

DRAFT

10701 Research Drive Development Traffic Analysis

City of Wauwatosa
Milwaukee County, Wisconsin

August 17, 2023



Date: August 17, 2023

Traffic Impact Analysis

To: Alex Blethen, Development Representative
Irgens
From: Daniel Bieberitz, P.E. PTOE
cc List:
Subject: 10701 Research Drive
Wauwatosa, Wisconsin



Daniel C. Bieberitz

PART A – INTRODUCTION

The 10701 Research Drive property is located along the east side of State Trunk Highway (STH) 100 between Wisconsin Avenue and Research Drive in the City of Wauwatosa, Milwaukee County. A site location map is shown in [Exhibit 1](#). The development conceptual site plan is shown in [Exhibit 2](#).

This technical memorandum was completed to determine and document the expected weekday morning and evening peak hour operating conditions at identified study area intersections. This report documents the procedures, findings, and conclusions of the analysis. The analysis identifies recommended modifications based on existing roadway conditions and the additional traffic expected to be generated by the proposed development.

PART B – STUDY AREA

The study area includes the following existing intersections. A transportation detail illustrating existing intersection lane configurations and speed limits is shown in [Exhibit 3](#).

- STH 100 & Wisconsin Avenue (traffic signal control)
- STH 100 & Potter Road/Research Drive (traffic signal control)
- Research Drive & West Driveway (two-way stop control)
- Research Drive & East Driveway (two-way stop control)

STH 100 is an eight-lane north/south median-divided highway with an urban cross-section and a posted speed limit of 40 mph. According to WisDOT, the Year 2019 annual average daily traffic (AADT) volumes on STH 100 were approximately 33,800 vehicles per day (vpd) north of Research Drive, 36,300 vpd between Research Drive and Wisconsin Avenue, and 39,300 vpd south of Wisconsin Avenue. Pedestrian sidewalks are provided along both sides of the highway as are on-street bicycle accommodations. MCTS operates Route 28 – 108th Street along STH

100 daily with headways of approximately 40- to 55-minutes¹ and has one stop at the intersection of Potter Road/Research Drive. Route 31 – State-Highland runs from 5:30 am to 11:15 pm with headways of approximately 30 to 40 minutes. It has one stop on Watertown Plank at Innovation Drive, which is the north entrance into the Milwaukee County Research Park and approximately half mile from the proposed development. STH 100 is known locally as Mayfair Road.

Wisconsin Avenue is an east/west two-lane undivided street for 100-feet west of STH 100, a four-lane undivided street from STH 100 east to 106th Street, and a two-lane undivided street with on-street parking east of 106th Street. The posted speed limit is 25 mph west of STH 100 and 35 mph east of STH 100. According to WisDOT, the Year 2019 AADT volume on Wisconsin Avenue was approximately 6,500 vpd east of 99th Street (east of the study area). Pedestrian sidewalk is provided along the north side of Wisconsin Avenue to the east of STH 100. A wide lane serves as an unmarked on-street bicycle facility on the south side of Wisconsin Avenue from STH 100 to 106th Street. Regularly scheduled transit is not present along Wisconsin Avenue within the study area.

Potter Road (west of STH 100) & Research Drive (east of STH 100) is an east/west street with a posted speed limit of 25 mph. The street is two-lane undivided west of STH 100, four-lane divided from STH 100 to east of the West Driveway, and four-lane undivided further east. A railroad crosses Potter Road approximately 380-feet (center-center) west of STH 100. No daily traffic volumes are recorded on Research Drive. Potter Road has an AADT of 1600 vpd, as reported in 2016 by WisDOT. Pedestrian sidewalks are provided along both sides of the street. No dedicated bicycle facilities were identified. As was previously mentioned, MCTS Route 31 – State-Highland has three morning and three evening stops into Research Drive to/from the north along STH 100.

PART C – PROJECT DESCRIPTION

When traffic counts were completed in year 2021, the office building (“Research One”) that is located as part of the 10701 Research Drive property was vacant. For this reason, generated trips were added to the roadway system for the full 105,000 sq. ft. building, even though Research One is partially occupied now. The proposed development site for the purpose of the traffic analysis is assumed as follows:

- General Office (Research One Existing Building) – 105,000 sf
- Medical Office– 45,700 sf
- Fast Casual Restaurant with Drive-Thru Window² – 3,500 sf
- Fast Casual Restaurant³ – 2,300 sf
- Strip Retail Plaza (<40k)⁴ – 2,738 sf
- Multi-Family Residential – 199 units

¹ <https://www.ridemcts.com/routes-schedules/system-map>, accessed 8-2-2023.

² This restaurant is expected to have a steady breakfast crowd; therefore, a fast-food restaurant ITE land use was used to more closely replicate the AM peak hour traffic.

³ This restaurant is expected to be closed during the morning and only have lunch and dinner service.

⁴ This small commercial retail space will likely be in the same building complex as the restaurants.

Access to the development will remain along Research Drive at the West Driveway and at the East Driveway. A parking lot was constructed recently on the east side of the Research One to additionally serve this general office building. The medical office, commercial site, restaurants, and multi-family residential component will access Research Drive via the existing West Driveway.

PART D – TRAFFIC VOLUMES

D1. Year 2023 Background Traffic Volumes

Intersection turning movement traffic counts were collected at STH 100 & Wisconsin Avenue on March 12th, 2020, prior to the pandemic shutdowns that occurred days later. Counts at STH 100 & Research Drive, Research Drive & West Driveway, and Research Drive & East Driveway were collected on September 15th and 16th, 2021 with schools in session. Based on the counts, the weekday morning and evening peak hours were identified as being 7:30 to 8:30 am and 4:30 to 5:30 pm. The Year 2020/2021 unbalanced existing traffic volumes are shown in [Exhibit 4a](#) and the traffic turning movement counts are in [Appendix A](#).

STH 100 has experienced fluctuating volumes in recent years due to various nearby projects, which may explain the extent of imbalance between the two intersections. More specifically, the September 2021 counts were collected while STH 100 was being rehabilitated/repaved through West Allis and parts of Greenfield, and while reconstruction and other closures along IH 41 occurred due to construction of the North Leg.

The available counts show less southbound traffic arriving at STH 100 & Wisconsin Avenue than departing STH 100 & Research Drive. Additionally, the available counts show more traffic departing STH 100 & Wisconsin Avenue than arriving at STH 100 & Research Drive. As a worse-case condition, and to balance traffic volumes, TADI held constant the higher volume intersection by direction and peak hour and then increased volumes at the downstream intersection. The resulting Year 2021 balanced existing traffic volumes are shown in [Exhibit 4b](#).

To account for the two years of traffic growth along STH 100, a 1.2 percent growth rate was applied to the through volumes on STH 100, which was derived from the WisDOT planning level traffic projections for this segment of highway. The resulting Year 2023 balanced traffic volumes are shown in [Exhibit 4c](#).

In addition, TADI noticed that the turning movement volumes to/from the office complex north of Research Drive (Mayfair Woods) did not reflect the volumes that would be expected of a 163,350-sf office building. Therefore, TADI prepared a trip generation for a 163,350-sf office facility, subtracted existing driveway counts to/from Mayfair Woods, and assigned the additional new trips to the study area intersections following a similar trip distribution as realized in the counts. The Mayfair Woods off-site trip generation table is shown in [Exhibit 4d](#), and the resulting additional Mayfair Woods off-site new trips are shown in [Exhibit 4e](#).

The Year 2023 background traffic volumes, shown in [Exhibit 4f](#), were determined by summing the Year 2023 balanced traffic volumes ([Exhibit 4c](#)) and additional Mayfair Woods off-site new trips ([Exhibit 4e](#)).

D2. 10701 Research Drive Development Traffic

To address potential future traffic impacts at the study area intersections, it is necessary to identify the hourly volume of traffic generated by the 10701 Research Drive development. The traffic volumes expected to be generated are based on the size and type of the proposed use and on trip rates and fitted curve equations as published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 11th Edition*. The 10701 Research Drive trip generation is shown [Exhibit 5a](#).

As shown, approximately 20% of the 3,500 sq. ft. restaurant total trips are expected to be linked trips with other development uses (office and medical office). Approximately 40% of the remaining 3,500 sq. ft. restaurant driveway trips are expected to be pass-by trips, or trips that are currently on STH 100 today that stop off at the restaurant prior to continuing on their intended route. No linked trips or pass-by trips were assumed for the 2,300 sq. ft. fast casual restaurant or for the retail portion since these developments are expected to generate a lower volume of traffic as compared to the 3,500 sq. ft. restaurant. After accounting for linked and pass-by trips, 10701 Research Drive is expected to generate 460 total new trips (315 in/145 out) during the weekday morning peak hour and 580 total new trips (210 in/370 out) during the weekday evening peak hour. Of these total new trips, approximately 85 (20 in/65) weekday morning trips and 105 (65 in/40 out) weekday evening trips are expected to be residential trips.

The 10701 Research Drive new trips, shown in [Exhibit 5b](#), were assigned to the study area based on the trip distributions listed below.

Trip Distribution (Office & Restaurant)

- 20% to/from north of STH 100
- 45% to/from south on STH 100
- 30% to/from east on Research Drive
- 5% to/from east on Wisconsin Avenue

Trip Distribution (Residential)

- 30% to/from north of STH 100
- 55% to/from south on STH 100
- 15% to/from east on Wisconsin Avenue

The 10701 Research Drive pass-by trips, shown in [Exhibit 5c](#), were assigned based on the northbound and southbound directional distribution by peak hour.

The 10701 Research Drive driveway trips, shown in [Exhibit 5d](#), were determined by summing the new trips ([Exhibit 5b](#)) and pass-by trips ([Exhibit 5c](#)).

D3. Year 2023 Build Traffic Volumes

Recall that the Year 2023 background traffic volumes, shown in [Exhibit 4f](#), include balanced volumes along STH 100 plus additional traffic to/from Mayfair Woods located along the north side of Research Drive.

The Year 2023 build traffic volumes, shown in [Exhibit 6](#), were determined by summing the Year 2023 background traffic volumes ([Exhibit 4f](#)) and 10701 Research Drive driveway trips ([Exhibit 5d](#)).

PART E – INTERSECTION CAPACITY ANALYSIS

E1. Definitions of Levels of Service

The study area intersections were analyzed based on the procedures set forth in the *Highway Capacity Manual, 6th Edition*. Intersection operation is defined by “Level of Service”. Level of Service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS ‘A’, to very poor, represented by LOS ‘F’. The descriptions of each LOS are in [Table 1](#).

Table 1. LOS Descriptions

Table 1: LOS Descriptions			
LOS	Signalized Intersections Control Delay/Vehicle (sec/veh)	Unsignalized Intersections Avg. Control Delay (sec/veh)	Relative Delay
A	≤10	≤10	Short Delays
	Free-flow traffic operations at average travel speeds. Vehicles completely unimpeded in ability to maneuver. Minimal delay at signalized intersections		
B	> 10 - 20	> 10 - 15	
	Reasonably unimpeded traffic operations at average travel speeds. Vehicle maneuverability slightly restricted. Low traffic delays.		
C	> 20 - 35	> 15 - 25	
	Stable traffic operations. Lane changes becoming more restricted. Travel speeds reduced to half of average free flow travel speeds. Longer intersection delays.		
D	> 35 - 55	> 25 - 35	Moderate Delays
	Small increases in traffic flow can cause increased delays. Delays likely attributable to increased traffic, reduced signal progression, and adverse timing.		
E	> 55 - 80	> 35 - 50	
	Significant delays. Travel speeds reduced to one-third of average free flow travel speed.		
F	> 80	> 50	Long Delays
	Extremely low speeds. Intersection congestion. Long delays. Extensive traffic queues at intersections.		

Source: *Highway Capacity Manual*, Transportation Research Board, Washington, D.C., 2010

For the purpose of this study, LOS D or better was used to define desirable peak hour operating conditions. For movements currently at LOS E or LOS F conditions, the goal of the analysis is to provide approximately equal or better LOS with development.

E2. Traffic Analysis Year 2023 Background Results

The analysis was performed using the Synchro traffic analysis software (version 11.1.2.9). The models included the following adjustments to the default parameters:

- Use of calculated ideal saturation flow rates in accordance with WisDOT TEOpS 16-15-5.2.2. The calculations are included in [Appendix A](#).

- Right-turns-on-red were turned off in the model and a growth rate of 0.62 was used for traffic signalized intersections where dedicated right-turn lanes exist. This follows WisDOT policy for modeling traffic signals.
- Peak hour factors and percent trucks were adjusted to match those in the traffic counts.

[Exhibit 7a](#) shows the Year 2023 background traffic peak hour operating conditions and expected maximum queues at the study area intersections. The analyses were performed using the existing geometry as shown in [Exhibit 3](#), the existing signal timings received from WisDOT, and the Year 2023 background traffic volumes ([Exhibit 4f](#)). As shown in [Exhibit 7a](#), select STH 100 mainline left-turn movements, as well as select sidestreet movements approaching STH 100, currently operate at LOS E. These operations and associated delays are driven by the long traffic signal cycle length of 150-seconds. This long cycle is used by WisDOT to prioritize and service through traffic along STH 100. These operations are not due to lack of capacity, as all the LOS E movements have a below 0.88 volume to capacity (v/c) ratio.

It was noted in the existing background conditions that the offsets of the two study signalized intersections along STH 100 (Wisconsin Avenue and Potter Road/Research Drive) could be improved to maximize the green band width and reduce delays. For this reason, an optimized signal timing scenario was performed for the AM peak hour. The traffic signal offset at the Research Drive/Potter Road was changed from 72 seconds in the AM peak hour to 102 seconds and the northbound (NB) left-turn phase was changed to a lagging phase. These changes will help the NB through movement at Potters Road/Research Drive, improve the NB left-turn movement from a LOS E to a LOS D, and improve the SB through movement at Wisconsin Avenue. For the PM peak hour, no changes were made to the existing signal timings for the year 2023 background analysis. [Exhibit 7b](#) shows the Year 2023 background traffic peak hour operating conditions with the above signal phasing/timing changes. The background conditions analysis outputs are included in [Appendix B](#).

E2. Traffic Analysis Year 2023 Full Build Results

Traffic capacity analysis was completed on the year 2023 full build traffic volumes ([Exhibit 6](#)) and using the existing transportation system ([Exhibit 3](#)) to determine the impacts of the development volumes. [Exhibit 8a](#) shows the peak hour operating conditions and expected maximum queues at the study area intersections with using the proposed signal timing changes as included in the background conditions. As noted in the background volumes analysis, there are select STH 100 mainline left-turn movements, as well as select sidestreet movements approaching STH 100, that are expected to operate at LOS E. These operations are not due to lack of capacity, as all the LOS E movements are not above a 0.90 v/c ratio.

In comparing the delays reported with background traffic (without 10701 Research Drive) to those reported with build traffic (with 10701 Research Drive), it is seen that movement delays increase by no more than 5-seconds/vehicle and in some cases reduce by up to 13 seconds/vehicle (ex. EB left-turn at Potter Road). These reductions in delay are because the signal allows sidestreet movements to stay green for more of their allotted time. This means there is less time in the cycle where sidestreet movements are waiting on red for the light to turn green again. At the signalized intersection of STH 100 and Wisconsin Avenue, the projected 95th percentile queue length is shown to be close to 900 feet in the PM peak hour. In order to reduce

this queue, it is recommended at this intersection to subtract three seconds from the WB left-turn phase (phase 3) and add it to the SB through phase. Also, reduce the NB left-turn phase (phase 1) from 18 seconds to 17 seconds and add the additional time to the SB through phase.

[Exhibit 8b](#) shows the peak hour operating conditions and expected maximum queues with the signal timing changes at Wisconsin Avenue. With these changes, the SB queue reduces from 895 feet to 525 feet in the PM peak hour. The full build analysis outputs are included in [Appendix C](#).

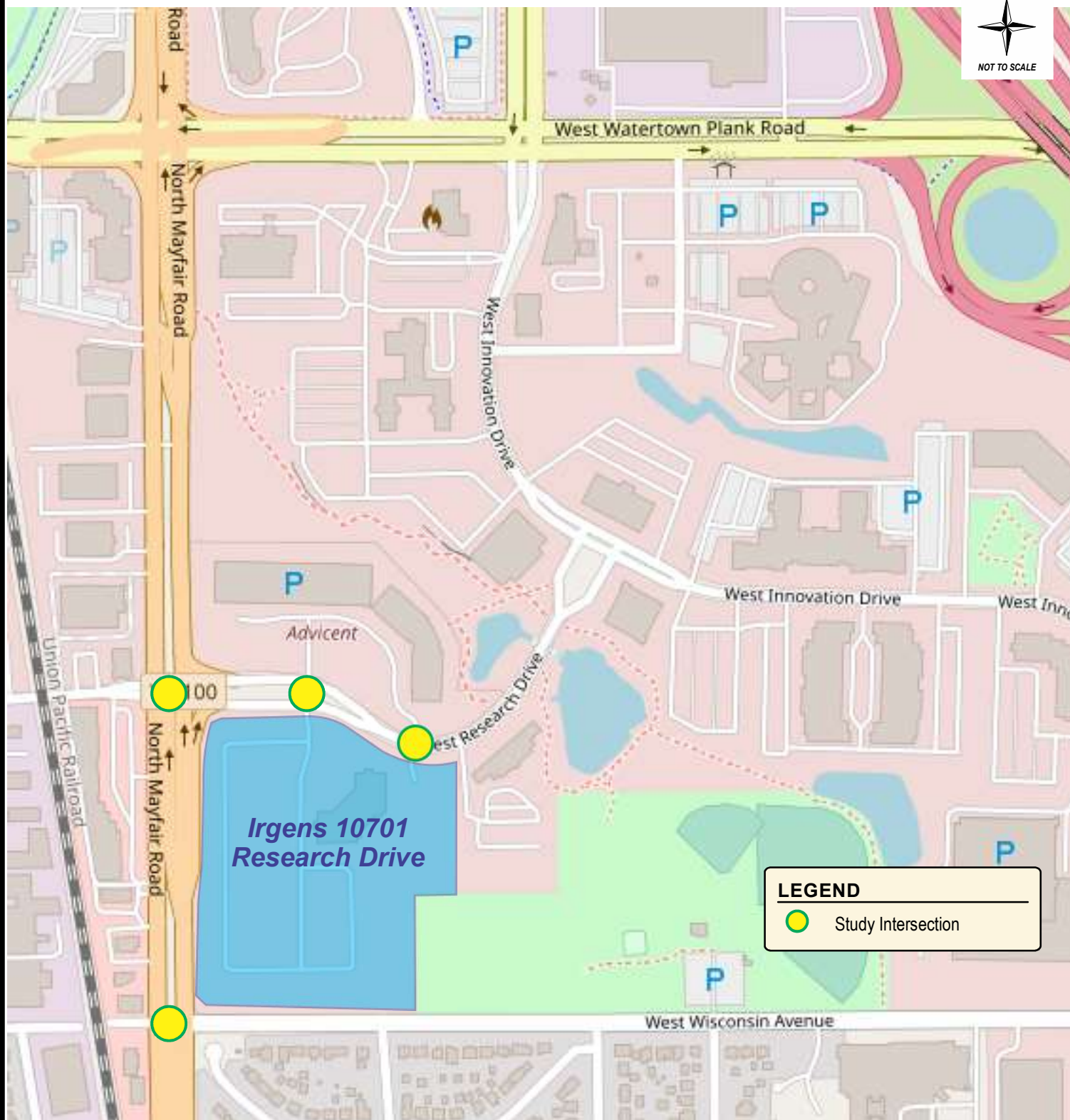
There is approximately 285-feet of storage space along Research Drive from the stop line at STH 100 to the west side of the median opening at the West Driveway. The westbound traffic maximum queue on Research Drive at STH 100 is expected to be approximately 260-feet in the weekday evening peak hour under Year 2023 full build traffic volumes. This queue is not expected to block the West Driveway.

PART F – RECOMMENDATION & CONCLUSION

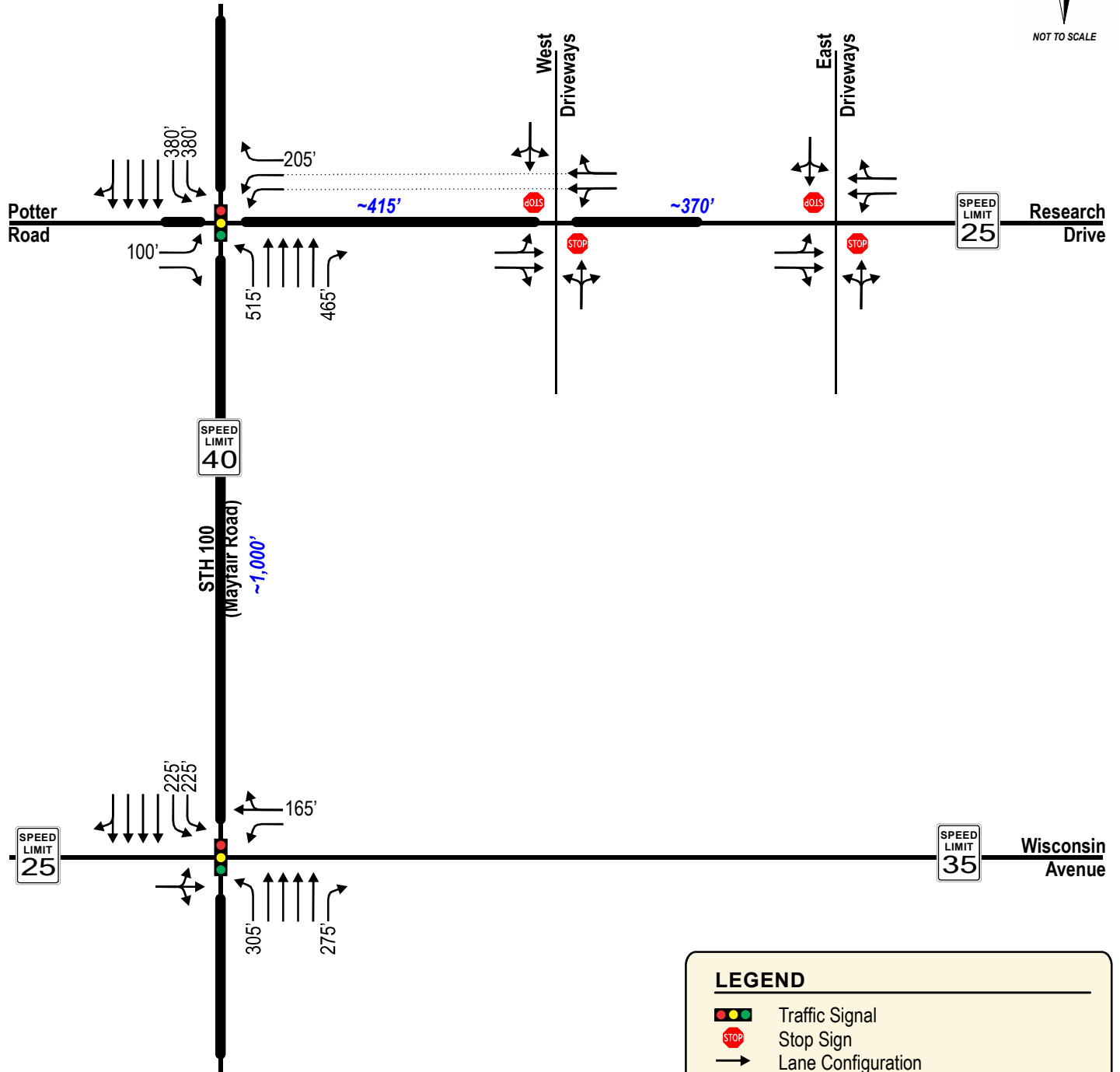
Based on the results of the traffic analysis, the following modifications, shown in [Exhibit 9](#), are recommended. *Recommended modifications are for jurisdictional consideration and are not legally binding. The City of Wauwatosa reserves the right to determine alternative solutions.*

- Consider changing the order of the NB left-turn phasing at STH 100 and Potter Road/Research Drive from leading to lagging and change the offset to 101 seconds for the AM peak timing period. (This is a recommendation from the background traffic analysis.)
- At the STH 100 and Wisconsin Avenue traffic signal, consider subtracting three seconds from the WB left-turn phase and add it to the SB through phase for the PM peak hour timing period. Also, reduce the NB left-turn phase from 18 seconds to 17 seconds and add that additional time to the SB through phase. This will help the SB through movement during the PM peak hour.

With the addition of the 10701 Research Drive development, traffic volumes are expected to increase slightly along STH 100 and Wisconsin Avenue; however, all movements at the study area intersections are expected to operate safely and efficiently with a v/c ratios less than 0.91 with the recommended improvement options.

