	165	7	134	11	0	152	329
8:30AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Hourly Total	5	0	3	0	8	4	1	3	0	8	26	281	18	0	325	12	248	14	0	274	615
4:00PM	5	0	7	0	12	10	0	22	0	32	9	283	5	0	297	4	283	12	0	299	640
4:15PM	4	1	6	0	11	6	0	3	0	9	6	218	5	0	229	4	282	10	0	296	545
4:30PM	17	1	10	0	28	11	0	18	0	29	6	274	3	0	283	4	295	8	0	307	647
4:45PM	4	0	9	0	13	11	1	12	0	24	6	226	10	0	242	4	269	11	0	284	563
Hourly Total	30	2	32	0	64	38	1	55	0	94	27	1001	23	0	1051	16	1129	41	0	1186	2395
5:00PM	15	0	11	0	26	4	0	17	0	21	3	272	13	0	288	4	282	8	0	294	629
5:15PM	5	0	4	0	9	5	0	11	0	16	9	259	7	0	275	4	314	1	0	319	619
5:30PM	5	1	12	0	18	3	0	11	0	14	11	259	6	0	276	4	262	7	0	273	581
5:45PM	6	0	2	0	8	4	0	3	0	7	5	221	2	0	228	5	258	3	0	266	509
Hourly Total	31	1	29	0	61	16	0	42	0	58	28	1011	28	0	1067	17	1116	19	0	1152	2338
6:00PM	6	0	8	0	14	6	0	7	0	13	8	274	3	0	285	1	225	1	0	227	539
6:15PM	2	0	6	0	8	5	0	7	0	12	3	219	3	0	225	2	204	4	0	210	455
6:30PM	3	0	7	0	10	7	1	11	0	19	2	198	2	0	202	1	183	2	0	186	417
6:45PM	4	1	3	0	8	6	1	2	0	9	3	157	3	0	163	2	186	3	0	191	371
Hourly Total	15	1	24	0	40	24	2	27	0	53	16	848	11	0	875	6	798	10	0	814	1782
7:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>88</b>	<b>4</b>	<b>91</b>	<b>0</b>	<b>183</b>	<b>90</b>	<b>5</b>	<b>133</b>	<b>0</b>	<b>228</b>	<b>166</b>	<b>4094</b>	<b>115</b>	<b>0</b>	<b>4375</b>	<b>70</b>	<b>4067</b>	<b>102</b>	<b>0</b>	<b>4239</b>	<b>9025</b>
<b>% Approach</b>	48.1%	2.2%	49.7%	0%	-	39.5%	2.2%	58.3%	0%	-	3.8%	93.6%	2.6%	0%	-	1.7%	95.9%	2.4%	0%	-	-
<b>% Total</b>	1.0%	0%	1.0%	0%	2.0%	1.0%	0.1%	1.5%	0%	2.5%	1.8%	45.4%	1.3%	0%	48.5%	0.8%	45.1%	1.1%	0%	47.0%	-
<b>Lights and Motorcycles</b>	86	4	90	0	180	89	3	132	0	224	165	3950	115	0	4230	69	3979	98	0	4146	8780
<b>% Lights and Motorcycles</b>	97.7%	100%	98.9%	0%	98.4%	98.9%	60.0%	99.2%	0%	98.2%	99.4%	96.5%	100%	0%	96.7%	98.6%	97.8%	96.1%	0%	97.8%	97.3%
<b>Heavy</b>	2	0	1	0	3	1	2	1	0	4	1	144	0	0	145	1	88	4	0	93	245
<b>% Heavy</b>	2.3%	0%	1.1%	0%	1.6%	1.1%	40.0%	0.8%	0%	1.8%	0.6%	3.5%	0%	0%	3.3%	1.4%	2.2%	3.9%	0%	2.2%	2.7%

\*L: Left, R: Right, T: Thru, U: U-Turn

**PLAINFIELD VILLAGE DRIVE & US 40 - TMC**

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

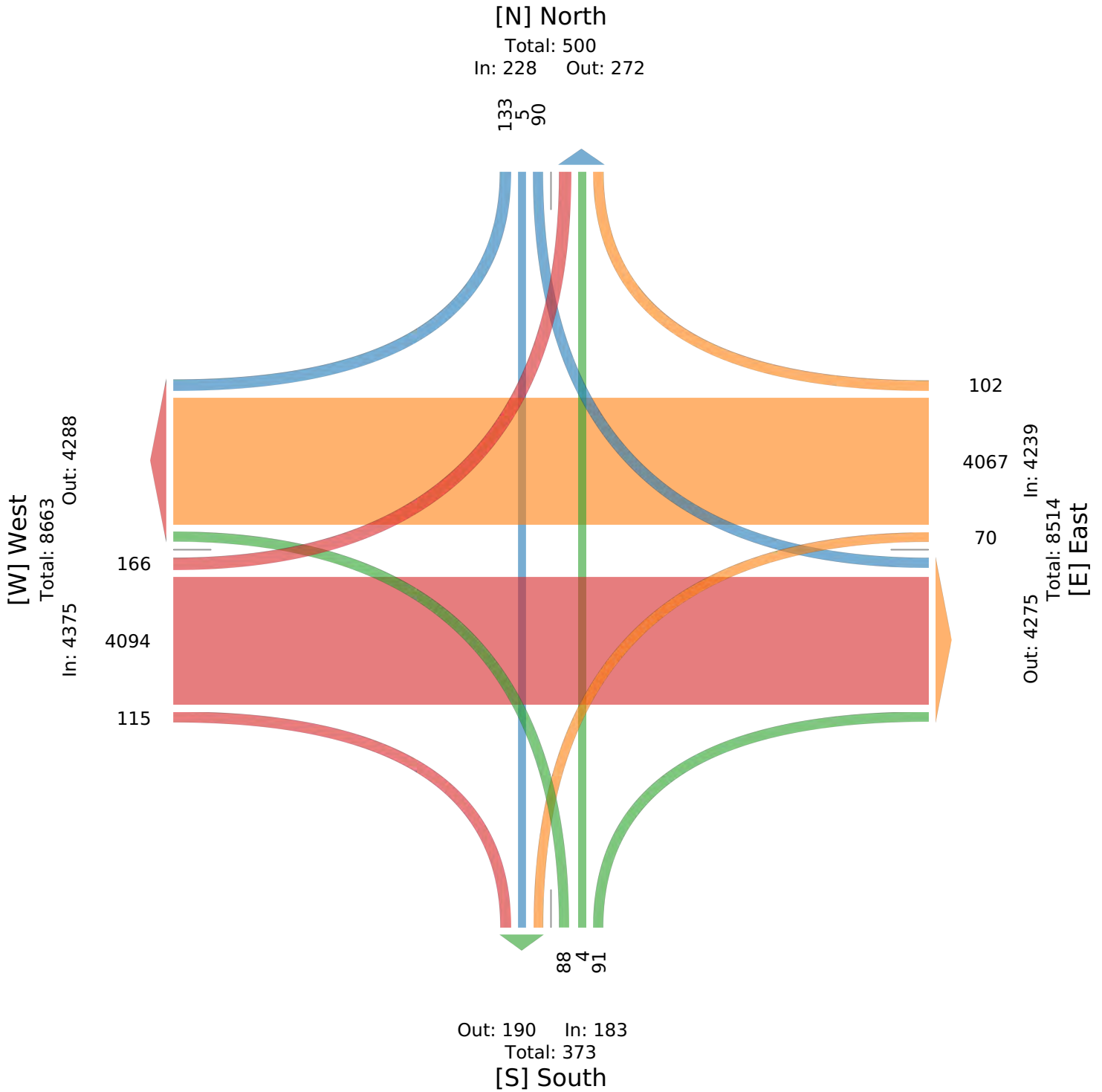
All Movements

ID: 807916, Location: 39.720872, -86.349558



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



PLAINFIELD VILLAGE DRIVE & US 40 - TMC

Wed Jan 6, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807916, Location: 39.720872, -86.349558



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 7:15AM	3	0	0	0	3	0	1	0	0	1	6	179	9	0	194	4	126	1	0	131	329
7:30AM	0	0	0	0	0	2	0	1	0	3	14	162	9	0	185	1	136	5	0	142	330
7:45AM	3	0	2	0	5	4	0	4	0	8	31	148	9	0	188	8	173	6	0	187	388
8:00AM	2	0	0	0	2	1	0	1	0	2	12	141	6	0	159	5	114	3	0	122	285
<b>Total</b>	8	0	2	0	10	7	1	6	0	14	63	630	33	0	726	18	549	15	0	582	1332
<b>% Approach</b>	80.0%	0%	20.0%	0%	-	50.0%	7.1%	42.9%	0%	-	8.7%	86.8%	4.5%	0%	-	3.1%	94.3%	2.6%	0%	-	-
<b>% Total</b>	0.6%	0%	0.2%	0%	0.8%	0.5%	0.1%	0.5%	0%	1.1%	4.7%	47.3%	2.5%	0%	54.5%	1.4%	41.2%	1.1%	0%	43.7%	-
<b>PHF</b>	0.667	-	0.250	-	0.500	0.438	0.250	0.375	-	0.438	0.508	0.880	0.917	-	0.936	0.563	0.793	0.625	-	0.778	0.858
<b>Lights and Motorcycles</b>	6	0	2	0	8	7	0	6	0	13	63	599	33	0	695	17	532	15	0	564	1280
<b>% Lights and Motorcycles</b>	75.0%	0%	100%	0%	80.0%	100%	0%	100%	0%	92.9%	100%	95.1%	100%	0%	95.7%	94.4%	96.9%	100%	0%	96.9%	96.1%
<b>Heavy</b>	2	0	0	0	2	0	1	0	0	1	0	31	0	0	31	1	17	0	0	18	52
<b>% Heavy</b>	25.0%	0%	0%	0%	20.0%	0%	100%	0%	0%	7.1%	0%	4.9%	0%	0%	4.3%	5.6%	3.1%	0%	0%	3.1%	3.9%

\*L: Left, R: Right, T: Thru, U: U-Turn

PLAINFIELD VILLAGE DRIVE & US 40 - TMC

Wed Jan 6, 2021

AM Peak (7:15 AM - 8:15 AM)

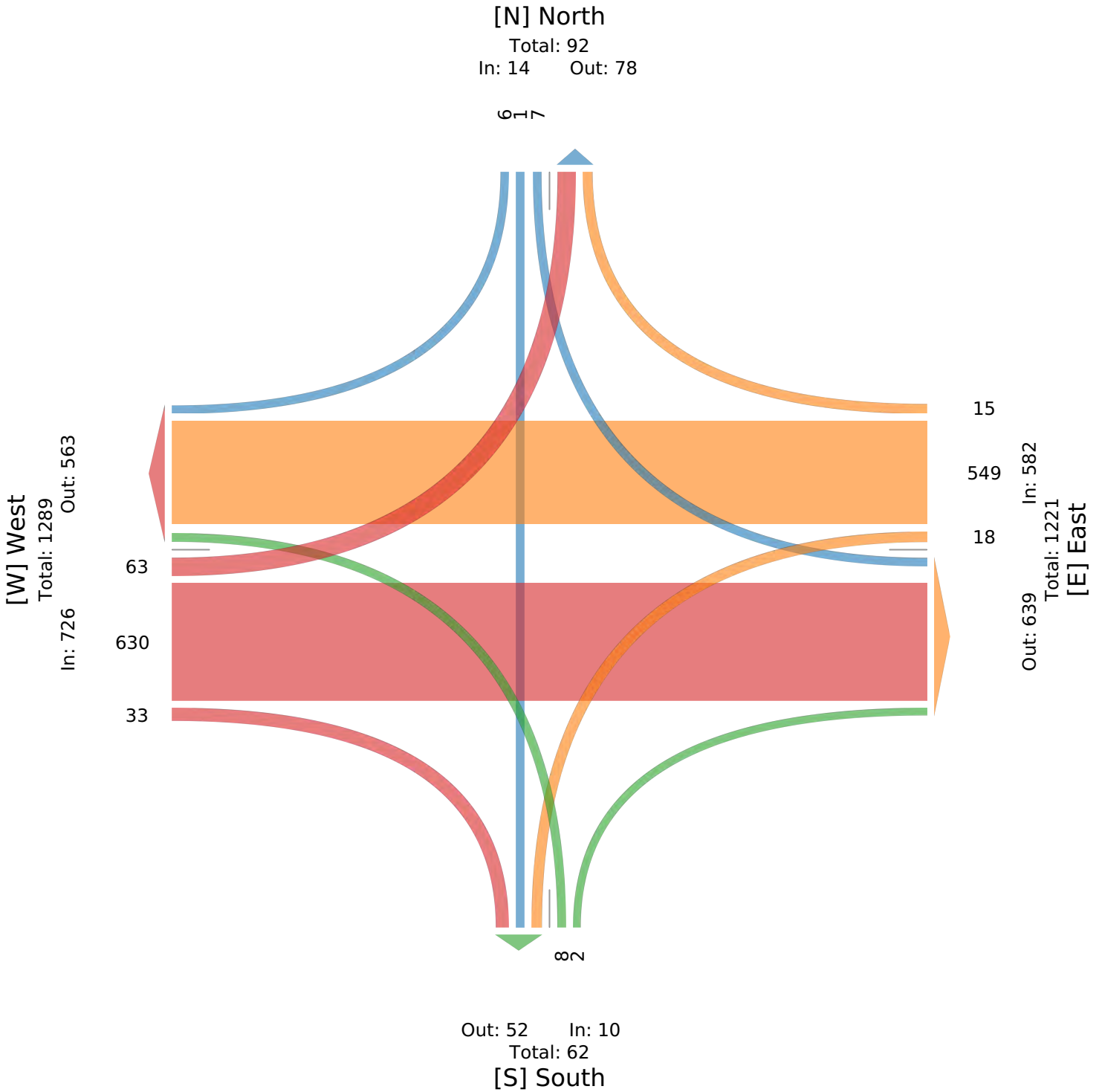
All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807916, Location: 39.720872, -86.349558



Provided by: A&F Engineering  
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



PLAINFIELD VILLAGE DRIVE & US 40 - TMC

Wed Jan 6, 2021

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807916, Location: 39.720872, -86.349558



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 4:30PM	17	1	10	0	28	11	0	18	0	29	6	274	3	0	283	4	295	8	0	307	647
4:45PM	4	0	9	0	13	11	1	12	0	24	6	226	10	0	242	4	269	11	0	284	563
5:00PM	15	0	11	0	26	4	0	17	0	21	3	272	13	0	288	4	282	8	0	294	629
5:15PM	5	0	4	0	9	5	0	11	0	16	9	259	7	0	275	4	314	1	0	319	619
<b>Total</b>	41	1	34	0	76	31	1	58	0	90	24	1031	33	0	1088	16	1160	28	0	1204	2458
<b>% Approach</b>	53.9%	1.3%	44.7%	0%	-	34.4%	1.1%	64.4%	0%	-	2.2%	94.8%	3.0%	0%	-	1.3%	96.3%	2.3%	0%	-	-
<b>% Total</b>	1.7%	0%	1.4%	0%	3.1%	1.3%	0%	2.4%	0%	3.7%	1.0%	41.9%	1.3%	0%	44.3%	0.7%	47.2%	1.1%	0%	49.0%	-
<b>PHF</b>	0.603	0.250	0.773	-	0.679	0.705	0.250	0.806	-	0.776	0.667	0.941	0.635	-	0.944	1.000	0.924	0.636	-	0.944	0.950
<b>Lights and Motorcycles</b>	41	1	34	0	76	31	1	58	0	90	24	1001	33	0	1058	16	1144	28	0	1188	2412
<b>% Lights and Motorcycles</b>	100%	100%	100%	0%	100%	100%	100%	100%	0%	100%	100%	97.1%	100%	0%	97.2%	100%	98.6%	100%	0%	98.7%	98.1%
<b>Heavy</b>	0	0	0	0	0	0	0	0	0	0	0	30	0	0	30	0	16	0	0	16	46
<b>% Heavy</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2.9%	0%	0%	2.8%	0%	1.4%	0%	0%	1.3%	1.9%