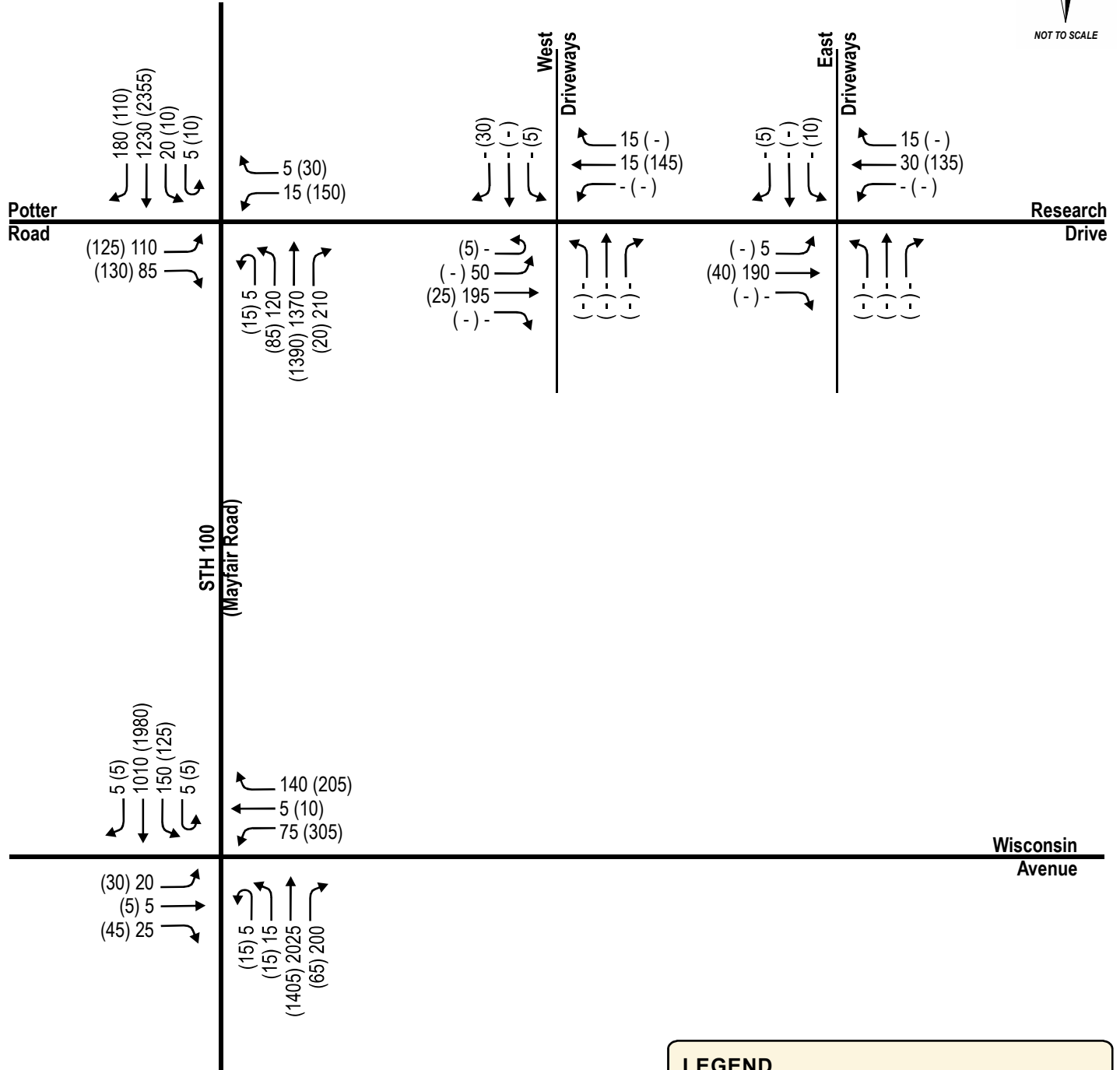


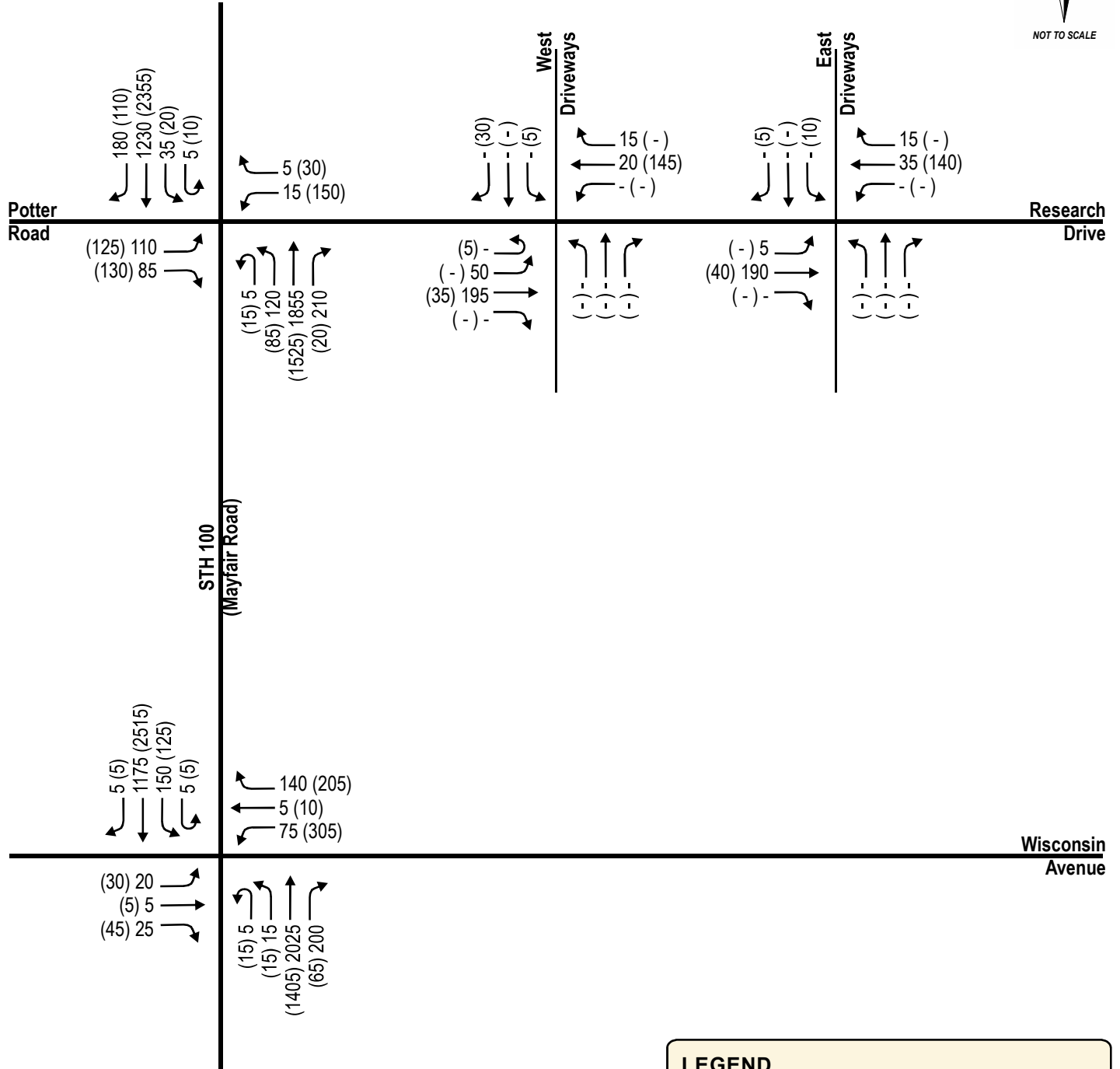




LEGEND

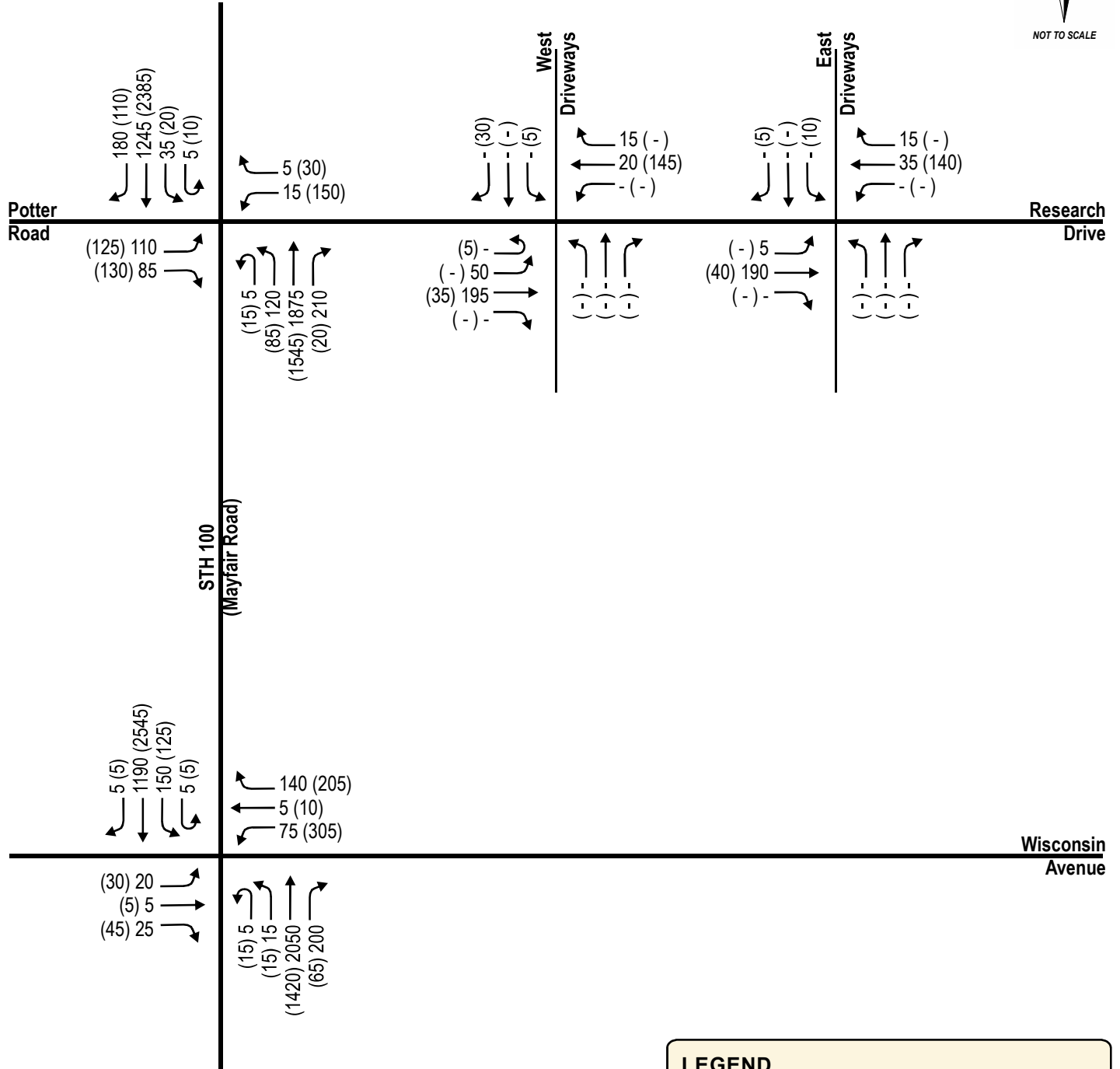
- Traffic Signal
- Stop Sign
- Lane Configuration
- XX' Turn-Lane Storage (In Feet)
- ~XX' Approximate Centerline-to-Centerline Distance Between Intersections (In Feet)
- Divided Roadway Median





LEGEND

- XX Weekday Morning Peak Hour (7:30-8:30AM)
- (XX) Weekday Evening Peak Hour (4:30-5:30PM)
- Fewer than 3 vehicles per hour



LEGEND

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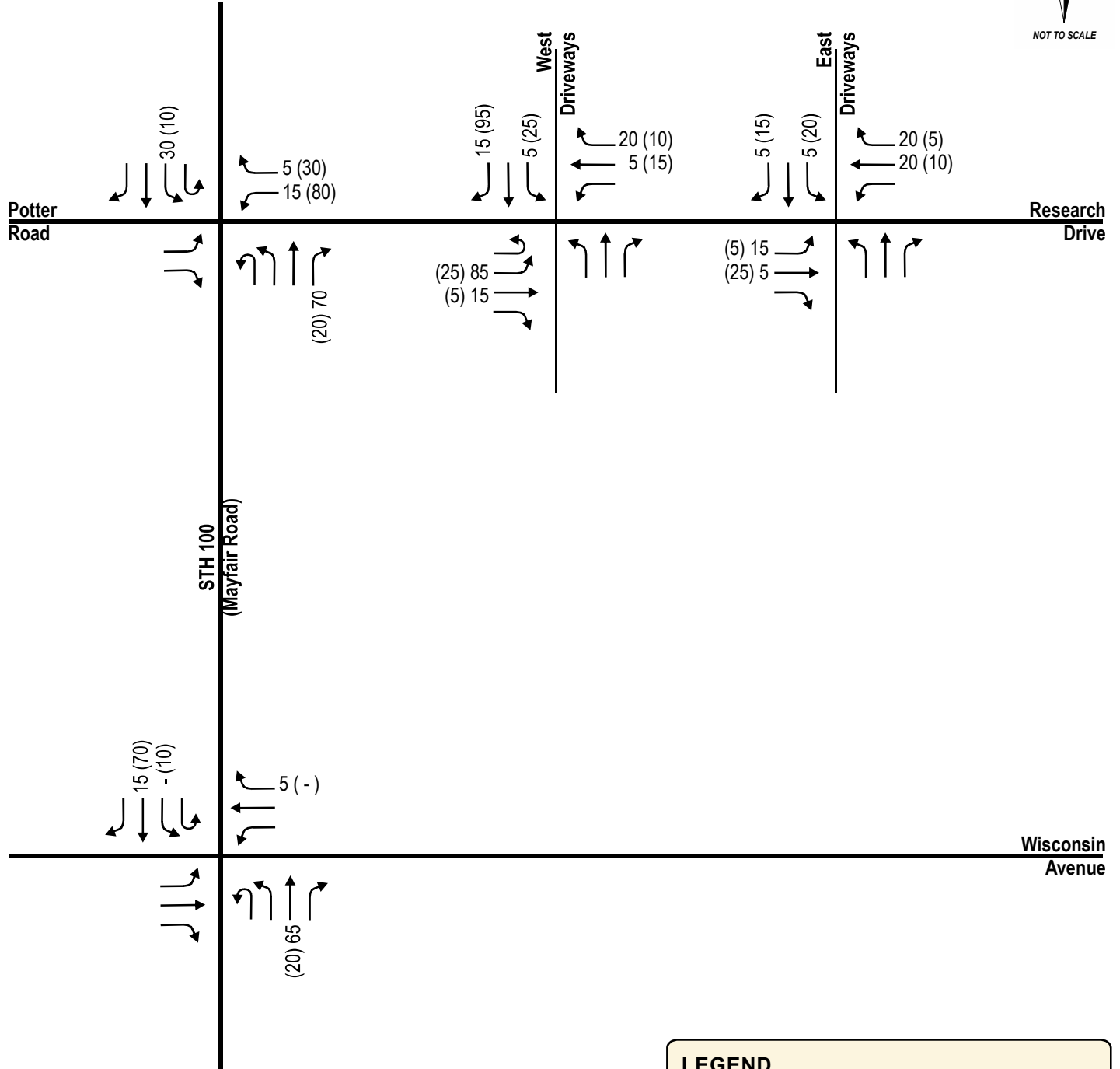
Mayfair Woods Off-Site Trip Generation Table

Land Use	ITE Code	Proposed Size	AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
General Office Building	710	163.350 x 1,000 SF	225 (88%)	30 (12%)	255 FCE	45 (17%)	205 (83%)	250 FCE
Total Driveway Trips			225	30	255	45	205	250
<i>Minus Existing Counts</i>			85	0	85	0	50	50
Total Additional New Trips			140	30	170	45	155	200

FCE = Fitted Curve Equation

TRIP DISTRIBUTION

North on STH 100	20%	30	5	10	30
South on STH 100	45%	65	15	20	70
East on Research Drive	30%	40	10	15	45
East on Wisconsin Avenue	5%	5	0	0	10
	100%	140	30	45	155



LEGEND

XX

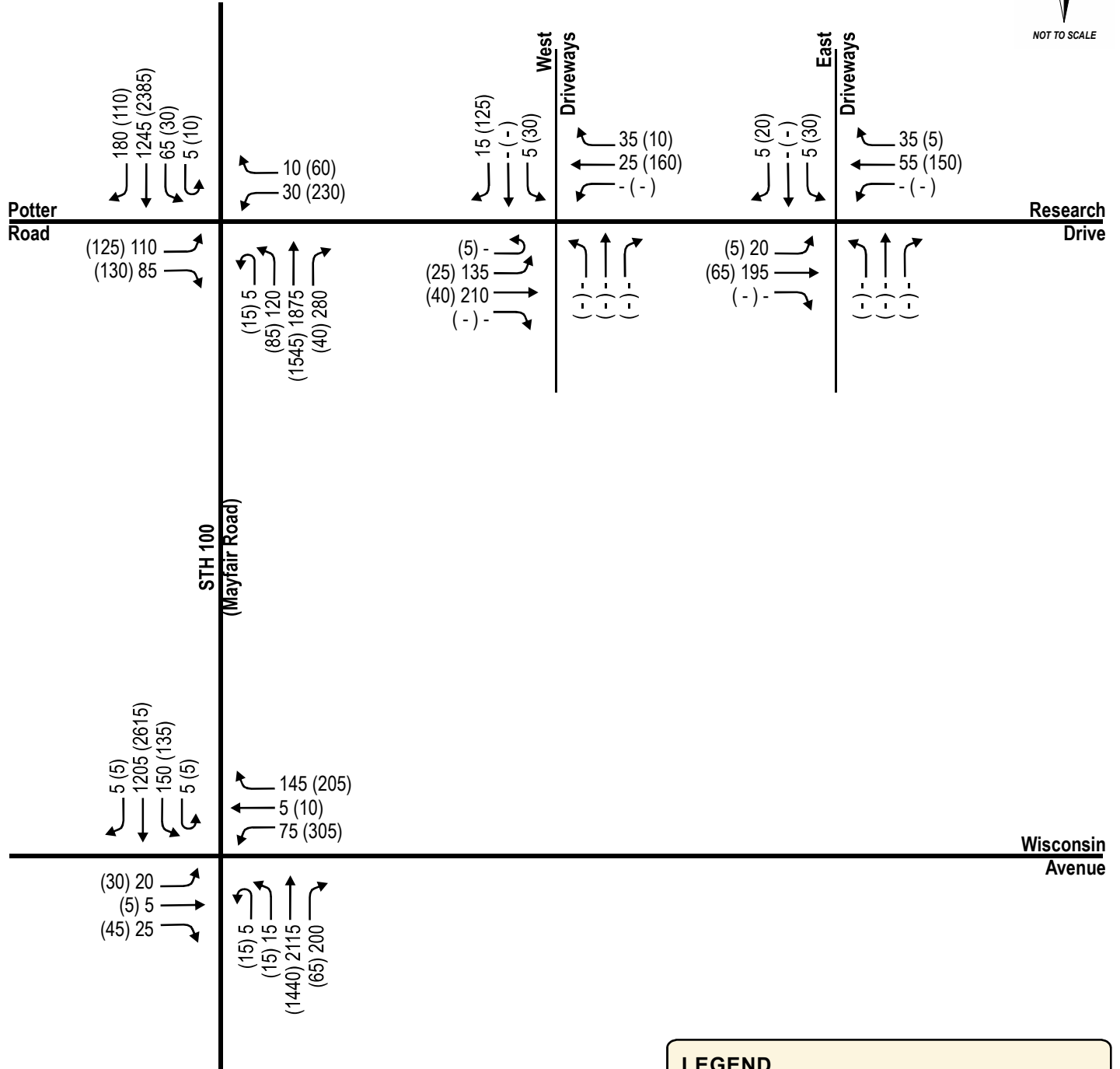
Weekday Morning Peak Hour (7:30-8:30AM)

(XX)

Weekday Evening Peak Hour (4:30-5:30PM)

-

Fewer than 3 vehicles per hour



LEGEND

- XX Weekday Morning Peak Hour (7:30-8:30AM)
- (XX) Weekday Evening Peak Hour (4:30-5:30PM)
- Fewer than 3 vehicles per hour

10701 Research Drive Trip Generation Table

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
General Office Building *	710	105.000 x 1,000 SF	1,210 FCE	155 (88%)	20 (12%)	175 FCE	30 (17%)	145 (83%)	175 FCE
Medical-Dental Office Building (Stand-alone)	720	45.700 x 1,000 SF	1,650 (36.00)	95 (79%)	25 (21%)	120 FCE	55 (30%)	130 (70%)	185 FCE
Fast-Food Restaurant with Drive-Through Window **	934	3.500 x 1,000 SF	1,640 (467.48)	80 (51%)	75 (49%)	155 (44.61)	60 (52%)	55 (48%)	115 (33.03)
Fast Casual Restaurant ***	930	2.300 x 1,000 SF	220 (97.14)	0 (50%)	0 (50%)	0 (1.43)	15 (55%)	15 (45%)	30 (12.55)
Strip Retail Plaza (<40k)	822	2.738 x 1,000 SF	150 (54.45)	5 (60%)	0 (40%)	5 (2.36)	15 (50%)	15 (50%)	30 FCE
Multifamily Housing (Low-Rise) (Not Close to Rail Transit)	220	199 Units	1,350 FCE	20 (24%)	65 (76%)	85 FCE	65 (63%)	40 (37%)	105 FCE
Total Trips			6,220	355	185	540	240	400	640
Minus Linked Trips (934)			330	15	15	30	10	10	20
Total Linked Trips (Minus)			330	15	15	30	10	10	20
Total Driveway Trips			5,890	340	170	510	230	390	620
Minus Pass-by Trips (934)			520	25	25	50	20	20	40
Total Pass-by Trips (Minus)			520	25	25	50	20	20	40
Total New Trips			5,370	315	145	460	210	370	580

FCE = Fitted Curve Equation

Linked trips based on ITE 934 total trips; Pass-by trips based on ITE 934 driveway trips.

*Traffic counts were completed when the 105,000 sq. ft. office space was vacant.

**This restaurant will be a fast casual restaurant with a drive -thru window. AM peak hour is expected to be steady; therefore, fast-food restaurant land use was used.

***This restaurant is planned to be open only during the lunch and dinner hours.

Trip Distribution (Office & Restaurant)

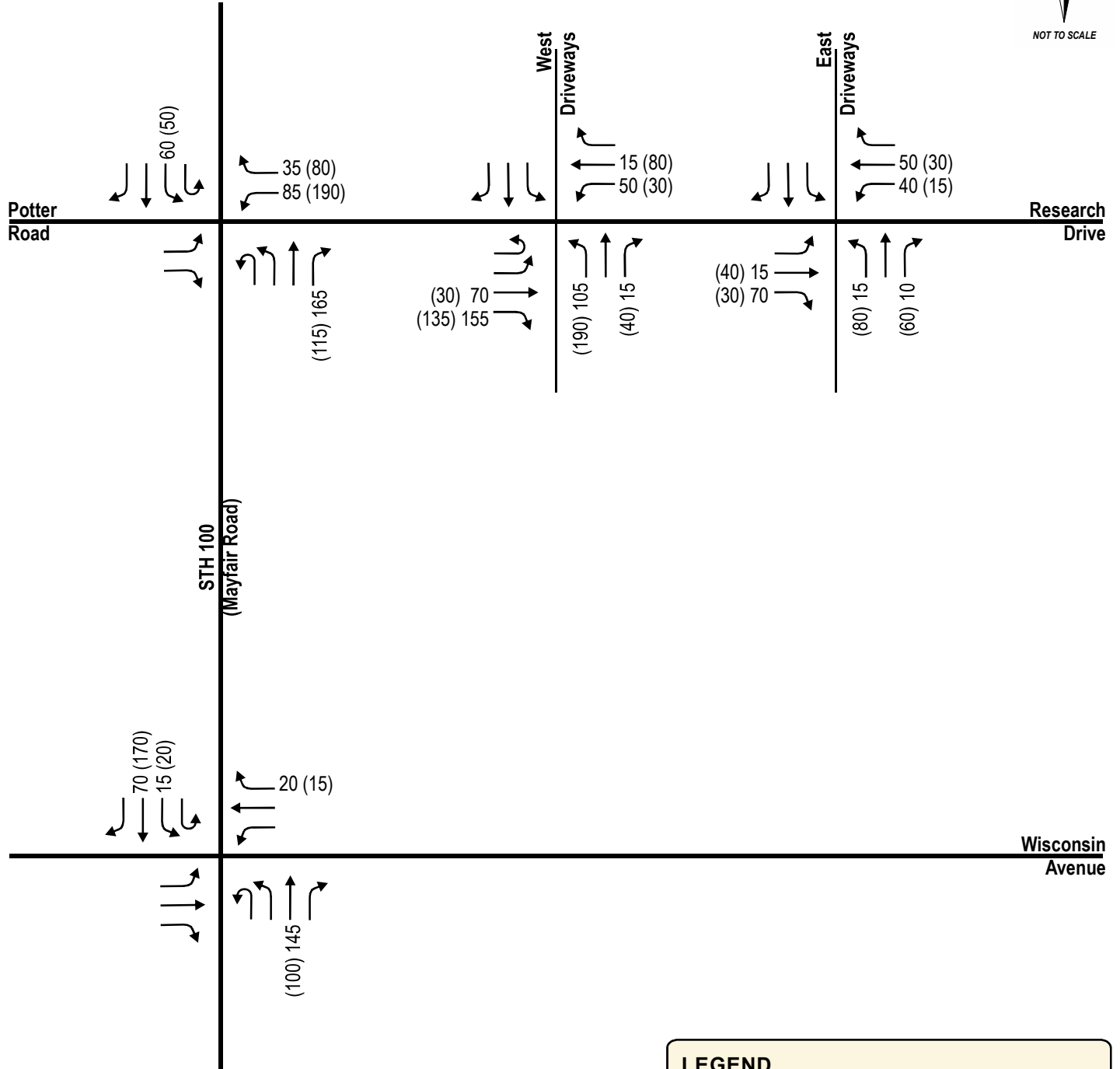
North on STH 100	20%	1030	55	15	30	65
South on STH 100	45%	2320	135	35	65	150
East on Research Drive	30%	1550	90	25	45	100
East on Wisconsin Avenue	5%	260	15	5	5	15
	100%	5160	295	80	145	330

Trip Distribution (Residential)

North on STH 100	30%	70	5	20	20	15
South on STH 100	55%	120	10	35	35	20
East on Research Drive	0%	0	0	0	0	0
East on Wisconsin Avenue	15%	30	5	10	10	5
	100%	220	20	65	65	40

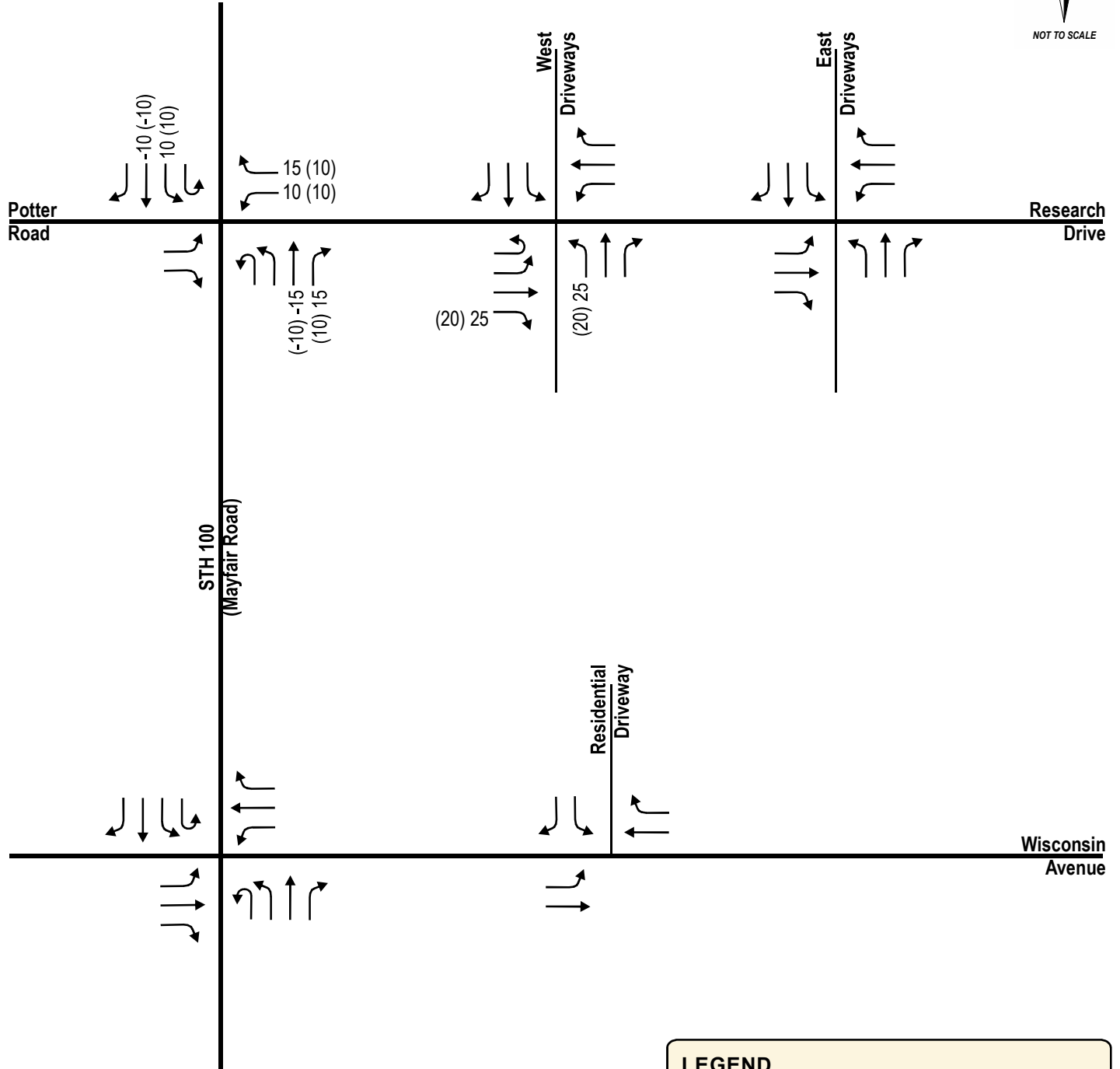
TRIP DISTRIBUTION (Pass-by Trips)

	AM	PM				
North on STH 100	35%	57%	180	10	10	10
South on STH 100	65%	43%	340	15	15	10
	100%		960	25	25	20



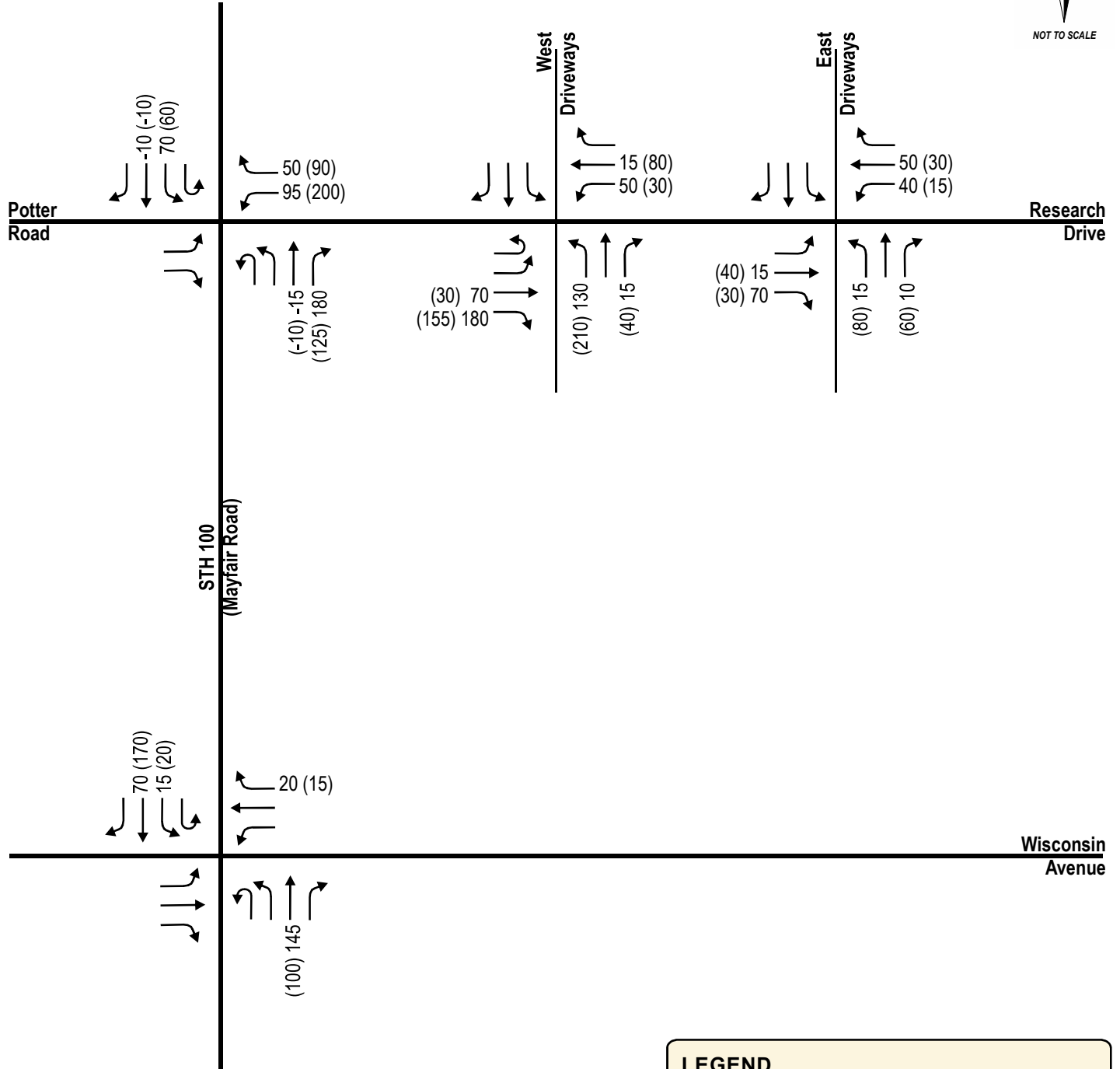
LEGEND

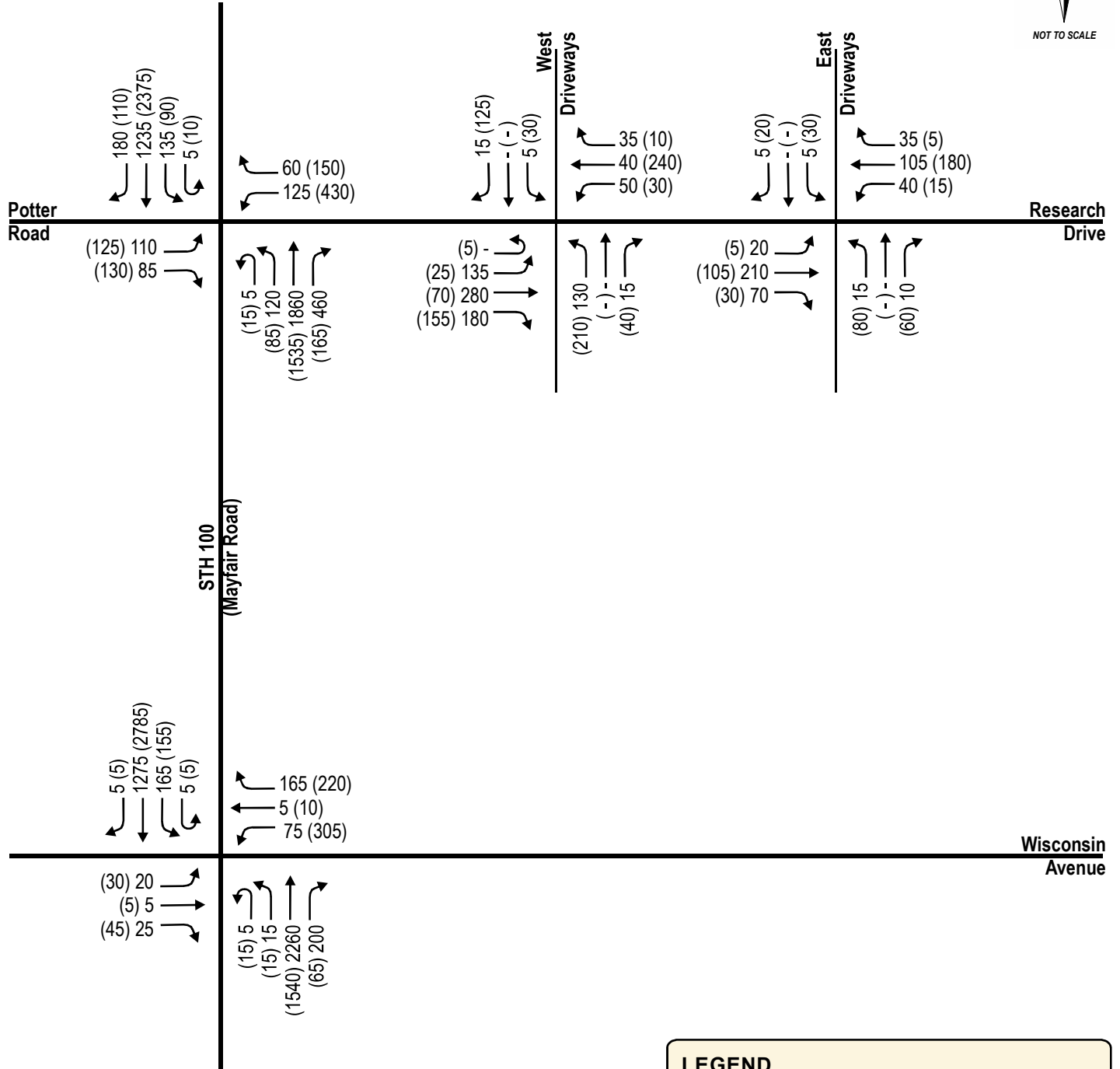
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**Year 2023 Background Traffic Peak Hour Operating Conditions
With Existing Geometrics and Traffic Control**

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach											I/S LOS & Delay	
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
STH 100 & Wisconsin Avenue <i>Traffic Signal Control</i>	Lanes->		1			1	1		1	4	1	2	4		
	AM	LOS	E			E	E		E	B	B	E	C		C
		Delay	68.7			61	61.9		76	16.3	11	74.4	28.8		25.8
		Queue	100'			110'	240'		50'	570'	110'	115'	295'		
	PM	LOS	E			D	D		E	C	B	E	A		B
		Delay	70.9			54.8	45.2		75.9	22.2	17.4	67.9	2.9		16.4
		Queue	165'			340'	250'		70'	350'	50'	120'	600'		
STH 100 & Potter Road/Research Drive <i>Traffic Signal Control</i>	Lanes->		1	-	1	2	-	1	1	4	1	2	4		
	AM	LOS	E	-	**	E	-	**	E	A	A	E	A		A
		Delay	76.1	-	**	64	-	**	65.5	0.2	0.2	72.1	8.5		
		Queue	185'	-	100'	35'	-	25'	205'	435'	180'	65'	255'		
		LOS	E	-	**	E	-	**	E	A	A	E	B		
	PM	Delay	72.6	-	**	69.4	-	**	70	0.1	0.0	71.9	10		12.5
		Queue	195'	-	135'	150'	-	70'	175'	70'	25'	45'	515'		
Research Drive & West Driveways <i>Stop Sign Control (NB/SB)</i>	Lanes->		2			2			1			1			
	AM	LOS	A			A			B			A			A
		Delay	7.7			7.6			11.9			9.8			
		Queue	25'			25'			25'			25'			
		LOS	A			A			B			B			
	PM	Delay	8.2			7.3			10			10.7			4.9
		Queue	25'			25'			25'			25'			
Research Drive & East Driveways <i>Stop Sign Control (NB/SB)</i>	Lanes->		2			2			1			1			
	AM	LOS	A			A			B			A			A
		Delay	7.5			7.7			10.7			9.8			
		Queue	25'			25'			25'			25'			
		LOS	A			A			A			B			
	PM	Delay	7.6			7.4			9.8			10.2			2.1
		Queue	25'			25'			25'			25'			

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.

**Delay/LOS not reported by HCS due to signal phasing. Movements anticipated to operate at LOS D/E or better.

Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

**Year 2023 Background Traffic Peak Hour Operating Conditions
With Existing Geometrics and Optimized Signal Phasing/Timings**

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach										I/S LOS & Delay		
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
STH 100 & Wisconsin Avenue <i>Traffic Signal Control</i>	Lanes->		1			1	1		1	4	1	2	4		
	AM	LOS	E			E	E		E	B	B	E	A		B
		Delay	68.7			61	61.9		76	16.2	11	66.8	0.5		16.7
		Queue	100'			110'	240'		50'	570'	110'	140'	55'		
	PM	LOS	E			D	D		E	C	B	E	A		B
		Delay	70.9			54.8	45.2		75.9	22.2	17.4	67.9	2.9		16.4
Queue		165'			340'	250'		70'	350'	50'	120'	600'			
STH 100 & Potter Road/Research Drive <i>Traffic Signal Control</i>	Lanes->		1	-	1	2	-	1	1	4	1	2	4		
	AM	LOS	E	-	**	E	-	**	D	A	A	E	B		B
		Delay	76.1	-	**	64	-	**	39.8	0.2	0.2	72.1	16.5		11.3
		Queue	185'	-	100'	35'	-	25'	205'	45'	25'	65'	255'		
	PM	LOS	E	-	**	E	-	**	E	A	A	E	B		B
		Delay	72.6	-	**	69.4	-	**	70	0.1	0.0	71.9	10		12.5
Queue		195'	-	135'	150'	-	70'	175'	70'	25'	45'	515'			
Research Drive & West Driveways <i>Stop Sign Control (NB/SB)</i>	Lanes->		2			2			1			1			
	AM	LOS	A			A			B			A			A
		Delay	7.7			7.6			11.9			9.8			3.1
		Queue	25'			25'			25'			25'			
	PM	LOS	A			A			B			B			A
		Delay	8.2			7.3			10			10.7			4.9
Queue		25'			25'			25'			25'				
Research Drive & East Driveways <i>Stop Sign Control (NB/SB)</i>	Lanes->		2			2			1			1			
	AM	LOS	A			A			B			A			A
		Delay	7.5			7.7			10.7			9.8			1.0
		Queue	25'			25'			25'			25'			
	PM	LOS	A			A			A			B			A
		Delay	7.6			7.4			9.8			10.2			2.1
Queue		25'			25'			25'			25'				

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.

**Delay/LOS not reported by HCS due to signal phasing. Movements anticipated to operate at LOS D/E or better.

Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

**Year 2023 Build Traffic Peak Hour Operating Conditions
With Existing Geometrics and Traffic Control**

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S
			Eastbound			Westbound			Northbound			Southbound			LOS & Delay
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
STH 100 & Wisconsin Avenue <i>Traffic Signal Control</i>		Lanes->	1			1	1		1	4	1	2	4		
	AM	LOS	E			E	E		E	B	B	E	A		B 16.7
		Delay	68.7			61	61.9		76	16.2	11	66.8	0.5		
		Queue	100'			110'	240'		50'	570'	110'	140'	75'		
	PM	LOS	E			E	D		E	C	B	E	A		B 16.7
		Delay	70.4			55.3	45.7		75.9	23.2	17.9	67	3.3		
		Queue	150'			340'	265'		70'	390'	50'	125'	895'		
STH 100 & Potter Road/Research Drive <i>Traffic Signal Control</i>		Lanes->	1	-	1	2	-	1	1	4	1	2	4		
	AM	LOS	E	-	**	E	-	**	D	A	A	E	B		B 13.4
		Delay	76.1	-	**	66.5	-	**	39.8	0.2	0.4	72.1	16.5		
		Queue	185'	-	100'	100'	-	75'	205'	45'	30'	115'	255'		
	PM	LOS	E	-	**	E	-	**	E	A	A	E	B		B 17.4
		Delay	59.5	-	**	69	-	**	69.9	0.2	0.2	73.3	14.8		
		Queue	180'	-	125'	260'	-	135'	175'	70'	25'	85'	600'		
Research Drive & West Driveways <i>Stop Sign Control (NB/SB)</i>		Lanes->	2			2			1			1			
	AM	LOS	A			A			D			B			A 6.8
		Delay	7.7			8.5			29.4			10.5			
		Queue	25'			25'			85'			25'			
	PM	LOS	A			A			D			B			A 9.9
		Delay	8.6			8			27.5			11.9			
		Queue	25'			25'			135'			30'			
Research Drive & East Driveways <i>Stop Sign Control (NB/SB)</i>		Lanes->	2			2			1			1			
	AM	LOS	A			A			B			B			A 1.9
		Delay	7.6			8.1			12.6			11.3			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			A			B			B			A 4.6
		Delay	7.7			7.6			11.9			11.4			
		Queue	25'			25'			25'			25'			

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.

**Delay/LOS not reported by HCS due to signal phasing. Movements anticipated to operate at LOS D/E or better.

Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

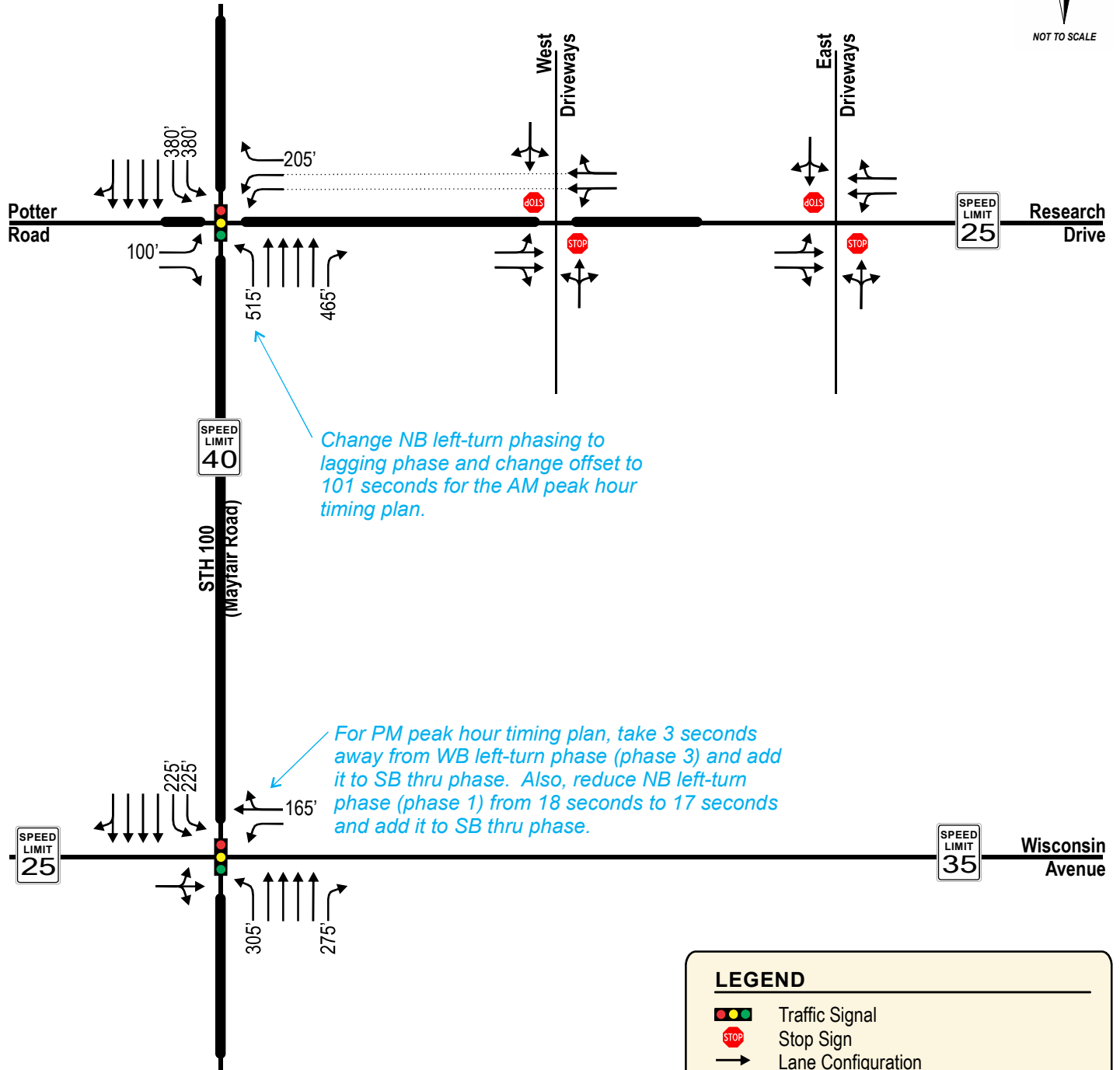
**Year 2023 Build Traffic Peak Hour Operating Conditions
With Signal Timing Changes**

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
STH 100 & Wisconsin Avenue <i>Traffic Signal Control</i>	Lanes->		1			1	1		1	4	1	2	4		
	AM	LOS	E			E	E		E	B	B	E	A		B 16.7
		Delay	68.7			61	61.9		76	16.2	11	66.8	0.5		
		Queue	100'			110'	240'		50'	570'	110'	140'	75'		
	PM	LOS	E			E	D		E	C	B	E	A		B 16.7
		Delay	70.4			56.4	45.7		75.9	23.2	17.8	67	3.3		
		Queue	150'			350'	275'		70'	375'	50'	125'	525'		
STH 100 & Potter Road/Research Drive <i>Traffic Signal Control</i>	Lanes->		1	-	1	2	-	1	1	4	1	2	4		
	AM	LOS	E	-	**	E	-	**	D	A	A	E	B		B 13.4
		Delay	76.1	-	**	66.5	-	**	39.8	0.2	0.4	72.1	16.5		
		Queue	185'	-	100'	100'	-	75'	205'	45'	30'	115'	255'		
	PM	LOS	E	-	**	E	-	**	E	A	A	E	B		B 17.4
		Delay	59.5	-	**	69	-	**	69.9	0.2	0.2	73.3	14.8		
		Queue	180'	-	125'	260'	-	135'	175'	75'	25'	85'	600'		
Research Drive & West Driveways <i>Stop Sign Control (NB/SB)</i>	Lanes->		2			2			1			1			
	AM	LOS	A			A			D			B			A 6.5
		Delay	7.7			8.5			29.9			10.5			
		Queue	25'			25'			80'			25'			
	PM	LOS	A			A			D			B			A 8.6
		Delay	8.6			8			25.5			11.9			
Queue		25'			25'			110'			30'				
Research Drive & East Driveways <i>Stop Sign Control (NB/SB)</i>	Lanes->		2			2			1			1			
	AM	LOS	A			A			B			B			A 1.9
		Delay	7.6			8.1			12.6			11.3			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			A			B			B			A 4.6
		Delay	7.7			7.6			11.9			11.4			
		Queue	25'			25'			25'			25'			

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.

**Delay/LOS not reported by HCS due to signal phasing. Movements anticipated to operate at LOS D/E or better.

Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.



LEGEND

- Traffic Signal
- Stop Sign
- Lane Configuration
- XX' Turn-Lane Storage (In Feet)
- Divided Roadway Median

BLACK = Existing Condition
BLUE = Recommended Modification

APPENDIX A

Traffic

Existing Turning Movement Counts

Saturation Flow Rate Calculations

Existing Traffic Signal Timings

Intersection Traffic Volume Report

Count Basics		Version 2011.M3	Page 1 of 13
Start Date:	Thursday, March 12, 2020	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events

Base Information, Observed (13) Hour and Estimated (24) Hour Volume Summaries

Intersection of: **STH 100 & W Wisconsin Ave**



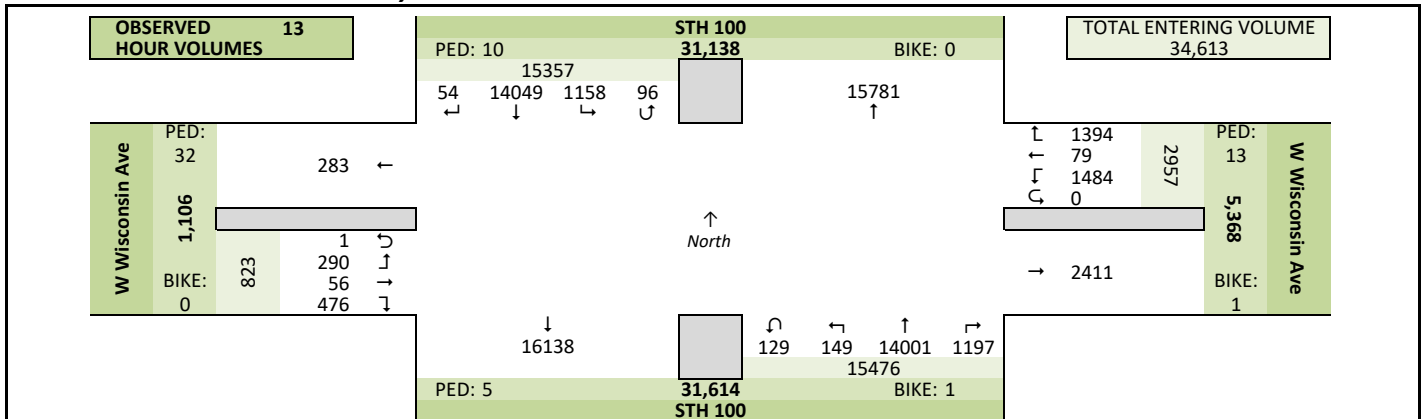
Site Information

Municipality	City of Wauwatosa		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Traffic Signal		
Roadway Names	North Direction		↑
North Leg	STH 100		
East Leg	W Wisconsin Ave		
South Leg	STH 100		
West Leg	W Wisconsin Ave		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementry school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
	Other (describe)	None	None

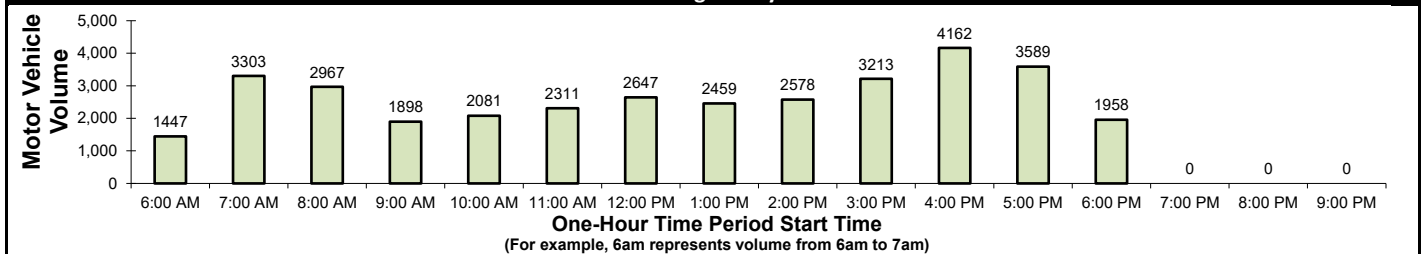
Count Information

Hrs Counted: 6:00 AM-7:00 PM					
1st Day of Count		Thursday, March 12, 2020		Weather	
AM Peak Period		Thursday, March 12, 2020		Clear & Dry	
Midday Peak Period		Thursday, March 12, 2020		Clear & Dry	
PM Peak Period		Thursday, March 12, 2020		Clear & Dry	
Calculated Peak Hours					
	AM	7:30-8:30am	MD	12:00-1:00pm	PM 4:15-5:15pm
Peak Hours Selected for Analysis					
	AM	7:30-8:30am	MD	12:00-1:00pm	PM 4:30-5:30pm
Daily/Seasonal Adjustment Group			(2) Urban Arterials & Collectors		
Count Expansion Group			(2) Urban Arterials & Collectors		
Daily/Seasonal Adjustment Factor			0.940	Count Expansion Factor	1.237
Company Name				Ayres Associates	Manual Adj. 1.000
Observers	AM Peak Period		Miovision Video Recording		
	Midday Peak Period		Miovision Video Recording		
	PM Peak Period		Miovision Video Recording		
Comments	2017 DOT Seasonal Factors				

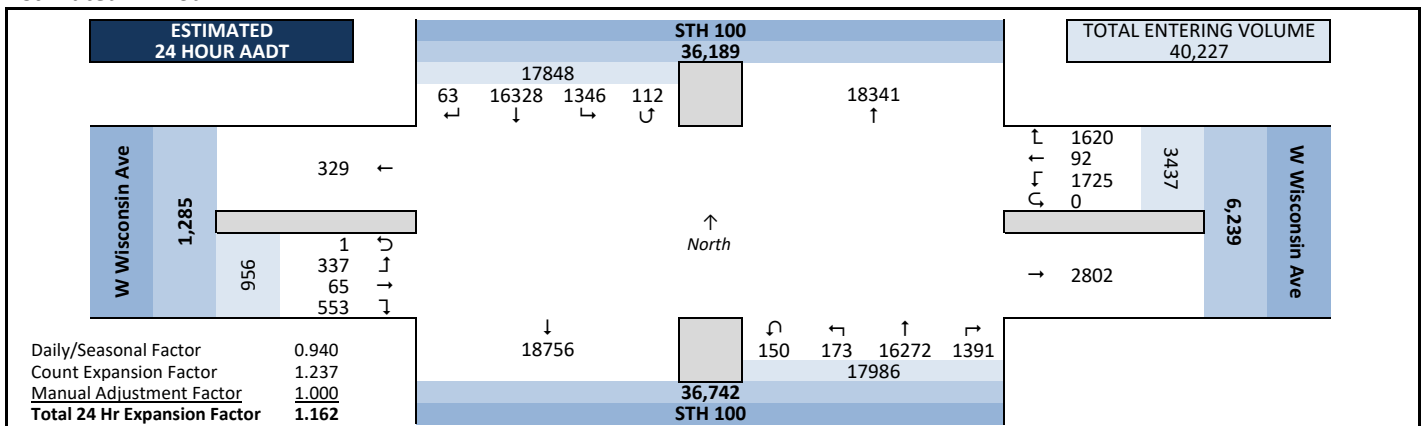
Observed 13 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT



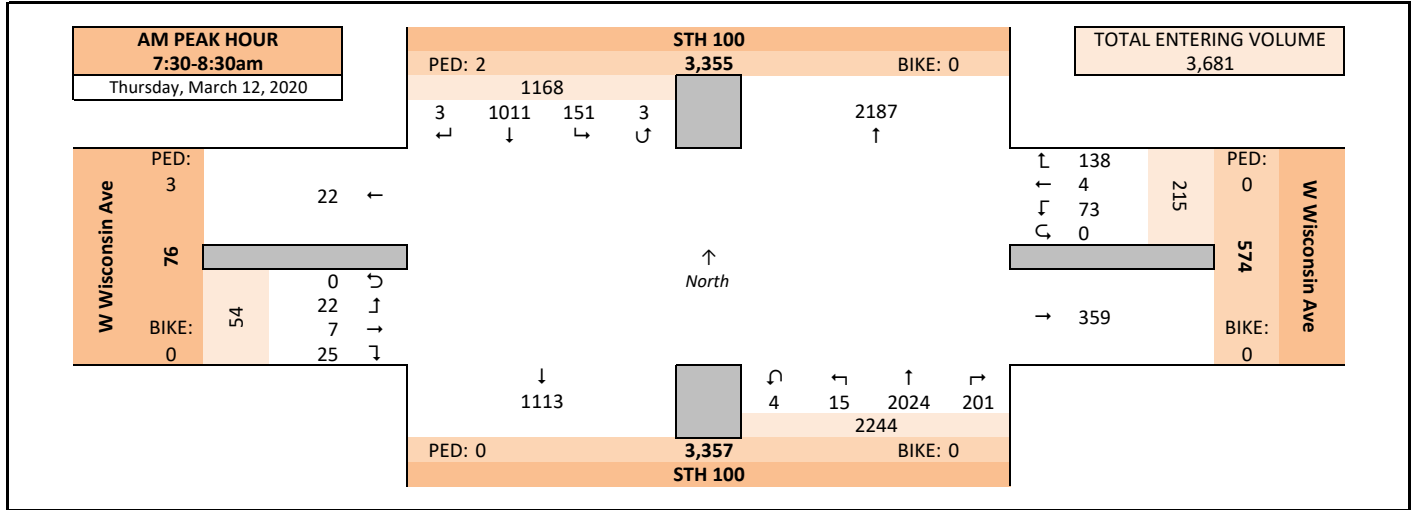
Intersection Traffic Volume Report

Peak Hour Volume Graphical Summary

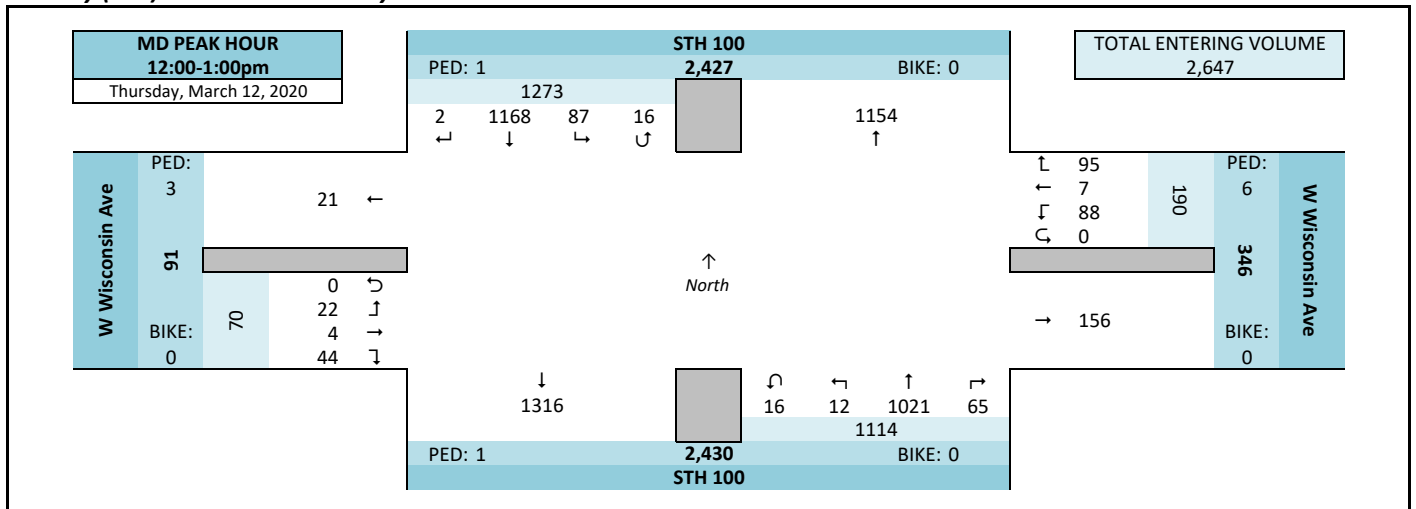
Count Basics		Page 2 of 13	
Start Date:	Thursday, March 12, 2020	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events

STH 100 & W Wisconsin Ave

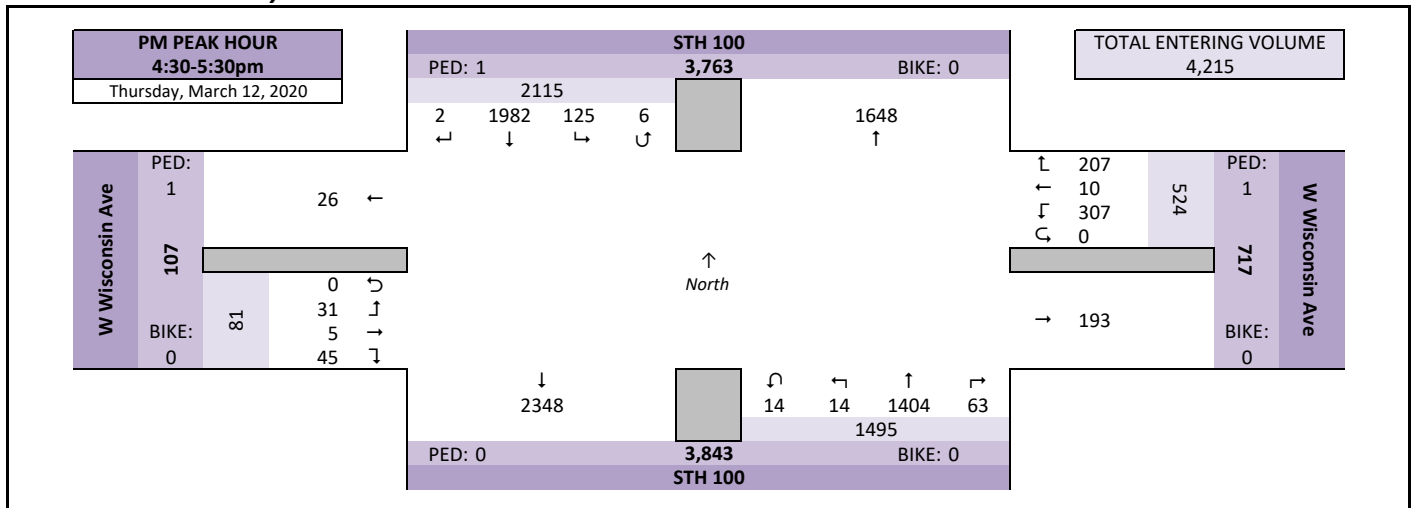
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



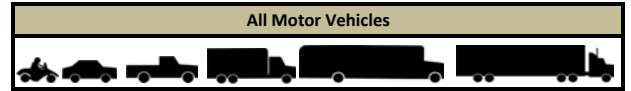
Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Thursday, March 12, 2020	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events