\*L: Left, R: Right, T: Thru, U: U-Turn

PLAINFIELD VILLAGE DRIVE & US 40 - TMC

Wed Jan 6, 2021

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

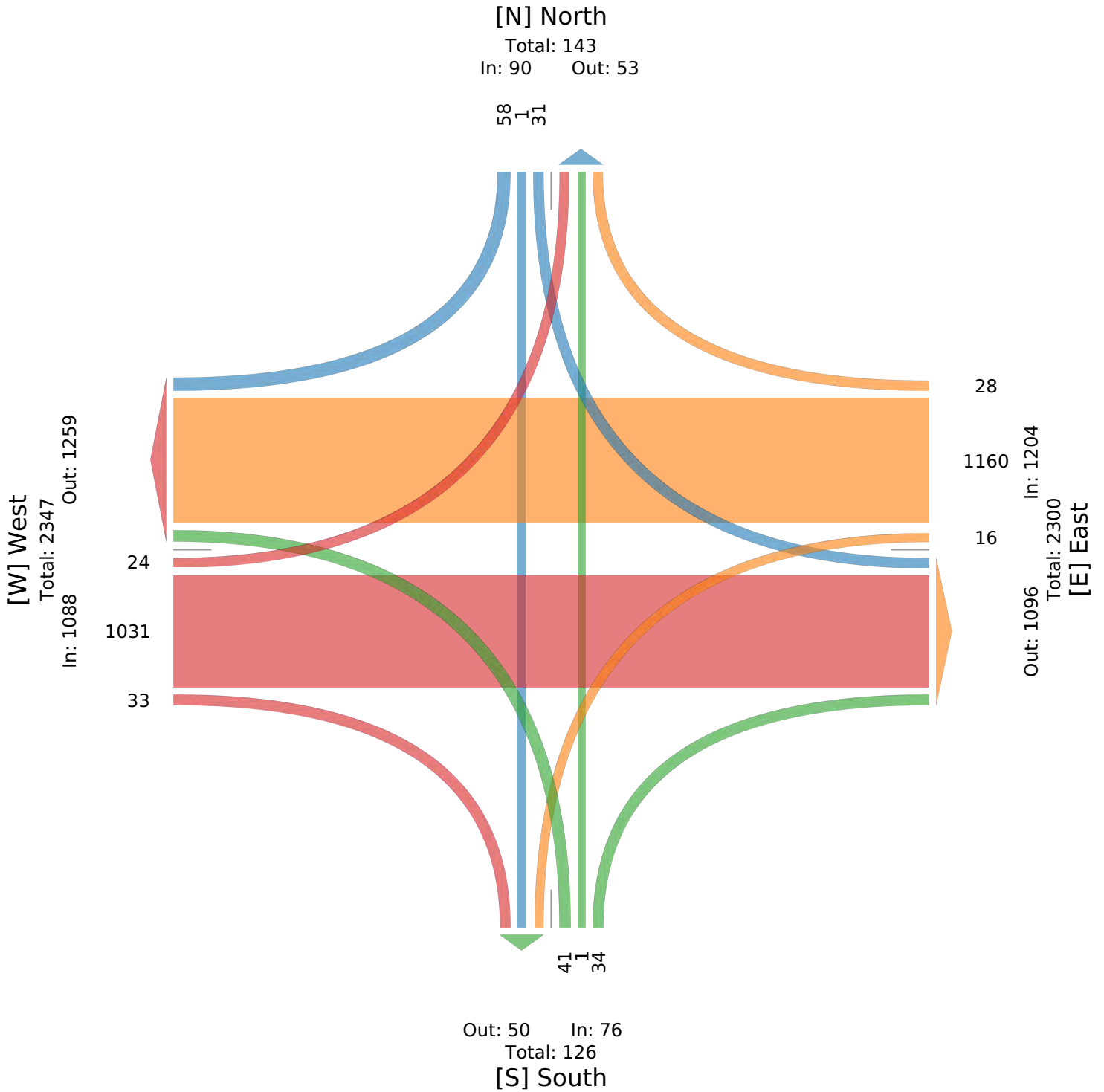
All Movements

ID: 807916, Location: 39.720872, -86.349558



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	851	45	24	741	20	11	0	3	9	1	8
Future Vol, veh/h	85	851	45	24	741	20	11	0	3	9	1	8
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	100	-	0	100	-	30	-	-	30	195	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	5	0	6	3	0	25	0	0	0	100	0
Mvmt Flow	99	990	52	28	862	23	13	0	3	10	1	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	885	0	0	1042	0	0	1676	2129	495	1611	2158	431
Stage 1	-	-	-	-	-	-	1188	1188	-	918	918	-
Stage 2	-	-	-	-	-	-	488	941	-	693	1240	-
Critical Hdwy	4.1	-	-	4.22	-	-	8	6.5	6.9	7.5	8.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	7	5.5	-	6.5	7.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7	5.5	-	6.5	7.5	-
Follow-up Hdwy	2.2	-	-	2.26	-	-	3.75	4	3.3	3.5	5	3.3
Pot Cap-1 Maneuver	773	-	-	640	-	-	49	50	525	71	14	578
Stage 1	-	-	-	-	-	-	166	264	-	296	188	-
Stage 2	-	-	-	-	-	-	474	345	-	405	114	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	773	-	-	640	-	-	41	42	525	62	12	578
Mov Cap-2 Maneuver	-	-	-	-	-	-	108	124	-	159	51	-
Stage 1	-	-	-	-	-	-	145	230	-	258	180	-
Stage 2	-	-	-	-	-	-	443	330	-	351	99	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.3			36.2			24.1		
HCM LOS							E			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	108	525	773	-	-	640	-	-	159	269
HCM Lane V/C Ratio	0.118	0.007	0.128	-	-	0.044	-	-	0.066	0.039
HCM Control Delay (s)	42.8	11.9	10.3	-	-	10.9	-	-	29.2	18.9
HCM Lane LOS	E	B	B	-	-	B	-	-	D	C
HCM 95th %tile Q(veh)	0.4	0	0.4	-	-	0.1	-	-	0.2	0.1

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗		↖	↗	↙	↗	
Traffic Vol, veh/h	26	1134	36	18	1276	31	45	1	37	34	1	64
Future Vol, veh/h	26	1134	36	18	1276	31	45	1	37	34	1	64
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	100	-	0	100	-	30	-	-	30	195	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	3	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	27	1194	38	19	1343	33	47	1	39	36	1	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1376	0	0	1232	0	0	1958	2662	597	2033	2667	672
Stage 1	-	-	-	-	-	-	1248	1248	-	1381	1381	-
Stage 2	-	-	-	-	-	-	710	1414	-	652	1286	-
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	505	-	-	573	-	-	~ 39	23	451	~ 34	23	403
Stage 1	-	-	-	-	-	-	187	247	-	154	213	-
Stage 2	-	-	-	-	-	-	395	206	-	428	237	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	505	-	-	573	-	-	~ 30	21	451	~ 29	21	403
Mov Cap-2 Maneuver	-	-	-	-	-	-	113	100	-	105	103	-
Stage 1	-	-	-	-	-	-	177	234	-	146	206	-
Stage 2	-	-	-	-	-	-	316	199	-	368	224	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.2			38.8			30		
HCM LOS							E			D		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	113	451	505	-	-	573	-	-	105	386
HCM Lane V/C Ratio	0.429	0.086	0.054	-	-	0.033	-	-	0.341	0.177
HCM Control Delay (s)	58.9	13.7	12.5	-	-	11.5	-	-	56.1	16.3
HCM Lane LOS	F	B	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.8	0.3	0.2	-	-	0.1	-	-	1.3	0.6

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th Signalized Intersection Summary  
5: Plainfield Village Drive & US 40

Existing AM PEAK - Signal  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	851	45	24	741	20	11	0	3	9	1	8
Future Volume (veh/h)	85	851	45	24	741	20	11	0	3	9	1	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1900	1811	1856	1900	1530	1900	1900	1900	418	1900
Adj Flow Rate, veh/h	99	990	52	28	862	23	13	0	3	10	1	9
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	5	0	6	3	0	25	0	0	0	100	0
Cap, veh/h	467	1567	727	351	1376	628	274	0	176	333	4	34
Arrive On Green	0.11	0.45	0.45	0.05	0.39	0.39	0.02	0.00	0.11	0.02	0.10	0.10
Sat Flow, veh/h	1810	3469	1610	1725	3526	1610	1457	0	1610	1810	36	324
Grp Volume(v), veh/h	99	990	52	28	862	23	13	0	3	10	0	10
Grp Sat Flow(s),veh/h/ln	1810	1735	1610	1725	1763	1610	1457	0	1610	1810	0	360
Q Serve(g_s), s	1.3	10.5	0.9	0.4	9.5	0.4	0.4	0.0	0.1	0.2	0.0	1.2
Cycle Q Clear(g_c), s	1.3	10.5	0.9	0.4	9.5	0.4	0.4	0.0	0.1	0.2	0.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.90
Lane Grp Cap(c), veh/h	467	1567	727	351	1376	628	274	0	176	333	0	38
V/C Ratio(X)	0.21	0.63	0.07	0.08	0.63	0.04	0.05	0.00	0.02	0.03	0.00	0.27
Avail Cap(c_a), veh/h	613	3328	1545	524	3235	1477	453	0	403	564	0	90
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.3	10.1	7.4	8.4	11.8	9.0	18.4	0.0	19.1	18.6	0.0	19.8
Incr Delay (d2), s/veh	0.2	0.4	0.0	0.1	0.5	0.0	0.1	0.0	0.0	0.0	0.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.1	0.2	0.1	3.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	10.5	7.5	8.5	12.3	9.1	18.5	0.0	19.1	18.6	0.0	23.5
LnGrp LOS	A	B	A	A	B	A	B	A	B	B	A	C
Approach Vol, veh/h		1141			913			16				20
Approach Delay, s/veh		10.1			12.1			18.6				21.1
Approach LOS		B			B			B				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.9	10.2	6.2	26.7	5.1	10.0	9.1	23.7				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	7.0	12.0	7.0	46.0	7.0	12.0	9.0	44.0				
Max Q Clear Time (g_c+I1), s	2.2	2.1	2.4	12.5	2.4	3.2	3.3	11.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	8.9	0.0	0.0	0.1	7.3				

Intersection Summary

HCM 6th Ctrl Delay				11.1								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary  
5: Plainfield Village Drive & US 40

Existing PM PEAK - Signal  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↗	↖	↖	↗↗	↖	↖	↗		↖	↗	
Traffic Volume (veh/h)	26	1134	36	18	1276	31	45	1	37	34	1	64
Future Volume (veh/h)	26	1134	36	18	1276	31	45	1	37	34	1	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	1194	38	19	1343	33	47	1	39	36	1	67
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	287	1877	857	309	1869	840	286	4	144	307	2	129
Arrive On Green	0.04	0.53	0.53	0.03	0.52	0.52	0.06	0.09	0.09	0.05	0.08	0.08
Sat Flow, veh/h	1810	3526	1610	1810	3582	1610	1810	40	1576	1810	24	1590
Grp Volume(v), veh/h	27	1194	38	19	1343	33	47	0	40	36	0	68
Grp Sat Flow(s),veh/h/ln	1810	1763	1610	1810	1791	1610	1810	0	1616	1810	0	1614
Q Serve(g_s), s	0.4	14.8	0.7	0.3	17.7	0.6	1.4	0.0	1.4	1.1	0.0	2.5
Cycle Q Clear(g_c), s	0.4	14.8	0.7	0.3	17.7	0.6	1.4	0.0	1.4	1.1	0.0	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Lane Grp Cap(c), veh/h	287	1877	857	309	1869	840	286	0	148	307	0	131
V/C Ratio(X)	0.09	0.64	0.04	0.06	0.72	0.04	0.16	0.00	0.27	0.12	0.00	0.52
Avail Cap(c_a), veh/h	417	2746	1254	457	2790	1254	378	0	262	418	0	262
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.7	10.2	6.9	7.9	11.3	7.2	23.2	0.0	26.1	23.6	0.0	27.2
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.1	0.5	0.0	0.3	0.0	1.0	0.2	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.7	0.2	0.1	5.8	0.2	0.6	0.0	0.6	0.5	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.8	10.5	6.9	8.0	11.8	7.2	23.5	0.0	27.0	23.8	0.0	30.3
LnGrp LOS	A	B	A	A	B	A	C	A	C	C	A	C
Approach Vol, veh/h		1259			1395			87				104
Approach Delay, s/veh		10.4			11.6			25.1				28.1
Approach LOS		B			B			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	10.6	5.9	37.8	7.9	10.0	6.6	37.2				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	7.0	10.0	7.0	48.0	7.0	10.0	7.0	48.0				
Max Q Clear Time (g_c+I1), s	3.1	3.4	2.3	16.8	3.4	4.5	2.4	19.7				
Green Ext Time (p_c), s	0.0	0.1	0.0	11.1	0.0	0.1	0.0	12.5				

Intersection Summary

HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗		↙	↗	↙	↗	
Traffic Vol, veh/h	94	936	50	26	815	22	12	0	3	10	1	9
Future Vol, veh/h	94	936	50	26	815	22	12	0	3	10	1	9
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	100	-	0	100	-	30	-	-	30	195	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	5	0	6	3	0	25	0	0	0	100	0
Mvmt Flow	109	1088	58	30	948	26	14	0	3	12	1	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	974	0	0	1146	0	0	1841	2340	544	1770	2372	474
Stage 1	-	-	-	-	-	-	1306	1306	-	1008	1008	-
Stage 2	-	-	-	-	-	-	535	1034	-	762	1364	-
Critical Hdwy	4.1	-	-	4.22	-	-	8	6.5	6.9	7.5	8.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	7	5.5	-	6.5	7.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7	5.5	-	6.5	7.5	-
Follow-up Hdwy	2.2	-	-	2.26	-	-	3.75	4	3.3	3.5	5	3.3
Pot Cap-1 Maneuver	716	-	-	583	-	-	36	37	488	54	9	542
Stage 1	-	-	-	-	-	-	139	232	-	261	164	-
Stage 2	-	-	-	-	-	-	442	312	-	368	94	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	716	-	-	583	-	-	29	30	488	46	7	542
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	101	-	133	37	-
Stage 1	-	-	-	-	-	-	118	197	-	221	156	-
Stage 2	-	-	-	-	-	-	408	296	-	310	80	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.3			45.3			28.1		
HCM LOS							E			D		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	88	488	716	-	-	583	-	-	133	229
HCM Lane V/C Ratio	0.159	0.007	0.153	-	-	0.052	-	-	0.087	0.051
HCM Control Delay (s)	53.5	12.4	10.9	-	-	11.5	-	-	34.6	21.6
HCM Lane LOS	F	B	B	-	-	B	-	-	D	C
HCM 95th %tile Q(veh)	0.5	0	0.5	-	-	0.2	-	-	0.3	0.2

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘		↖	↗	↘	↖	↗
Traffic Vol, veh/h	29	1247	40	20	1404	34	50	1	41	37	1	70
Future Vol, veh/h	29	1247	40	20	1404	34	50	1	41	37	1	70
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	100	-	0	100	-	30	-	-	30	195	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	3	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	31	1313	42	21	1478	36	53	1	43	39	1	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1514	0	0	1355	0	0	2157	2931	657	2239	2937	739
Stage 1	-	-	-	-	-	-	1375	1375	-	1520	1520	-
Stage 2	-	-	-	-	-	-	782	1556	-	719	1417	-
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	447	-	-	514	-	-	~ 27	15	412	~ 24	15	364
Stage 1	-	-	-	-	-	-	156	215	-	127	183	-
Stage 2	-	-	-	-	-	-	358	176	-	390	205	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	447	-	-	514	-	-	~ 20	13	412	~ 20	13	364
Mov Cap-2 Maneuver	-	-	-	-	-	-	91	80	-	85	85	-
Stage 1	-	-	-	-	-	-	145	200	-	118	175	-
Stage 2	-	-	-	-	-	-	272	169	-	323	191	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.2			56.6			39.1		
HCM LOS							F			E		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	91	412	447	-	-	514	-	-	85	348
HCM Lane V/C Ratio	0.59	0.105	0.068	-	-	0.041	-	-	0.458	0.215
HCM Control Delay (s)	90.2	14.8	13.6	-	-	12.3	-	-	79.1	18.2
HCM Lane LOS	F	B	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	2.7	0.3	0.2	-	-	0.1	-	-	1.9	0.8

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th Signalized Intersection Summary  
5: Plainfield Village Drive & US 40

Background AM PEAK - Signal  
04/29/2021



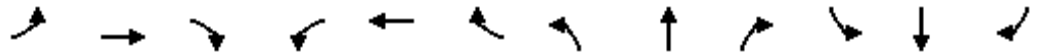
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	936	50	26	815	22	12	0	3	10	1	9
Future Volume (veh/h)	94	936	50	26	815	22	12	0	3	10	1	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1826	1900	1811	1856	1900	1530	1900	1900	1900	418	1900
Adj Flow Rate, veh/h	109	1088	58	30	948	26	14	0	3	12	1	10
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	5	0	6	3	0	25	0	0	0	100	0
Cap, veh/h	434	1614	749	319	1438	657	286	0	214	358	4	42
Arrive On Green	0.10	0.47	0.47	0.05	0.41	0.41	0.02	0.00	0.13	0.02	0.13	0.13
Sat Flow, veh/h	1810	3469	1610	1725	3526	1610	1457	0	1610	1810	33	327
Grp Volume(v), veh/h	109	1088	58	30	948	26	14	0	3	12	0	11
Grp Sat Flow(s),veh/h/ln	1810	1735	1610	1725	1763	1610	1457	0	1610	1810	0	359
Q Serve(g_s), s	1.6	13.2	1.1	0.5	11.8	0.5	0.4	0.0	0.1	0.3	0.0	1.5
Cycle Q Clear(g_c), s	1.6	13.2	1.1	0.5	11.8	0.5	0.4	0.0	0.1	0.3	0.0	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.91
Lane Grp Cap(c), veh/h	434	1614	749	319	1438	657	286	0	214	358	0	47
V/C Ratio(X)	0.25	0.67	0.08	0.09	0.66	0.04	0.05	0.00	0.01	0.03	0.00	0.24
Avail Cap(c_a), veh/h	480	2957	1372	494	3070	1402	440	0	328	554	0	73
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	11.2	8.0	9.2	12.9	9.6	19.5	0.0	20.3	19.6	0.0	21.1
Incr Delay (d2), s/veh	0.3	0.5	0.0	0.1	0.5	0.0	0.1	0.0	0.0	0.0	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.2	0.3	0.2	4.0	0.2	0.1	0.0	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	11.7	8.0	9.3	13.5	9.6	19.6	0.0	20.4	19.6	0.0	23.6
LnGrp LOS	A	B	A	A	B	A	B	A	C	B	A	C
Approach Vol, veh/h		1255			1004			17				23
Approach Delay, s/veh		11.3			13.2			19.7				21.5
Approach LOS		B			B			B				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.2	12.2	6.5	30.1	5.3	12.0	9.6	27.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	7.0	11.0	8.0	46.0	7.0	11.0	7.0	47.0				
Max Q Clear Time (g_c+I1), s	2.3	2.1	2.5	15.2	2.4	3.5	3.6	13.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	9.9	0.0	0.0	0.1	8.3				

Intersection Summary

HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary  
5: Plainfield Village Drive & US 40

Background PM PEAK - Signal  
04/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	29	1247	40	20	1404	34	50	1	41	37	1	70
Future Volume (veh/h)	29	1247	40	20	1404	34	50	1	41	37	1	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	31	1313	42	21	1478	36	53	1	43	39	1	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	258	1941	886	278	1930	868	291	4	173	314	2	157
Arrive On Green	0.05	0.55	0.55	0.03	0.54	0.54	0.06	0.11	0.11	0.05	0.10	0.10
Sat Flow, veh/h	1810	3526	1610	1810	3582	1610	1810	37	1579	1810	22	1592
Grp Volume(v), veh/h	31	1313	42	21	1478	36	53	0	44	39	0	75
Grp Sat Flow(s),veh/h/ln	1810	1763	1610	1810	1791	1610	1810	0	1616	1810	0	1613
Q Serve(g_s), s	0.5	18.9	0.9	0.4	23.0	0.7	1.8	0.0	1.8	1.3	0.0	3.1
Cycle Q Clear(g_c), s	0.5	18.9	0.9	0.4	23.0	0.7	1.8	0.0	1.8	1.3	0.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Lane Grp Cap(c), veh/h	258	1941	886	278	1930	868	291	0	177	314	0	159
V/C Ratio(X)	0.12	0.68	0.05	0.08	0.77	0.04	0.18	0.00	0.25	0.12	0.00	0.47
Avail Cap(c_a), veh/h	355	2483	1134	396	2523	1134	353	0	182	397	0	182
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.3	11.4	7.4	9.0	12.9	7.7	25.7	0.0	28.9	26.1	0.0	30.2
Incr Delay (d2), s/veh	0.2	0.5	0.0	0.1	1.1	0.0	0.3	0.0	0.7	0.2	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	6.4	0.3	0.1	8.1	0.2	0.8	0.0	0.7	0.6	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.5	11.9	7.4	9.1	13.9	7.7	26.0	0.0	29.7	26.3	0.0	32.4
LnGrp LOS	B	B	A	A	B	A	C	A	C	C	A	C
Approach Vol, veh/h		1386			1535			97			114	
Approach Delay, s/veh		11.8			13.7			27.7			30.3	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	12.8	6.4	44.1	8.5	12.0	7.2	43.3				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	7.0	8.0	7.0	50.0	7.0	8.0	7.0	50.0				
Max Q Clear Time (g_c+I1), s	3.3	3.8	2.4	20.9	3.8	5.1	2.5	25.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	12.3	0.0	0.1	0.0	13.3				