Peak Hour Volume Summary

STH 100 & W Wisconsin Ave

Peak Hour Volumes, Truck Percentages, and PHFs



Thursday, March 12, 2020		From North					From East					From South					From West					
AM Peak Hour	AM Peak Hour	STH 100					W Wisconsin Ave					STH 100					W Wisconsin Ave					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
	7:30 AM	0	252	57	0	309	30	1	18	0	49	72	552	6	1	631	5	3	7	0	15	1004
	7:45 AM	0	242	34	1	277	43	1	21	0	65	57	570	4	0	631	6	0	11	0	17	990
	8:00 AM	1	252	36	1	290	36	1	22	0	59	38	490	2	1	531	6	2	1	0	9	889
	8:15 AM	2	265	24	1	292	29	1	12	0	42	34	412	3	2	451	8	2	3	0	13	798
	Peak Hour Volume	3	1011	151	3	1168	138	4	73	0	215	201	2024	15	4	2244	25	7	22	0	54	3681
	Rounded Hourly Volume	5	1010	150	5	1170	140	5	75	0	220	200	2025	15	5	2245	25	5	20	0	50	3685
	% Single Unit Trucks	0.0	2.8	1.3	0.0	2.6	2.9	0.0	1.4	0.0	2.3	2.5	1.5	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	1.9
	% Heavy Trucks	0.0	0.7	0.0	0.0	0.6	0.7	0.0	2.7	0.0	1.4	0.5	0.6	0.0	0.0	0.6	0.0	0.0	4.5	0.0	1.9	0.7
	% Trucks (Total)	0.0	3.5	1.3	0.0	3.2	3.6	0.0	4.1	0.0	3.7	3.0	2.1	0.0	0.0	2.1	0.0	0.0	4.5	0.0	1.9	2.6
	Peak Hour Factor (PHF)	0.37	0.95	0.66	0.75	0.94	0.80	1.00	0.83	0.00	0.83	0.70	0.89	0.62	0.50	0.89	0.78	0.58	0.50	0.00	0.79	0.92

Thursday, March 12, 2020		From North					From East					From South					From West					Totals
Midday (MD) Peak Hour	MD Peak Hour	STH 100					W Wisconsin Ave					STH 100					W Wisconsin Ave					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	12:00 PM	0	314	31	1	346	22	4	26	0	52	10	251	1	3	265	9	2	2	0	13	
	12:15 PM	1	290	16	9	316	26	1	22	0	49	19	230	7	4	260	14	1	9	0	24	
	12:30 PM	0	279	22	4	305	26	0	18	0	44	19	273	3	2	297	11	0	5	0	16	
	12:45 PM	1	285	18	2	306	21	2	22	0	45	17	267	1	7	292	10	1	6	0	17	
	Peak Hour Volume	2	1168	87	16	1273	95	7	88	0	190	65	1021	12	16	1114	44	4	22	0	70	
	Rounded Hourly Volume	0	1170	85	15	1270	95	5	90	0	190	65	1020	10	15	1110	45	5	20	0	70	
	% Single Unit Trucks	0.0	1.8	1.1	0.0	1.7	0.0	0.0	2.3	0.0	1.1	0.0	2.1	0.0	0.0	1.9	4.5	0.0	0.0	0.0	2.9	
	% Heavy Trucks	0.0	0.8	0.0	0.0	0.7	0.0	0.0	1.1	0.0	0.5	1.5	0.8	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.7	
	% Trucks (Total)	0.0	2.6	1.1	0.0	2.4	0.0	0.0	3.4	0.0	1.6	1.5	2.8	0.0	0.0	2.7	4.5	0.0	0.0	0.0	2.9	
	Peak Hour Factor (PHF)	0.50	0.93	0.70	0.44	0.92	0.91	0.44	0.85	0.00	0.91	0.86	0.93	0.43	0.57	0.94	0.79	0.50	0.61	0.00	0.73	

Thursday, March 12, 2020		From North					From East					From South					From West					
PM Peak Hour	PM Peak Hour	STH 100					W Wisconsin Ave					STH 100					W Wisconsin Ave					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
	4:30 PM	0	574	36	2	612	51	3	74	0	128	17	309	4	4	334	8	1	12	0	21	1095
	4:45 PM	1	477	31	1	510	59	1	98	0	158	13	351	3	3	370	7	1	11	0	19	1057
	5:00 PM	1	521	30	2	554	33	3	69	0	105	12	393	4	2	411	15	1	5	0	21	1091
	5:15 PM	0	410	28	1	439	64	3	66	0	133	21	351	3	5	380	15	2	3	0	20	972
	Peak Hour Volume	2	1982	125	6	2115	207	10	307	0	524	63	1404	14	14	1495	45	5	31	0	81	4215
	Rounded Hourly Volume	0	1980	125	5	2110	205	10	305	0	520	65	1405	15	15	1500	45	5	30	0	80	4210
	% Single Unit Trucks	0.0	0.5	0.0	0.0	0.5	1.9	0.0	0.7	0.0	1.1	3.2	0.7	0.0	0.0	0.8	0.0	0.0	3.2	0.0	1.2	0.7
	% Heavy Trucks	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
% Trucks (Total)	0.0	0.7	0.0	0.0	0.7	1.9	0.0	0.7	0.0	1.1	3.2	0.9	0.0	0.0	0.9	0.0	0.0	3.2	0.0	1.2	0.8	
Peak Hour Factor (PHF)	0.50	0.86	0.87	0.75	0.86	0.81	0.83	0.78	0.00	0.83	0.75	0.89	0.87	0.70	0.91	0.75	0.62	0.65	0.00	0.96	0.96	

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total
 		North Approach 			East Approach 			South Approach 			West Approach 			Ped & Bike
		STH 100			W Wisconsin Ave			STH 100			W Wisconsin Ave			Bike
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	2	0	2	0	0	0	0	0	0	3	0	3	5
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	2	0	2	0	0	0	0	0	0	3	0	3	5
MD	12:00 PM	0	0	0	1	0	1	1	0	1	1	0	1	3
	12:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	1
	12:30 PM	0	0	0	1	0	1	0	0	0	2	0	2	3
	12:45 PM	1	0	1	3	0	3	0	0	0	0	0	0	4
	Total	1	0	1	6	0	6	1	0	1	3	0	3	11
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	1	0	1	1	0	1	0	0	0	1	0	1	3
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	1	0	1	1	0	1	0	0	0	1	0	1	3

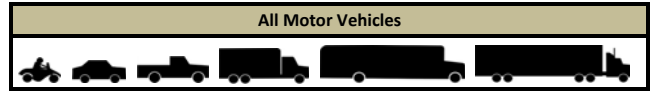
Intersection Traffic Volume Report

Hourly Volume Summary - Motor Vehicle Data

STH 100 & W Wisconsin Ave

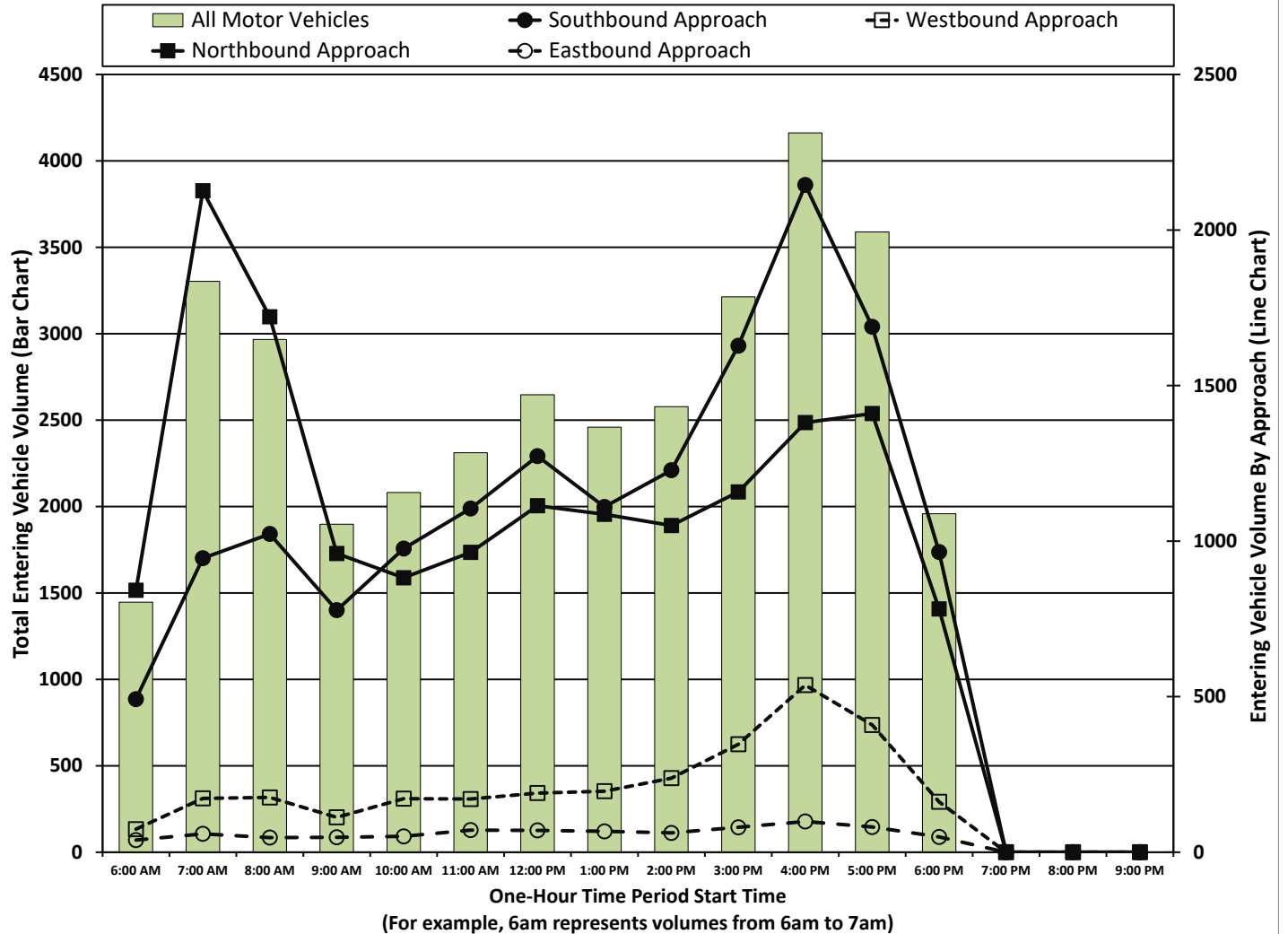
One-Hour Motor Vehicle Data

Count Basics			Page 4 of 13
Start Date:	Thursday, March 12, 2020	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events



One-Hour Time Period Start Time	From North					From East					From South					From West					Total Vehicle Volume	Directional Volume Totals		
	STH 100					W Wisconsin Ave					STH 100					W Wisconsin Ave								
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total				
AM	6:00 AM	3	427	61	1	492	55	3	16	0	74	152	680	8	2	842	25	0	14	0	39	1447	113	1334
	7:00 AM	1	808	133	3	945	112	4	57	0	173	248	1862	13	3	2126	25	8	26	0	59	3303	232	3071
	8:00 AM	5	914	99	5	1023	108	6	62	0	176	130	1579	7	5	1721	30	5	12	0	47	2967	223	2744
	9:00 AM	3	714	55	6	778	56	4	52	0	112	79	864	11	6	960	29	2	17	0	48	1898	160	1738
MD	10:00 AM	5	891	69	11	976	89	4	79	0	172	61	803	9	9	882	25	6	20	0	51	2081	223	1858
	11:00 AM	7	1006	86	6	1105	72	6	93	0	171	66	873	9	16	964	42	1	28	0	71	2311	242	2069
	12:00 PM	2	1168	87	16	1273	95	7	88	0	190	65	1021	12	16	1114	44	4	22	0	70	2647	260	2387
	1:00 PM	5	1013	80	12	1110	105	7	84	0	196	74	987	9	16	1086	40	5	22	0	67	2459	263	2196
PM	2:00 PM	5	1136	78	9	1228	102	7	129	0	238	66	953	15	16	1050	38	6	17	1	62	2578	300	2278
	3:00 PM	10	1492	119	7	1628	149	11	187	0	347	52	1081	17	8	1158	48	4	28	0	80	3213	427	2786
	4:00 PM	5	2006	127	7	2145	206	7	324	0	537	77	1280	15	9	1381	49	7	43	0	99	4162	636	3526
	5:00 PM	1	1567	115	6	1689	171	11	227	0	409	72	1316	13	9	1410	51	6	24	0	81	3589	490	3099
	6:00 PM	2	907	49	7	965	74	2	86	0	162	55	702	11	14	782	30	2	17	0	49	1958	211	1747
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Totals	54	14049	1158	96	15357	1394	79	1484	0	2957	1197	14001	149	129	15476	476	56	290	1	823	34613	3780	30833

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

Count Basics			Page 11 of 13
Start Date:	Thursday, March 12, 2020	Weekday	Schools in Session
Total Number of Hours Counted:	13	Non-Holiday	No Special Events

15-Minute Pedestrian and Bicyclist Data

STH 100 & W Wisconsin Ave



15-Minute Pedestrian and Bicyclist Data

15-Minute Time Period Start Time		Crossing 			Crossing 			Crossing 			Crossing 			15-Min Totals	Hourly Sum
		STH 100			W Wisconsin Ave			STH 100			W Wisconsin Ave				
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:45 AM	0	0	0	0	1	1	0	0	0	0	0	0	1	1
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	8:00 AM	2	0	2	0	0	0	0	0	0	3	0	3	5	10
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	8
	8:45 AM	0	0	0	0	0	0	2	0	2	3	0	3	5	8
	9:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	3
	9:15 AM	0	0	0	0	0	0	1	0	1	1	0	1	2	2
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	10:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	3
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	11:00 AM	0	0	0	1	0	1	0	0	0	1	0	1	2	8
	11:15 AM	0	0	0	1	0	1	0	1	1	0	0	0	2	9
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	8
	11:45 AM	1	0	1	1	0	1	0	0	0	2	0	2	4	11
	12:00 PM	0	0	0	1	0	1	1	0	1	1	0	1	3	11
	12:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	1	12
	12:30 PM	0	0	0	1	0	1	0	0	0	2	0	2	3	11
	12:45 PM	1	0	1	3	0	3	0	0	0	0	0	0	4	9
	1:00 PM	3	0	3	0	0	0	0	0	0	1	0	1	4	5
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	1:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	5
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	2	4
	2:15 PM	1	0	1	1	0	1	0	0	0	0	0	0	2	3
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	3:00 PM	0	0	0	0	0	0	0	0	1	0	1	1	9	
	3:15 PM	0	0	0	0	0	0	0	0	2	0	2	2	10	
	3:30 PM	0	0	0	0	0	0	0	0	2	0	2	2	9	
	3:45 PM	0	0	0	1	0	1	0	0	0	3	0	3	4	7
	4:00 PM	0	0	0	0	0	0	1	0	1	1	0	1	2	6
	4:15 PM	1	0	1	0	0	0	0	0	0	0	0	0	1	4
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	4:45 PM	1	0	1	1	0	1	0	0	0	1	0	1	3	3
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	6:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	4
	6:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	1	0	1	0	0	0	1	0	1	2	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		10	0	10	13	1	14	5	1	6	32	0	32	62	

Special Pedestrians

Pedestrian Type	None	1 or 2	A Few	Several	Many	Unknown
Pre-school Children	x					
Elementary School Age Children	x					
Visually Impaired (white cane/helper dog)	x					
Elderly/Disabled (except wheelchairs)	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					

Intersection Traffic Volume Report

Count Basics		Version 2013.J4.1		Page 1 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session	
Total Number of Hours Counted:	6	Non-Holiday	No Special Events	

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Intersection of: **STH 100 and Research Drive**

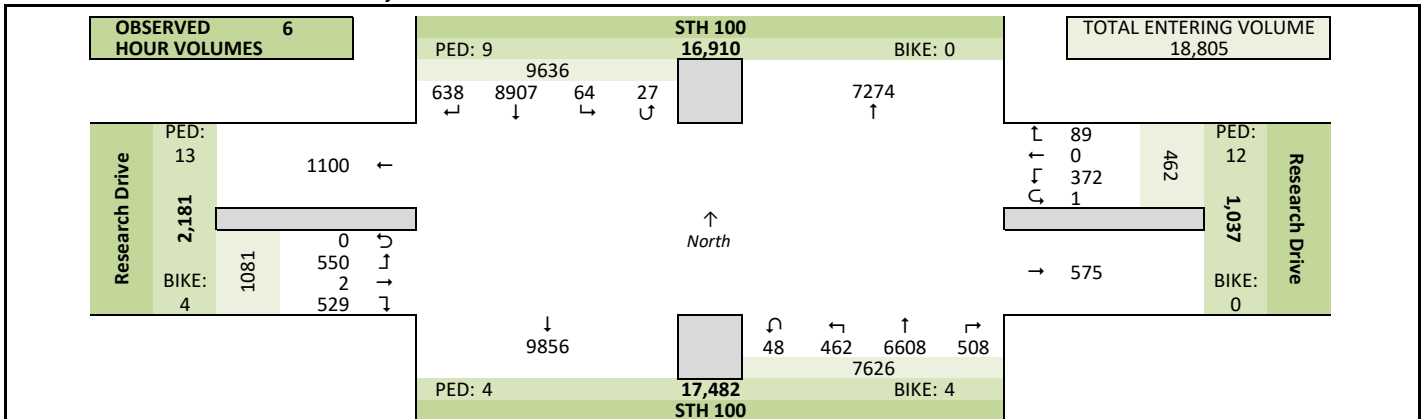
Site Information

Municipality	City of Wauwatosa		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Traffic Signal		
Roadway Names		North Direction	↑
North Leg	STH 100		
East Leg	Research Drive		
South Leg	STH 100		
West Leg	Research Drive		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementry school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
	Other (describe)	None	

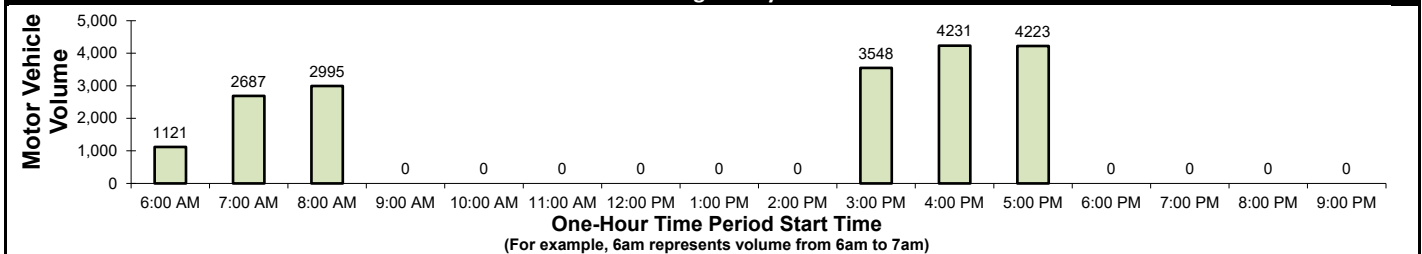
Count Information

Hrs Counted: 6:00 AM-9:00 AM and 3:00 PM-6:00 PM				
1st Day of Count		Wednesday, September 15, 2021		Weather
AM Peak Period		Wednesday, September 15, 2021		Clear & Dry
Midday Peak Period		Wednesday, September 15, 2021		Clear & Dry
PM Peak Period		Thursday, September 16, 2021		Clear & Dry
Calculated Peak Hours				
	AM	7:30-8:30am	MD	
				PM 4:30-5:30pm
Peak Hours Selected for Analysis				
	AM	7:30-8:30am	MD	
				PM 4:30-5:30pm
Daily/Seasonal Adjustment Group		(2) Urban Arterials & Collectors		
Count Expansion Group		(2) Urban Arterials & Collectors		
Daily/Seasonal Adjustment Factor		0.878	Count Expansion Factor	2.421
Company Name TADI, Inc.			Manual Adj.	1.000
Observers	AM Peak Period	Amy Scheuerlein, Jeff Schleif		
	Midday Peak Period	None		
	PM Peak Period	Amy Scheuerlein, Lee Oestreich		
Comments	2019 DOT Seasonal Factors			

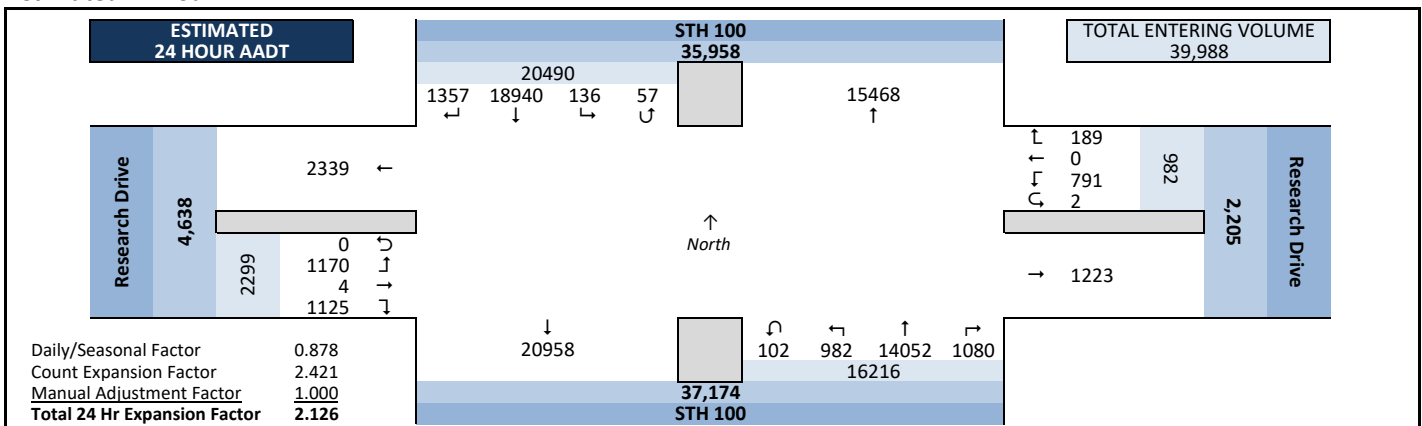
Observed 6 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT



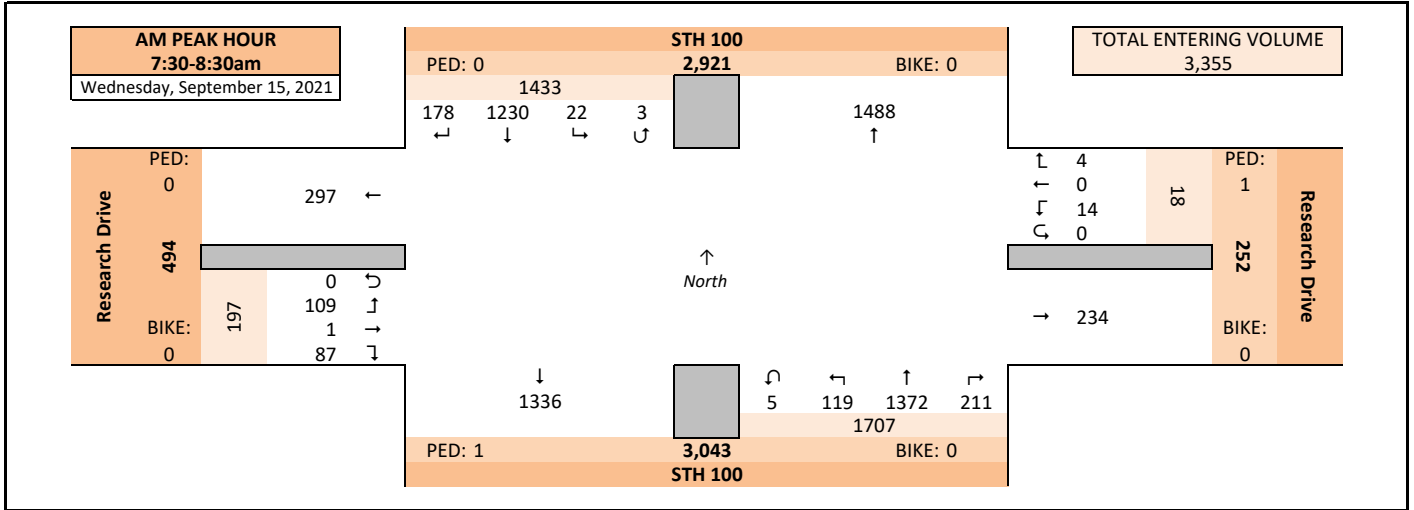
Intersection Traffic Volume Report

Count Basics		Page 2 of 13	
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

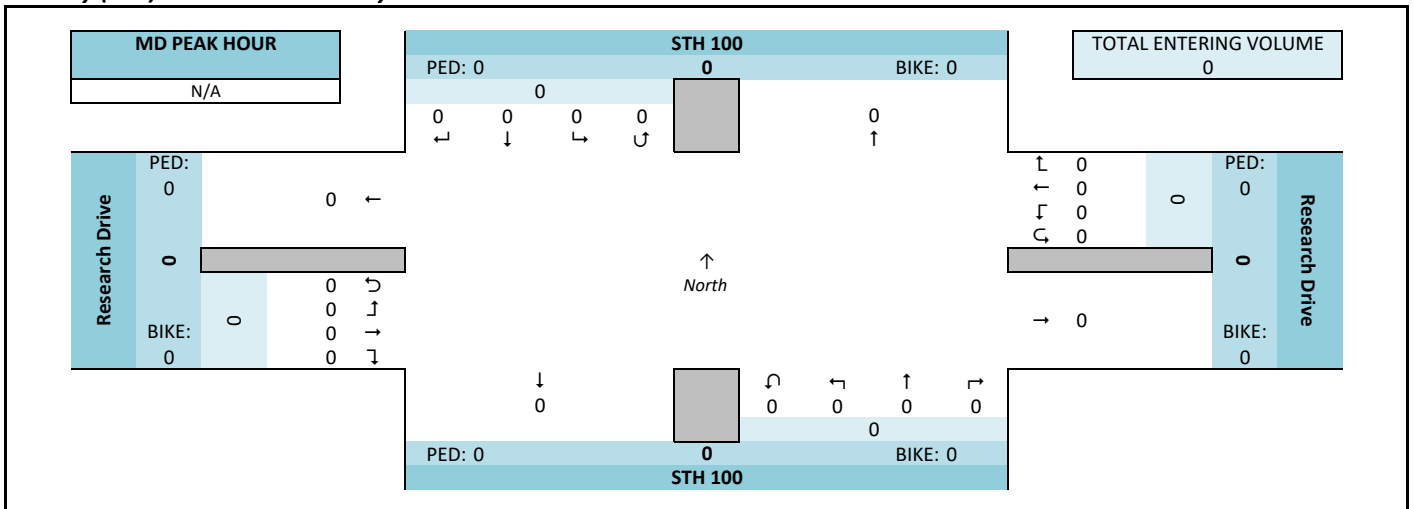
Peak Hour Volume Graphical Summary

STH 100 and Research Drive

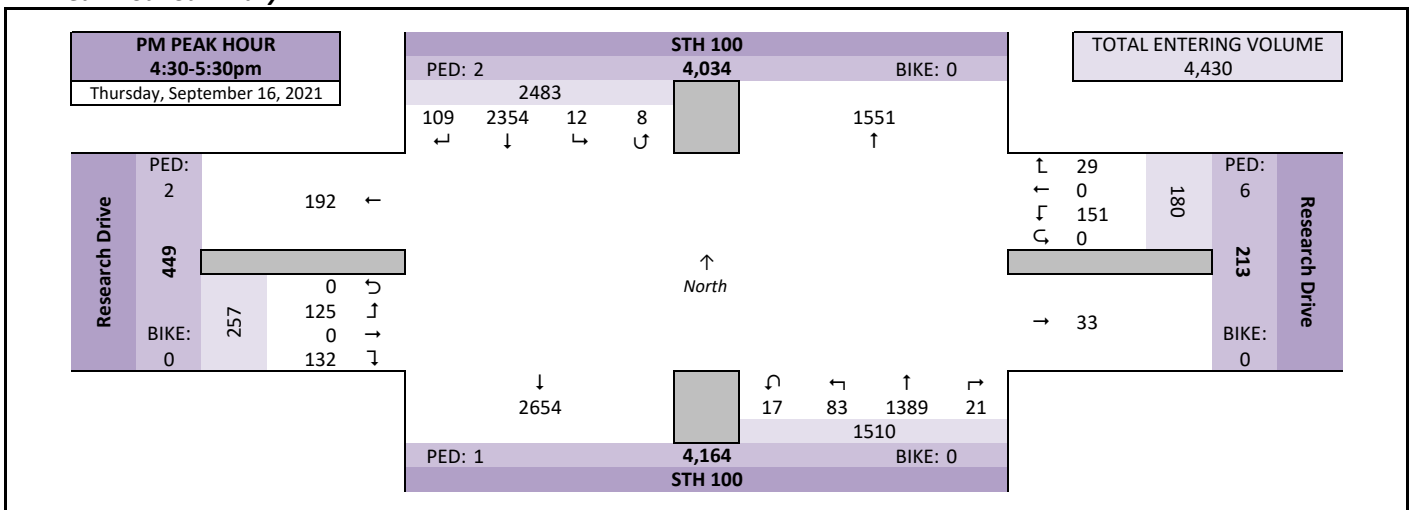
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

Peak Hour Volume Summary

STH 100 and Research Drive

Peak Hour Volumes, Truck Percentages, and PHFs

Wednesday, September 15, 2021		From North					From East					From South					From West						
AM Peak Hour	AM Peak Hour	STH 100					Research Drive					STH 100					Research Drive						
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	
	7:30 AM	35	333	5	0	373	1	Thru	0	3	0	4	36	298	20	1	355	16	1	9	0	26	758
	7:45 AM	57	308	5	0	370	1	0	8	0	9	52	387	41	3	483	17	0	20	0	37	899	
	8:00 AM	56	306	7	3	372	2	0	1	0	3	71	379	30	1	481	35	0	45	0	80	936	
	8:15 AM	30	283	5	0	318	0	0	2	0	2	52	308	28	0	388	19	0	35	0	54	762	
	Peak Hour Volume	178	1230	22	3	1433	4	0	14	0	18	211	1372	119	5	1707	87	1	109	0	197	3355	
	Rounded Hourly Volume	180	1230	20	5	1435	5	0	15	0	20	210	1370	120	5	1705	85	0	110	0	195	3355	
	% Single Unit Trucks	1.1	3.4	4.5	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	3.5	1.1	0.0	1.8	0.0	1.5	3.2	
% Heavy Trucks	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.2		
% Trucks (Total)	1.1	3.7	4.5	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.5	4.6	0.0	0.0	3.7	1.1	0.0	1.8	0.0	1.5	3.4		
Peak Hour Factor (PHF)	0.78	0.92	0.79	0.25	0.96	0.50	0.00	0.44	0.00	0.50	0.74	0.89	0.73	0.42	0.88	0.62	0.25	0.61	0.00	0.62	0.90		

N/A		From North					From East					From South					From West					Totals
Midday (MD) Peak Hour	MD Peak Hour	STH 100					Research Drive					STH 100					Research Drive					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Thursday, September 16, 2021		↓ From North					← From East					↑ From South					→ From West					Totals
PM Peak Hour		STH 100					Research Drive					STH 100					Research Drive					
Start Time		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
PM Peak Hour	4:30 PM	19	585	4	3	611	8	0	43	0	51	5	330	21	5	361	34	0	28	0	62	1085
	4:45 PM	23	576	3	1	603	9	0	26	0	35	4	336	20	1	361	30	0	28	0	58	1057
	5:00 PM	28	612	3	2	645	6	0	56	0	62	7	368	15	6	396	37	0	39	0	76	1179
	5:15 PM	39	581	2	2	624	6	0	26	0	32	5	355	27	5	392	31	0	30	0	61	1109
	Peak Hour Volume	109	2354	12	8	2483	29	0	151	0	180	21	1389	83	17	1510	132	0	125	0	257	4430
	Rounded Hourly Volume	110	2355	10	10	2485	30	0	150	0	180	20	1390	85	15	1510	130	0	125	0	255	4430
	% Single Unit Trucks	0.9	2.5	16.7	0.0	2.5	6.9	0.0	0.0	0.0	1.1	4.8	1.4	1.2	0.0	1.5	0.8	0.0	0.0	0.0	0.4	2.0
	% Heavy Trucks	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.7	0.0	0.6	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.4
	% Trucks (Total)	0.9	3.1	16.7	0.0	3.0	6.9	0.0	0.7	0.0	1.7	4.8	1.7	1.2	0.0	1.7	0.8	0.0	0.0	0.0	0.4	2.3
Peak Hour Factor (PHF)	0.70	0.96	0.75	0.67	0.96	0.81	0.00	0.67	0.00	0.73	0.75	0.94	0.77	0.71	0.95	0.89	0.00	0.80	0.00	0.85	0.94	

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total
		North Approach			East Approach			South Approach			West Approach			Ped & Bike
		STH 100			Research Drive			STH 100			Research Drive			Bike
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	1	0	1	1	0	1	0	0	0	2
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	1	0	1	1	0	1	0	0	0	2
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	1	0	1	0	0	0	1	0	1	2
	4:45 PM	2	0	2	5	0	5	0	0	0	0	0	0	7
	5:00 PM	0	0	0	0	0	0	1	0	1	1	0	1	2
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	2	0	2	6	0	6	1	0	1	2	0	2	11

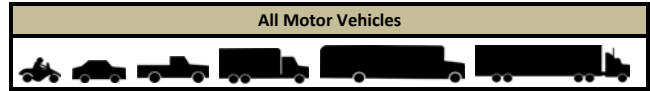
Intersection Traffic Volume Report

Hourly Volume Summary - Motor Vehicle Data

STH 100 and Research Drive

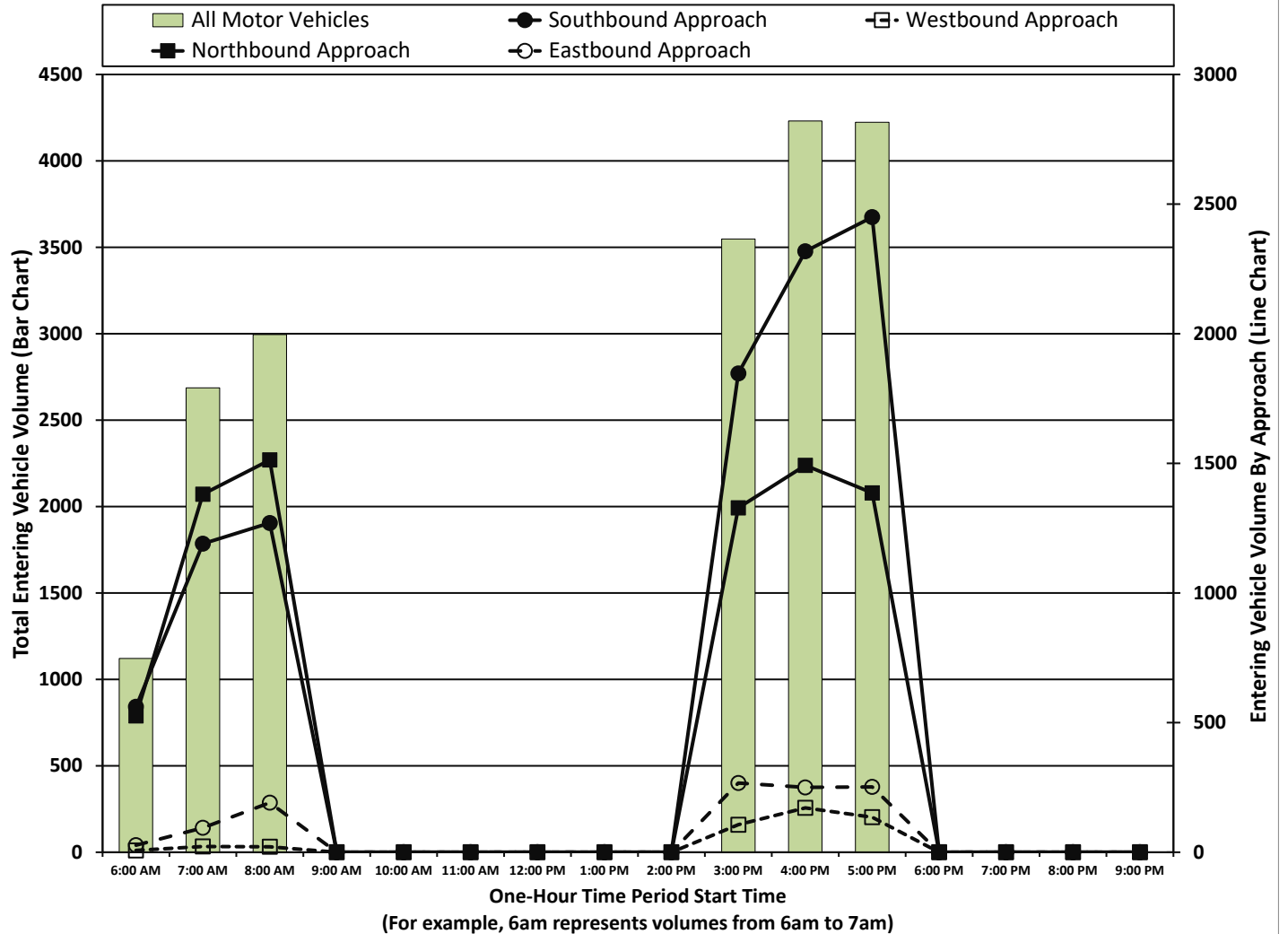
One-Hour Motor Vehicle Data

Count Basics			Page 4 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events



One-Hour Time Period	From North						From East						From South						From West						Total Vehicle Volume	Directional Volume Totals	
	STH 100						Research Drive						STH 100						Research Drive								
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	E/W	N/S					
AM	6:00 AM	26	531	4	0	561	1	0	6	0	7	59	439	25	3	526	18	0	9	0	27	1121	34	1087			
	7:00 AM	118	1057	15	0	1190	4	0	18	0	22	159	1132	85	5	1381	53	1	40	0	94	2687	116	2571			
	8:00 AM	148	1093	22	7	1270	5	0	16	0	21	219	1135	157	2	1513	80	0	111	0	191	2995	212	2783			
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	3:00 PM	133	1702	5	7	1847	26	0	80	0	106	32	1232	51	13	1328	121	0	146	0	267	3548	373	3175			
	4:00 PM	79	2221	10	8	2318	33	0	137	1	171	18	1387	78	9	1492	128	1	121	0	250	4231	421	3810			
	5:00 PM	134	2303	8	5	2450	20	0	115	0	135	21	1283	66	16	1386	129	0	123	0	252	4223	387	3836			
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Totals	638	8907	64	27	9636	89	0	372	1	462	508	6608	462	48	7626	529	2	550	0	1081	18805	1543	17262				

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

Count Basics			Page 11 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

15-Minute Pedestrian and Bicyclist Data

STH 100 and Research Drive



15-Minute Pedestrian and Bicyclist Data

15-Minute Time Period Start Time		Crossing 			Crossing 			Crossing 			Crossing 			15-Min Totals	Hourly Sum
		North Approach			East Approach			South Approach			West Approach				
		STH 100			Research Drive			STH 100			Research Drive				
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	6:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	1	2
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	6:45 AM	1	0	1	0	0	0	0	0	0	0	0	0	1	6
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	7:15 AM	2	0	2	1	0	1	0	1	1	0	1	1	5	7
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	8:00 AM	0	0	0	1	0	1	1	0	1	0	0	0	2	4
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	1	1	0	0	0	1	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	1	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	2	0	2	7	0	7	9	13
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	9
	3:30 PM	0	0	0	0	0	0	0	1	1	1	0	1	2	11
	3:45 PM	1	0	1	0	0	0	0	1	1	0	0	0	2	11
	4:00 PM	1	0	1	3	0	3	0	0	0	0	1	1	5	16
	4:15 PM	1	0	1	0	0	0	0	0	0	1	0	1	2	13
	4:30 PM	0	0	0	1	0	1	0	0	0	1	0	1	2	11
	4:45 PM	2	0	2	5	0	5	0	0	0	0	0	0	7	11
	5:00 PM	0	0	0	0	0	0	1	0	1	1	0	1	2	6
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	1	0	1	1	0	1	0	0	0	0	0	0	2	
	5:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	2	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		9	0	9	12	0	12	4	4	8	13	4	17	46	

Special Pedestrians

Pedestrian Type	None	1 or 2	A Few	Several	Many	Unknown
Pre-school Children	x					
Elementary School Age Children	x					
Visually Impaired (white cane/helper dog)	x					
Elderly/Disabled (except wheelchairs)	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					

Intersection Traffic Volume Report

Count Basics		Version 2013.J4.1		Page 1 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session	
Total Number of Hours Counted:	6	Non-Holiday	No Special Events	

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Intersection of: 1st DW East of STH 100 and Research Drive

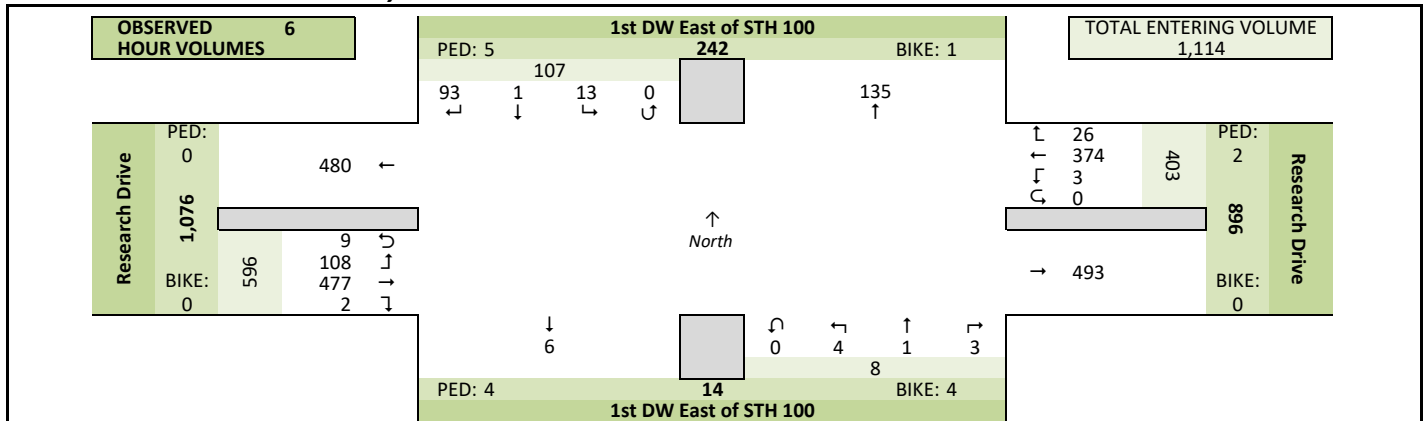
Site Information

Municipality	City of Wauwatosa		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Uncontrolled		
Roadway Names	North Direction		↑
North Leg	1st DW East of STH 100		
East Leg	Research Drive		
South Leg	1st DW East of STH 100		
West Leg	Research Drive		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementry school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
	Other (describe)	None	None

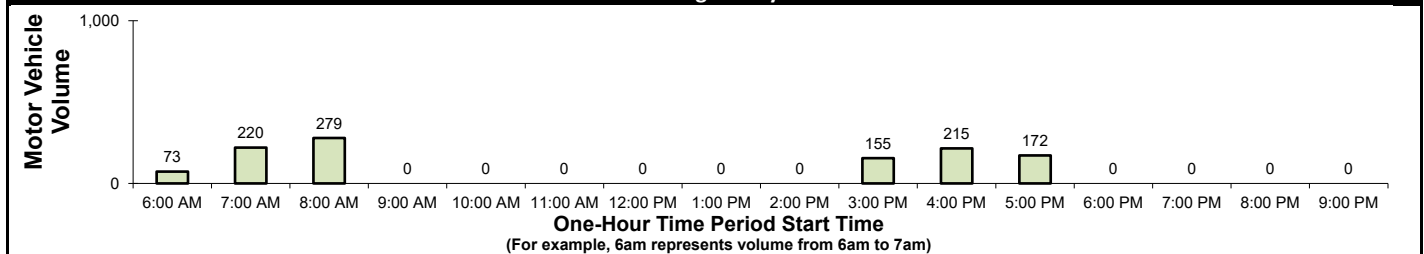
Count Information

Hrs Counted: 6:00 AM-9:00 AM and 3:00 PM-6:00 PM			
1st Day of Count		Wednesday, September 15, 2021	Weather
AM Peak Period		Wednesday, September 15, 2021	Clear & Dry
Midday Peak Period		Wednesday, September 15, 2021	Clear & Dry
PM Peak Period		Thursday, September 16, 2021	Clear & Dry
Calculated Peak Hours			
AM	7:45-8:45am	MD	PM 4:15-5:15pm
Peak Hours Selected for Analysis			
AM	7:30-8:30am	MD	PM 4:30-5:30pm
Daily/Seasonal Adjustment Group		(2) Urban Arterials & Collectors	
Count Expansion Group		(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor		0.878	Count Expansion Factor 2.421
Company Name TADI, Inc.			Manual Adj. 1.000
Observers	AM Peak Period	Lee Oestreich	
	Midday Peak Period	None	
	PM Peak Period	Ron Andryk	
Comments	2019 DOT Seasonal Factors		

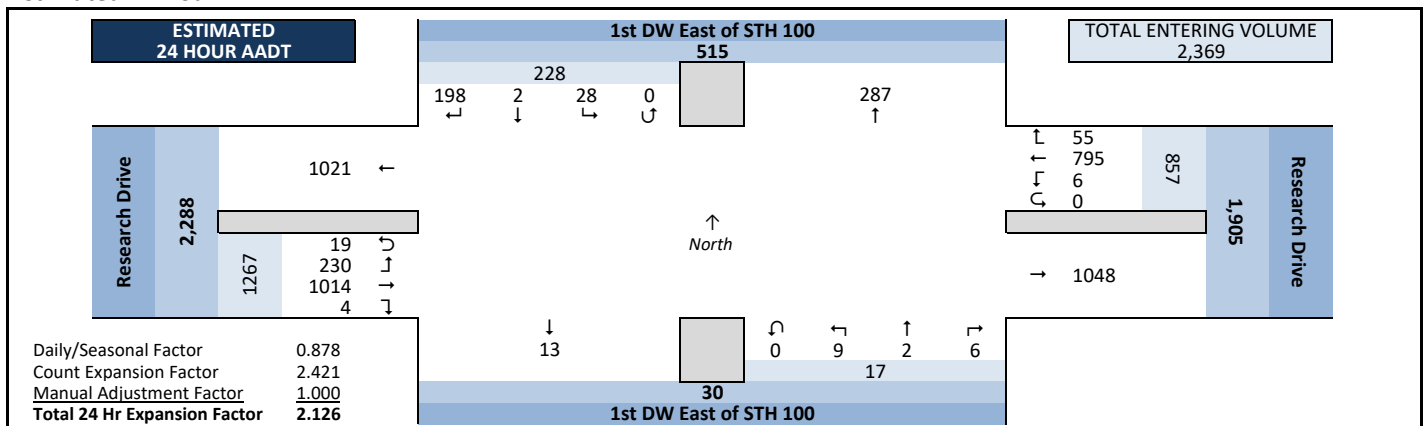
Observed 6 Hour Volume Summary



Total Entering Hourly Volume



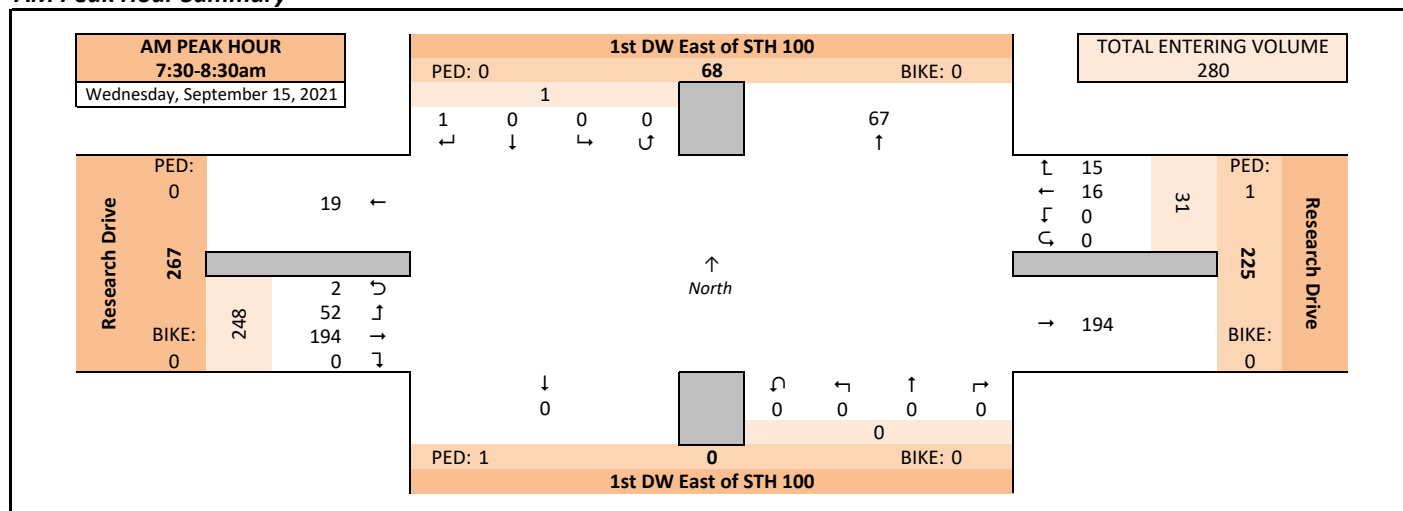
Estimated 24 Hour AADT



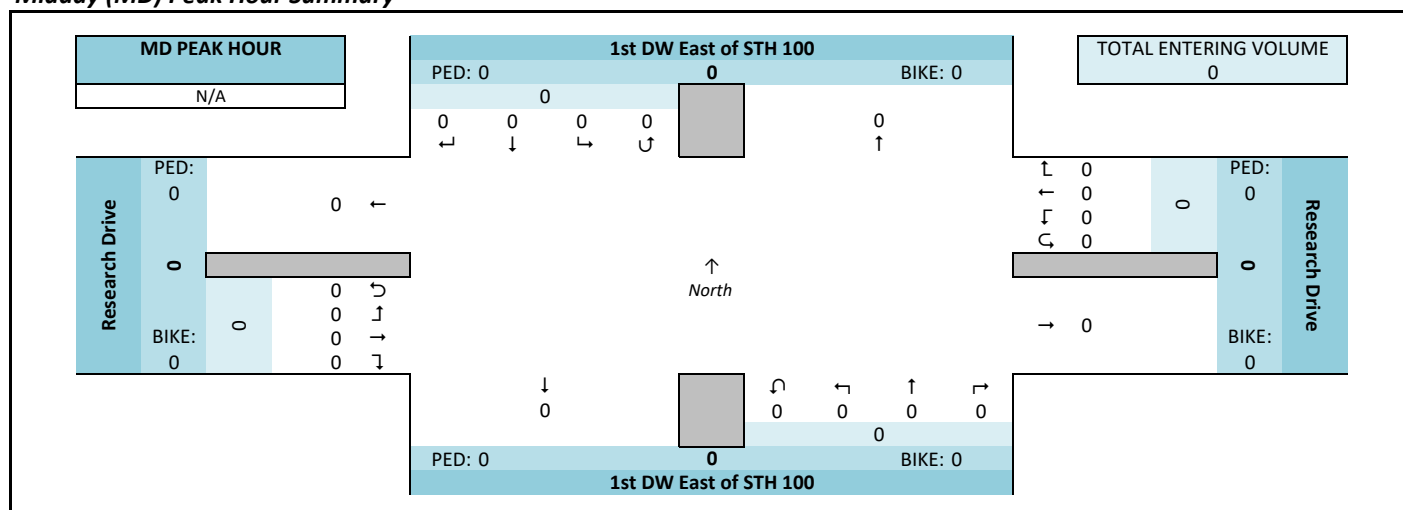
Peak Hour Volume Graphical Summary

1st DW East of STH 100 and Research Drive

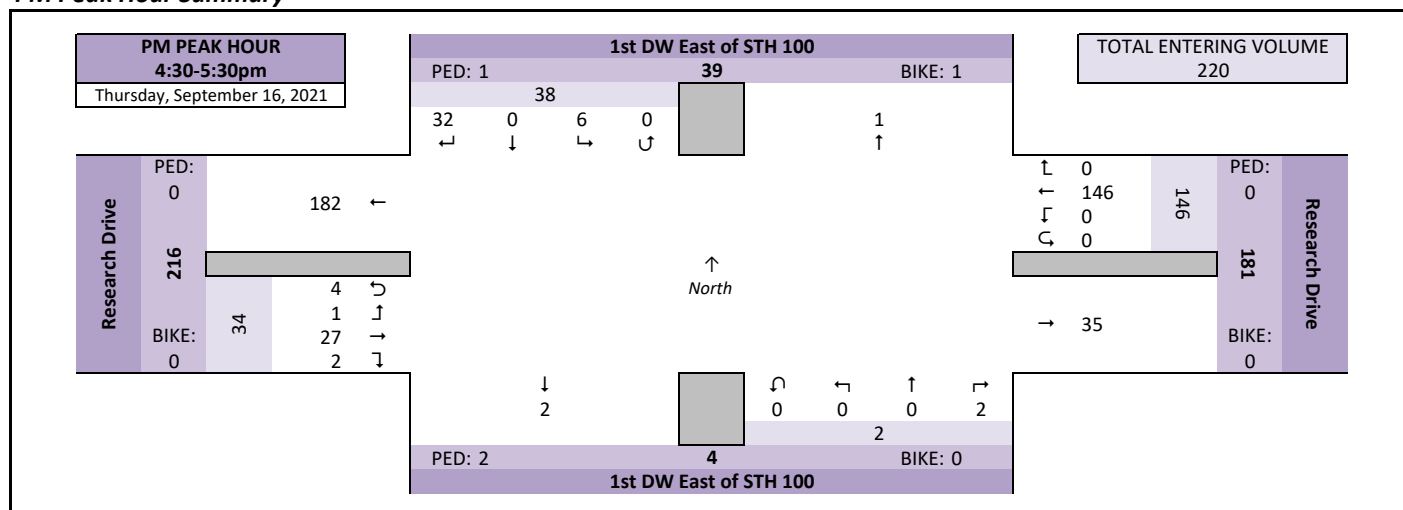
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

Peak Hour Volume Summary

1st DW East of STH 100 and Research Drive

Peak Hour Volumes, Truck Percentages, and PHFs

Wednesday, September 15, 2021		From North					From East					From South					From West					
AM Peak Hour	AM Peak Hour	1st DW East of STH 100					Research Drive					1st DW East of STH 100					Research Drive					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
	7:30 AM	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	31	12	0	43	49
	7:45 AM	1	0	0	0	1	8	7	0	0	15	0	0	0	0	0	0	54	8	0	62	78
	8:00 AM	0	0	0	0	0	4	1	0	0	5	0	0	0	0	0	0	64	21	2	87	92
	8:15 AM	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	0	45	11	0	56	61
	Peak Hour Volume	1	0	0	0	1	15	16	0	0	31	0	0	0	0	0	0	194	52	2	248	280
	Rounded Hourly Volume	0	0	0	0	0	15	15	0	0	30	0	0	0	0	0	0	195	50	0	245	275
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.4	0.7
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.4
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	1.1	
Peak Hour Factor (PHF)	0.25	0.00	0.00	0.00	0.25	0.47	0.57	0.00	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.62	0.25	0.71	0.76	

N/A		From North					From East					From South					From West					
Midday (MD) Peak Hour	MD Peak Hour	1st DW East of STH 100					Research Drive					1st DW East of STH 100					Research Drive					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Thursday, September 16, 2021		↓					←					↑					→																									
		From North					From East					From South					From West																									
PM Peak Hour	PM Peak Hour	1st DW East of STH 100										Research Drive										1st DW East of STH 100										Research Drive										
	Start Time	Right		Thru		Left		U-Tn		Total		Right		Thru		Left		U-Tn		Total		Right		Thru		Left		U-Tn		Total		Totals										
	4:30 PM	13	0	1	0	14	0	41	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9	64													
	4:45 PM	5	0	1	0	6	0	29	0	0	29	1	0	0	0	1	2	3	0	2	7	43																				
	5:00 PM	12	0	2	0	14	0	51	0	0	51	0	0	0	0	0	0	10	0	1	11	76																				
	5:15 PM	2	0	2	0	4	0	25	0	0	25	1	0	0	0	1	0	5	1	1	7	37																				
	Peak Hour Volume	32	0	6	0	38	0	146	0	0	146	2	0	0	0	2	2	27	1	4	34	220																				
	Rounded Hourly Volume	30	0	5	0	35	0	145	0	0	145	0	0	0	0	0	0	25	0	5	30	210																				
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.7	50.0	0.0	0.0	0.0	50.0	50.0	7.4	0.0	0.0	8.8	2.3																				
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9																				
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	2.1	50.0	0.0	0.0	0.0	50.0	50.0	7.4	0.0	0.0	8.8	3.2																					
Peak Hour Factor (PHF)	0.62	0.00	0.75	0.00	0.68	0.00	0.72	0.00	0.00	0.72	0.50	0.00	0.00	0.00	0.50	0.25	0.67	0.25	0.50	0.77	0.72																					

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total
		North Approach			East Approach			South Approach			West Approach			Ped & Bike
		1st DW East of STH 100			Research Drive			1st DW East of STH 100			Research Drive			Bike
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	1	0	1	1	0	1	0	0	0	2
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	1	0	1	1	0	1	0	0	0	2
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	2	0	2	0	0	0	2
	4:45 PM	1	0	1	0	0	0	0	0	0	0	0	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	1	1	0	0	0	0	0	0	0	0	0	1
	Total	1	1	2	0	0	0	2	0	2	0	0	0	4

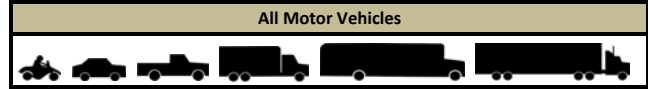
Intersection Traffic Volume Report

Hourly Volume Summary - Motor Vehicle Data

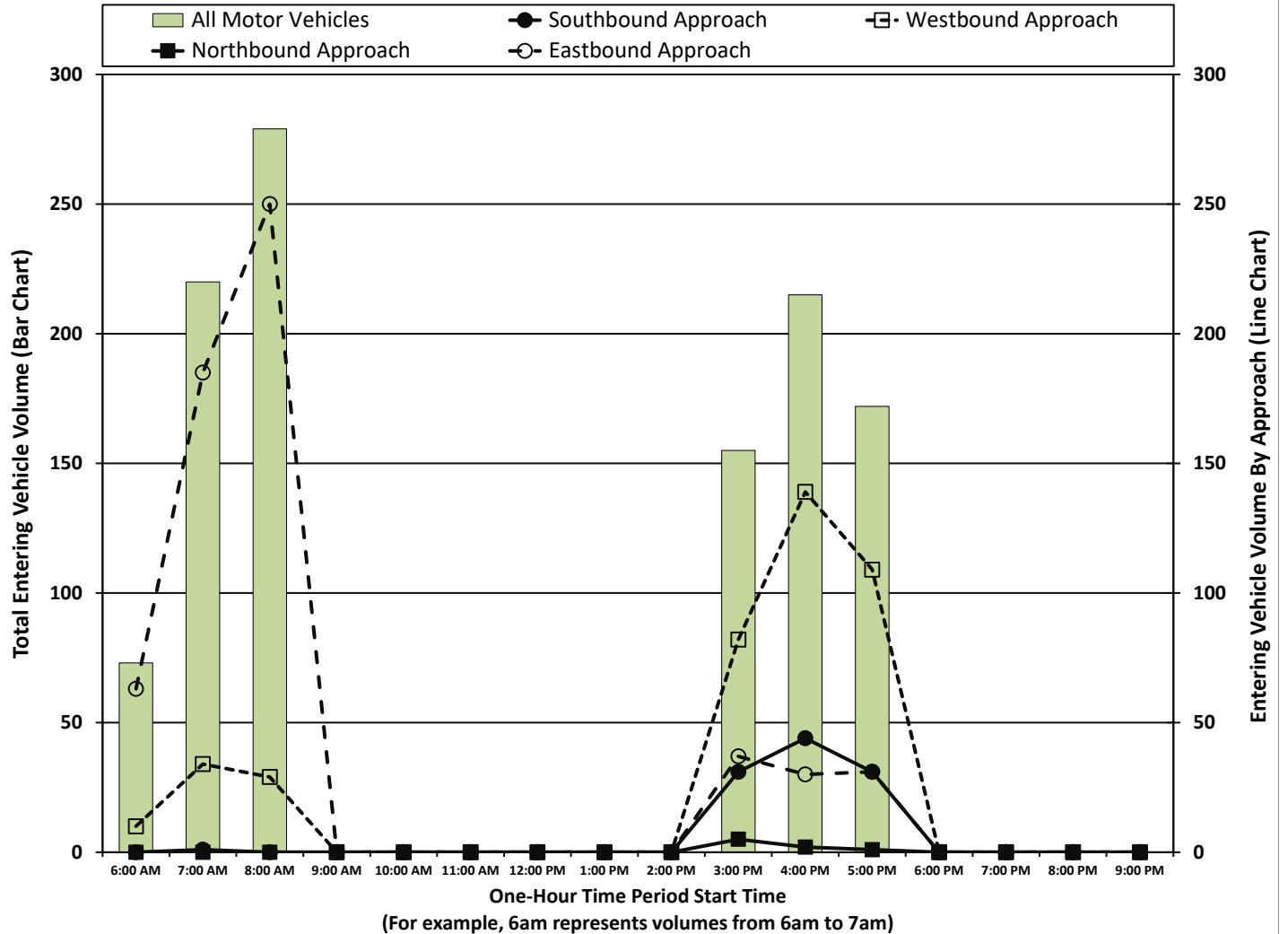
1st DW East of STH 100 and Research Drive