Intersection Summary

HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖	↖↖	↖		↖	↖	↖	↖	↖
Traffic Vol, veh/h	85	874	45	24	758	114	11	0	3	51	1	45
Future Vol, veh/h	85	874	45	24	758	114	11	0	3	51	1	45
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	100	-	0	100	-	30	-	-	30	195	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	5	0	4	3	4	27	0	0	0	100	4
Mvmt Flow	99	1016	52	28	881	133	13	0	3	59	1	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1014	0	0	1068	0	0	1711	2284	508	1643	2203	441
Stage 1	-	-	-	-	-	-	1214	1214	-	937	937	-
Stage 2	-	-	-	-	-	-	497	1070	-	706	1266	-
Critical Hdwy	4.1	-	-	4.18	-	-	8.04	6.5	6.9	7.5	8.5	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	7.04	5.5	-	6.5	7.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.04	5.5	-	6.5	7.5	-
Follow-up Hdwy	2.2	-	-	2.24	-	-	3.77	4	3.3	3.5	5	3.34
Pot Cap-1 Maneuver	692	-	-	637	-	-	45	40	515	67	13	559
Stage 1	-	-	-	-	-	-	157	257	-	289	183	-
Stage 2	-	-	-	-	-	-	463	300	-	397	109	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	692	-	-	637	-	-	34	33	515	~ 57	11	559
Mov Cap-2 Maneuver	-	-	-	-	-	-	98	107	-	151	47	-
Stage 1	-	-	-	-	-	-	135	220	-	248	175	-
Stage 2	-	-	-	-	-	-	399	287	-	338	93	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.3			39.7			29.5		
HCM LOS							E			D		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	98	515	692	-	-	637	-	-	151	452
HCM Lane V/C Ratio	0.131	0.007	0.143	-	-	0.044	-	-	0.393	0.118
HCM Control Delay (s)	47.2	12	11.1	-	-	10.9	-	-	43.5	14
HCM Lane LOS	E	B	B	-	-	B	-	-	E	B
HCM 95th %tile Q(veh)	0.4	0	0.5	-	-	0.1	-	-	1.7	0.4

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↘	↙	↕	↘		↕	↘	↙	↘	
Traffic Vol, veh/h	26	1174	36	18	1298	167	45	1	37	73	1	87
Future Vol, veh/h	26	1174	36	18	1298	167	45	1	37	73	1	87
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	100	-	0	100	-	30	-	-	30	195	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	3	0	0	1	1	0	0	0	0	0	0
Mvmt Flow	27	1236	38	19	1366	176	47	1	39	77	1	92

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1542	0	0	1274	0	0	2012	2870	618	2077	2732	683
Stage 1	-	-	-	-	-	-	1290	1290	-	1404	1404	-
Stage 2	-	-	-	-	-	-	722	1580	-	673	1328	-
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	436	-	-	552	-	-	~ 35	17	437	~ 32	21	396
Stage 1	-	-	-	-	-	-	176	236	-	149	208	-
Stage 2	-	-	-	-	-	-	389	171	-	416	226	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	436	-	-	552	-	-	~ 25	15	437	~ 27	19	396
Mov Cap-2 Maneuver	-	-	-	-	-	-	103	84	-	100	99	-
Stage 1	-	-	-	-	-	-	165	221	-	140	201	-
Stage 2	-	-	-	-	-	-	287	165	-	354	212	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			44.4			60.3		
HCM LOS							E			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	102	437	436	-	-	552	-	-	100	383
HCM Lane V/C Ratio	0.475	0.089	0.063	-	-	0.034	-	-	0.768	0.242
HCM Control Delay (s)	68.8	14	13.8	-	-	11.8	-	-	112	17.4
HCM Lane LOS	F	B	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	2.1	0.3	0.2	-	-	0.1	-	-	4.1	0.9

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↘	↗	↘		↗	↘	↘	↗	
Traffic Vol, veh/h	94	959	50	26	832	116	12	0	3	52	1	46
Future Vol, veh/h	94	959	50	26	832	116	12	0	3	52	1	46
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	100	-	0	100	-	30	-	-	30	195	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	5	0	4	3	3	25	0	0	0	100	4
Mvmt Flow	109	1115	58	30	967	135	14	0	3	60	1	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1102	0	0	1173	0	0	1877	2495	558	1803	2418	484
Stage 1	-	-	-	-	-	-	1333	1333	-	1027	1027	-
Stage 2	-	-	-	-	-	-	544	1162	-	776	1391	-
Critical Hdwy	4.1	-	-	4.18	-	-	8	6.5	6.9	7.5	8.5	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	7	5.5	-	6.5	7.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7	5.5	-	6.5	7.5	-
Follow-up Hdwy	2.2	-	-	2.24	-	-	3.75	4	3.3	3.5	5	3.34
Pot Cap-1 Maneuver	641	-	-	580	-	-	34	29	478	~ 51	8	523
Stage 1	-	-	-	-	-	-	133	225	-	255	159	-
Stage 2	-	-	-	-	-	-	437	272	-	361	90	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	641	-	-	580	-	-	25	23	478	~ 42	6	523
Mov Cap-2 Maneuver	-	-	-	-	-	-	80	86	-	127	34	-
Stage 1	-	-	-	-	-	-	110	187	-	212	151	-
Stage 2	-	-	-	-	-	-	369	258	-	297	75	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	1		0.3		50		37.1	
HCM LOS					F		E	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	80	478	641	-	-	580	-	-	127	400
HCM Lane V/C Ratio	0.174	0.007	0.171	-	-	0.052	-	-	0.476	0.137
HCM Control Delay (s)	59.3	12.6	11.8	-	-	11.5	-	-	56.8	15.4
HCM Lane LOS	F	B	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0.6	0	0.6	-	-	0.2	-	-	2.2	0.5

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	7.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘		↖	↗	↘	↖	↗
Traffic Vol, veh/h	29	1287	40	20	1426	170	50	1	41	76	1	93
Future Vol, veh/h	29	1287	40	20	1426	170	50	1	41	76	1	93
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	100	-	0	100	-	30	-	-	30	195	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	3	0	0	1	1	0	0	0	0	0	0
Mvmt Flow	31	1355	42	21	1501	179	53	1	43	80	1	98

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1680	0	0	1397	0	0	2210	3139	678	2283	3002	751
Stage 1	-	-	-	-	-	-	1417	1417	-	1543	1543	-
Stage 2	-	-	-	-	-	-	793	1722	-	740	1459	-
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	386	-	-	496	-	-	~ 25	11	399	~ 22	14	358
Stage 1	-	-	-	-	-	-	147	205	-	122	178	-
Stage 2	-	-	-	-	-	-	352	145	-	379	196	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	386	-	-	496	-	-	~ 16	10	399	~ 18	12	358
Mov Cap-2 Maneuver	-	-	-	-	-	-	82	67	-	80	81	-
Stage 1	-	-	-	-	-	-	135	189	-	112	171	-
Stage 2	-	-	-	-	-	-	243	139	-	309	180	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.2			67.1			96.8		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	82	399	386	-	-	496	-	-	80	345
HCM Lane V/C Ratio	0.655	0.108	0.079	-	-	0.042	-	-	1	0.287
HCM Control Delay (s)	108.9	15.1	15.1	-	-	12.6	-	-	192.3	19.6
HCM Lane LOS	F	C	C	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	3.1	0.4	0.3	-	-	0.1	-	-	5.5	1.2

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

# *SMITH ROAD & PERRY ROAD*

## *TRAFFIC VOLUME COUNTS CAPACITY ANALYSIS*

PERRY RD & SMITH RD - TMC

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807914, Location: 39.720297, -86.361133



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 6:30AM	2	17	2	0	21	19	10	5	0	34	17	56	0	0	73	1	5	4	0	10	138
6:45AM	0	6	0	0	6	20	8	8	0	36	8	44	2	0	54	0	11	9	0	20	116
Hourly Total	2	23	2	0	27	39	18	13	0	70	25	100	2	0	127	1	16	13	0	30	254
7:00AM	0	6	2	0	8	25	7	9	0	41	5	46	0	0	51	1	10	9	0	20	120
7:15AM	4	6	1	0	11	24	6	10	0	40	11	50	1	0	62	1	12	6	0	19	132
7:30AM	1	7	1	0	9	24	9	10	0	43	10	60	0	0	70	0	10	10	0	20	142
7:45AM	0	5	3	0	8	27	10	8	0	45	10	61	2	0	73	0	22	17	0	39	165
Hourly Total	5	24	7	0	36	100	32	37	0	169	36	217	3	0	256	2	54	42	0	98	559
8:00AM	0	6	2	0	8	21	5	9	0	35	12	58	4	0	74	0	10	13	0	23	140
8:15AM	0	6	2	0	8	19	6	9	0	34	5	42	2	0	49	1	26	11	0	38	129
8:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	12	4	0	16	40	11	18	0	69	17	100	6	0	123	1	36	24	0	61	269
4:00PM	4	17	4	0	25	28	18	17	0	63	24	40	3	0	67	3	62	50	0	115	270
4:15PM	6	17	2	0	25	30	17	39	0	86	17	43	3	0	63	1	55	45	0	101	275
4:30PM	10	12	2	0	24	20	24	26	0	70	28	37	1	0	66	2	73	48	0	123	283
4:45PM	10	17	5	0	32	39	26	26	0	91	36	45	7	0	88	0	87	57	0	144	355
Hourly Total	30	63	13	0	106	117	85	108	0	310	105	165	14	0	284	6	277	200	0	483	1183
5:00PM	9	21	4	0	34	41	36	39	0	116	21	49	10	0	80	4	80	57	0	141	371
5:15PM	8	23	2	0	33	49	44	31	0	124	24	52	5	0	81	2	94	57	0	153	391
5:30PM	10	21	4	0	35	39	24	28	0	91	23	54	3	0	80	3	81	69	0	153	359
5:45PM	5	24	2	0	31	35	21	26	0	82	17	54	2	0	73	4	77	56	0	137	323
Hourly Total	32	89	12	0	133	164	125	124	0	413	85	209	20	0	314	13	332	239	0	584	1444
6:00PM	6	10	3	0	19	26	16	20	0	62	16	40	5	0	61	1	60	39	0	100	242
6:15PM	7	20	2	1	30	32	19	18	0	69	14	34	6	0	54	1	56	54	0	111	264
6:30PM	7	12	4	0	23	22	9	17	0	48	20	39	6	0	65	3	61	38	0	102	238
6:45PM	10	7	3	0	20	22	12	17	0	51	16	31	1	0	48	3	35	29	0	67	186
Hourly Total	30	49	12	1	92	102	56	72	0	230	66	144	18	0	228	8	212	160	0	380	930
7:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	99	260	50	1	410	562	327	372	0	1261	334	935	63	0	1332	31	927	678	0	1636	4639
<b>% Approach</b>	24.1%	63.4%	12.2%	0.2%	-	44.6%	25.9%	29.5%	0%	-	25.1%	70.2%	4.7%	0%	-	1.9%	56.7%	41.4%	0%	-	-
<b>% Total</b>	2.1%	5.6%	1.1%	0%	8.8%	12.1%	7.0%	8.0%	0%	27.2%	7.2%	20.2%	1.4%	0%	28.7%	0.7%	20.0%	14.6%	0%	35.3%	-
<b>Lights and Motorcycles</b>	99	258	49	0	406	560	323	372	0	1255	331	929	60	0	1320	28	922	671	0	1621	4602
<b>% Lights and Motorcycles</b>	100%	99.2%	98.0%	0%	99.0%	99.6%	98.8%	100%	0%	99.5%	99.1%	99.4%	95.2%	0%	99.1%	90.3%	99.5%	99.0%	0%	99.1%	99.2%
<b>Heavy</b>	0	2	1	1	4	2	4	0	0	6	3	6	3	0	12	3	5	7	0	15	37
<b>% Heavy</b>	0%	0.8%	2.0%	100%	1.0%	0.4%	1.2%	0%	0%	0.5%	0.9%	0.6%	4.8%	0%	0.9%	9.7%	0.5%	1.0%	0%	0.9%	0.8%

\* L: Left, R: Right, T: Thru, U: U-Turn

PERRY RD & SMITH RD - TMC

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

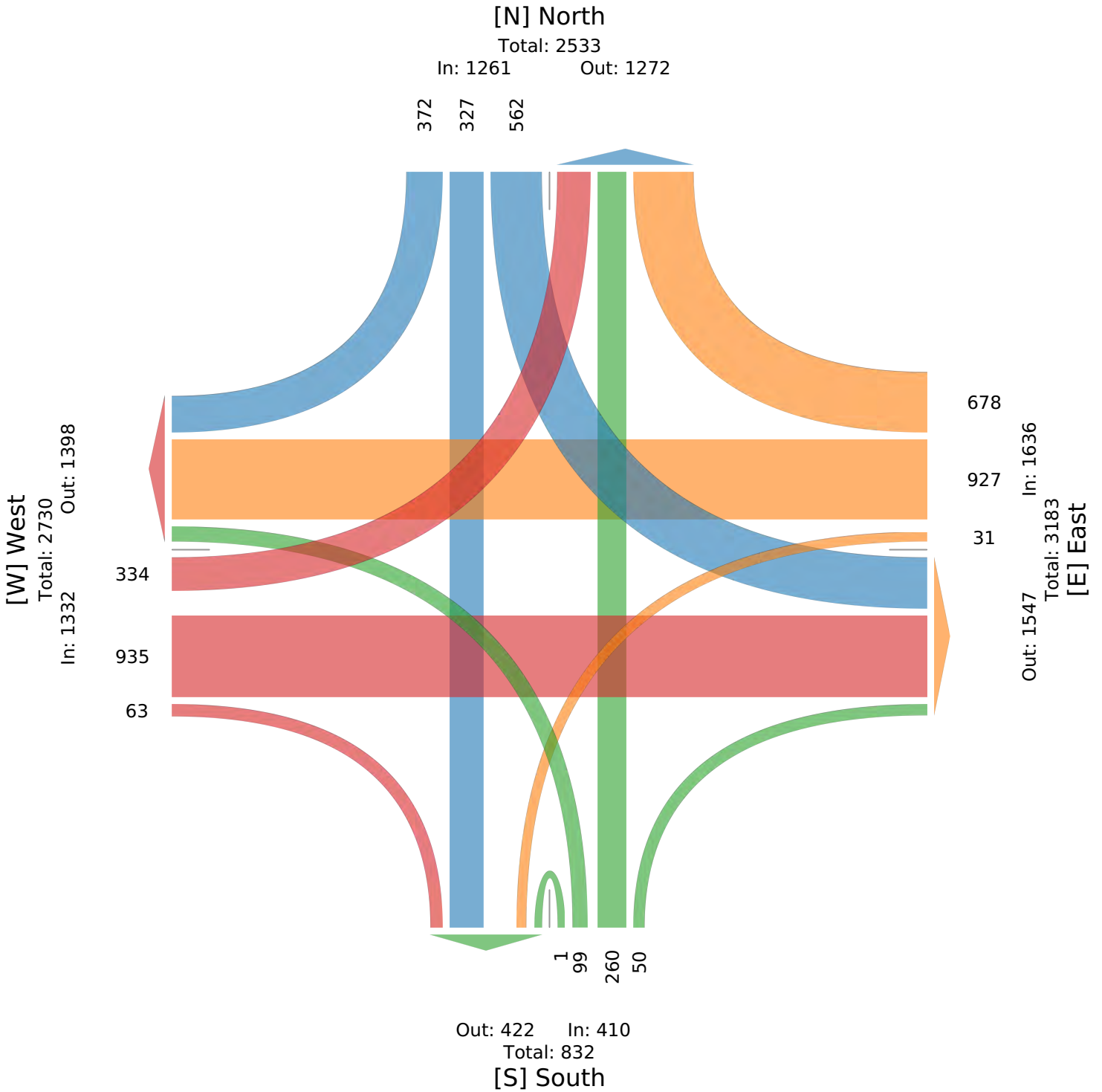
All Movements

ID: 807914, Location: 39.720297, -86.361133



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



PERRY RD & SMITH RD - TMC

Wed Jan 6, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807914, Location: 39.720297, -86.361133



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 7:15AM	4	6	1	0	11	24	6	10	0	40	11	50	1	0	62	1	12	6	0	19	132
7:30AM	1	7	1	0	9	24	9	10	0	43	10	60	0	0	70	0	10	10	0	20	142
7:45AM	0	5	3	0	8	27	10	8	0	45	10	61	2	0	73	0	22	17	0	39	165
8:00AM	0	6	2	0	8	21	5	9	0	35	12	58	4	0	74	0	10	13	0	23	140
<b>Total</b>	5	24	7	0	36	96	30	37	0	163	43	229	7	0	279	1	54	46	0	101	579
<b>% Approach</b>	13.9%	66.7%	19.4%	0%	-	58.9%	18.4%	22.7%	0%	-	15.4%	82.1%	2.5%	0%	-	1.0%	53.5%	45.5%	0%	-	-
<b>% Total</b>	0.9%	4.1%	1.2%	0%	6.2%	16.6%	5.2%	6.4%	0%	28.2%	7.4%	39.6%	1.2%	0%	48.2%	0.2%	9.3%	7.9%	0%	17.4%	-
<b>PHF</b>	0.313	0.857	0.583	-	0.818	0.889	0.750	0.925	-	0.906	0.896	0.939	0.438	-	0.943	0.250	0.614	0.676	-	0.647	0.877
<b>Lights and Motorcycles</b>	5	24	6	0	35	95	29	37	0	161	43	226	6	0	275	1	53	44	0	98	569
<b>% Lights and Motorcycles</b>	100%	100%	85.7%	0%	97.2%	99.0%	96.7%	100%	0%	98.8%	100%	98.7%	85.7%	0%	98.6%	100%	98.1%	95.7%	0%	97.0%	98.3%
<b>Heavy</b>	0	0	1	0	1	1	1	0	0	2	0	3	1	0	4	0	1	2	0	3	10
<b>% Heavy</b>	0%	0%	14.3%	0%	2.8%	1.0%	3.3%	0%	0%	1.2%	0%	1.3%	14.3%	0%	1.4%	0%	1.9%	4.3%	0%	3.0%	1.7%

\*L: Left, R: Right, T: Thru, U: U-Turn

PERRY RD & SMITH RD - TMC

Wed Jan 6, 2021

AM Peak (7:15 AM - 8:15 AM)

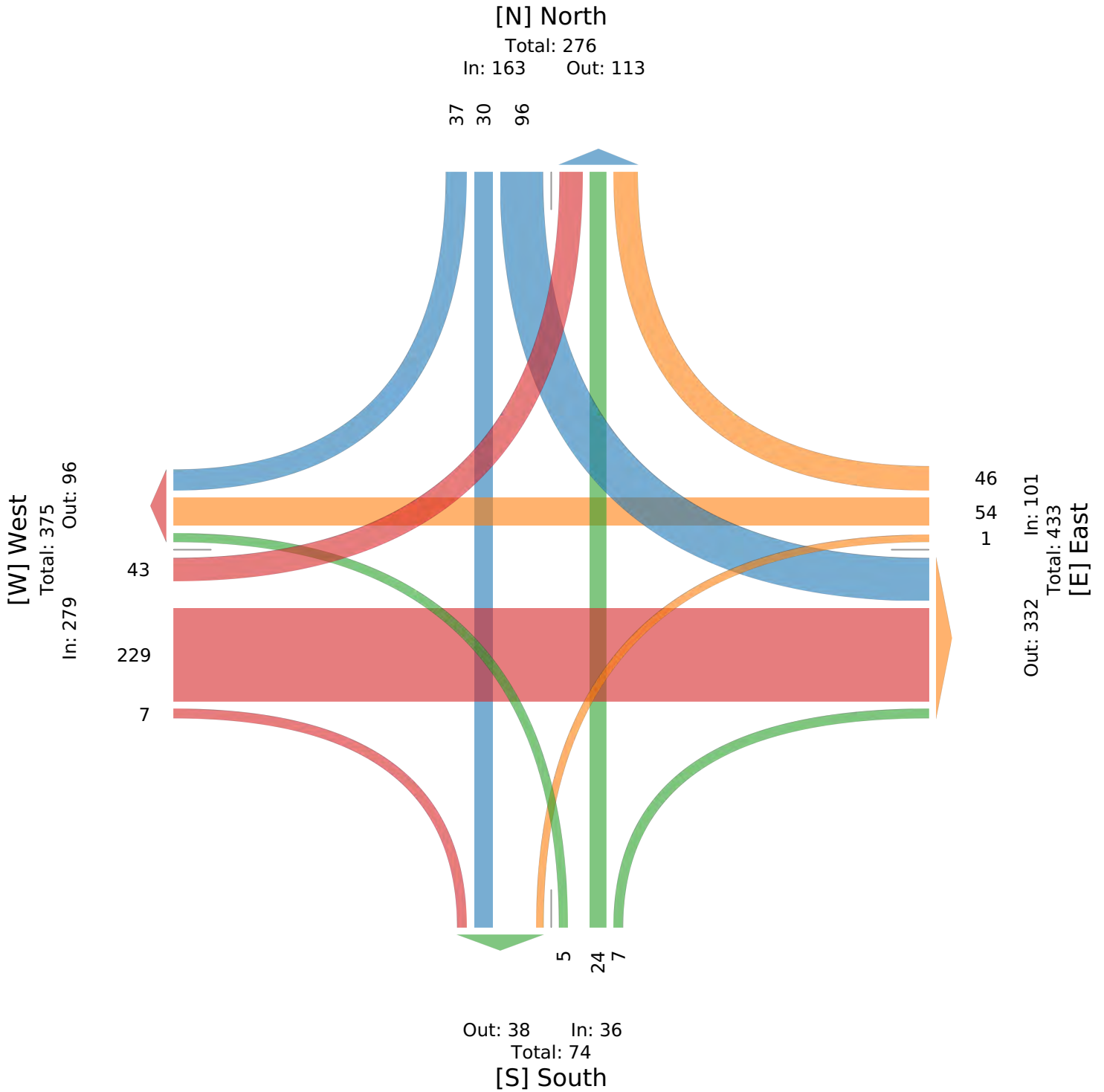
All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807914, Location: 39.720297, -86.361133



Provided by: A&F Engineering  
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



PERRY RD & SMITH RD - TMC

Wed Jan 6, 2021

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807914, Location: 39.720297, -86.361133



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound					North Southbound					West Eastbound					East Westbound					Int
	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	
2021-01-06 4:45PM	10	17	5	0	<b>32</b>	39	26	26	0	<b>91</b>	36	45	7	0	<b>88</b>	0	87	57	0	<b>144</b>	<b>355</b>
5:00PM	9	21	4	0	<b>34</b>	41	36	39	0	<b>116</b>	21	49	10	0	<b>80</b>	4	80	57	0	<b>141</b>	<b>371</b>
5:15PM	8	23	2	0	<b>33</b>	49	44	31	0	<b>124</b>	24	52	5	0	<b>81</b>	2	94	57	0	<b>153</b>	<b>391</b>
5:30PM	10	21	4	0	<b>35</b>	39	24	28	0	<b>91</b>	23	54	3	0	<b>80</b>	3	81	69	0	<b>153</b>	<b>359</b>
<b>Total</b>	<b>37</b>	<b>82</b>	<b>15</b>	<b>0</b>	<b>134</b>	<b>168</b>	<b>130</b>	<b>124</b>	<b>0</b>	<b>422</b>	<b>104</b>	<b>200</b>	<b>25</b>	<b>0</b>	<b>329</b>	<b>9</b>	<b>342</b>	<b>240</b>	<b>0</b>	<b>591</b>	<b>1476</b>
<b>% Approach</b>	27.6%	61.2%	11.2%	0%	-	39.8%	30.8%	29.4%	0%	-	31.6%	60.8%	7.6%	0%	-	1.5%	57.9%	40.6%	0%	-	-
<b>% Total</b>	2.5%	5.6%	1.0%	0%	<b>9.1%</b>	11.4%	8.8%	8.4%	0%	<b>28.6%</b>	7.0%	13.6%	1.7%	0%	<b>22.3%</b>	0.6%	23.2%	16.3%	0%	<b>40.0%</b>	-
<b>PHF</b>	0.925	0.891	0.750	-	<b>0.957</b>	0.857	0.739	0.795	-	<b>0.851</b>	0.722	0.926	0.625	-	<b>0.935</b>	0.563	0.910	0.870	-	<b>0.966</b>	0.944
<b>Lights and Motorcycles</b>	37	81	15	0	<b>133</b>	168	128	124	0	<b>420</b>	104	199	25	0	<b>328</b>	9	341	240	0	<b>590</b>	1471
<b>% Lights and Motorcycles</b>	100%	98.8%	100%	0%	<b>99.3%</b>	100%	98.5%	100%	0%	<b>99.5%</b>	100%	99.5%	100%	0%	<b>99.7%</b>	100%	99.7%	100%	0%	<b>99.8%</b>	99.7%
<b>Heavy</b>	0	1	0	0	<b>1</b>	0	2	0	0	<b>2</b>	0	1	0	0	<b>1</b>	0	1	0	0	<b>1</b>	5
<b>% Heavy</b>	0%	1.2%	0%	0%	<b>0.7%</b>	0%	1.5%	0%	0%	<b>0.5%</b>	0%	0.5%	0%	0%	<b>0.3%</b>	0%	0.3%	0%	0%	<b>0.2%</b>	0.3%

\*L: Left, R: Right, T: Thru, U: U-Turn

**PERRY RD & SMITH RD - TMC**

Wed Jan 6, 2021

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

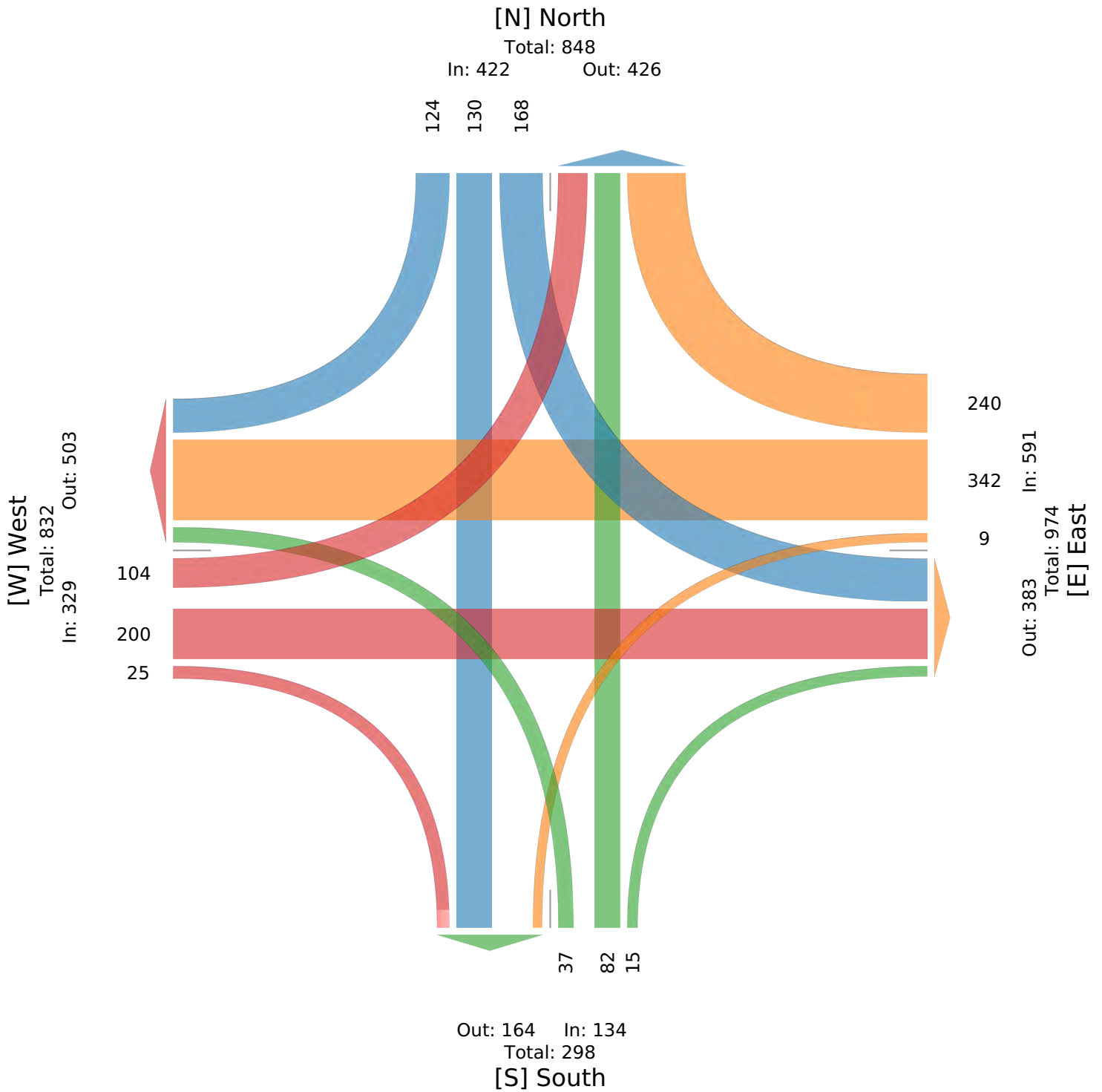
All Movements

ID: 807914, Location: 39.720297, -86.361133



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



HCM 6th Roundabout  
 1: Smith Road & Township Line Road/Perry Road

Existing AM PEAK  
 04/29/2021

Intersection							
Intersection Delay, s/veh	4.4						
Intersection LOS	A						
Approach	EB		WB		NB		SB
Entry Lanes	2		2		1		1
Conflicting Circle Lanes	2		2		2		2
Adj Approach Flow, veh/h	427		154		54		252
Demand Flow Rate, veh/h	432		159		55		254
Vehicles Circulating, veh/h	198		110		570		94
Vehicles Exiting, veh/h	150		515		60		175
Ped Vol Crossing Leg, #/h	0		0		0		0
Ped Cap Adj	1.000		1.000		1.000		1.000
Approach Delay, s/veh	4.8		3.5		4.8		4.4
Approach LOS	A		A		A		A
Lane	Left	Right	Left	Right	Left	Left	
Designated Moves	LT	TR	LT	TR	LTR	LTR	
Assumed Moves	LT	TR	LT	TR	LTR	LTR	
RT Channelized							
Lane Util	0.470	0.530	0.472	0.528	1.000	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328	
Entry Flow, veh/h	203	229	75	84	55	254	
Cap Entry Lane, veh/h	1125	1200	1220	1293	875	1311	
Entry HV Adj Factor	0.990	0.989	0.967	0.974	0.982	0.991	
Flow Entry, veh/h	201	227	73	82	54	252	
Cap Entry, veh/h	1114	1187	1180	1259	859	1299	
V/C Ratio	0.180	0.191	0.061	0.065	0.063	0.194	
Control Delay, s/veh	4.8	4.7	3.6	3.4	4.8	4.4	
LOS	A	A	A	A	A	A	
95th %tile Queue, veh	1	1	0	0	0	1	

HCM 6th Roundabout  
 1: Smith Road & Township Line Road/Perry Road

Existing PM PEAK  
 04/29/2021

Intersection							
Intersection Delay, s/veh	7.2						
Intersection LOS	A						
Approach	EB		WB		NB		SB
Entry Lanes	2		2		1		1
Conflicting Circle Lanes	2		2		2		2
Adj Approach Flow, veh/h	385		692		158		494
Demand Flow Rate, veh/h	387		692		159		497
Vehicles Circulating, veh/h	363		262		554		455
Vehicles Exiting, veh/h	589		451		196		499
Ped Vol Crossing Leg, #/h	0		0		0		0
Ped Cap Adj	1.000		1.000		1.000		1.000
Approach Delay, s/veh	5.4		6.3		5.9		10.3
Approach LOS	A		A		A		B
Lane	Left	Right	Left	Right	Left	Left	
Designated Moves	LT	TR	LT	TR	LTR	LTR	
Assumed Moves	LT	TR	LT	TR	LTR	LTR	
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328	
Entry Flow, veh/h	182	205	325	367	159	497	
Cap Entry Lane, veh/h	967	1043	1061	1137	887	965	
Entry HV Adj Factor	0.993	0.994	1.001	0.999	0.994	0.994	
Flow Entry, veh/h	181	204	325	367	158	494	
Cap Entry, veh/h	960	1037	1062	1136	881	959	
V/C Ratio	0.188	0.197	0.306	0.323	0.179	0.515	
Control Delay, s/veh	5.6	5.3	6.4	6.3	5.9	10.3	
LOS	A	A	A	A	A	B	
95th %tile Queue, veh	1	1	1	1	1	3	

Intersection						
Intersection Delay, s/veh	4.7					
Intersection LOS	A					
Approach	EB		WB		NB	SB
Entry Lanes	2		2		1	1
Conflicting Circle Lanes	2		2		2	2
Adj Approach Flow, veh/h	470		169		60	275
Demand Flow Rate, veh/h	476		174		62	279
Vehicles Circulating, veh/h	218		122		627	103
Vehicles Exiting, veh/h	164		567		67	193
Ped Vol Crossing Leg, #/h	0		0		0	0
Ped Cap Adj	1.000		1.000		1.000	1.000
Approach Delay, s/veh	5.1		3.5		5.2	4.6
Approach LOS	A		A		A	A
Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.471	0.529	0.471	0.529	1.000	1.000
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328
Entry Flow, veh/h	224	252	82	92	62	279
Cap Entry Lane, veh/h	1105	1180	1207	1280	833	1301
Entry HV Adj Factor	0.986	0.989	0.970	0.975	0.968	0.987
Flow Entry, veh/h	221	249	80	90	60	275
Cap Entry, veh/h	1090	1167	1170	1248	806	1285
V/C Ratio	0.203	0.214	0.068	0.072	0.074	0.214
Control Delay, s/veh	5.2	5.0	3.6	3.5	5.2	4.6
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	1	0	0	0	1

Intersection							
Intersection Delay, s/veh	8.2						
Intersection LOS	A						
Approach	EB		WB		NB		SB
Entry Lanes	2		2		1		1
Conflicting Circle Lanes	2		2		2		2
Adj Approach Flow, veh/h	423		761		173		544
Demand Flow Rate, veh/h	423		761		174		546
Vehicles Circulating, veh/h	398		287		607		500
Vehicles Exiting, veh/h	648		494		214		548
Ped Vol Crossing Leg, #/h	0		0		0		0
Ped Cap Adj	1.000		1.000		1.000		1.000
Approach Delay, s/veh	5.8		6.9		6.4		12.2
Approach LOS	A		A		A		B
Lane	Left	Right	Left	Right	Left	Left	
Designated Moves	LT	TR	LT	TR	LTR	LTR	
Assumed Moves	LT	TR	LT	TR	LTR	LTR	
RT Channelized							
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328	
Entry Flow, veh/h	199	224	358	403	174	546	
Cap Entry Lane, veh/h	936	1012	1037	1113	848	928	
Entry HV Adj Factor	0.999	1.001	0.999	1.001	0.994	0.997	
Flow Entry, veh/h	199	224	358	403	173	544	
Cap Entry, veh/h	935	1013	1036	1114	843	926	
V/C Ratio	0.213	0.221	0.345	0.362	0.205	0.588	
Control Delay, s/veh	5.9	5.7	7.0	6.9	6.4	12.2	
LOS	A	A	A	A	A	B	
95th %tile Queue, veh	1	1	2	2	1	4	