One-Hour Motor Vehicle Data

One-Hour Time Period	From North					From East					From South					From West					Total Vehicle Volume	Directional Volume Totals		
	1st DW East of STH 100					Research Drive					1st DW East of STH 100					Research Drive								
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		E/W	N/S	
AM	6:00 AM	0	0	0	0	0	2	8	0	0	10	0	0	0	0	0	0	52	11	0	63	73	73	0
	7:00 AM	1	0	0	0	1	12	22	0	0	34	0	0	0	0	0	0	144	40	1	185	220	219	1
	8:00 AM	0	0	0	0	0	11	18	0	0	29	0	0	0	0	0	0	197	49	4	250	279	279	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	29	1	1	0	31	1	78	3	0	82	1	1	3	0	5	0	33	4	0	37	155	119	36
	4:00 PM	37	0	7	0	44	0	139	0	0	139	1	0	1	0	2	2	24	2	2	30	215	169	46
	5:00 PM	26	0	5	0	31	0	109	0	0	109	1	0	0	0	1	0	27	2	2	31	172	140	32
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	93	1	13	0	107	26	374	3	0	403	3	1	4	0	8	2	477	108	9	596	1114	999	115	



Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

15-Minute Semi-Truck Data

1st DW East of STH 100 and Research Drive

Count Basics			Page 8 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

15-Minute Semi-Truck Data

Semi-Trucks


[illegible]

Peak Hour Semi-Truck Volume Summary

Hourly Time Period Start Time	↓ From North						← From East						↑ From South						→ From West						Total Hourly Volume
	1st DW East of STH 100						Research Drive						1st DW East of STH 100						Research Drive						
	Right	Thru	Left	U-Tn	Total		Right	Thru	Left	U-Tn	Total		Right	Thru	Left	U-Tn	Total		Right	Thru	Left	U-Tn	Total		
AM 7:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1
MD 12:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0
PM 4:30 PM	0	0	0	0	0		0	2	0	0	2		0	0	0	0	0		0	0	0	0	0		0

Intersection Traffic Volume Report

Count Basics			Page 11 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

15-Minute Pedestrian and Bicyclist Data

1st DW East of STH 100 and Research Drive



15-Minute Pedestrian and Bicyclist Data

15-Minute Time Period Start Time		Crossing 			Crossing 			Crossing 			Crossing 			15-Min Totals	Hourly Sum
		North Approach			East Approach			South Approach			West Approach				
		1st DW East of STH 100			Research Drive			1st DW East of STH 100			Research Drive				
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	6:45 AM	1	0	1	0	0	0	0	0	0	0	0	0	1	3
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	7:15 AM	1	0	1	0	0	0	0	1	1	0	0	0	2	4
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	8:00 AM	0	0	0	1	0	1	1	0	1	0	0	0	2	5
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	1	0	1	1	1	2	0	0	0	3	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	3:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	1	4
	3:45 PM	0	0	0	0	0	0	0	1	1	0	0	0	1	5
	4:00 PM	1	0	1	0	0	0	0	0	0	0	0	0	1	5
	4:15 PM	1	0	1	0	0	0	0	0	0	0	0	0	1	4
	4:30 PM	0	0	0	0	0	0	2	0	2	0	0	0	2	4
	4:45 PM	1	0	1	0	0	0	0	0	0	0	0	0	1	2
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	5:15 PM	0	1	1	0	0	0	0	0	0	0	0	0	1	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		5	1	6	2	0	2	4	4	8	0	0	0	16	

Special Pedestrians

Pedestrian Type	None	1 or 2	A Few	Several	Many	Unknown
Pre-school Children	x					
Elementary School Age Children	x					
Visually Impaired (white cane/helper dog)	x					
Elderly/Disabled (except wheelchairs)	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					

Intersection Traffic Volume Report

Count Basics		Version 2013.J4.1	Page 1 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Intersection of: 2nd DW East of STH 100 and Research Drive

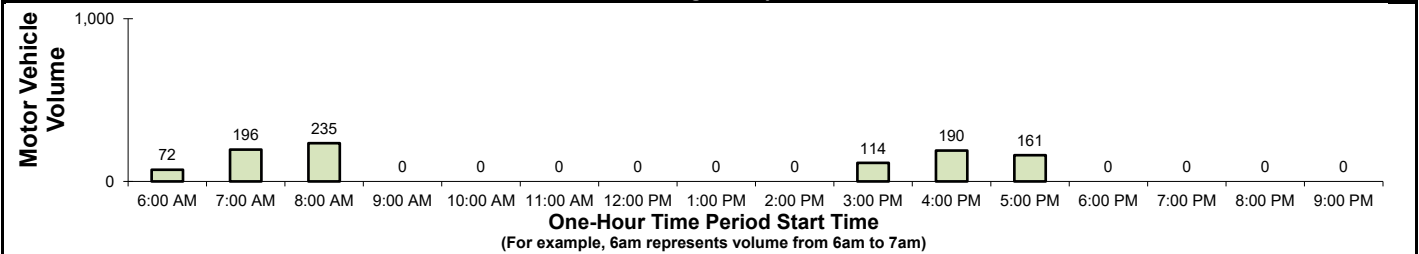
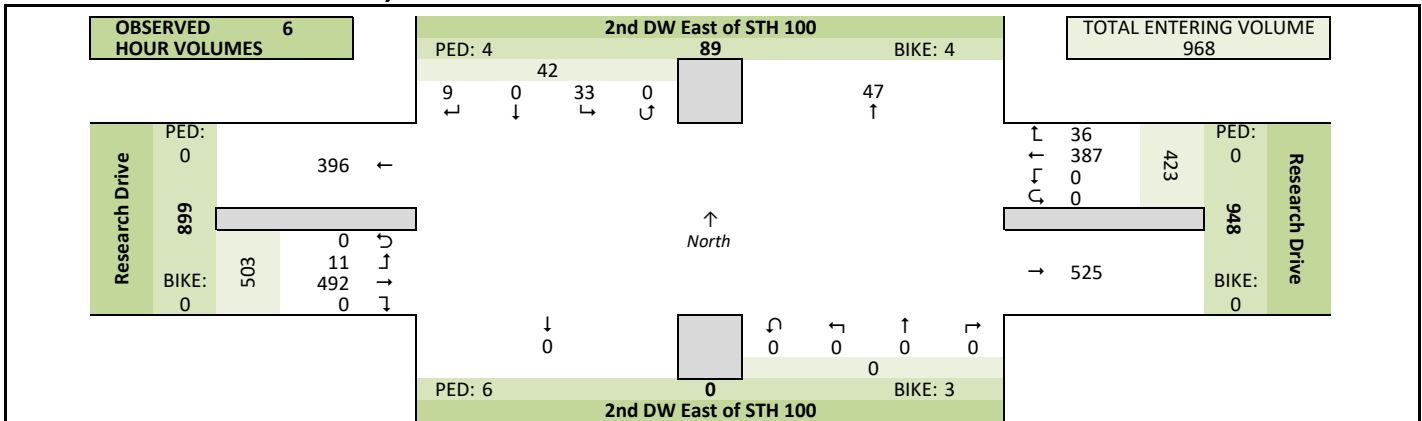
Site Information

Municipality	City of Wauwatosa		
County	Milwaukee	WisDOT Region	SE
Traffic Control	Uncontrolled		
Roadway Names	North Direction		↑
North Leg	2nd DW East of STH 100		
East Leg	Research Drive		
South Leg	2nd DW East of STH 100		
West Leg	Research Drive		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementry school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
	Other (describe)	None	

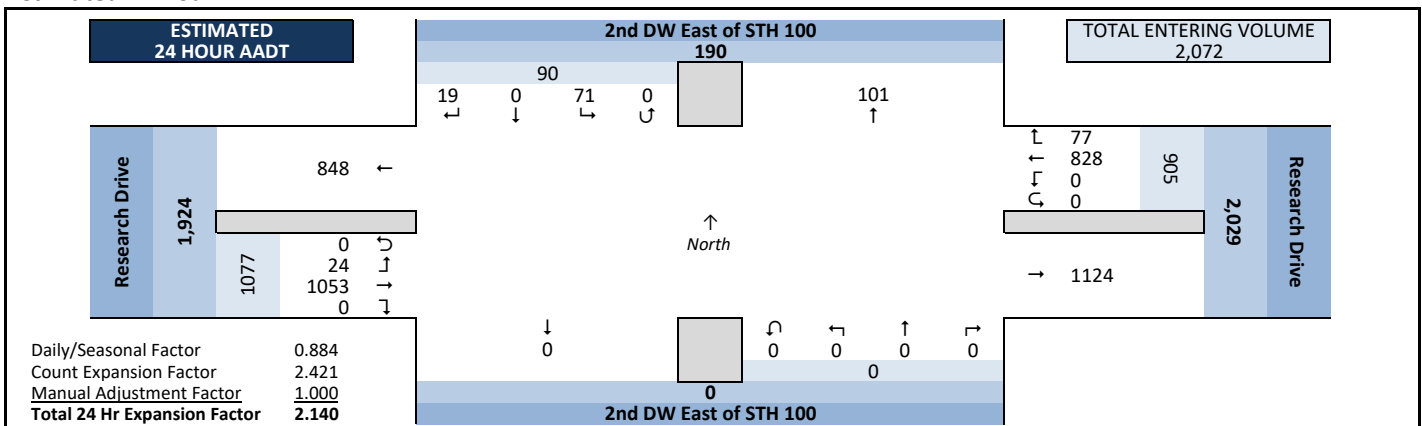
Count Information

Hrs Counted: 6:00 AM-9:00 AM and 3:00 PM-6:00 PM			
1st Day of Count		Wednesday, September 15, 2021	Weather
AM Peak Period		Wednesday, September 15, 2021	Clear & Dry
Midday Peak Period		Wednesday, September 15, 2021	Clear & Dry
PM Peak Period		Wednesday, September 15, 2021	Clear & Dry
Calculated Peak Hours			
AM	7:45-8:45am	MD	PM 4:15-5:15pm
Peak Hours Selected for Analysis			
AM	7:30-8:30am	MD	PM 4:30-5:30pm
Daily/Seasonal Adjustment Group		(2) Urban Arterials & Collectors	
Count Expansion Group		(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor		0.884	Count Expansion Factor 2.421
Company Name TADI, Inc.			Manual Adj. 1.000
Observers	AM Peak Period	Ron Andryk	
	Midday Peak Period	None	
	PM Peak Period	Larry Numerich	
Comments	2019 DOT Seasonal Factors		

Observed 6 Hour Volume Summary



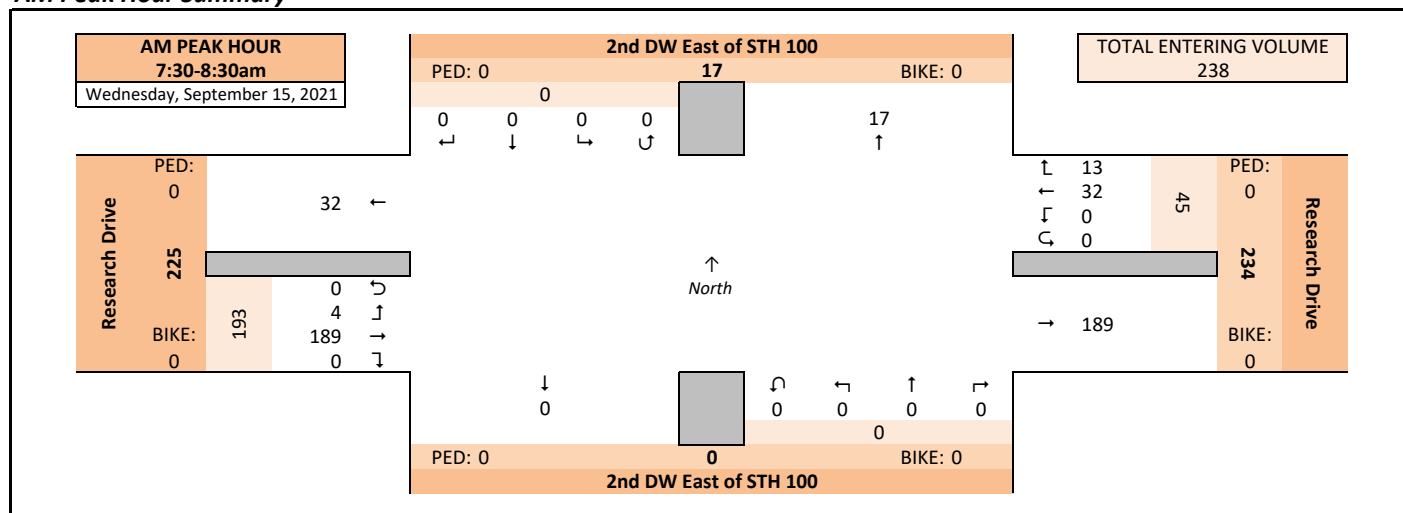
Estimated 24 Hour AADT



Peak Hour Volume Graphical Summary

AM Peak Hour Summary

All Motor Vehicles

[illegible]

**PM PEAK HOUR
4:30-5:30pm**
Wednesday, September 15, 2021

2nd DW East of STH 100

TOTAL ENTERING VOLUME
193

Research Drive

Research Drive

2nd DW East of STH 100

North

PED: 1 **17** **BIKE: 2**

3 0 14 11 0 3

1 137 138 0

0 2 39 0

0 0 0 0

PED: 6 **0** **BIKE: 0**

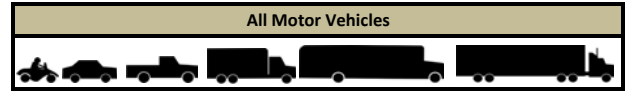
Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

Peak Hour Volume Summary

2nd DW East of STH 100 and Research Drive

Peak Hour Volumes, Truck Percentages, and PHFs



Wednesday, September 15, 2021		From North					From East					From South					From West					
AM Peak Hour	AM Peak Hour	2nd DW East of STH 100					Research Drive					2nd DW East of STH 100					Research Drive					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
	7:30 AM	0	0	0	0	0	3	7	0	0	10	0	0	0	0	0	0	27	3	0	30	40
	7:45 AM	0	0	0	0	0	6	14	0	0	20	0	0	0	0	0	0	54	1	0	55	75
	8:00 AM	0	0	0	0	0	3	5	0	0	8	0	0	0	0	0	0	64	0	0	64	72
	8:15 AM	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	44	0	0	44	51
	Peak Hour Volume	0	0	0	0	0	13	32	0	0	45	0	0	0	0	0	0	189	4	0	193	238
	Rounded Hourly Volume	0	0	0	0	0	15	30	0	0	45	0	0	0	0	0	0	190	5	0	195	240
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.8
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.4
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.0	1.3
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.54	0.57	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.33	0.00	0.75	0.79	

N/A		From North					From East					From South					From West						
Midday (MD) Peak Hour	MD Peak Hour	2nd DW East of STH 100					Research Drive					2nd DW East of STH 100					Research Drive						
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Wednesday, September 15, 2021		↓					←					↑					→																									
		From North					From East					From South					From West																									
PM Peak Hour	PM Peak Hour	2nd DW East of STH 100										Research Drive										2nd DW East of STH 100										Research Drive										
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals															
	4:30 PM	0	0	0	4	0	4	0	36	0	0	36	0	0	0	0	0	0	8	1	0	0	9	0	0	0	0	49														
	4:45 PM	0	0	0	2	0	2	1	31	0	0	32	0	0	0	0	0	0	5	0	0	0	5	0	0	0	39															
	5:00 PM	2	0	0	4	0	6	0	43	0	0	43	0	0	0	0	0	0	12	1	0	0	13	0	0	0	62															
	5:15 PM	1	0	0	1	0	2	0	27	0	0	27	0	0	0	0	0	0	14	0	0	0	14	0	0	0	43															
	Peak Hour Volume	3	0	0	11	0	14	1	137	0	0	138	0	0	0	0	0	0	39	2	0	0	41	0	0	0	193															
	Rounded Hourly Volume	5	0	0	10	0	15	0	135	0	0	135	0	0	0	0	0	0	40	0	0	0	40	0	0	0	190															
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	2.4	0.0	0.0	0.0	1.0															
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0															
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	2.4	0.0	0.0	0.0	1.0															
Peak Hour Factor (PHF)	0.37	0.00	0.69	0.00	0.58	0.25	0.80	0.00	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.50	0.00	0.73	0.78	0.00	0.00	0.00	0.78																

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing 			Crossing 			Crossing 			Crossing 			Total Ped & Bike
 		North Approach 			East Approach 			South Approach 			West Approach 			
		2nd DW East of STH 100			Research Drive			2nd DW East of STH 100			Research Drive			
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	1	0	1	0	0	0	2	0	2	0	0	0	3
	4:45 PM	0	0	0	0	0	0	2	0	2	0	0	0	2
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	2	2	0	0	0	2	0	2	0	0	0	4
	Total	1	2	3	0	0	0	6	0	6	0	0	0	9

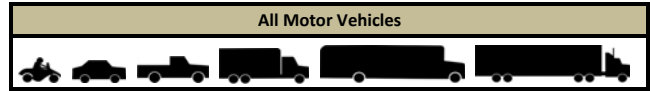
Intersection Traffic Volume Report

Hourly Volume Summary - Motor Vehicle Data

2nd DW East of STH 100 and Research Drive

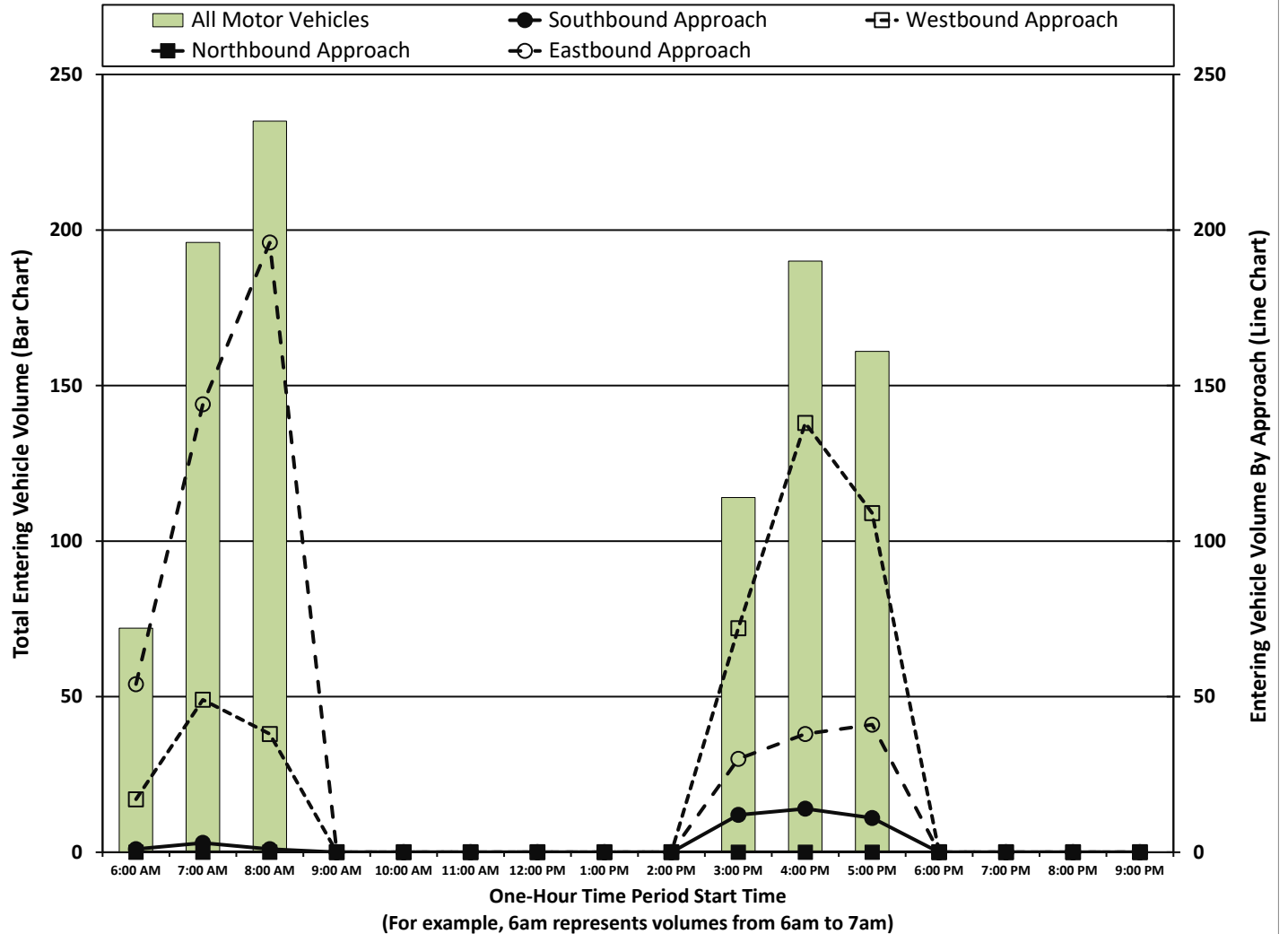
One-Hour Motor Vehicle Data

Count Basics			Page 4 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events



One-Hour Time Period	Start Time	From North 2nd DW East of STH 100					From East Research Drive					From South 2nd DW East of STH 100					From West Research Drive					Total Vehicle Volume	Directional Volume Totals E/W N/S	
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total			
AM	6:00 AM	0	0	1	0	1	7	10	0	0	17	0	0	0	0	0	0	53	1	0	54	72	71	1
	7:00 AM	1	0	2	0	3	16	33	0	0	49	0	0	0	0	0	0	140	4	0	144	196	193	3
	8:00 AM	1	0	0	0	1	8	30	0	0	38	0	0	0	0	0	0	194	2	0	196	235	234	1
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	2	0	10	0	12	1	71	0	0	72	0	0	0	0	0	0	29	1	0	30	114	102	12
	4:00 PM	2	0	12	0	14	4	134	0	0	138	0	0	0	0	0	0	36	2	0	38	190	176	14
	5:00 PM	3	0	8	0	11	0	109	0	0	109	0	0	0	0	0	0	40	1	0	41	161	150	11
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals		9	0	33	0	42	36	387	0	0	423	0	0	0	0	0	0	492	11	0	503	968	926	42

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

Count Basics			Page 11 of 13
Start Date:	Wednesday, September 15, 2021	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

15-Minute Pedestrian and Bicyclist Data

2nd DW East of STH 100 and Research Drive



15-Minute Pedestrian and Bicyclist Data

15-Minute Time Period Start Time		Crossing 			Crossing 			Crossing 			Crossing 			15-Min Totals	Hourly Sum
		North Approach			East Approach			South Approach			West Approach				
		2nd DW East of STH 100			Research Drive			2nd DW East of STH 100			Research Drive				
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	6:30 AM	1	0	1	0	0	0	0	0	0	0	0	0	1	4
	6:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	1	3
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	7:15 AM	1	0	1	0	0	0	0	1	1	0	0	0	2	2
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	1	0	1	0	0	0	0	1	1	0	0	0	2	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	1	2
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	4:00 PM	0	1	1	0	0	0	0	0	0	0	0	0	1	6
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	4:30 PM	1	0	1	0	0	0	2	0	2	0	0	0	3	9
	4:45 PM	0	0	0	0	0	0	2	0	2	0	0	0	2	6
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	5:15 PM	0	2	2	0	0	0	2	0	2	0	0	0	4	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		4	4	8	0	0	0	6	3	9	0	0	0	17	

Special Pedestrians

Pedestrian Type	None	1 or 2	A Few	Several	Many	Unknown
Pre-school Children	x					
Elementary School Age Children	x					
Visually Impaired (white cane/helper dog)	x					
Elderly/Disabled (except wheelchairs)	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					

Date: August 1, 2023

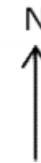
BASE SATURATION FLOW RATE CALCULATIONS

Intersection Name
Hwy 100 & Research Dr

Exit Ramp:	No
Speed Limit:	40

Urbanized Area/Cluster Population
1,376,500

Sat. Flow Rate (pc/h/ln)				
	1952	1952		1952



Exit Ramp:
No
Speed Limit:
25

Sat. Flow (pc/h/ln)	1760
	1900

*Consider using
1900 pc/h/ln

# of Lanes	1	L
Lane Type		L-T
		T
		T-R
	1	R

# of Lanes				
Lane Type				
	1	3		2
R	T-R	T	L-T	L
Traffic Signal				
L	L-T	T	T-R	R
1		4		1
Lane Type				
# of Lanes				

R	1
T-R	
T	
L-T	
L	2

1900	Sat. Flow (pc/h/ln)
1797	

*Consider using
1900 pc/h/ln

Exit Ramp:
No
Speed Limit:
25

1952	1952	1900
Sat. Flow Rate (pc/h/ln)		

Speed Limit:	40
Exit Ramp:	No



Bureau of Traffic Operations
Last Updated: 4/7/2022

Date: August 1, 2023

BASE SATURATION FLOW RATE CALCULATIONS

Intersection Name
Hwy 100 & Wisconsin Ave

Exit Ramp:	No
Speed Limit:	40

Urbanized Area/Cluster Population
1,376,500

Sat. Flow Rate (pc/h/ln)				
	1952	1952		1952



Exit Ramp:
No
Speed Limit:
25

Sat. Flow (pc/h/ln)	
	1656

*Consider using
1900 pc/h/ln

# of Lanes		L
Lane Type		L-T
	1	T
		T-R
		R

# of Lanes				
Lane Type				
	1	3		2
R	T-R	T	L-T	L
Traffic Signal				
L	L-T	T	T-R	R
1		4		1
Lane Type				
# of Lanes				

R		
T-R	1	
T		
L-T		
L	1	

	1832
	1832

*Consider using
1900 pc/h/ln

Exit Ramp:
No
Speed Limit:
35



Bureau of Traffic Operations
Last Updated: 4/7/2022

1952		1952		1900
Sat. Flow Rate (pc/h/ln)				

Speed Limit:	40
Exit Ramp:	No

Timing Cover Sheet for Signal: S1183 HWY: 100 and Potter Rd/Research Dr

Date: 3/9/2021 Changes Made By: D. Wolford
 Signal No: S1183 Highway: 100
 County: MIL Local Hwy: N Mayfair Rd
 Controller: ECONOLITE Location: Potter Rd/Research Dr
 School: None Ped: Standard

Pre-emption

Preemption: Type: Phases: Municipal Id: 0663-42-20
 Emergency - Emitter 3M Opticom 2+5, 6+1, 7, 3 EVP Contact: Fire Dept. Asst. Chief Jim Case
 Community:
 Contact Phone: (414) 471-8490
 Email:

Coordination

System No: SS-40-0013 Controller IP Address: 172.22.69.133
 Coordination Type: Adaptive Comments: Adaptive Coordination.
 Comm Type: Fiber Processor IP: 172.22.69.135

	Length	Split 1	Split 2	Split 3	Split 4
Cycle 1=	150 sec	6:30am - 9:15am M-F 12:00pm - 4:00pm S-S			
Cycle 2=	130 sec	9:15am - 3:00pm M-F; 6:30pm - 9:00pm M-F; 8:45am - 12:00pm S-S; 4:00pm - 9:00pm S-S			
Cycle 3=	150 sec	3:00pm - 6:30pm M-F			
Cycle 4=					

Cabinet Type: TS2 Part of a Local System: No Local Contact:
 Phone Number:
☐ Battery Backup

Turn Operations

Phases with

Overlaps

Overlap A = Phases:

Overlap B = Phases:

Overlap C = Phases: 1

Overlap D = Phases:

FYA TOD ☐

5 Section Head ☐

Lead/Lag ☐

Phase Omit ☐

Dynamic FYA ☐

Split Phase ☐

Detector Timing

Dilemma Zone: No

Bike Detection ☐

Detection Type(s): Radar, Autoscope

Detector Number	**	12	22	21	31	61	71							
Stretch				*	*	*	*							
Right Turn Delay	**	*	*											
Left Turn Delay	**													

Unique Features

Conf. beacons. No thru movements allowed EB or WB
 * See program for det. settings
 Cycle lengths & splits correspond to backup timing plan
 ** See InSync WebUI for details (config. det.)
 InSync Program: Manual AP 90 (MM-5-1)
 Backup Program: Manual AP 0



MOVING TRAFFIC FORWARD

S 40-1183 - STH 100 & Potter/Research - Econolite Type - ASC/3

Configuration Controller Sequence**Phase Ring Sequence and Assignment (MM) 1-1-1**

Hardware Alternate Sequence Enable: No

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Sequence 1																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 2																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 3																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 4																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 5																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 6																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 7																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 8																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 9																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 10																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 11																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 12																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 13																

Wisconsin DOT



MOVING TRAFFIC FORWARD

S 40-1183 - STH 100 & Potter/Research - Econolite Type - ASC/3

Controller Timing Plan (MM) 2-1

Plan 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	5	10	5	5	5	10	5	5	0	0	0	0	0	0	0	0
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	20	0	40	0	25	0	39	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	20	45	20	35	20	45	20	35	0	0	0	0	0	0	0	0
Max2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.5	4.0	3.5	3.5	3.5	4.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	2.0	2.4	2.0	0.0	2.0	2.4	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	6	15	10	0	6	15	10	6	0	0	0	0	0	0	0	0
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	20	0	40	0	25	0	39	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	1.5	2.0	1.5	0.0	1.5	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	20	40	20	0	20	40	20	0	0	0	0	0	0	0	0	0
Max2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.5	4.0	3.5	3.5	3.5	4.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	2.0	2.4	2.0	0.0	2.0	2.4	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	6	15	10	0	6	15	10	0	0	0	0	0	0	0	0	0
Time B4	20	40	20	0	20	40	20	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	1.5	2.0	1.5	0.0	1.5	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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MOVING TRAFFIC FORWARD