Intersection						
Intersection Delay, s/veh	5.2					
Intersection LOS	A					
Approach	EB		WB		NB	SB
Entry Lanes	2		2		1	1
Conflicting Circle Lanes	2		2		2	2
Adj Approach Flow, veh/h	473		204		100	375
Demand Flow Rate, veh/h	478		209		101	378
Vehicles Circulating, veh/h	293		172		636	124
Vehicles Exiting, veh/h	209		565		135	257
Ped Vol Crossing Leg, #/h	0		0		0	0
Ped Cap Adj	1.000		1.000		1.000	1.000
Approach Delay, s/veh	5.5		3.8		5.6	5.5
Approach LOS	A		A		A	A
Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.471	0.529	0.469	0.531	1.000	1.000
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328
Entry Flow, veh/h	225	253	98	111	101	378
Cap Entry Lane, veh/h	1031	1107	1152	1227	827	1278
Entry HV Adj Factor	0.988	0.991	0.978	0.973	0.990	0.991
Flow Entry, veh/h	222	251	96	108	100	375
Cap Entry, veh/h	1019	1097	1127	1194	819	1267
V/C Ratio	0.218	0.229	0.085	0.090	0.122	0.296
Control Delay, s/veh	5.6	5.4	3.9	3.8	5.6	5.5
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	1	0	0	0	1

Intersection							
Intersection Delay, s/veh	9.2						
Intersection LOS	A						
Approach	EB		WB		NB		SB
Entry Lanes	2		2		1		1
Conflicting Circle Lanes	2		2		2		2
Adj Approach Flow, veh/h	454		717		244		613
Demand Flow Rate, veh/h	454		717		246		615
Vehicles Circulating, veh/h	458		382		640		474
Vehicles Exiting, veh/h	631		504		272		625
Ped Vol Crossing Leg, #/h	0		0		0		0
Ped Cap Adj	1.000		1.000		1.000		1.000
Approach Delay, s/veh	6.4		7.5		7.8		13.8
Approach LOS	A		A		A		B
Lane	Left	Right	Left	Right	Left	Left	
Designated Moves	LT	TR	LT	TR	LTR	LTR	
Assumed Moves	LT	TR	LT	TR	LTR	LTR	
RT Channelized							
Lane Util	0.469	0.531	0.470	0.530	1.000	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328	
Entry Flow, veh/h	213	241	337	380	246	615	
Cap Entry Lane, veh/h	886	962	950	1026	824	949	
Entry HV Adj Factor	1.002	0.998	1.000	1.000	0.993	0.996	
Flow Entry, veh/h	213	241	337	380	244	613	
Cap Entry, veh/h	887	961	950	1026	818	946	
V/C Ratio	0.240	0.250	0.355	0.370	0.298	0.648	
Control Delay, s/veh	6.5	6.2	7.6	7.4	7.8	13.8	
LOS	A	A	A	A	A	B	
95th %tile Queue, veh	1	1	2	2	1	5	

Intersection							
Intersection Delay, s/veh	5.5						
Intersection LOS	A						
Approach	EB		WB		NB		SB
Entry Lanes	2		2		1		1
Conflicting Circle Lanes	2		2		2		2
Adj Approach Flow, veh/h	516		218		105		400
Demand Flow Rate, veh/h	521		223		105		403
Vehicles Circulating, veh/h	312		183		693		133
Vehicles Exiting, veh/h	224		615		140		273
Ped Vol Crossing Leg, #/h	0		0		0		0
Ped Cap Adj	1.000		1.000		1.000		1.000
Approach Delay, s/veh	5.8		3.9		5.9		5.8
Approach LOS	A		A		A		A
Lane	Left	Right	Left	Right	Left	Left	
Designated Moves	LT	TR	LT	TR	LTR	LTR	
Assumed Moves	LT	TR	LT	TR	LTR	LTR	
RT Channelized							
Lane Util	0.470	0.530	0.471	0.529	1.000	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328	
Entry Flow, veh/h	245	276	105	118	105	403	
Cap Entry Lane, veh/h	1013	1089	1141	1216	788	1268	
Entry HV Adj Factor	0.990	0.991	0.975	0.978	1.000	0.992	
Flow Entry, veh/h	242	273	102	115	105	400	
Cap Entry, veh/h	1003	1079	1112	1189	788	1258	
V/C Ratio	0.242	0.253	0.092	0.097	0.133	0.318	
Control Delay, s/veh	5.9	5.7	4.0	3.8	5.9	5.8	
LOS	A	A	A	A	A	A	
95th %tile Queue, veh	1	1	0	0	0	1	

Intersection							
Intersection Delay, s/veh	10.8						
Intersection LOS	B						
Approach	EB		WB		NB		SB
Entry Lanes	2		2		1		1
Conflicting Circle Lanes	2		2		2		2
Adj Approach Flow, veh/h	493		787		259		663
Demand Flow Rate, veh/h	493		787		261		665
Vehicles Circulating, veh/h	494		407		696		520
Vehicles Exiting, veh/h	691		550		291		674
Ped Vol Crossing Leg, #/h	0		0		0		0
Ped Cap Adj	1.000		1.000		1.000		1.000
Approach Delay, s/veh	6.9		8.3		8.6		17.4
Approach LOS	A		A		A		C
Lane	Left	Right	Left	Right	Left	Left	
Designated Moves	LT	TR	LT	TR	LTR	LTR	
Assumed Moves	LT	TR	LT	TR	LTR	LTR	
RT Channelized							
Lane Util	0.471	0.529	0.470	0.530	1.000	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328	
Entry Flow, veh/h	232	261	370	417	261	665	
Cap Entry Lane, veh/h	857	933	928	1005	786	913	
Entry HV Adj Factor	0.999	1.001	1.000	1.000	0.993	0.996	
Flow Entry, veh/h	232	261	370	417	259	663	
Cap Entry, veh/h	856	934	928	1005	780	909	
V/C Ratio	0.271	0.280	0.399	0.415	0.332	0.729	
Control Delay, s/veh	7.1	6.7	8.4	8.2	8.6	17.4	
LOS	A	A	A	A	A	C	
95th %tile Queue, veh	1	1	2	2	1	7	

# ***KLONDIKE ROAD & FRONTAGE ROAD***

## ***TRAFFIC VOLUME COUNTS CAPACITY ANALYSIS***

**KLONDIKE RD & FRONTAGE RD - TMC**

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807907, Location: 39.725154, -86.34383



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound				North Southbound				West Eastbound				Int
	L	T	U	App	T	R	U	App	L	R	U	App	
2021-01-06 6:30AM	5	11	0	16	8	0	0	8	0	0	0	0	24
6:45AM	5	16	0	21	6	4	0	10	0	0	0	0	31
Hourly Total	10	27	0	37	14	4	0	18	0	0	0	0	55
7:00AM	3	4	0	7	6	1	0	7	0	0	0	0	14
7:15AM	6	3	0	9	4	1	0	5	0	4	0	4	18
7:30AM	13	4	0	17	2	5	0	7	0	4	0	4	28
7:45AM	13	6	0	19	7	15	0	22	0	3	0	3	44
Hourly Total	35	17	0	52	19	22	0	41	0	11	0	11	104
8:00AM	5	6	0	11	3	6	0	9	0	3	0	3	23
8:15AM	9	9	3	21	12	6	0	18	3	10	0	13	52
Hourly Total	14	15	3	32	15	12	0	27	3	13	0	16	75
4:00PM	11	7	0	18	10	0	0	10	5	17	0	22	50
4:15PM	1	6	0	7	8	1	0	9	3	9	0	12	28
4:30PM	3	6	0	9	5	0	0	5	3	11	0	14	28
4:45PM	5	16	1	22	8	0	0	8	4	17	0	21	51
Hourly Total	20	35	1	56	31	1	0	32	15	54	0	69	157
5:00PM	3	13	1	17	24	2	0	26	10	16	0	26	69
5:15PM	2	13	1	16	18	0	0	18	3	6	0	9	43
5:30PM	2	12	0	14	9	0	0	9	6	7	0	13	36
5:45PM	3	6	0	9	9	3	0	12	4	4	0	8	29
Hourly Total	10	44	2	56	60	5	0	65	23	33	0	56	177
6:00PM	1	7	0	8	3	3	0	6	5	1	0	6	20
6:15PM	2	11	0	13	8	1	0	9	0	4	0	4	26
6:30PM	2	4	0	6	7	1	0	8	2	2	0	4	18
6:45PM	1	4	0	5	4	0	0	4	3	4	0	7	16
Hourly Total	6	26	0	32	22	5	0	27	10	11	0	21	80
7:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	95	164	6	265	161	49	0	210	51	122	0	173	648
<b>% Approach</b>	35.8%	61.9%	2.3%	-	76.7%	23.3%	0%	-	29.5%	70.5%	0%	-	-
<b>% Total</b>	14.7%	25.3%	0.9%	40.9%	24.8%	7.6%	0%	32.4%	7.9%	18.8%	0%	26.7%	-
<b>Lights and Motorcycles</b>	81	143	5	229	138	49	0	187	50	112	0	162	578
<b>% Lights and Motorcycles</b>	85.3%	87.2%	83.3%	86.4%	85.7%	100%	0%	89.0%	98.0%	91.8%	0%	93.6%	89.2%
<b>Heavy</b>	14	21	1	36	23	0	0	23	1	10	0	11	70
<b>% Heavy</b>	14.7%	12.8%	16.7%	13.6%	14.3%	0%	0%	11.0%	2.0%	8.2%	0%	6.4%	10.8%

\* L: Left, R: Right, T: Thru, U: U-Turn

KLONDIKE RD & FRONTAGE RD - TMC

Wed Jan 6, 2021

Full Length (6:30 AM-8:30 AM, 4 PM-7 PM)

All Classes (Lights and Motorcycles, Heavy)

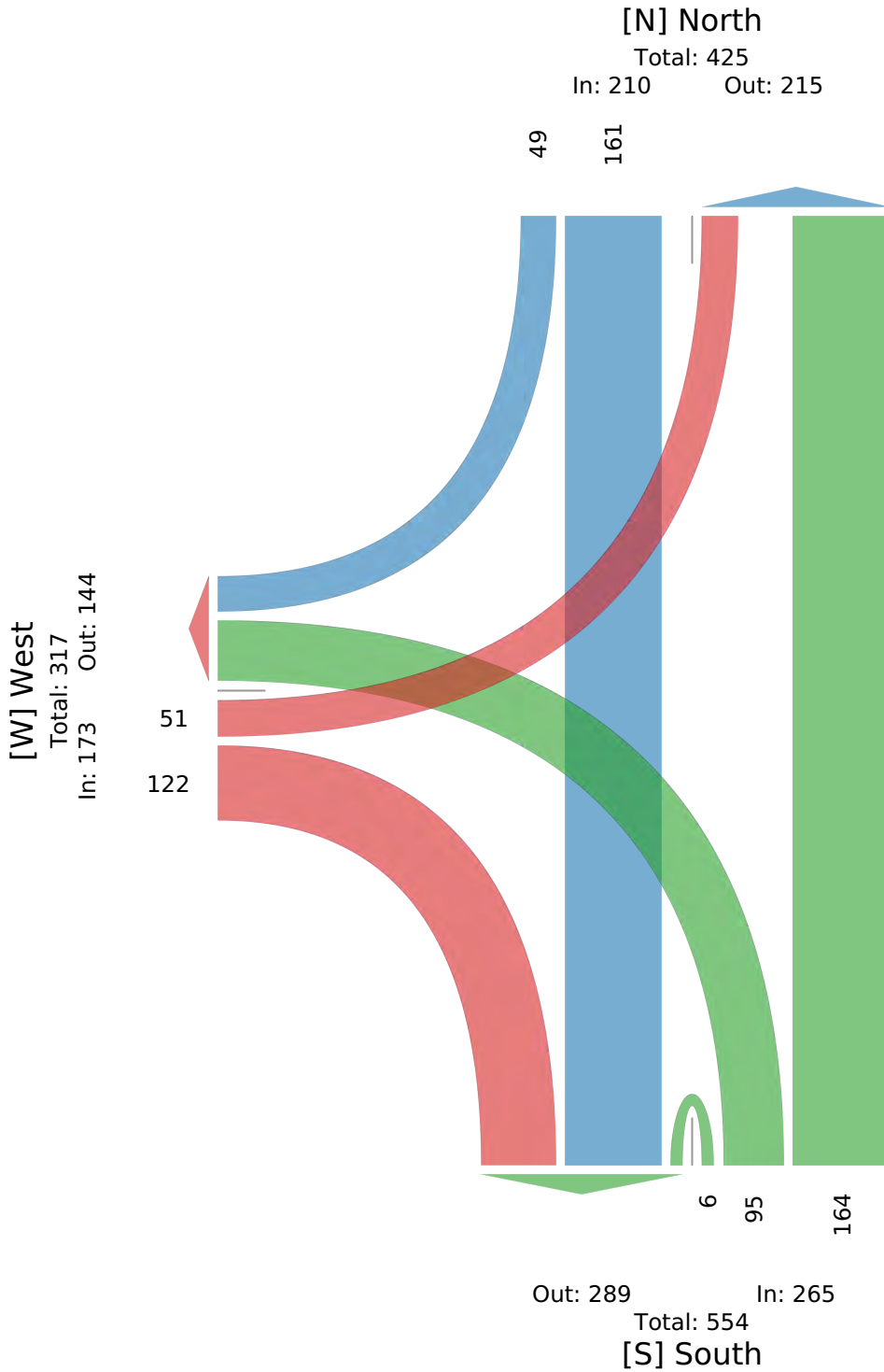
All Movements

ID: 807907, Location: 39.725154, -86.34383



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



KLONDIKE RD & FRONTAGE RD - TMC

Wed Jan 6, 2021

AM Peak (7:30 AM - 8:30 AM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807907, Location: 39.725154, -86.34383



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound				North Southbound				West Eastbound				Int
	L	T	U	App	T	R	U	App	L	R	U	App	
2021-01-06 7:30AM	13	4	0	17	2	5	0	7	0	4	0	4	28
7:45AM	13	6	0	19	7	15	0	22	0	3	0	3	44
8:00AM	5	6	0	11	3	6	0	9	0	3	0	3	23
8:15AM	9	9	3	21	12	6	0	18	3	10	0	13	52
<b>Total</b>	40	25	3	68	24	32	0	56	3	20	0	23	147
<b>% Approach</b>	58.8%	36.8%	4.4%	-	42.9%	57.1%	0%	-	13.0%	87.0%	0%	-	-
<b>% Total</b>	27.2%	17.0%	2.0%	46.3%	16.3%	21.8%	0%	38.1%	2.0%	13.6%	0%	15.6%	-
<b>PHF</b>	0.769	0.694	0.250	0.810	0.500	0.533	-	0.636	0.250	0.500	-	0.442	0.707
<b>Lights and Motorcycles</b>	36	24	3	63	20	32	0	52	3	19	0	22	137
<b>% Lights and Motorcycles</b>	90.0%	96.0%	100%	92.6%	83.3%	100%	0%	92.9%	100%	95.0%	0%	95.7%	93.2%
<b>Heavy</b>	4	1	0	5	4	0	0	4	0	1	0	1	10
<b>% Heavy</b>	10.0%	4.0%	0%	7.4%	16.7%	0%	0%	7.1%	0%	5.0%	0%	4.3%	6.8%

\*L: Left, R: Right, T: Thru, U: U-Turn

KLONDIKE RD & FRONTAGE RD - TMC

Wed Jan 6, 2021

AM Peak (7:30 AM - 8:30 AM)

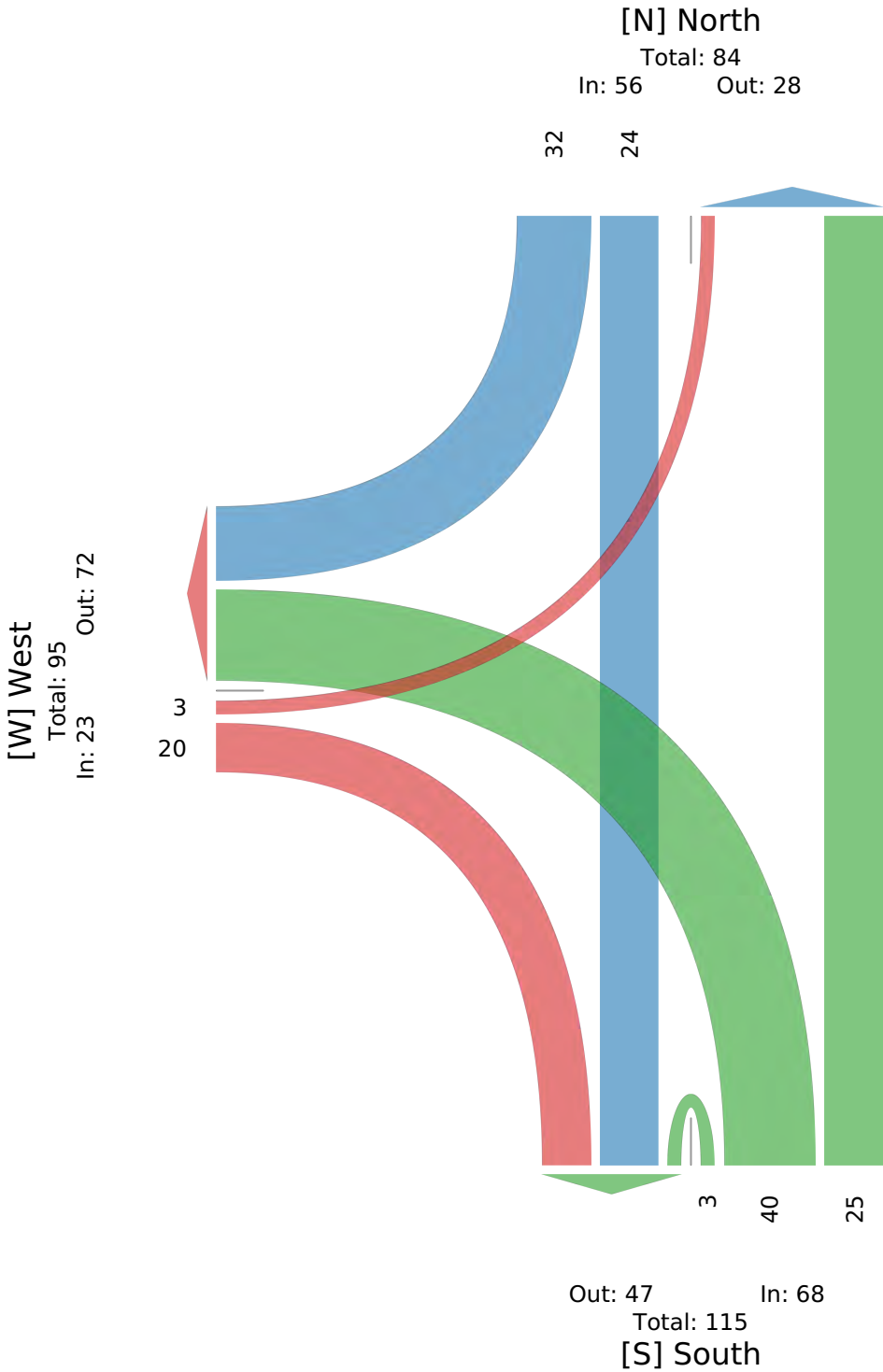
All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807907, Location: 39.725154, -86.34383



Provided by: A&F Engineering  
8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



KLONDIKE RD & FRONTAGE RD - TMC

Wed Jan 6, 2021

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 807907, Location: 39.725154, -86.34383



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US

Leg Direction	South Northbound				North Southbound				West Eastbound				Int
	L	T	U	App	T	R	U	App	L	R	U	App	
2021-01-06 4:45PM	5	16	1	22	8	0	0	8	4	17	0	21	51
5:00PM	3	13	1	17	24	2	0	26	10	16	0	26	69
5:15PM	2	13	1	16	18	0	0	18	3	6	0	9	43
5:30PM	2	12	0	14	9	0	0	9	6	7	0	13	36
<b>Total</b>	12	54	3	69	59	2	0	61	23	46	0	69	199
<b>% Approach</b>	17.4%	78.3%	4.3%	-	96.7%	3.3%	0%	-	33.3%	66.7%	0%	-	-
<b>% Total</b>	6.0%	27.1%	1.5%	34.7%	29.6%	1.0%	0%	30.7%	11.6%	23.1%	0%	34.7%	-
<b>PHF</b>	0.600	0.844	0.750	0.784	0.615	0.250	-	0.587	0.575	0.676	-	0.663	0.721
<b>Lights and Motorcycles</b>	9	48	2	59	51	2	0	53	23	42	0	65	177
<b>% Lights and Motorcycles</b>	75.0%	88.9%	66.7%	85.5%	86.4%	100%	0%	86.9%	100%	91.3%	0%	94.2%	88.9%
<b>Heavy</b>	3	6	1	10	8	0	0	8	0	4	0	4	22
<b>% Heavy</b>	25.0%	11.1%	33.3%	14.5%	13.6%	0%	0%	13.1%	0%	8.7%	0%	5.8%	11.1%

\*L: Left, R: Right, T: Thru, U: U-Turn

KLONDIKE RD & FRONTAGE RD - TMC

Wed Jan 6, 2021

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

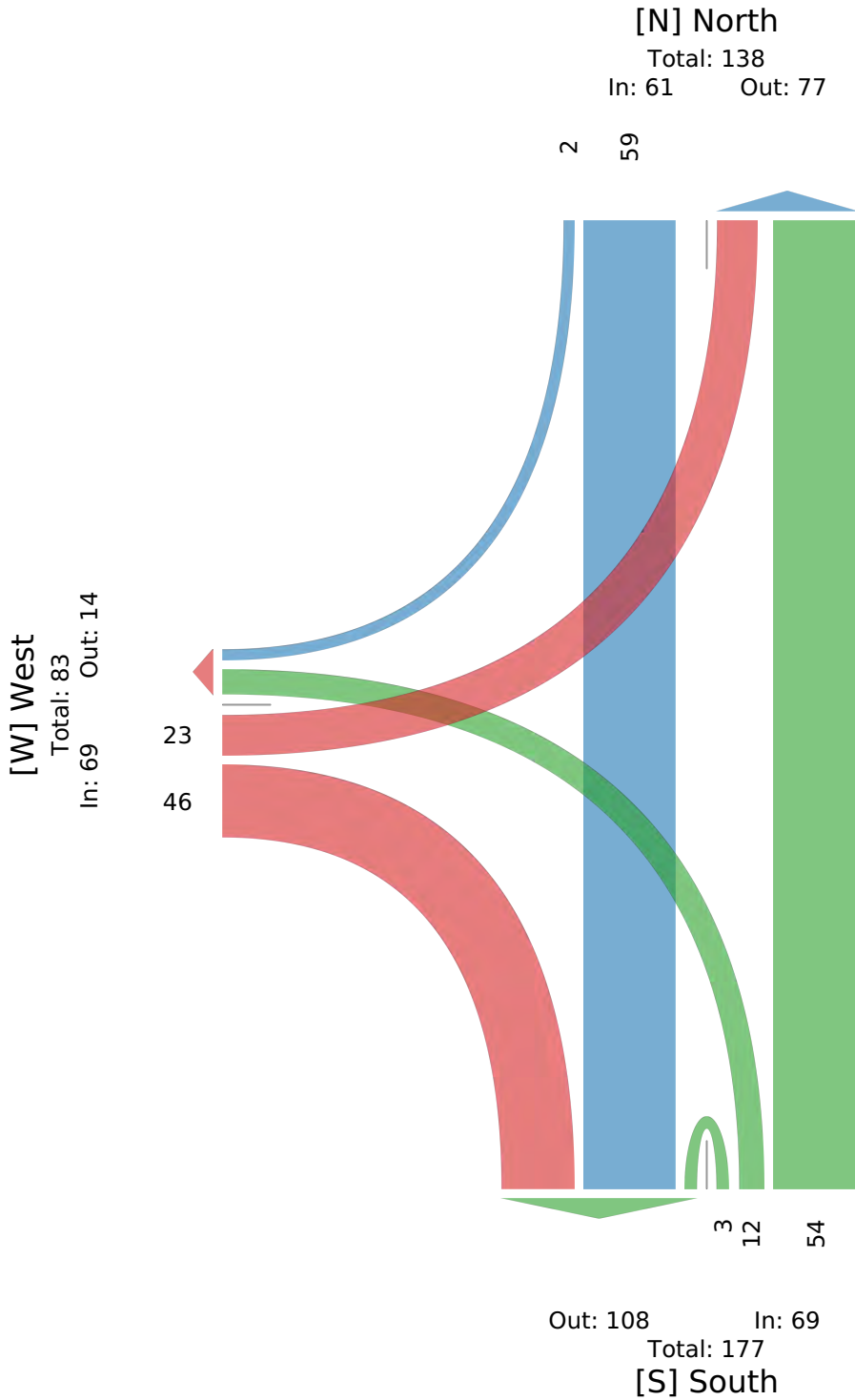
All Movements

ID: 807907, Location: 39.725154, -86.34383



Provided by: A&F Engineering

8365 Keystone Crossing, Suite 201, Indianapolis, IN, 46240, US



**Intersection**

Int Delay, s/veh 3.6

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	32	43	54	34	4	27
Future Vol, veh/h	32	43	54	34	4	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	17	0	10	4	0	5
Mvmt Flow	45	61	76	48	6	38

**Major/Minor**

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	106	0	276 76
Stage 1	-	-	-	-	76 -
Stage 2	-	-	-	-	200 -
Critical Hdwy	-	-	4.2	-	6.4 6.25
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.29	-	3.5 3.345
Pot Cap-1 Maneuver	-	-	1437	-	718 977
Stage 1	-	-	-	-	952 -
Stage 2	-	-	-	-	838 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1437	-	680 977
Mov Cap-2 Maneuver	-	-	-	-	694 -
Stage 1	-	-	-	-	952 -
Stage 2	-	-	-	-	794 -

**Approach**

	SE	NW	NE
HCM Control Delay, s	0	4.7	9.1
HCM LOS			A

**Minor Lane/Major Mvmt**

	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	928	1437	-	-	-
HCM Lane V/C Ratio	0.047	0.053	-	-	-
HCM Control Delay (s)	9.1	7.6	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	-

Intersection

Int Delay, s/veh 3.9

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	65	2	13	59	25	51
Future Vol, veh/h	65	2	13	59	25	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	14	0	25	11	0	9
Mvmt Flow	90	3	18	82	35	71

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	93	0
Stage 1	-	-	-	92
Stage 2	-	-	-	118
Critical Hdwy	-	-	4.35	-
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.425	-
Pot Cap-1 Maneuver	-	-	1369	-
Stage 1	-	-	-	937
Stage 2	-	-	-	912
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1369	-
Mov Cap-2 Maneuver	-	-	-	771
Stage 1	-	-	-	937
Stage 2	-	-	-	900

Approach	SE	NW	NE
HCM Control Delay, s	0	1.4	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	880	1369	-	-	-
HCM Lane V/C Ratio	0.12	0.013	-	-	-
HCM Control Delay (s)	9.6	7.7	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	0.4	0	-	-	-

Intersection						
Int Delay, s/veh	3.6					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	35	47	59	37	4	30
Future Vol, veh/h	35	47	59	37	4	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	17	0	10	4	0	5
Mvmt Flow	49	66	83	52	6	42

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	115	0	300 82
Stage 1	-	-	-	-	82 -
Stage 2	-	-	-	-	218 -
Critical Hdwy	-	-	4.2	-	6.4 6.25
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.29	-	3.5 3.345
Pot Cap-1 Maneuver	-	-	1426	-	696 969
Stage 1	-	-	-	-	946 -
Stage 2	-	-	-	-	823 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1426	-	656 969
Mov Cap-2 Maneuver	-	-	-	-	676 -
Stage 1	-	-	-	-	946 -
Stage 2	-	-	-	-	775 -

Approach	SE	NW	NE
HCM Control Delay, s	0	4.7	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	922	1426	-	-	-
HCM Lane V/C Ratio	0.052	0.058	-	-	-
HCM Control Delay (s)	9.1	7.7	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	0.2	0.2	-	-	-

Intersection						
Int Delay, s/veh	3.9					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	72	2	14	65	28	56
Future Vol, veh/h	72	2	14	65	28	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	14	0	25	11	0	9
Mvmt Flow	100	3	19	90	39	78

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	103	0	230 102
Stage 1	-	-	-	-	102 -
Stage 2	-	-	-	-	128 -
Critical Hdwy	-	-	4.35	-	6.4 6.29
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.425	-	3.5 3.381
Pot Cap-1 Maneuver	-	-	1357	-	763 934
Stage 1	-	-	-	-	927 -
Stage 2	-	-	-	-	903 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1357	-	752 934
Mov Cap-2 Maneuver	-	-	-	-	757 -
Stage 1	-	-	-	-	927 -
Stage 2	-	-	-	-	890 -

Approach	SE	NW	NE
HCM Control Delay, s	0	1.4	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	866	1357	-	-	-
HCM Lane V/C Ratio	0.135	0.014	-	-	-
HCM Control Delay (s)	9.8	7.7	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	0.5	0	-	-	-

Intersection						
Int Delay, s/veh	6.2					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	32	48	89	34	12	135
Future Vol, veh/h	32	48	89	34	12	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	16	0	11	3	0	6
Mvmt Flow	45	68	125	48	17	190

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	113	0	377 79
Stage 1	-	-	-	-	79 -
Stage 2	-	-	-	-	298 -
Critical Hdwy	-	-	4.21	-	6.4 6.26
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.299	-	3.5 3.354
Pot Cap-1 Maneuver	-	-	1422	-	629 970
Stage 1	-	-	-	-	949 -
Stage 2	-	-	-	-	758 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1422	-	574 970
Mov Cap-2 Maneuver	-	-	-	-	605 -
Stage 1	-	-	-	-	949 -
Stage 2	-	-	-	-	691 -

Approach	SE	NW	NE
HCM Control Delay, s	0	5.6	10
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	924	1422	-	-	-
HCM Lane V/C Ratio	0.224	0.088	-	-	-
HCM Control Delay (s)	10	7.8	-	-	-
HCM Lane LOS	B	A	-	-	-
HCM 95th %tile Q(veh)	0.9	0.3	-	-	-

Intersection						
Int Delay, s/veh	6.4					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	63	13	67	57	35	143
Future Vol, veh/h	63	13	67	57	35	143
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	14	0	6	12	0	4
Mvmt Flow	88	18	93	79	49	199

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	106	0	362 97
Stage 1	-	-	-	-	97 -
Stage 2	-	-	-	-	265 -
Critical Hdwy	-	-	4.16	-	6.4 6.24
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.254	-	3.5 3.336
Pot Cap-1 Maneuver	-	-	1460	-	641 954
Stage 1	-	-	-	-	932 -
Stage 2	-	-	-	-	784 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1460	-	600 954
Mov Cap-2 Maneuver	-	-	-	-	635 -
Stage 1	-	-	-	-	932 -
Stage 2	-	-	-	-	734 -

Approach	SE	NW	NE
HCM Control Delay, s	0	4.1	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	868	1460	-	-	-
HCM Lane V/C Ratio	0.285	0.064	-	-	-
HCM Control Delay (s)	10.8	7.6	-	-	-
HCM Lane LOS	B	A	-	-	-
HCM 95th %tile Q(veh)	1.2	0.2	-	-	-

Intersection						
Int Delay, s/veh	6.1					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	35	52	94	37	12	138
Future Vol, veh/h	35	52	94	37	12	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	-	-	115	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	17	0	12	3	0	6
Mvmt Flow	49	73	132	52	17	194

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	122	0	402 86
Stage 1	-	-	-	-	86 -
Stage 2	-	-	-	-	316 -
Critical Hdwy	-	-	4.22	-	6.4 6.26
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.308	-	3.5 3.354
Pot Cap-1 Maneuver	-	-	1406	-	608 962
Stage 1	-	-	-	-	942 -
Stage 2	-	-	-	-	744 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1406	-	551 962
Mov Cap-2 Maneuver	-	-	-	-	588 -
Stage 1	-	-	-	-	942 -
Stage 2	-	-	-	-	674 -

Approach	SE	NW	NE
HCM Control Delay, s	0	5.6	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	915	1406	-	-	-
HCM Lane V/C Ratio	0.231	0.094	-	-	-
HCM Control Delay (s)	10.1	7.8	-	-	-
HCM Lane LOS	B	A	-	-	-
HCM 95th %tile Q(veh)	0.9	0.3	-	-	-

Intersection						
Int Delay, s/veh	6.4					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	70	13	68	63	38	148
Future Vol, veh/h	70	13	68	63	38	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	14	0	6	13	0	3
Mvmt Flow	97	18	94	88	53	206

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	115	0	382 106
Stage 1	-	-	-	-	106 -
Stage 2	-	-	-	-	276 -
Critical Hdwy	-	-	4.16	-	6.4 6.23
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.254	-	3.5 3.327
Pot Cap-1 Maneuver	-	-	1449	-	624 946
Stage 1	-	-	-	-	923 -
Stage 2	-	-	-	-	775 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1449	-	583 946
Mov Cap-2 Maneuver	-	-	-	-	624 -
Stage 1	-	-	-	-	923 -
Stage 2	-	-	-	-	725 -

Approach	SE	NW	NE
HCM Control Delay, s	0	4	11
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	856	1449	-	-	-
HCM Lane V/C Ratio	0.302	0.065	-	-	-
HCM Control Delay (s)	11	7.7	-	-	-
HCM Lane LOS	B	A	-	-	-
HCM 95th %tile Q(veh)	1.3	0.2	-	-	-

# *SMITH ROAD & PROPOSED ACCESS DRIVE A*

## *CAPACITY ANALYSIS*

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	21	181	13	8	73
Future Vol, veh/h	43	21	181	13	8	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	47	23	197	14	9	79

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	301	204	0	0	211
Stage 1	204	-	-	-	-
Stage 2	97	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	695	842	-	-	1372
Stage 1	835	-	-	-	-
Stage 2	932	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	690	842	-	-	1372
Mov Cap-2 Maneuver	690	-	-	-	-
Stage 1	835	-	-	-	-
Stage 2	925	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	690	842	1372
HCM Lane V/C Ratio	-	-	0.068	0.027	0.006
HCM Control Delay (s)	-	-	10.6	9.4	7.6
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	12	508	39	20	185
Future Vol, veh/h	25	12	508	39	20	185
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	27	13	552	42	22	201

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	818	573	0	0	594
Stage 1	573	-	-	-	-
Stage 2	245	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	348	523	-	-	992
Stage 1	568	-	-	-	-
Stage 2	800	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	339	523	-	-	992
Mov Cap-2 Maneuver	339	-	-	-	-
Stage 1	568	-	-	-	-
Stage 2	780	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	339	523	992	-
HCM Lane V/C Ratio	-	-	0.08	0.025	0.022	-
HCM Control Delay (s)	-	-	16.5	12.1	8.7	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	21	196	13	8	77
Future Vol, veh/h	43	21	196	13	8	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	47	23	213	14	9	84

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	322	220	0	0	227	0
Stage 1	220	-	-	-	-	-
Stage 2	102	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	676	825	-	-	1353	-
Stage 1	821	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	671	825	-	-	1353	-
Mov Cap-2 Maneuver	671	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	671	825	1353	-
HCM Lane V/C Ratio	-	-	0.07	0.028	0.006	-
HCM Control Delay (s)	-	-	10.8	9.5	7.7	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0	-

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	12	555	39	20	199
Future Vol, veh/h	25	12	555	39	20	199
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	27	13	603	42	22	216

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	884	624	0	0	645	0
Stage 1	624	-	-	-	-	-
Stage 2	260	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	318	489	-	-	950	-
Stage 1	538	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	310	489	-	-	950	-
Mov Cap-2 Maneuver	310	-	-	-	-	-
Stage 1	538	-	-	-	-	-
Stage 2	768	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	310	489	950	-
HCM Lane V/C Ratio	-	-	0.088	0.027	0.023	-
HCM Control Delay (s)	-	-	17.7	12.6	8.9	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

# *SMITH ROAD & PROPOSED ACCESS DRIVE B*

## *CAPACITY ANALYSIS*

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗		↘
Traffic Vol, veh/h	50	12	182	41	16	100
Future Vol, veh/h	50	12	182	41	16	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	54	13	198	45	17	109

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	341	198	0	0	243
Stage 1	198	-	-	-	-
Stage 2	143	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	659	848	-	-	1335
Stage 1	840	-	-	-	-
Stage 2	889	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	650	848	-	-	1335
Mov Cap-2 Maneuver	650	-	-	-	-
Stage 1	840	-	-	-	-
Stage 2	877	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	650	848	1335	-
HCM Lane V/C Ratio	-	-	0.084	0.015	0.013	-
HCM Control Delay (s)	-	-	11	9.3	7.7	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	0	-

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	39	508	79	37	173
Future Vol, veh/h	82	39	508	79	37	173
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	89	42	552	86	40	188

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	820	552	0	0	638	0
Stage 1	552	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	347	537	-	-	956	-
Stage 1	581	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	331	537	-	-	956	-
Mov Cap-2 Maneuver	331	-	-	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	745	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.4	0	1.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	331	537	956	-
HCM Lane V/C Ratio	-	-	0.269	0.079	0.042	-
HCM Control Delay (s)	-	-	19.8	12.3	8.9	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0.3	0.1	-