S 40-1183 - STH 100 & Potter/Research - Econolite Type - ASC/3

Coordination Options**Options (MM) 3-1**

Manual Pattern	Auto	ECPI Coord	Yes
System Source	SYS	System Format	STD
Splits In	Seconds	Offsets In	Seconds
Transition	Smooth	Max Select	MAXINH
Dwell / Add Time	0		
Delay Coord Wk-LZ	No	Force Off	Fixed
Offset Reference	Lead	Use Ped Time	No
Ped Recall	No	Ped Reservice	No
Local Zero	No	FO Added Ini	Yes
Override		Green	
Re-sync Count	3	Multisync	No

Auto Perm Minimum Green (Seconds) (MM) 3-4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Split Demand (MM) 3-5

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Demand 1																
Demand 2																

Demand	1	2
Detector	0	0
Call Time (Sec)	0	0
Cycle Count	0	0



MOVING TRAFFIC FORWARD

S 40-1183 - STH 100 & Potter/Research - Econolite Type - ASC/3

Coordination Pattern Data**Coordinator Pattern Data (MM) 3-2****Coordinator Pattern # 1**

Split Pattern	1	TS2 (Pat-Off)	0-1	Splits In	Seconds
Cycle	150	Std (COS)	0	Offsets In	Seconds
Offset Value	72s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk	No	Sequence	1		
Phase	No	Action Plan	0		
Reservice					
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 1)	28	97	24	1	28	97	24	1	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	150s	150s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase																
Special Function Outputs																

Coordinator Pattern # 2

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits In	Seconds
Cycle	130	Std (COS)	0	Offsets In	Seconds
Offset Value	127s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk	No	Sequence	1		
Rest					
Phase	No	Action Plan	0		
Reservice					
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 2)	25	70	34	1	25	70	34	1	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	130s	130s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase																
Special Function Outputs																

Coordinator Pattern # 3

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits In	Seconds
Cycle	150	Std (COS)	0	Offsets In	Seconds
Offset Value	134s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk	No	Sequence	1		
Rest					
Phase	No	Action Plan	0		
Reservice					
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 3)	32	78	39	1	18	92	39	1	0	0	0	0	0	0	0	0

Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	150s	150s	0s	0s

Misc. Data

Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0
 Split Demand 0 Split Demand 0 Crossing Arterial 0
 Pat 1 Pat 2 Pat

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase																
Special Function Outputs																

Wisconsin DOT



MOVING TRAFFIC FORWARD

S 40-1183 - STH 100 & Potter/Research - Econolite Type - ASC/3

Time Base Day Plan/Schedule**Day Plan (MM) 5-3****Day Plan #1**

Event	Action Plan	Start Time
1	100	00:01
2	2	08:45
3	1	12:00
4	2	16:00
5	100	21:00

Day Plan #2

Event	Action Plan	Start Time
1	100	00:01
2	1	06:30
3	2	09:15
4	3	15:00
5	2	18:30
6	100	21:00

Timing Cover Sheet for Signal: S1359 HWY: 100 and W Wisconsin Ave

Date: 2/25/2021
Signal No: S1359
County: MIL
Controller: Econolite
School: None

Changes Made By: D. Wolford
Highway: 100
Local Hwy: N Mayfair Rd
Location: W Wisconsin Ave
Ped: Standard

Pre-emption

Preemption: Type: Phases: Municipal Id: None
Emergency-Emmitter 3M Opticom 2+5, 6+1, 4+7, 8+3 EVP Contact:
Community: City of Wauwatosa
Contact Phone:
Email:

Coordination

System No: SS-40-0013 Controller IP Address: 172.22.69.122
Coordination Type: Adaptive Comments: Adaptive Coordination.
Comm Type: Fiber Processor IP: 172.22.69.124

	<u>Length</u>	<u>Split 1</u>	<u>Split 2</u>	<u>Split 3</u>	<u>Split 4</u>
Cycle 1=	150 sec	6:30am - 9:15am M-F 12:00pm - 4:00pm S-S			
Cycle 2=	130 sec	9:15am - 3:00pm M-F; 6:30pm - 9:00pm M-F; 8:45am - 12:00pm S-S; 4:00pm - 9:00pm S-S			
Cycle 3=	150 sec	3:00pm - 6:30pm M-F			
Cycle 4=					

Cabinet Type: TS2 Part of a Local System: No Local Contact:
Phone Number:

☐ Battery Backup

Turn Operations

Phases with

Overlaps

Overlap A = Phases:

Overlap B = Phases:

Overlap C = Phases:

Overlap D = Phases:

FYA TOD ☐

5 Section Head ☐

Lead/Lag ☐

Phase Omit ☐

Dynamic FYA ☐

Split Phase ☐

Detector Timing

Dilemma Zone: No

Bike Detection ☐

Detection Type(s): Radar

Detector Number	**	21	41	61	81	82								
Stretch		*	*	*	*									
Right Turn Delay	**					*								
Left Turn Delay	**													

Unique Features

* See program for detector settings

Cycle lengths and splits correspond to backup timing plan.

** See InSync WebUI for details (configure detectors)

InSync Program: Manual Action Plan 90 (MM-5-1)

Backup Program: Manual Action Plan 0



MOVING TRAFFIC FORWARD

S 40-1359 - STH 100 & Wisconsin Ave - Econolite Type - ASC/3

Configuration Controller Sequence**Phase Ring Sequence and Assignment (MM) 1-1-1**

Hardware Alternate Sequence Enable: No

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Sequence 1																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 2																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 3																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 4																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 5																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 6																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 7																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 8																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 9																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 10																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 11																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 12																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 13																

Wisconsin DOT



MOVING TRAFFIC FORWARD

S 40-1359 - STH 100 & Wisconsin Ave - Econolite Type - ASC/3

Controller Timing Plan (MM) 2-1

Plan 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	5	10	5	5	5	10	5	5	0	0	0	0	0	0	0	0
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	11	0	43	0	20	0	39	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	20	45	20	35	20	45	20	35	0	0	0	0	0	0	0	0
Max2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.5	4.0	3.5	5.7	3.5	4.0	3.5	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	2.0	2.7	2.0	3.0	2.0	2.7	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	6	15	6	10	6	15	0	10	0	0	0	0	0	0	0	0
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	11	0	43	0	20	0	39	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	1.5	2.0	1.5	1.5	1.5	2.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	20	40	20	30	20	40	0	30	0	0	0	0	0	0	0	0
Max2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.5	4.0	3.5	5.7	3.5	4.0	3.5	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	2.0	2.7	2.0	3.0	2.0	2.7	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	6	15	6	10	6	15	0	10	0	0	0	0	0	0	0	0
Time B4	20	40	20	30	20	40	0	30	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	1.5	2.0	1.5	1.5	1.5	2.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Wisconsin DOT



MOVING TRAFFIC FORWARD

S 40-1359 - STH 100 & Wisconsin Ave - Econolite Type - ASC/3

Coordination Options**Options (MM) 3-1**

Manual Pattern	Auto	ECPI Coord	Yes
System Source	SYS	System Format	STD
Splits In	Seconds	Offsets In	Seconds
Transition	AddOnly	Max Select	MAXINH
Dwell / Add Time	0		
Delay Coord Wk-LZ	No	Force Off	Fixed
Offset Reference	Lead	Use Ped Time	No
Ped Recall	No	Ped Reservice	No
Local Zero	No	FO Added Ini	Yes
Override		Green	
Re-sync Count	3	Multisync	No

Auto Perm Minimum Green (Seconds) (MM) 3-4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Split Demand (MM) 3-5

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Demand 1																
Demand 2																

Demand	1	2
Detector	0	0
Call Time (Sec)	0	0
Cycle Count	0	0



MOVING TRAFFIC FORWARD

S 40-1359 - STH 100 & Wisconsin Ave - Econolite Type - ASC/3

Coordination Pattern Data**Coordinator Pattern Data (MM) 3-2****Coordinator Pattern # 1**

Split Pattern	1	TS2 (Pat-Off)	0-1	Splits In	Seconds
Cycle	150	Std (COS)	0	Offsets In	Seconds
Offset Value	125s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk	No	Sequence	0		
Phase	No	Action Plan	0		
Reservice					
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 1)	16	84	30	20	30	70	0	50	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	150s	150s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase																
Special Function Outputs																

Coordinator Pattern # 2

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits In	Seconds
Cycle	130	Std (COS)	0	Offsets In	Seconds
Offset Value	127s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk	No	Sequence	5		
Rest					
Phase	No	Action Plan	0		
Reservice					
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 2)	20	62	26	22	30	52	0	48	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	130s	130s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase																
Special Function Outputs																

Coordinator Pattern # 3

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits In	Seconds
Cycle	150	Std (COS)	0	Offsets In	Seconds
Offset Value	129s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk	No	Sequence	1		
Rest					
Phase	No	Action Plan	0		
Reservice					
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 3)	18	72	38	22	35	55	0	60	0	0	0	0	0	0	0	0

Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	150s	150s	0s	0s

Misc. Data

Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0
 Split Demand 0 Split Demand 0 Crossing Arterial 0
 Pat 1 Pat 2 Pat

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase																
Special Function Outputs																

*MOVING TRAFFIC FORWARD*

S 40-1359 - STH 100 & Wisconsin Ave - Econolite Type - ASC/3

Time Base Day Plan/Schedule
Day Plan (MM) 5-3**Day Plan #1**

Event	Action Plan	Start Time
1	100	00:01
2	2	08:45
3	1	12:30
4	2	16:00
5	100	21:00

Day Plan #2

Event	Action Plan	Start Time
1	100	00:01
2	1	06:30
3	2	09:15
4	3	15:00
5	2	18:30
6	100	21:00

APPENDIX B

Year 2023 Background Traffic Analysis Outputs

Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	20	5	25	75	5	165	5	15	2260	200	5	165
Future Volume (vph)	20	5	25	75	5	165	5	15	2260	200	5	165
Satd. Flow (prot)	0	1645	0	1678	1560	0	0	1757	6364	1478	0	3376
Flt Permitted		0.785		0.722				0.950				0.950
Satd. Flow (perm)	0	1317	0	1275	1560	0	0	1757	6364	1478	0	3376
Satd. Flow (RTOR)												
Lane Group Flow (vph)	0	54	0	82	184	0	0	21	2457	135	0	184
Turn Type	Perm	NA		D,P+P	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4		3	8		1	1	6		5	5
Permitted Phases	4			4						6		
Total Split (s)	20.0	20.0		30.0	50.0		16.0	16.0	70.0	70.0	30.0	30.0
Total Lost Time (s)		8.7		5.5	8.7			5.5	6.7	6.7		5.5
Act Effect Green (s)		11.5		24.3	25.5			6.6	91.5	91.5		12.1
Actuated g/C Ratio		0.08		0.16	0.17			0.04	0.61	0.61		0.08
v/c Ratio		0.54		0.34	0.69			0.27	0.63	0.15		0.68
Control Delay		85.7		53.4	71.3			78.0	20.9	15.1		68.4
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Delay		85.7		53.4	71.3			78.0	20.9	15.1		68.4
LOS		F		D	E			E	C	B		E
Approach Delay		85.7			65.8				21.0			
Approach LOS		F			E				C			
Queue Length 50th (ft)		52		69	171			20	426	55		92
Queue Length 95th (ft)		99		112	241			51	571	109		116
Internal Link Dist (ft)		74			642				1113			
Turn Bay Length (ft)								305		275		225
Base Capacity (vph)		107		323	429			122	3882	901		551
Starvation Cap Reductn		0		0	0			0	0	0		0
Spillback Cap Reductn		0		0	0			0	0	0		0
Storage Cap Reductn		0		0	0			0	0	0		0
Reduced v/c Ratio		0.50		0.25	0.43			0.17	0.63	0.15		0.33

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 125 (83%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 23.4

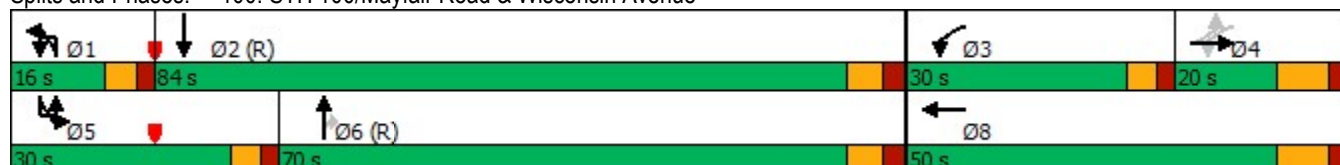
Intersection LOS: C

Intersection Capacity Utilization 75.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 100: STH 100/Mayfair Road & Wisconsin Avenue



Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	1275	5
Future Volume (vph)	1275	5
Satd. Flow (prot)	6296	0
Flt Permitted		
Satd. Flow (perm)	6296	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	1391	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	84.0	
Total Lost Time (s)	6.7	
Act Effct Green (s)	101.6	
Actuated g/C Ratio	0.68	
v/c Ratio	0.33	
Control Delay	11.3	
Queue Delay	0.0	
Total Delay	11.3	
LOS	B	
Approach Delay	18.0	
Approach LOS	B	
Queue Length 50th (ft)	226	
Queue Length 95th (ft)	297	
Internal Link Dist (ft)	922	
Turn Bay Length (ft)		
Base Capacity (vph)	4264	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.33	
Intersection Summary		

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

																															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL																			
Lane Configurations																															
Traffic Volume (veh/h)	20	5	25	75	5	165	5	15	2260	200	5	165																			
Future Volume (veh/h)	20	5	25	75	5	165	5	15	2260	200	5	165																			
Initial Q (Qb), veh	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																			
Parking Bus, Adj	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																								
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1841	1841		1922	1922	1870		1906																			
Adj Flow Rate, veh/h	22	5	27	82	5	179		16	2457	135		179																			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92		0.92																			
Percent Heavy Veh, %	2	2	2	4	4	4		2	2	2		3																			
Cap, veh/h	60	20	47	234	7	241		36	4214	1010		229																			
Arrive On Green	0.07	0.07	0.07	0.05	0.16	0.16		0.02	0.64	0.64		0.02																			
Sat Flow, veh/h	400	299	700	1753	43	1524		1830	6610	1585		3522																			
Grp Volume(v), veh/h	54	0	0	82	0	184		16	2457	135		179																			
Grp Sat Flow(s),veh/h/ln	1400	0	0	1753	0	1566		1830	1653	1585		1761																			
Q Serve(g_s), s	2.6	0.0	0.0	6.5	0.0	16.8		1.3	32.2	5.1		7.6																			
Cycle Q Clear(g_c), s	5.7	0.0	0.0	6.5	0.0	16.8		1.3	32.2	5.1		7.6																			
Prop In Lane	0.41		0.50	1.00		0.97		1.00		1.00		1.00																			
Lane Grp Cap(c), veh/h	127	0	0	234	0	248		36	4214	1010		229																			
V/C Ratio(X)	0.42	0.00	0.00	0.35	0.00	0.74		0.45	0.58	0.13		0.78																			
Avail Cap(c_a), veh/h	139	0	0	424	0	431		128	4214	1010		575																			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		0.33																			
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		0.94																			
Uniform Delay (d), s/veh	67.8	0.0	0.0	60.7	0.0	60.2		72.7	15.7	10.8		72.3																			
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.3	0.0	1.7		3.3	0.6	0.3		2.1																			
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																			
%ile BackOfQ(95%),veh/ln	3.7	0.0	0.0	5.2	0.0	11.0		1.1	17.3	3.3		6.5																			
Unsig. Movement Delay, s/veh																															
LnGrp Delay(d),s/veh	68.7	0.0	0.0	61.0	0.0	61.9		76.0	16.3	11.0		74.4																			
LnGrp LOS	E	A	A	E	A	E		E	B	B		E																			
Approach Vol, veh/h	54			266			2608																								
Approach Delay, s/veh	68.7			61.6			16.4																								
Approach LOS	E			E			B																								
Timer - Assigned Phs	1	2	3	4	5	6		8																							
Phs Duration (G+Y+Rc), s	8.4	109.1	13.7	18.7	15.2	102.3		32.4																							
Change Period (Y+Rc), s	5.5	* 6.7	5.5	8.7	5.5	* 6.7		8.7																							
Max Green Setting (Gmax), s	10.5	* 77	24.5	11.3	24.5	* 63		41.3																							
Max Q Clear Time (g_c+I1), s	3.3	27.4	8.5	7.7	9.6	34.2		18.8																							
Green Ext Time (p_c), s	0.0	7.1	0.0	0.0	0.2	17.6		0.5																							
Intersection Summary																															
HCM 6th Ctrl Delay	25.8																														
HCM 6th LOS	C																														
Notes																															
User approved ignoring U-Turning movement.																															
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.																															

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (veh/h)	1275	5
Future Volume (veh/h)	1275	5
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1906	1906
Adj Flow Rate, veh/h	1386	5
Peak Hour Factor	0.92	0.92
Percent Heavy Veh, %	3	3
Cap, veh/h	4641	17
Arrive On Green	0.23	0.23
Sat Flow, veh/h	6796	25
Grp Volume(v), veh/h	1003	388
Grp Sat Flow(s),veh/h/ln	1639	1902
Q Serve(g_s), s	25.4	25.4
Cycle Q Clear(g_c), s	25.4	25.4
Prop In Lane		0.01
Lane Grp Cap(c), veh/h	3359	1299
V/C Ratio(X)	0.30	0.30
Avail Cap(c_a), veh/h	3359	1299
HCM Platoon Ratio	0.33	0.33
Upstream Filter(I)	0.94	0.94
Uniform Delay (d), s/veh	28.3	28.3
Incr Delay (d2), s/veh	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.6	19.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	28.5	28.8
LnGrp LOS	C	C
Approach Vol, veh/h	1570	
Approach Delay, s/veh	33.8	
Approach LOS	C	
Timer - Assigned Phs		

Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	110	0	85	30	0	10	5	120	1875	280	5	65
Future Volume (vph)	110	0	85	30	0	10	5	120	1875	280	5	65
Satd. Flow (prot)	1711	0	1583	3351	0	1599	0	1724	6241	1501	0	3260
Flt Permitted	0.950			0.950				0.950				0.950
Satd. Flow (perm)	1711	0	1583	3351	0	1599	0	1724	6241	1501	0	3260
Satd. Flow (RTOR)												
Lane Group Flow (vph)	122	0	59	33	0	7	0	139	2083	193	0	78
Turn Type	Prot		Perm	Prot		Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7			3			1	1	6		5	5
Permitted Phases			7			3				6		
Total Split (s)	25.0		25.0	25.0		25.0	28.0	28.0	97.0	97.0	28.0	28.0
Total Lost Time (s)	5.5		5.5	5.5		5.5		5.5	6.4	6.4		5.5
Act Effect Green (s)	14.6		14.6	14.6		14.6		16.0	110.2	110.2		7.7
Actuated g/C Ratio	0.10		0.10	0.10		0.10		0.11	0.73	0.73		0.05
v/c Ratio	0.73		0.38	0.10		0.05		0.76	0.45	0.18		0.47
Control Delay	89.8		69.5	60.4		59.3		67.9	13.2	11.5		77.9
Queue Delay	0.0		0.0	0.0		0.0		0.0	0.0	0.0		0.0
Total Delay	89.8		69.5	60.4		59.3		67.9	13.2	11.5		77.9
LOS	F		E	E		E		E	B	B		E
Approach Delay		83.2			60.2				16.2			
Approach LOS		F			E				B			
Queue Length 50th (ft)	118		55	15		6		135	213	53		39
Queue Length 95th (ft)	185		101	33		22		205	436	178		67
Internal Link Dist (ft)		276			332				922			
Turn Bay Length (ft)	100					205		515		465		380
Base Capacity (vph)	222		205	435		207		258	4586	1102		489
Starvation Cap Reductn	0		0	0		0		0	0	0		0
Spillback Cap Reductn	0		0	0		0		0	0	0		0
Storage Cap Reductn	0		0	0		0		0	0	0		0
Reduced v/c Ratio	0.55		0.29	0.08		0.03		0.54	0.45	0.18		0.16

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 72 (48%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 18.8

Intersection LOS: B

Intersection Capacity Utilization 63.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 110: STH 100/Mayfair Road & Potter Road/Research Drive



Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	1245	180
Future Volume (vph)	1245	180
Satd. Flow (prot)	6182	0
Flt Permitted		
Satd. Flow (perm)	6182	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	1583	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	97.0	
Total Lost Time (s)	6.4	
Act Effct Green (s)	102.0	
Actuated g/C Ratio	0.68	
v/c Ratio	0.38	
Control Delay	11.4	
Queue Delay	0.0	
Total Delay	11.4	
LOS	B	
Approach Delay	14.5	
Approach LOS	B	
Queue Length 50th (ft)	180	
Queue Length 95th (ft)	254	
Internal Link Dist (ft)	1585	
Turn Bay Length (ft)		
Base Capacity (vph)	4202	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.38	
Intersection Summary		

HCM 6th Signalized Intersection Summary

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	110	0	85	30	0	10	5	120	1875	280	5	65
Future Volume (veh/h)	110	0	85	30	0	10	5	120	1875	280	5	65
Initial Q (Qb), veh	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
Parking Bus, Adj	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					
Adj Sat Flow, veh/h/ln	1870	0	1870	1885	0	1885		1891	1891	1841		1906
Adj Flow Rate, veh/h	122	0	59	33	0	7		133	2083	193		72
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90	0.90		0.90
Percent Heavy Veh, %	2	0	2	1	0	1		4	4	4		3
Cap, veh/h	144	0	0	281	0	0		154	4978	1194		134
Arrive On Green	0.08	0.00	0.00	0.08	0.00	0.00		0.17	1.00	1.00		0.04
Sat Flow, veh/h	1781	122		3483	33			1801	6505	1560		3522
Grp Volume(v), veh/h	122	76.1		33	64.0			133	2083	193		72
Grp Sat Flow(s),veh/h/ln	1781	E		1742	E			1801	1626	1560		1761
Q Serve(g_s), s	10.1			1.3				10.8	0.0	0.0		3.0
Cycle Q Clear(g_c), s	10.1			1.3				10.8	0.0	0.0		3.0
Prop In Lane	1.00			1.00				1.00		1.00		1.00
Lane Grp Cap(c), veh/h	144			281				154	4978	1194		134
V/C Ratio(X)	0.85			0.12				0.87	0.42	0.16		0.54
Avail Cap(c_a), veh/h	232			453				270	4978	1194		528
HCM Platoon Ratio	1.00			1.00				2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00			1.00				0.73	0.73	0.73		1.00
Uniform Delay (d), s/veh	68.0			64.0				61.4	0.0	0.0		70.9
Incr Delay (d2), s/veh	8.1			0.1				4.1	0.2	0.2		1.2
Initial Q Delay(d3),s/veh	0.0			0.0				0.0	0.0	0.0		0.0
%ile BackOfQ(95%),veh/ln	8.7			1.1				7.7	0.1	0.1		2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.1			64.0				65.5	0.2	0.2		72.1
LnGrp LOS	E			E				E	A	A		E
Approach Vol, veh/h									2409			
Approach Delay, s/veh									3.8			
Approach LOS									A			
Timer - Assigned Phs	1	2	3	5		6	7					
Phs Duration (G+Y+Rc), s	18.3	114.1	17.6	11.2		121.2	17.6					
Change Period (Y+Rc), s	5.5	6.4	5.5	5.5		6.4	5.5					
Max Green Setting (Gmax), s	22.5	90.6	19.5	22.5		90.6	19.5					
Max Q Clear Time (g_c+I1), s	12.8	15.2	3.3	5.0		2.0	12.1					
Green Ext Time (p_c), s	0.1	9.1	0.0	0.1		18.6	0.1					
Intersection Summary												
HCM 6th Ctrl Delay	9.2											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary 110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	TTT
Traffic Volume (veh/h)	1245	180
Future Volume (veh/h)	1245	180
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1906	1906
Adj Flow Rate, veh/h	1383	200
Peak Hour Factor	0.90	0.90
Percent Heavy Veh, %	3	3
Cap, veh/h	4187	604
Arrive On Green	0.72	0.72
Sat Flow, veh/h	5832	841
Grp Volume(v), veh/h	1166	417
Grp Sat Flow(s),veh/h/ln	1639	1755
Q Serve(g_s), s	13.1	13.2
Cycle Q Clear(g_c), s	13.1	13.2
Prop In Lane		0.48
Lane Grp Cap(c), veh/h	3531	1260
V/C Ratio(X)	0.33	0.33
Avail Cap(c_a), veh/h	3531	1260
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	7.8	7.8
Incr Delay (d2), s/veh	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.8	8.5
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	8.1	8.5
LnGrp LOS	A	A
Approach Vol, veh/h	1655	
Approach Delay, s/veh	11.0	
Approach LOS	B	
Timer - Assigned Phs		

HCM 6th TWSC
120: West Driveways & Research Drive

08/01/2023

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	135	210	1	1	25	35	1	1	1	5	1	15
Future Vol, veh/h	135	210	1	1	25	35	1	1	1	5	1	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	1	1	1	3	3	3	1	1	1	1	1	1
Mvmt Flow	178	276	1	1	33	46	1	1	1	7	1	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	79	0	0	277	0	0	652	714	139	553	691	40
Stage 1	-	-	-	-	-	-	633	633	-	58	58	-
Stage 2	-	-	-	-	-	-	19	81	-	495	633	-
Critical Hdwy	4.12	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	1525	-	-	1404	-	-	436	413	*1014	519	427	1026
Stage 1	-	-	-	-	-	-	514	527	-	950	848	-
Stage 2	-	-	-	-	-	-	1000	829	-	627	527	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1525	-	-	1404	-	-	381	355	*1014	462	367	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	419	424	-	507	428	-
Stage 1	-	-	-	-	-	-	443	454	-	819	847	-
Stage 2	-	-	-	-	-	-	978	828	-	538	454	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.1			0.1			11.9			9.8		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	523	1525	-	-	1404	-	-	783				
HCM Lane V/C Ratio	0.008	0.116	-	-	0.001	-	-	0.035				
HCM Control Delay (s)	11.9	7.7	0.2	-	7.6	0	-	9.8				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0.4	-	-	0	-	-	0.1				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

HCM 6th TWSC
130: East Driveway & Research Drive

08/01/2023

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	20	195	1	1	55	35	1	1	1	5	1	5
Future Vol, veh/h	20	195	1	1	55	35	1	1	1	5	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	2	2	2	1	1	1	1	1	1
Mvmt Flow	25	247	1	1	70	44	1	1	1	6	1	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	114	0	0	248	0	0	336	414	124	268	392	57
Stage 1	-	-	-	-	-	-	298	298	-	94	94	-
Stage 2	-	-	-	-	-	-	38	116	-	174	298	-
Critical Hdwy	4.12	-	-	4.14	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.22	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	1480	-	-	1315	-	-	596	529	907	666	545	1001
Stage 1	-	-	-	-	-	-	689	668	-	905	819	-
Stage 2	-	-	-	-	-	-	975	801	-	814	668	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1480	-	-	1315	-	-	582	518	907	653	534	1001
Mov Cap-2 Maneuver	-	-	-	-	-	-	582	518	-	653	534	-
Stage 1	-	-	-	-	-	-	675	655	-	887	818	-
Stage 2	-	-	-	-	-	-	966	800	-	795	655	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.1			10.7			9.8		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	631	1480	-	-	1315	-	-	757				
HCM Lane V/C Ratio	0.006	0.017	-	-	0.001	-	-	0.018				
HCM Control Delay (s)	10.7	7.5	0.1	-	7.7	0	-	9.8				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1				

Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	30	5	45	305	10	205	15	15	1440	65	5	135
Future Volume (vph)	30	5	45	305	10	205	15	15	1440	65	5	135
Satd. Flow (prot)	0	1650	0	1728	1612	0	0	1775	6427	1492	0	3443
Flt Permitted		0.783		0.717				0.950				0.950
Satd. Flow (perm)	0	1316	0	1304	1612	0	0	1775	6427	1492	0	3443
Satd. Flow (RTOR)												
Lane Group Flow (vph)	0	83	0	318	224	0	0	32	1500	42	0	146
Turn Type	Perm	NA		D,P+P	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4		3	8		1	1	6		5	5
Permitted Phases	4			4						6		
Total Split (s)	22.0	22.0		38.0	60.0		18.0	18.0	55.0	55.0	35.0	35.0
Total Lost Time (s)		8.7		5.5	8.7			5.5	6.7	6.7		5.5
Act Effect Green (s)		13.0		42.7	45.0			7.2	73.8	73.8		10.3
Actuated g/C Ratio		0.09		0.28	0.30			0.05	0.49	0.49		0.07
v/c Ratio		0.73		0.71	0.46			0.38	0.47	0.06		0.62
Control Delay		99.8		51.2	45.0			81.1	26.9	23.5		85.5
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Delay		99.8		51.2	45.0			81.1	26.9	23.5		85.5
LOS		F		D	D			F	C	C		F
Approach Delay		99.8			48.6				28.0			
Approach LOS		F			D				C			
Queue Length 50th (ft)		80		256	176			31	282	22		78
Queue Length 95th (ft)		#166		340	248			68	352	50		118
Internal Link Dist (ft)		74			642				1113			
Turn Bay Length (ft)								305		275		225
Base Capacity (vph)		123		497	551			147	3163	734		677
Starvation Cap Reductn		0		0	0			0	0	0		0
Spillback Cap Reductn		0		0	0			0	0	0		0
Storage Cap Reductn		0		0	0			0	0	0		0
Reduced v/c Ratio		0.67		0.64	0.41			0.22	0.47	0.06		0.22

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 129 (86%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 30.1

Intersection LOS: C

Intersection Capacity Utilization 91.4%

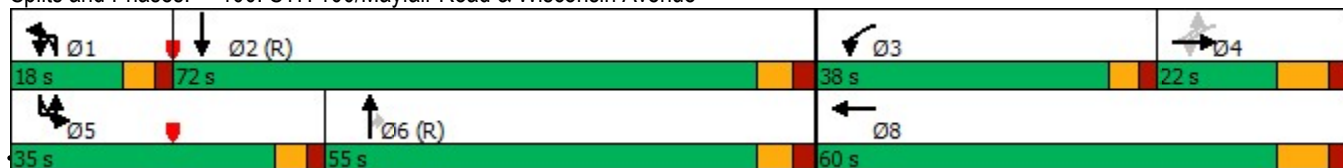
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: STH 100/Mayfair Road & Wisconsin Avenue