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	12	197	41	16	104
Future Vol, veh/h	50	12	197	41	16	104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	2
Mvmt Flow	54	13	214	45	17	113

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	361	214	0	0	259
Stage 1	214	-	-	-	-
Stage 2	147	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	642	831	-	-	1317
Stage 1	826	-	-	-	-
Stage 2	885	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	633	831	-	-	1317
Mov Cap-2 Maneuver	633	-	-	-	-
Stage 1	826	-	-	-	-
Stage 2	873	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	633	831	1317
HCM Lane V/C Ratio	-	-	0.086	0.016	0.013
HCM Control Delay (s)	-	-	11.2	9.4	7.8
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	0

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	39	555	79	37	187
Future Vol, veh/h	82	39	555	79	37	187
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	89	42	603	86	40	203

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	886	603	0	0	689	0
Stage 1	603	-	-	-	-	-
Stage 2	283	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	318	503	-	-	915	-
Stage 1	550	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	302	503	-	-	915	-
Mov Cap-2 Maneuver	302	-	-	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	732	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.9	0	1.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	302	503	915	-
HCM Lane V/C Ratio	-	-	0.295	0.084	0.044	-
HCM Control Delay (s)	-	-	21.8	12.8	9.1	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0.3	0.1	-

# *FRONTAGE ROAD & PROPOSED ACCESS DRIVE C*

## *CAPACITY ANALYSIS*

Intersection						
Int Delay, s/veh	3.5					
Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	45	58	65	126	120	46
Future Vol, veh/h	45	58	65	126	120	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	63	71	137	130	50

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	434	155	180	0	-	0
Stage 1	155	-	-	-	-	-
Stage 2	279	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	583	896	1408	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	773	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	551	896	1408	-	-	-
Mov Cap-2 Maneuver	551	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	773	-	-	-	-	-

Approach	SB	NE	SW
HCM Control Delay, s	10.6	2.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SBLn1	SBLn2	SWT	SWR
Capacity (veh/h)	1408	-	551	896	-	-
HCM Lane V/C Ratio	0.05	-	0.089	0.07	-	-
HCM Control Delay (s)	7.7	0	12.2	9.3	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	0.2	-	-

Intersection						
Int Delay, s/veh	5.1					
Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	73	133	120	173	73	76
Future Vol, veh/h	73	133	120	173	73	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	79	145	130	188	79	83

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	569	121	162	0	-	0
Stage 1	121	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	487	936	1429	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	437	936	1429	-	-	-
Mov Cap-2 Maneuver	437	-	-	-	-	-
Stage 1	816	-	-	-	-	-
Stage 2	648	-	-	-	-	-

Approach	SB	NE	SW
HCM Control Delay, s	11.5	3.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SBLn1	SBLn2	SWT	SWR
Capacity (veh/h)	1429	-	437	936	-	-
HCM Lane V/C Ratio	0.091	-	0.182	0.154	-	-
HCM Control Delay (s)	7.8	0	15.1	9.5	-	-
HCM Lane LOS	A	A	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0.7	0.5	-	-

Intersection						
Int Delay, s/veh	3.5					
Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	45	58	65	126	120	46
Future Vol, veh/h	45	58	65	126	120	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	63	71	137	130	50

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	434	155	180	0	-	0
Stage 1	155	-	-	-	-	-
Stage 2	279	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	583	896	1408	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	773	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	551	896	1408	-	-	-
Mov Cap-2 Maneuver	551	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	773	-	-	-	-	-

Approach	SB	NE	SW
HCM Control Delay, s	10.6	2.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SBLn1	SBLn2	SWT	SWR
Capacity (veh/h)	1408	-	551	896	-	-
HCM Lane V/C Ratio	0.05	-	0.089	0.07	-	-
HCM Control Delay (s)	7.7	0	12.2	9.3	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	0.2	-	-

Intersection						
Int Delay, s/veh	5.1					
Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	73	133	120	173	73	76
Future Vol, veh/h	73	133	120	173	73	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	79	145	130	188	79	83

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	569	121	162	0	-	0
Stage 1	121	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	487	936	1429	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	437	936	1429	-	-	-
Mov Cap-2 Maneuver	437	-	-	-	-	-
Stage 1	816	-	-	-	-	-
Stage 2	648	-	-	-	-	-

Approach	SB	NE	SW
HCM Control Delay, s	11.5	3.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SBLn1	SBLn2	SWT	SWR
Capacity (veh/h)	1429	-	437	936	-	-
HCM Lane V/C Ratio	0.091	-	0.182	0.154	-	-
HCM Control Delay (s)	7.8	0	15.1	9.5	-	-
HCM Lane LOS	A	A	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0.7	0.5	-	-

# *FRONTAGE ROAD & PROPOSED ACCESS DRIVE D*

## *CAPACITY ANALYSIS*

Intersection						
Int Delay, s/veh	1					
Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	3	28	9	162	138	2
Future Vol, veh/h	3	28	9	162	138	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	30	10	176	150	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	347	151	152	0	0
Stage 1	151	-	-	-	-
Stage 2	196	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	654	901	1441	-	-
Stage 1	882	-	-	-	-
Stage 2	842	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	649	901	1441	-	-
Mov Cap-2 Maneuver	649	-	-	-	-
Stage 1	875	-	-	-	-
Stage 2	842	-	-	-	-

Approach	SB	NE	SW
HCM Control Delay, s	9.2	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	SBLn1	SBLn2	SWT	SWR
Capacity (veh/h)	1441	-	649	901	-	-
HCM Lane V/C Ratio	0.007	-	0.005	0.034	-	-
HCM Control Delay (s)	7.5	0	10.6	9.1	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0.1	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	2	16	22	224	133	4
Future Vol, veh/h	2	16	22	224	133	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	17	24	243	145	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	438	147	149	0	0
Stage 1	147	-	-	-	-
Stage 2	291	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	580	905	1445	-	-
Stage 1	885	-	-	-	-
Stage 2	763	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	569	905	1445	-	-
Mov Cap-2 Maneuver	569	-	-	-	-
Stage 1	868	-	-	-	-
Stage 2	763	-	-	-	-

Approach	SB	NE	SW
HCM Control Delay, s	9.4	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	SBLn1	SBLn2	SWT	SWR
Capacity (veh/h)	1445	-	569	905	-	-
HCM Lane V/C Ratio	0.017	-	0.004	0.019	-	-
HCM Control Delay (s)	7.5	0	11.4	9.1	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	0.1	-	-

Intersection						
Int Delay, s/veh	1					
Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	3	28	9	162	138	2
Future Vol, veh/h	3	28	9	162	138	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	30	10	176	150	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	347	151	152	0	0
Stage 1	151	-	-	-	-
Stage 2	196	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	654	901	1441	-	-
Stage 1	882	-	-	-	-
Stage 2	842	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	649	901	1441	-	-
Mov Cap-2 Maneuver	649	-	-	-	-
Stage 1	875	-	-	-	-
Stage 2	842	-	-	-	-

Approach	SB	NE	SW
HCM Control Delay, s	9.2	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	SBLn1	SBLn2	SWT	SWR
Capacity (veh/h)	1441	-	649	901	-	-
HCM Lane V/C Ratio	0.007	-	0.005	0.034	-	-
HCM Control Delay (s)	7.5	0	10.6	9.1	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0.1	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	2	16	22	224	133	4
Future Vol, veh/h	2	16	22	224	133	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	17	24	243	145	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	438	147	149	0	0
Stage 1	147	-	-	-	-
Stage 2	291	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	580	905	1445	-	-
Stage 1	885	-	-	-	-
Stage 2	763	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	569	905	1445	-	-
Mov Cap-2 Maneuver	569	-	-	-	-
Stage 1	868	-	-	-	-
Stage 2	763	-	-	-	-

Approach	SB	NE	SW
HCM Control Delay, s	9.4	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	SBLn1	SBLn2	SWT	SWR
Capacity (veh/h)	1445	-	569	905	-	-
HCM Lane V/C Ratio	0.017	-	0.004	0.019	-	-
HCM Control Delay (s)	7.5	0	11.4	9.1	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	0.1	-	-

# *FRONTAGE ROAD & PROPOSED ACCESS DRIVE E*

## *CAPACITY ANALYSIS*

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	2	163	133	4	9	7
Future Vol, veh/h	2	163	133	4	9	7
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	177	145	4	10	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	149	0	-	0	328 147
Stage 1	-	-	-	-	147 -
Stage 2	-	-	-	-	181 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1445	-	-	-	671 905
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	855 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1445	-	-	-	670 905
Mov Cap-2 Maneuver	-	-	-	-	670 -
Stage 1	-	-	-	-	883 -
Stage 2	-	-	-	-	855 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1445	-	-	-	670	905
HCM Lane V/C Ratio	0.002	-	-	-	0.015	0.008
HCM Control Delay (s)	7.5	0	-	-	10.5	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	5	221	133	11	6	4
Future Vol, veh/h	5	221	133	11	6	4
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	240	145	12	7	4

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	157	0	-	0	401 151
Stage 1	-	-	-	-	151 -
Stage 2	-	-	-	-	250 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1435	-	-	-	609 901
Stage 1	-	-	-	-	882 -
Stage 2	-	-	-	-	796 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1435	-	-	-	607 901
Mov Cap-2 Maneuver	-	-	-	-	607 -
Stage 1	-	-	-	-	878 -
Stage 2	-	-	-	-	796 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1435	-	-	-	607	901
HCM Lane V/C Ratio	0.004	-	-	-	0.011	0.005
HCM Control Delay (s)	7.5	0	-	-	11	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	2	163	133	4	9	7
Future Vol, veh/h	2	163	133	4	9	7
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	177	145	4	10	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	149	0	-	0	328
Stage 1	-	-	-	-	147
Stage 2	-	-	-	-	181
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1445	-	-	-	671
Stage 1	-	-	-	-	885
Stage 2	-	-	-	-	855
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1445	-	-	-	670
Mov Cap-2 Maneuver	-	-	-	-	670
Stage 1	-	-	-	-	883
Stage 2	-	-	-	-	855

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1445	-	-	-	670	905
HCM Lane V/C Ratio	0.002	-	-	-	0.015	0.008
HCM Control Delay (s)	7.5	0	-	-	10.5	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↖	↗
Traffic Vol, veh/h	5	221	133	11	6	4
Future Vol, veh/h	5	221	133	11	6	4
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	240	145	12	7	4

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	157	0	-	0	401 151
Stage 1	-	-	-	-	151 -
Stage 2	-	-	-	-	250 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1435	-	-	-	609 901
Stage 1	-	-	-	-	882 -
Stage 2	-	-	-	-	796 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1435	-	-	-	607 901
Mov Cap-2 Maneuver	-	-	-	-	607 -
Stage 1	-	-	-	-	878 -
Stage 2	-	-	-	-	796 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1435	-	-	-	607	901
HCM Lane V/C Ratio	0.004	-	-	-	0.011	0.005
HCM Control Delay (s)	7.5	0	-	-	11	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

# *FRONTAGE ROAD & PROPOSED ACCESS DRIVE F*

## *CAPACITY ANALYSIS*

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	3	169	129	8	27	8
Future Vol, veh/h	3	169	129	8	27	8
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	184	140	9	29	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	149	0	-	0	335 145
Stage 1	-	-	-	-	145 -
Stage 2	-	-	-	-	190 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1445	-	-	-	664 908
Stage 1	-	-	-	-	887 -
Stage 2	-	-	-	-	847 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1445	-	-	-	663 908
Mov Cap-2 Maneuver	-	-	-	-	663 -
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	847 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1445	-	-	-	663	908
HCM Lane V/C Ratio	0.002	-	-	-	0.044	0.01
HCM Control Delay (s)	7.5	0	-	-	10.7	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	8	219	139	23	17	5
Future Vol, veh/h	8	219	139	23	17	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	238	151	25	18	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	176	0	-	0	420
Stage 1	-	-	-	-	164
Stage 2	-	-	-	-	256
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1412	-	-	-	594
Stage 1	-	-	-	-	870
Stage 2	-	-	-	-	791
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1412	-	-	-	590
Mov Cap-2 Maneuver	-	-	-	-	590
Stage 1	-	-	-	-	864
Stage 2	-	-	-	-	791

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1412	-	-	-	590	886
HCM Lane V/C Ratio	0.006	-	-	-	0.031	0.006
HCM Control Delay (s)	7.6	0	-	-	11.3	9.1
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	3	169	129	8	27	8
Future Vol, veh/h	3	169	129	8	27	8
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	184	140	9	29	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	149	0	-	0	335 145
Stage 1	-	-	-	-	145 -
Stage 2	-	-	-	-	190 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1445	-	-	-	664 908
Stage 1	-	-	-	-	887 -
Stage 2	-	-	-	-	847 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1445	-	-	-	663 908
Mov Cap-2 Maneuver	-	-	-	-	663 -
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	847 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1445	-	-	-	663	908
HCM Lane V/C Ratio	0.002	-	-	-	0.044	0.01
HCM Control Delay (s)	7.5	0	-	-	10.7	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	8	219	139	23	17	5
Future Vol, veh/h	8	219	139	23	17	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	238	151	25	18	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	176	0	-	0	420
Stage 1	-	-	-	-	164
Stage 2	-	-	-	-	256
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1412	-	-	-	594
Stage 1	-	-	-	-	870
Stage 2	-	-	-	-	791
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1412	-	-	-	590
Mov Cap-2 Maneuver	-	-	-	-	590
Stage 1	-	-	-	-	864
Stage 2	-	-	-	-	791

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1412	-	-	-	590	886
HCM Lane V/C Ratio	0.006	-	-	-	0.031	0.006
HCM Control Delay (s)	7.6	0	-	-	11.3	9.1
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

# *FRONTAGE ROAD & PROPOSED ACCESS DRIVE G*

## *CAPACITY ANALYSIS*

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	4	192	127	4	12	10
Future Vol, veh/h	4	192	127	4	12	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	209	138	4	13	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	142	0	-	0	357 140
Stage 1	-	-	-	-	140 -
Stage 2	-	-	-	-	217 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1453	-	-	-	645 913
Stage 1	-	-	-	-	892 -
Stage 2	-	-	-	-	824 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1453	-	-	-	643 913
Mov Cap-2 Maneuver	-	-	-	-	643 -
Stage 1	-	-	-	-	889 -
Stage 2	-	-	-	-	824 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1453	-	-	-	643	913
HCM Lane V/C Ratio	0.003	-	-	-	0.02	0.012
HCM Control Delay (s)	7.5	0	-	-	10.7	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	9	227	156	11	7	6
Future Vol, veh/h	9	227	156	11	7	6
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	247	170	12	8	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	182	0	-	0	443 176
Stage 1	-	-	-	-	176 -
Stage 2	-	-	-	-	267 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1405	-	-	-	576 872
Stage 1	-	-	-	-	859 -
Stage 2	-	-	-	-	782 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1405	-	-	-	571 872
Mov Cap-2 Maneuver	-	-	-	-	571 -
Stage 1	-	-	-	-	852 -
Stage 2	-	-	-	-	782 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1405	-	-	-	571	872
HCM Lane V/C Ratio	0.007	-	-	-	0.013	0.007
HCM Control Delay (s)	7.6	0	-	-	11.4	9.2
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	↕
Traffic Vol, veh/h	4	192	127	4	12	10
Future Vol, veh/h	4	192	127	4	12	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	209	138	4	13	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	142	0	-	0	357 140
Stage 1	-	-	-	-	140 -
Stage 2	-	-	-	-	217 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1453	-	-	-	645 913
Stage 1	-	-	-	-	892 -
Stage 2	-	-	-	-	824 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1453	-	-	-	643 913
Mov Cap-2 Maneuver	-	-	-	-	643 -
Stage 1	-	-	-	-	889 -
Stage 2	-	-	-	-	824 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1453	-	-	-	643	913
HCM Lane V/C Ratio	0.003	-	-	-	0.02	0.012
HCM Control Delay (s)	7.5	0	-	-	10.7	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	9	227	156	11	7	6
Future Vol, veh/h	9	227	156	11	7	6
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	247	170	12	8	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	182	0	-	0	443
Stage 1	-	-	-	-	176
Stage 2	-	-	-	-	267
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1405	-	-	-	576
Stage 1	-	-	-	-	859
Stage 2	-	-	-	-	782
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1405	-	-	-	571
Mov Cap-2 Maneuver	-	-	-	-	571
Stage 1	-	-	-	-	852
Stage 2	-	-	-	-	782

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1405	-	-	-	571	872
HCM Lane V/C Ratio	0.007	-	-	-	0.013	0.007
HCM Control Delay (s)	7.6	0	-	-	11.4	9.2
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0	0

# *FRONTAGE ROAD & PROPOSED ACCESS DRIVE H*

## *CAPACITY ANALYSIS*

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	86	118	78	19	12	53
Future Vol, veh/h	86	118	78	19	12	53
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	5	8	0
Mvmt Flow	93	128	85	21	13	58

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	106	0	-	0	410 96
Stage 1	-	-	-	-	96 -
Stage 2	-	-	-	-	314 -
Critical Hdwy	4.1	-	-	-	6.48 6.2
Critical Hdwy Stg 1	-	-	-	-	5.48 -
Critical Hdwy Stg 2	-	-	-	-	5.48 -
Follow-up Hdwy	2.2	-	-	-	3.572 3.3
Pot Cap-1 Maneuver	1498	-	-	-	586 966
Stage 1	-	-	-	-	913 -
Stage 2	-	-	-	-	727 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1498	-	-	-	547 966
Mov Cap-2 Maneuver	-	-	-	-	547 -
Stage 1	-	-	-	-	852 -
Stage 2	-	-	-	-	727 -

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1498	-	-	-	547	966
HCM Lane V/C Ratio	0.062	-	-	-	0.024	0.06
HCM Control Delay (s)	7.6	0	-	-	11.7	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.2

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	103	131	133	24	7	34
Future Vol, veh/h	103	131	133	24	7	34
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	0	0
Mvmt Flow	112	142	145	26	8	37

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	171	0	-	0	524 158
Stage 1	-	-	-	-	158 -
Stage 2	-	-	-	-	366 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1418	-	-	-	517 893
Stage 1	-	-	-	-	875 -
Stage 2	-	-	-	-	706 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1418	-	-	-	473 893
Mov Cap-2 Maneuver	-	-	-	-	473 -
Stage 1	-	-	-	-	800 -
Stage 2	-	-	-	-	706 -

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1418	-	-	-	473	893
HCM Lane V/C Ratio	0.079	-	-	-	0.016	0.041
HCM Control Delay (s)	7.8	0	-	-	12.7	9.2
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0	0.1

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	86	118	78	19	12	53
Future Vol, veh/h	86	118	78	19	12	53
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	5	8	0
Mvmt Flow	93	128	85	21	13	58

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	106	0	-	0	410 96
Stage 1	-	-	-	-	96 -
Stage 2	-	-	-	-	314 -
Critical Hdwy	4.1	-	-	-	6.48 6.2
Critical Hdwy Stg 1	-	-	-	-	5.48 -
Critical Hdwy Stg 2	-	-	-	-	5.48 -
Follow-up Hdwy	2.2	-	-	-	3.572 3.3
Pot Cap-1 Maneuver	1498	-	-	-	586 966
Stage 1	-	-	-	-	913 -
Stage 2	-	-	-	-	727 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1498	-	-	-	547 966
Mov Cap-2 Maneuver	-	-	-	-	547 -
Stage 1	-	-	-	-	852 -
Stage 2	-	-	-	-	727 -

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1498	-	-	-	547	966
HCM Lane V/C Ratio	0.062	-	-	-	0.024	0.06
HCM Control Delay (s)	7.6	0	-	-	11.7	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.2

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	103	131	133	24	7	34
Future Vol, veh/h	103	131	133	24	7	34
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	0	0
Mvmt Flow	112	142	145	26	8	37

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	171	0	-	0	524 158
Stage 1	-	-	-	-	158 -
Stage 2	-	-	-	-	366 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1418	-	-	-	517 893
Stage 1	-	-	-	-	875 -
Stage 2	-	-	-	-	706 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1418	-	-	-	473 893
Mov Cap-2 Maneuver	-	-	-	-	473 -
Stage 1	-	-	-	-	800 -
Stage 2	-	-	-	-	706 -

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1418	-	-	-	473	893
HCM Lane V/C Ratio	0.079	-	-	-	0.016	0.041
HCM Control Delay (s)	7.8	0	-	-	12.7	9.2
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0	0.1

# *FRONTAGE ROAD & PROPOSED ACCESS DRIVE I*

## *CAPACITY ANALYSIS*

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	22	108	83	51	87	14
Future Vol, veh/h	22	108	83	51	87	14
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	1	16	9	0
Mvmt Flow	24	117	90	55	95	15

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	145	0	-	0	283
Stage 1	-	-	-	-	118
Stage 2	-	-	-	-	165
Critical Hdwy	4.1	-	-	-	6.49
Critical Hdwy Stg 1	-	-	-	-	5.49
Critical Hdwy Stg 2	-	-	-	-	5.49
Follow-up Hdwy	2.2	-	-	-	3.581
Pot Cap-1 Maneuver	1450	-	-	-	693
Stage 1	-	-	-	-	890
Stage 2	-	-	-	-	848
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1450	-	-	-	681
Mov Cap-2 Maneuver	-	-	-	-	681
Stage 1	-	-	-	-	874
Stage 2	-	-	-	-	848

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1450	-	-	-	681	939
HCM Lane V/C Ratio	0.016	-	-	-	0.139	0.016
HCM Control Delay (s)	7.5	0	-	-	11.1	8.9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	0

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	26	112	149	52	52	8
Future Vol, veh/h	26	112	149	52	52	8
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	2	2	0
Mvmt Flow	28	122	162	57	57	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	219	0	-	0	369
Stage 1	-	-	-	-	191
Stage 2	-	-	-	-	178
Critical Hdwy	4.1	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.2	-	-	-	3.518
Pot Cap-1 Maneuver	1362	-	-	-	631
Stage 1	-	-	-	-	841
Stage 2	-	-	-	-	853
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1362	-	-	-	617
Mov Cap-2 Maneuver	-	-	-	-	617
Stage 1	-	-	-	-	822
Stage 2	-	-	-	-	853

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1362	-	-	-	617	856
HCM Lane V/C Ratio	0.021	-	-	-	0.092	0.01
HCM Control Delay (s)	7.7	0	-	-	11.4	9.2
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	22	108	83	51	87	14
Future Vol, veh/h	22	108	83	51	87	14
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	1	16	9	0
Mvmt Flow	24	117	90	55	95	15

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	145	0	-	0	283
Stage 1	-	-	-	-	118
Stage 2	-	-	-	-	165
Critical Hdwy	4.1	-	-	-	6.49
Critical Hdwy Stg 1	-	-	-	-	5.49
Critical Hdwy Stg 2	-	-	-	-	5.49
Follow-up Hdwy	2.2	-	-	-	3.581
Pot Cap-1 Maneuver	1450	-	-	-	693
Stage 1	-	-	-	-	890
Stage 2	-	-	-	-	848
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1450	-	-	-	681
Mov Cap-2 Maneuver	-	-	-	-	681
Stage 1	-	-	-	-	874
Stage 2	-	-	-	-	848

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1450	-	-	-	681	939
HCM Lane V/C Ratio	0.016	-	-	-	0.139	0.016
HCM Control Delay (s)	7.5	0	-	-	11.1	8.9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	0

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	26	112	149	52	52	8
Future Vol, veh/h	26	112	149	52	52	8
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	2	2	0
Mvmt Flow	28	122	162	57	57	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	219	0	-	0	369 191
Stage 1	-	-	-	-	191 -
Stage 2	-	-	-	-	178 -
Critical Hdwy	4.1	-	-	-	6.42 6.2
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.2	-	-	-	3.518 3.3
Pot Cap-1 Maneuver	1362	-	-	-	631 856
Stage 1	-	-	-	-	841 -
Stage 2	-	-	-	-	853 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1362	-	-	-	617 856
Mov Cap-2 Maneuver	-	-	-	-	617 -
Stage 1	-	-	-	-	822 -
Stage 2	-	-	-	-	853 -

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1362	-	-	-	617	856
HCM Lane V/C Ratio	0.021	-	-	-	0.092	0.01
HCM Control Delay (s)	7.7	0	-	-	11.4	9.2
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0

# *FRONTAGE ROAD & PLAINFIELD VILLAGE DRIVE*

## *CAPACITY ANALYSIS*

Intersection						
Int Delay, s/veh	4.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	116	79	9	40	94	85
Future Vol, veh/h	116	79	9	40	94	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	2	0	12	4	0
Mvmt Flow	126	86	10	43	102	92

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	212	0	232
Stage 1	-	-	-	-	169
Stage 2	-	-	-	-	63
Critical Hdwy	-	-	4.1	-	6.44
Critical Hdwy Stg 1	-	-	-	-	5.44
Critical Hdwy Stg 2	-	-	-	-	5.44
Follow-up Hdwy	-	-	2.2	-	3.536
Pot Cap-1 Maneuver	-	-	1370	-	752
Stage 1	-	-	-	-	856
Stage 2	-	-	-	-	955
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1370	-	747
Mov Cap-2 Maneuver	-	-	-	-	747
Stage 1	-	-	-	-	856
Stage 2	-	-	-	-	948

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	805	-	-	1370	-
HCM Lane V/C Ratio	0.242	-	-	0.007	-
HCM Control Delay (s)	10.9	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0	-

Intersection						
Int Delay, s/veh	5.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	102	62	65	65	136	27
Future Vol, veh/h	102	62	65	65	136	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	0	0	2	1	0
Mvmt Flow	111	67	71	71	148	29

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	178	0	358
Stage 1	-	-	-	-	145
Stage 2	-	-	-	-	213
Critical Hdwy	-	-	4.1	-	6.41
Critical Hdwy Stg 1	-	-	-	-	5.41
Critical Hdwy Stg 2	-	-	-	-	5.41
Follow-up Hdwy	-	-	2.2	-	3.509
Pot Cap-1 Maneuver	-	-	1410	-	642
Stage 1	-	-	-	-	885
Stage 2	-	-	-	-	825
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1410	-	609
Mov Cap-2 Maneuver	-	-	-	-	609
Stage 1	-	-	-	-	885
Stage 2	-	-	-	-	782

Approach	EB	WB	NB
HCM Control Delay, s	0	3.8	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	644	-	-	1410	-
HCM Lane V/C Ratio	0.275	-	-	0.05	-
HCM Control Delay (s)	12.7	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.2	-

Intersection						
Int Delay, s/veh	4.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	116	79	10	40	94	94
Future Vol, veh/h	116	79	10	40	94	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	2	0	12	4	0
Mvmt Flow	126	86	11	43	102	102

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	212	0	234 169
Stage 1	-	-	-	-	169 -
Stage 2	-	-	-	-	65 -
Critical Hdwy	-	-	4.1	-	6.44 6.2
Critical Hdwy Stg 1	-	-	-	-	5.44 -
Critical Hdwy Stg 2	-	-	-	-	5.44 -
Follow-up Hdwy	-	-	2.2	-	3.536 3.3
Pot Cap-1 Maneuver	-	-	1370	-	750 880
Stage 1	-	-	-	-	856 -
Stage 2	-	-	-	-	953 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1370	-	744 880
Mov Cap-2 Maneuver	-	-	-	-	744 -
Stage 1	-	-	-	-	856 -
Stage 2	-	-	-	-	945 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	806	-	-	1370	-
HCM Lane V/C Ratio	0.254	-	-	0.008	-
HCM Control Delay (s)	11	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0	-

Intersection						
Int Delay, s/veh	5.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	102	62	72	65	136	30
Future Vol, veh/h	102	62	72	65	136	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	0	0	2	1	0
Mvmt Flow	111	67	78	71	148	33

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	178	0	372
Stage 1	-	-	-	-	145
Stage 2	-	-	-	-	227
Critical Hdwy	-	-	4.1	-	6.41
Critical Hdwy Stg 1	-	-	-	-	5.41
Critical Hdwy Stg 2	-	-	-	-	5.41
Follow-up Hdwy	-	-	2.2	-	3.509
Pot Cap-1 Maneuver	-	-	1410	-	631
Stage 1	-	-	-	-	885
Stage 2	-	-	-	-	813
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1410	-	594
Mov Cap-2 Maneuver	-	-	-	-	594
Stage 1	-	-	-	-	885
Stage 2	-	-	-	-	766

Approach	EB	WB	NB
HCM Control Delay, s	0	4	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	634	-	-	1410	-
HCM Lane V/C Ratio	0.285	-	-	0.056	-
HCM Control Delay (s)	12.9	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.2	-

***PERRY ROAD & FRONTAGE ROAD***

***CAPACITY ANALYSIS***

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	45	364	72	146	134	44
Future Vol, veh/h	45	364	72	146	134	44
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	4	0	0	0
Mvmt Flow	49	396	78	159	146	48

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	237	0	-	0	454 119
Stage 1	-	-	-	-	158 -
Stage 2	-	-	-	-	296 -
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	1342	-	-	-	540 917
Stage 1	-	-	-	-	860 -
Stage 2	-	-	-	-	735 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1342	-	-	-	515 917
Mov Cap-2 Maneuver	-	-	-	-	515 -
Stage 1	-	-	-	-	820 -
Stage 2	-	-	-	-	735 -

Approach	EB	WB	SW
HCM Control Delay, s	0.9	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1SWLn2		
Capacity (veh/h)	1342	-	-	-	515	917
HCM Lane V/C Ratio	0.036	-	-	-	0.283	0.052
HCM Control Delay (s)	7.8	0.1	-	-	14.7	9.1
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2	0.2

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	61	388	355	231	161	45
Future Vol, veh/h	61	388	355	231	161	45
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	66	422	386	251	175	49

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	637	0	-	0	855 319
Stage 1	-	-	-	-	512 -
Stage 2	-	-	-	-	343 -
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	956	-	-	-	301 683
Stage 1	-	-	-	-	572 -
Stage 2	-	-	-	-	696 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	956	-	-	-	274 683
Mov Cap-2 Maneuver	-	-	-	-	274 -
Stage 1	-	-	-	-	521 -
Stage 2	-	-	-	-	696 -

Approach	EB	WB	SW
HCM Control Delay, s	1.5	0	32.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1SWLn2		
Capacity (veh/h)	956	-	-	-	274	683
HCM Lane V/C Ratio	0.069	-	-	-	0.639	0.072
HCM Control Delay (s)	9	0.3	-	-	38.8	10.7
HCM Lane LOS	A	A	-	-	E	B
HCM 95th %tile Q(veh)	0.2	-	-	-	4	0.2

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑	↑	↑	↑
Traffic Vol, veh/h	45	364	72	146	134	44
Future Vol, veh/h	45	364	72	146	134	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	4	0	0	0
Mvmt Flow	49	396	78	159	146	48

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	237	0	-	0	374
Stage 1	-	-	-	-	78
Stage 2	-	-	-	-	296
Critical Hdwy	4.1	-	-	-	6.8
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1342	-	-	-	605
Stage 1	-	-	-	-	942
Stage 2	-	-	-	-	735
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1342	-	-	-	577
Mov Cap-2 Maneuver	-	-	-	-	577
Stage 1	-	-	-	-	898
Stage 2	-	-	-	-	735

Approach	EB	WB	SW
HCM Control Delay, s	0.9	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1SWLn2		
Capacity (veh/h)	1342	-	-	-	577	1031
HCM Lane V/C Ratio	0.036	-	-	-	0.252	0.046
HCM Control Delay (s)	7.8	0.1	-	-	13.3	8.7
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	1	0.1

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑	↑	↑	↑
Traffic Vol, veh/h	61	388	355	231	161	45
Future Vol, veh/h	61	388	355	231	161	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	66	422	386	251	175	49

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	637	0	-	0	729
Stage 1	-	-	-	-	386
Stage 2	-	-	-	-	343
Critical Hdwy	4.1	-	-	-	6.8
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	956	-	-	-	362
Stage 1	-	-	-	-	662
Stage 2	-	-	-	-	696
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	956	-	-	-	329
Mov Cap-2 Maneuver	-	-	-	-	329
Stage 1	-	-	-	-	602
Stage 2	-	-	-	-	696

Approach	EB	WB	SW
HCM Control Delay, s	1.5	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1SWLn2		
Capacity (veh/h)	956	-	-	-	329	822
HCM Lane V/C Ratio	0.069	-	-	-	0.532	0.06
HCM Control Delay (s)	9	0.3	-	-	27.7	9.7
HCM Lane LOS	A	A	-	-	D	A
HCM 95th %tile Q(veh)	0.2	-	-	-	3	0.2

**Intersection**

Int Delay, s/veh 3.4

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	45	401	79	146	134	44
Future Vol, veh/h	45	401	79	146	134	44
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	4	0	0	0
Mvmt Flow	49	436	86	159	146	48

**Major/Minor**

	Major1	Major2	Minor2		
Conflicting Flow All	245	0	-	0	482 123
Stage 1	-	-	-	-	166 -
Stage 2	-	-	-	-	316 -
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	1333	-	-	-	518 911
Stage 1	-	-	-	-	852 -
Stage 2	-	-	-	-	718 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1333	-	-	-	493 911
Mov Cap-2 Maneuver	-	-	-	-	493 -
Stage 1	-	-	-	-	810 -
Stage 2	-	-	-	-	718 -

**Approach**

	EB	WB	SW
HCM Control Delay, s	1	0	13.8
HCM LOS			B

**Minor Lane/Major Mvmt**

	EBL	EBT	WBT	WBRSWLn1SWLn2		
Capacity (veh/h)	1333	-	-	-	493	911
HCM Lane V/C Ratio	0.037	-	-	-	0.295	0.052
HCM Control Delay (s)	7.8	0.2	-	-	15.3	9.2
HCM Lane LOS	A	A	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2	0.2

Intersection						
Int Delay, s/veh	6.7					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑↑	↑↑		↑	↑
Traffic Vol, veh/h	61	428	393	231	161	45
Future Vol, veh/h	61	428	393	231	161	45
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	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	66	465	427	251	175	49

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	678	0	-	0	918
Stage 1	-	-	-	-	553
Stage 2	-	-	-	-	365
Critical Hdwy	4.1	-	-	-	6.8
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	923	-	-	-	275
Stage 1	-	-	-	-	546
Stage 2	-	-	-	-	679
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	923	-	-	-	249
Mov Cap-2 Maneuver	-	-	-	-	249
Stage 1	-	-	-	-	494
Stage 2	-	-	-	-	679

Approach	EB	WB	SW
HCM Control Delay, s	1.4	0	39.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1	SWLn2
Capacity (veh/h)	923	-	-	-	249
HCM Lane V/C Ratio	0.072	-	-	-	0.703
HCM Control Delay (s)	9.2	0.3	-	-	47.7
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0.2	-	-	-	4.7

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↗↗	↗↗	↘	↘	↘
Traffic Vol, veh/h	45	401	79	146	134	44
Future Vol, veh/h	45	401	79	146	134	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	4	0	0	0
Mvmt Flow	49	436	86	159	146	48

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	245	0	-	0	402 43
Stage 1	-	-	-	-	86 -
Stage 2	-	-	-	-	316 -
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	1333	-	-	-	582 1025
Stage 1	-	-	-	-	933 -
Stage 2	-	-	-	-	718 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1333	-	-	-	560 1025
Mov Cap-2 Maneuver	-	-	-	-	560 -
Stage 1	-	-	-	-	898 -
Stage 2	-	-	-	-	718 -

Approach	EB	WB	SW
HCM Control Delay, s	0.8	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1SWLn2		
Capacity (veh/h)	1333	-	-	-	560	1025
HCM Lane V/C Ratio	0.037	-	-	-	0.26	0.047
HCM Control Delay (s)	7.8	-	-	-	13.7	8.7
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	1	0.1

Intersection						
Int Delay, s/veh	4.6					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	↘	↑↑	↑↑	↗	↘	↗
Traffic Vol, veh/h	61	428	393	231	161	45
Future Vol, veh/h	61	428	393	231	161	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	100	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	66	465	427	251	175	49

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	678	0	-	0	792
Stage 1	-	-	-	-	427
Stage 2	-	-	-	-	365
Critical Hdwy	4.1	-	-	-	6.8
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	923	-	-	-	330
Stage 1	-	-	-	-	632
Stage 2	-	-	-	-	679
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	923	-	-	-	306
Mov Cap-2 Maneuver	-	-	-	-	306
Stage 1	-	-	-	-	586
Stage 2	-	-	-	-	679

Approach	EB	WB	SW
HCM Control Delay, s	1.1	0	26.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBRSWLn1SWLn2	
Capacity (veh/h)	923	-	-	-	306
HCM Lane V/C Ratio	0.072	-	-	-	0.572
HCM Control Delay (s)	9.2	-	-	-	31.4
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	3.3