2023 Background Volumes; Existing Conditions
Timing Plan: PM Peak Hour

Synchro 11 Report
TADI

Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	THRU	THRU
Traffic Volume (vph)	2615	5
Future Volume (vph)	2615	5
Satd. Flow (prot)	6427	0
Flt Permitted		
Satd. Flow (perm)	6427	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	2729	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	72.0	
Total Lost Time (s)	6.7	
Act Effct Green (s)	81.5	
Actuated g/C Ratio	0.54	
v/c Ratio	0.78	
Control Delay	22.6	
Queue Delay	0.0	
Total Delay	22.6	
LOS	C	
Approach Delay	25.8	
Approach LOS	C	
Queue Length 50th (ft)	600	
Queue Length 95th (ft)	394	
Internal Link Dist (ft)	922	
Turn Bay Length (ft)		
Base Capacity (vph)	3491	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.78	
Intersection Summary		

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations									   			 
Traffic Volume (veh/h)	30	5	45	305	10	205	15	15	1440	65	5	135
Future Volume (veh/h)	30	5	45	305	10	205	15	15	1440	65	5	135
Initial Q (Qb), veh	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
Parking Bus, Adj	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				
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885		1937	1937	1885		1937
Adj Flow Rate, veh/h	31	5	47	318	10	214		16	1500	42		141
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		0.96	0.96	0.96		0.96
Percent Heavy Veh, %	1	1	1	1	1	1		1	1	1		1
Cap, veh/h	63	14	57	443	20	434		36	3503	840		188
Arrive On Green	0.07	0.07	0.07	0.18	0.28	0.28		0.02	0.53	0.53		0.10
Sat Flow, veh/h	438	198	830	1795	72	1537		1845	6662	1598		3578
Grp Volume(v), veh/h	83	0	0	318	0	224		16	1500	42		141
Grp Sat Flow(s),veh/h/ln	1466	0	0	1795	0	1609		1845	1666	1598		1789
Q Serve(g_s), s	6.5	0.0	0.0	24.3	0.0	17.4		1.3	20.7	1.9		5.7
Cycle Q Clear(g_c), s	8.3	0.0	0.0	24.3	0.0	17.4		1.3	20.7	1.9		5.7
Prop In Lane	0.37		0.57	1.00		0.96		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	134	0	0	443	0	454		36	3503	840		188
V/C Ratio(X)	0.62	0.00	0.00	0.72	0.00	0.49		0.45	0.43	0.05		0.75
Avail Cap(c_a), veh/h	162	0	0	515	0	550		154	3503	840		704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		0.75
Uniform Delay (d), s/veh	68.7	0.0	0.0	51.8	0.0	44.9		72.7	21.8	17.3		66.2
Incr Delay (d2), s/veh	2.2	0.0	0.0	3.0	0.0	0.3		3.2	0.4	0.1		1.7
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
%ile BackOfQ(95%),veh/ln	5.9	0.0	0.0	16.8	0.0	11.4		1.1	12.7	1.3		4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	0.0	0.0	54.8	0.0	45.2		75.9	22.2	17.4		67.9
LnGrp LOS	E	A	A	D	A	D		E	C	B		E
Approach Vol, veh/h		83			542				1558			
Approach Delay, s/veh		70.9			50.8				22.6			
Approach LOS		E			D				C			
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	90.5	32.0	19.1	13.4	85.6		51.1				
Change Period (Y+Rc), s	5.5	* 6.7	5.5	8.7	5.5	* 6.7		8.7				
Max Green Setting (Gmax), s	12.5	* 65	32.5	13.3	29.5	* 48		51.3				
Max Q Clear Time (g_c+I1), s	3.3	2.0	26.3	10.3	7.7	22.7		19.4				
Green Ext Time (p_c), s	0.0	25.0	0.2	0.1	0.1	8.1		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			16.4									
HCM 6th LOS			B									
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (veh/h)	2615	5
Future Volume (veh/h)	2615	5
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1937	1937
Adj Flow Rate, veh/h	2724	5
Peak Hour Factor	0.96	0.96
Percent Heavy Veh, %	1	1
Cap, veh/h	3865	7
Arrive On Green	1.00	1.00
Sat Flow, veh/h	6919	13
Grp Volume(v), veh/h	1967	762
Grp Sat Flow(s),veh/h/ln	1666	1934
Q Serve(g_s), s	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0
Prop In Lane		0.01
Lane Grp Cap(c), veh/h	2792	1081
V/C Ratio(X)	0.70	0.70
Avail Cap(c_a), veh/h	2792	1081
HCM Platoon Ratio	2.00	2.00
Upstream Filter(I)	0.75	0.75
Uniform Delay (d), s/veh	0.0	0.0
Incr Delay (d2), s/veh	1.1	2.9
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	1.6
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	1.1	2.9
LnGrp LOS	A	A
Approach Vol, veh/h	2870	
Approach Delay, s/veh	4.9	
Approach LOS	A	
Timer - Assigned Phs		

Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	125	0	130	230	0	60	15	85	1545	40	10	30
Future Volume (vph)	125	0	130	230	0	60	15	85	1545	40	10	30
Satd. Flow (prot)	1728	0	1599	3319	0	1583	0	1757	6364	1531	0	3260
Flt Permitted	0.950			0.950				0.950				0.950
Satd. Flow (perm)	1728	0	1599	3319	0	1583	0	1757	6364	1531	0	3260
Satd. Flow (RTOR)												
Lane Group Flow (vph)	133	0	86	245	0	40	0	106	1644	26	0	43
Turn Type	Prot		Perm	Prot		Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7			3			1	1	6		5	5
Permitted Phases			7			3				6		
Total Split (s)	40.0		40.0	40.0		40.0	32.0	32.0	92.0	92.0	18.0	18.0
Total Lost Time (s)	5.5		5.5	5.5		5.5		5.5	6.4	6.4		5.5
Act Effect Green (s)	15.8		15.8	15.8		15.8		13.0	112.6	112.6		6.5
Actuated g/C Ratio	0.11		0.11	0.11		0.11		0.09	0.75	0.75		0.04
v/c Ratio	0.73		0.51	0.70		0.24		0.70	0.34	0.02		0.30
Control Delay	86.9		73.1	75.0		63.2		101.8	3.6	3.6		75.0
Queue Delay	0.0		0.0	0.0		0.0		0.0	0.0	0.0		0.0
Total Delay	86.9		73.1	75.0		63.2		101.8	3.6	3.6		75.0
LOS	F		E	E		E		F	A	A		E
Approach Delay		81.5			73.3				9.4			
Approach LOS		F			E				A			
Queue Length 50th (ft)	129		81	116		35		108	61	3		21
Queue Length 95th (ft)	195		135	148		68		m174	70	m7		43
Internal Link Dist (ft)		276			332				922			
Turn Bay Length (ft)	100					205		515		465		380
Base Capacity (vph)	397		367	763		364		310	4775	1148		271
Starvation Cap Reductn	0		0	0		0		0	0	0		0
Spillback Cap Reductn	0		0	0		0		0	0	0		0
Storage Cap Reductn	0		0	0		0		0	0	0		0
Reduced v/c Ratio	0.34		0.23	0.32		0.11		0.34	0.34	0.02		0.16

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 134 (89%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 19.3

Intersection LOS: B

Intersection Capacity Utilization 73.5%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 110: STH 100/Mayfair Road & Potter Road/Research Drive



Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	2385	110
Future Volume (vph)	2385	110
Satd. Flow (prot)	6258	0
Flt Permitted		
Satd. Flow (perm)	6258	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	2654	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	78.0	
Total Lost Time (s)	6.4	
Act Effct Green (s)	103.8	
Actuated g/C Ratio	0.69	
v/c Ratio	0.61	
Control Delay	14.1	
Queue Delay	0.0	
Total Delay	14.1	
LOS	B	
Approach Delay	15.0	
Approach LOS	B	
Queue Length 50th (ft)	371	
Queue Length 95th (ft)	515	
Internal Link Dist (ft)	1585	
Turn Bay Length (ft)		
Base Capacity (vph)	4330	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.61	
Intersection Summary		

HCM 6th Signalized Intersection Summary

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

																															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL																			
Lane Configurations																															
Traffic Volume (veh/h)	125	0	130	230	0	60	15	85	1545	40	10	30																			
Future Volume (veh/h)	125	0	130	230	0	60	15	85	1545	40	10	30																			
Initial Q (Qb), veh	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																			
Parking Bus, Adj	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																								
Adj Sat Flow, veh/h/ln	1885	0	1885	1870	0	1870		1922	1922	1870		1906																			
Adj Flow Rate, veh/h	133	0	86	245	0	40		90	1644	26		32																			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94	0.94		0.94																			
Percent Heavy Veh, %	1	0	1	2	0	2		2	2	2		3																			
Cap, veh/h	156	0	0	300	0	0		110	5075	1217		104																			
Arrive On Green	0.09	0.00	0.00	0.09	0.00	0.00		0.12	1.00	1.00		0.03																			
Sat Flow, veh/h	1795	133		3456	245			1830	6610	1585		3522																			
Grp Volume(v), veh/h	133	72.6		245	69.4			90	1644	26		32																			
Grp Sat Flow(s),veh/h/ln	1795	E		1728	E			1830	1653	1585		1761																			
Q Serve(g_s), s	11.0			10.5				7.2	0.0	0.0		1.3																			
Cycle Q Clear(g_c), s	11.0			10.5				7.2	0.0	0.0		1.3																			
Prop In Lane	1.00			1.00				1.00		1.00		1.00																			
Lane Grp Cap(c), veh/h	156			300				110	5075	1217		104																			
V/C Ratio(X)	0.85			0.82				0.82	0.32	0.02		0.31																			
Avail Cap(c_a), veh/h	413			795				323	5075	1217		294																			
HCM Platoon Ratio	1.00			1.00				2.00	2.00	2.00		1.00																			
Upstream Filter(I)	1.00			1.00				0.88	0.88	0.88		1.00																			
Uniform Delay (d), s/veh	67.6			67.3				65.2	0.0	0.0		71.3																			
Incr Delay (d2), s/veh	5.0			2.1				4.8	0.1	0.0		0.6																			
Initial Q Delay(d3),s/veh	0.0			0.0				0.0	0.0	0.0		0.0																			
%ile BackOfQ(95%),veh/ln	9.1			8.3				6.0	0.1	0.0		1.1																			
Unsig. Movement Delay, s/veh																															
LnGrp Delay(d),s/veh	72.6			69.4				70.0	0.1	0.0		71.9																			
LnGrp LOS	E			E				E	A	A		E																			
Approach Vol, veh/h									1760																						
Approach Delay, s/veh									3.7																						
Approach LOS									A																						
Timer - Assigned Phs	1	2	3		5	6	7																								
Phs Duration (G+Y+Rc), s	14.5	117.0	18.5		9.9	121.6	18.5																								
Change Period (Y+Rc), s	5.5	6.4	5.5		5.5	6.4	5.5																								
Max Green Setting (Gmax), s	26.5	71.6	34.5		12.5	85.6	34.5																								
Max Q Clear Time (g_c+I1), s	9.2	27.5	12.5		3.3	2.0	13.0																								
Green Ext Time (p_c), s	0.1	21.1	0.3		0.0	10.8	0.1																								
Intersection Summary																															
HCM 6th Ctrl Delay				12.5																											
HCM 6th LOS				B																											
Notes																															
User approved ignoring U-Turning movement.																															

HCM 6th Signalized Intersection Summary

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (veh/h)	2385	110
Future Volume (veh/h)	2385	110
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1906	1906
Adj Flow Rate, veh/h	2537	117
Peak Hour Factor	0.94	0.94
Percent Heavy Veh, %	3	3
Cap, veh/h	4771	219
Arrive On Green	0.74	0.74
Sat Flow, veh/h	6473	298
Grp Volume(v), veh/h	1926	728
Grp Sat Flow(s),veh/h/ln	1639	1853
Q Serve(g_s), s	25.4	25.5
Cycle Q Clear(g_c), s	25.4	25.5
Prop In Lane		0.16
Lane Grp Cap(c), veh/h	3625	1366
V/C Ratio(X)	0.53	0.53
Avail Cap(c_a), veh/h	3625	1366
HCM Platoon Ratio	1.00	1.00
Upstream Filter(l)	1.00	1.00
Uniform Delay (d), s/veh	8.5	8.5
Incr Delay (d2), s/veh	0.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.9	14.8
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	9.1	10.0
LnGrp LOS	A	B
Approach Vol, veh/h	2686	
Approach Delay, s/veh	10.1	
Approach LOS	B	
Timer - Assigned Phs		

HCM 6th TWSC
120: West Driveways & Research Drive

08/01/2023

Intersection													
Int Delay, s/veh	4.9												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↔↔			↔↔			↔↔			↔↔	
Traffic Vol, veh/h	5	25	40	1	1	160	10	1	1	1	30	1	125
Future Vol, veh/h	5	25	40	1	1	160	10	1	1	1	30	1	125
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	9	9	9	9	2	2	2	1	1	1	1	1	1
Mvmt Flow	7	35	56	1	1	222	14	1	1	1	42	1	174
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	236	236	0	0	57	0	0	255	379	29	344	372	118
Stage 1	-	-	-	-	-	-	-	141	141	-	231	231	-
Stage 2	-	-	-	-	-	-	-	114	238	-	113	141	-
Critical Hdwy	6.58	4.28	-	-	4.14	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.59	2.29	-	-	2.22	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	982	1279	-	-	1562	-	-	696	563	1066	602	568	915
Stage 1	-	-	-	-	-	-	-	866	791	-	754	715	-
Stage 2	-	-	-	-	-	-	-	882	710	-	900	791	-
Platoon blocked, %			-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1179	1179	-	-	1562	-	-	547	542	1066	583	547	915
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	623	613	-	669	637	-
Stage 1	-	-	-	-	-	-	-	834	761	-	726	714	-
Stage 2	-	-	-	-	-	-	-	713	709	-	864	761	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	3.5			0			10			10.7			
HCM LOS							B			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	719	1179	-	-	1562	-	-	852					
HCM Lane V/C Ratio	0.006	0.029	-	-	0.001	-	-	0.254					
HCM Control Delay (s)	10	8.2	0.1	-	7.3	0	-	10.7					
HCM Lane LOS	B	A	A	-	A	A	-	B					
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	1					

HCM 6th TWSC
130: East Driveway & Research Drive

08/01/2023

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	5	65	1	1	150	5	1	1	1	30	1	20
Future Vol, veh/h	5	65	1	1	150	5	1	1	1	30	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	1	1	1
Mvmt Flow	6	83	1	1	192	6	1	1	1	38	1	26
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	198	0	0	84	0	0	195	296	42	251	293	99
Stage 1	-	-	-	-	-	-	96	96	-	197	197	-
Stage 2	-	-	-	-	-	-	99	200	-	54	96	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.22	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	1372	-	-	1518	-	-	749	617	1023	684	619	941
Stage 1	-	-	-	-	-	-	903	817	-	789	739	-
Stage 2	-	-	-	-	-	-	899	737	-	955	817	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1372	-	-	1518	-	-	724	613	1023	679	615	941
Mov Cap-2 Maneuver	-	-	-	-	-	-	724	613	-	679	615	-
Stage 1	-	-	-	-	-	-	898	813	-	785	738	-
Stage 2	-	-	-	-	-	-	872	736	-	948	813	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0			9.8			10.2		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	752	1372	-	-	1518	-	-	760				
HCM Lane V/C Ratio	0.005	0.005	-	-	0.001	-	-	0.086				
HCM Control Delay (s)	9.8	7.6	0	-	7.4	0	-	10.2				
HCM Lane LOS	A	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3				

Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	20	5	25	75	5	165	5	15	2260	200	5	165
Future Volume (vph)	20	5	25	75	5	165	5	15	2260	200	5	165
Satd. Flow (prot)	0	1645	0	1678	1560	0	0	1757	6364	1478	0	3376
Flt Permitted		0.785		0.722				0.950				0.950
Satd. Flow (perm)	0	1317	0	1275	1560	0	0	1757	6364	1478	0	3376
Satd. Flow (RTOR)												
Lane Group Flow (vph)	0	54	0	82	184	0	0	21	2457	135	0	184
Turn Type	Perm	NA		D,P+P	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4		3	8		1	1	6		5	5
Permitted Phases	4			4						6		
Total Split (s)	20.0	20.0		30.0	50.0		16.0	16.0	70.0	70.0	30.0	30.0
Total Lost Time (s)		8.7		5.5	8.7			5.5	6.7	6.7		5.5
Act Effect Green (s)		11.5		24.3	25.5			6.6	91.5	91.5		12.1
Actuated g/C Ratio		0.08		0.16	0.17			0.04	0.61	0.61		0.08
v/c Ratio		0.54		0.34	0.69			0.27	0.63	0.15		0.68
Control Delay		85.7		53.4	71.3			78.0	20.9	15.1		107.0
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Delay		85.7		53.4	71.3			78.0	20.9	15.1		107.0
LOS		F		D	E			E	C	B		F
Approach Delay		85.7			65.8				21.0			
Approach LOS		F			E				C			
Queue Length 50th (ft)		52		69	171			20	426	55		96
Queue Length 95th (ft)		99		112	241			51	571	109		140
Internal Link Dist (ft)		74			642				1113			
Turn Bay Length (ft)								305		275		225
Base Capacity (vph)		107		323	429			122	3882	901		551
Starvation Cap Reductn		0		0	0			0	0	0		0
Spillback Cap Reductn		0		0	0			0	0	0		0
Storage Cap Reductn		0		0	0			0	0	0		0
Reduced v/c Ratio		0.50		0.25	0.43			0.17	0.63	0.15		0.33

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 125 (83%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 22.5

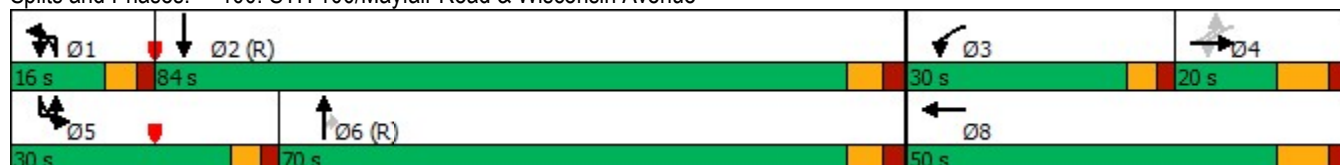
Intersection LOS: C

Intersection Capacity Utilization 75.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 100: STH 100/Mayfair Road & Wisconsin Avenue



Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	1275	5
Future Volume (vph)	1275	5
Satd. Flow (prot)	6296	0
Flt Permitted		
Satd. Flow (perm)	6296	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	1391	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	84.0	
Total Lost Time (s)	6.7	
Act Effct Green (s)	101.6	
Actuated g/C Ratio	0.68	
v/c Ratio	0.33	
Control Delay	3.3	
Queue Delay	0.0	
Total Delay	3.3	
LOS	A	
Approach Delay	15.4	
Approach LOS	B	
Queue Length 50th (ft)	49	
Queue Length 95th (ft)	56	
Internal Link Dist (ft)	922	
Turn Bay Length (ft)		
Base Capacity (vph)	4264	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.33	
Intersection Summary		

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

																														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL																		
Lane Configurations									   			 																		
Traffic Volume (veh/h)	20	5	25	75	5	165	5	15	2260	200	5	165																		
Future Volume (veh/h)	20	5	25	75	5	165	5	15	2260	200	5	165																		
Initial Q (Qb), veh	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																		
Parking Bus, Adj	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																							
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1841	1841		1922	1922	1870		1906																		
Adj Flow Rate, veh/h	22	5	27	82	5	179		16	2457	135		179																		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92		0.92																		
Percent Heavy Veh, %	2	2	2	4	4	4		2	2	2		3																		
Cap, veh/h	60	20	47	234	7	241		36	4222	1012		225																		
Arrive On Green	0.07	0.07	0.07	0.05	0.16	0.16		0.02	0.64	0.64		0.13																		
Sat Flow, veh/h	400	299	700	1753	43	1524		1830	6610	1585		3522																		
Grp Volume(v), veh/h	54	0	0	82	0	184		16	2457	135		179																		
Grp Sat Flow(s),veh/h/ln	1400	0	0	1753	0	1566		1830	1653	1585		1761																		
Q Serve(g_s), s	2.6	0.0	0.0	6.5	0.0	16.8		1.3	32.1	5.0		7.4																		
Cycle Q Clear(g_c), s	5.7	0.0	0.0	6.5	0.0	16.8		1.3	32.1	5.0		7.4																		
Prop In Lane	0.41		0.50	1.00		0.97		1.00		1.00		1.00																		
Lane Grp Cap(c), veh/h	127	0	0	234	0	248		36	4222	1012		225																		
V/C Ratio(X)	0.42	0.00	0.00	0.35	0.00	0.74		0.45	0.58	0.13		0.80																		
Avail Cap(c_a), veh/h	139	0	0	424	0	431		128	4222	1012		575																		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00																		
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		0.92																		
Uniform Delay (d), s/veh	67.8	0.0	0.0	60.7	0.0	60.2		72.7	15.6	10.7		64.5																		
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.3	0.0	1.7		3.3	0.6	0.3		2.3																		
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																		
%ile BackOfQ(95%),veh/ln	3.7	0.0	0.0	5.2	0.0	11.0		1.1	17.2	3.2		5.7																		
Unsig. Movement Delay, s/veh																														
LnGrp Delay(d),s/veh	68.7	0.0	0.0	61.0	0.0	61.9		76.0	16.2	11.0		66.8																		
LnGrp LOS	E	A	A	E	A	E		E	B	B		E																		
Approach Vol, veh/h	54			266			2608																							
Approach Delay, s/veh	68.7			61.6			16.3																							
Approach LOS	E			E			B																							
Timer - Assigned Phs	1	2	3	4	5	6	8																							
Phs Duration (G+Y+Rc), s	8.4	109.1	13.7	18.7	15.1	102.5	32.4																							
Change Period (Y+Rc), s	5.5	* 6.7	5.5	8.7	5.5	* 6.7	8.7																							
Max Green Setting (Gmax), s	10.5	* 77	24.5	11.3	24.5	* 63	41.3																							
Max Q Clear Time (g_c+I1), s	3.3	2.0	8.5	7.7	9.4	34.1	18.8																							
Green Ext Time (p_c), s	0.0	7.2	0.0	0.0	0.2	17.7	0.5																							
Intersection Summary																														
HCM 6th Ctrl Delay	16.7																													
HCM 6th LOS	B																													
Notes																														
User approved ignoring U-Turning movement.																														
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.																														

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (veh/h)	1275	5
Future Volume (veh/h)	1275	5
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1906	1906
Adj Flow Rate, veh/h	1386	5
Peak Hour Factor	0.92	0.92
Percent Heavy Veh, %	3	3
Cap, veh/h	4641	17
Arrive On Green	1.00	1.00
Sat Flow, veh/h	6796	25
Grp Volume(v), veh/h	1003	388
Grp Sat Flow(s),veh/h/ln	1639	1902
Q Serve(g_s), s	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0
Prop In Lane		0.01
Lane Grp Cap(c), veh/h	3359	1299
V/C Ratio(X)	0.30	0.30
Avail Cap(c_a), veh/h	3359	1299
HCM Platoon Ratio	2.00	2.00
Upstream Filter(I)	0.92	0.92
Uniform Delay (d), s/veh	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.4
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	0.2	0.5
LnGrp LOS	A	A
Approach Vol, veh/h	1570	
Approach Delay, s/veh	7.9	
Approach LOS	A	
Timer - Assigned Phs		

Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	110	0	85	30	0	10	5	120	1875	280	5	65
Future Volume (vph)	110	0	85	30	0	10	5	120	1875	280	5	65
Satd. Flow (prot)	1711	0	1583	3351	0	1599	0	1724	6241	1501	0	3260
Flt Permitted	0.950			0.950				0.950				0.950
Satd. Flow (perm)	1711	0	1583	3351	0	1599	0	1724	6241	1501	0	3260
Satd. Flow (RTOR)												
Lane Group Flow (vph)	122	0	59	33	0	7	0	139	2083	193	0	78
Turn Type	Prot		Perm	Prot		Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7			3			1	1	6		5	5
Permitted Phases			7			3				6		
Total Split (s)	25.0		25.0	25.0		25.0	28.0	28.0	97.0	97.0	28.0	28.0
Total Lost Time (s)	5.5		5.5	5.5		5.5		5.5	6.4	6.4		5.5
Act Effect Green (s)	14.6		14.6	14.6		14.6		22.5	110.2	110.2		7.7
Actuated g/C Ratio	0.10		0.10	0.10		0.10		0.15	0.73	0.73		0.05
v/c Ratio	0.73		0.38	0.10		0.05		0.54	0.45	0.18		0.47
Control Delay	89.8		69.5	60.4		59.3		50.7	2.1	2.1		77.9
Queue Delay	0.0		0.0	0.0		0.0		0.0	0.0	0.0		0.0
Total Delay	89.8		69.5	60.4		59.3		50.7	2.1	2.1		77.9
LOS	F		E	E		E		D	A	A		E
Approach Delay		83.2			60.2				4.9			
Approach LOS		F			E				A			
Queue Length 50th (ft)	118		55	15		6		130	44	14		39
Queue Length 95th (ft)	185		101	33		22		206	47	20		67
Internal Link Dist (ft)		276			332				922			
Turn Bay Length (ft)	100					205		515		465		380
Base Capacity (vph)	222		205	435		207		258	4586	1102		489
Starvation Cap Reductn	0		0	0		0		0	0	0		0
Spillback Cap Reductn	0		0	0		0		0	0	0		0
Storage Cap Reductn	0		0	0		0		0	0	0		0
Reduced v/c Ratio	0.55		0.29	0.08		0.03		0.54	0.45	0.18		0.16

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 101 (67%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 13.4

Intersection LOS: B

Intersection Capacity Utilization 63.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 110: STH 100/Mayfair Road & Potter Road/Research Drive



Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	1245	180
Future Volume (vph)	1245	180
Satd. Flow (prot)	6182	0
Flt Permitted		
Satd. Flow (perm)	6182	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	1583	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	97.0	
Total Lost Time (s)	6.4	
Act Effct Green (s)	95.5	
Actuated g/C Ratio	0.64	
v/c Ratio	0.40	
Control Delay	14.0	
Queue Delay	0.0	
Total Delay	14.0	
LOS	B	
Approach Delay	17.0	
Approach LOS	B	
Queue Length 50th (ft)	208	
Queue Length 95th (ft)	255	
Internal Link Dist (ft)	1585	
Turn Bay Length (ft)		
Base Capacity (vph)	3933	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.40	
Intersection Summary		

HCM 6th Signalized Intersection Summary

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	110	0	85	30	0	10	5	120	1875	280	5	65
Future Volume (veh/h)	110	0	85	30	0	10	5	120	1875	280	5	65
Initial Q (Qb), veh	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
Parking Bus, Adj	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					
Adj Sat Flow, veh/h/ln	1870	0	1870	1885	0	1885		1891	1891	1841		1906
Adj Flow Rate, veh/h	122	0	59	33	0	7		133	2083	193		72
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90	0.90		0.90
Percent Heavy Veh, %	2	0	2	1	0	1		4	4	4		3
Cap, veh/h	144	0	0	281	0	0		348	4978	1194		134
Arrive On Green	0.08	0.00	0.00	0.08	0.00	0.00		0.39	1.00	1.00		0.04
Sat Flow, veh/h	1781	122		3483	33			1801	6505	1560		3522
Grp Volume(v), veh/h	122	76.1		33	64.0			133	2083	193		72
Grp Sat Flow(s),veh/h/ln	1781	E		1742	E			1801	1626	1560		1761
Q Serve(g_s), s	10.1			1.3				8.0	0.0	0.0		3.0
Cycle Q Clear(g_c), s	10.1			1.3				8.0	0.0	0.0		3.0
Prop In Lane	1.00			1.00				1.00		1.00		1.00
Lane Grp Cap(c), veh/h	144			281				348	4978	1194		134
V/C Ratio(X)	0.85			0.12				0.38	0.42	0.16		0.54
Avail Cap(c_a), veh/h	232			453				348	4978	1194		528
HCM Platoon Ratio	1.00			1.00				2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00			1.00				0.73	0.73	0.73		1.00
Uniform Delay (d), s/veh	68.0			64.0				39.6	0.0	0.0		70.9
Incr Delay (d2), s/veh	8.1			0.1				0.2	0.2	0.2		1.2
Initial Q Delay(d3),s/veh	0.0			0.0				0.0	0.0	0.0		0.0
%ile BackOfQ(95%),veh/ln	8.7			1.1				5.8	0.1	0.1		2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.1			64.0				39.8	0.2	0.2		72.1
LnGrp LOS	E			E				D	A	A		E
Approach Vol, veh/h									2409			
Approach Delay, s/veh									2.4			
Approach LOS									A			
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	35.4	97.0	17.6		11.2	121.2	17.6					
Change Period (Y+Rc), s	6.4	* 6.4	5.5		5.5	6.4	5.5					
Max Green Setting (Gmax), s	22.5	* 91	19.5		22.5	90.6	19.5					
Max Q Clear Time (g_c+I1), s	10.0	20.5	3.3		5.0	2.0	12.1					
Green Ext Time (p_c), s	0.1	9.1	0.0		0.1	18.6	0.1					
Intersection Summary												
HCM 6th Ctrl Delay	11.3											
HCM 6th LOS	B											
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	TTT
Traffic Volume (veh/h)	1245	180
Future Volume (veh/h)	1245	180
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1906	1906
Adj Flow Rate, veh/h	1383	200
Peak Hour Factor	0.90	0.90
Percent Heavy Veh, %	3	3
Cap, veh/h	3522	508
Arrive On Green	0.60	0.60
Sat Flow, veh/h	5832	841
Grp Volume(v), veh/h	1166	417
Grp Sat Flow(s),veh/h/ln	1639	1755
Q Serve(g_s), s	18.5	18.5
Cycle Q Clear(g_c), s	18.5	18.5
Prop In Lane		0.48
Lane Grp Cap(c), veh/h	2971	1060
V/C Ratio(X)	0.39	0.39
Avail Cap(c_a), veh/h	2971	1060
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	15.4	15.4
Incr Delay (d2), s/veh	0.4	1.1
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.1	12.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	15.8	16.5
LnGrp LOS	B	B
Approach Vol, veh/h	1655	
Approach Delay, s/veh	18.4	
Approach LOS	B	
Timer - Assigned Phs		

HCM 6th TWSC
120: West Driveways & Research Drive

08/01/2023

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	135	210	1	1	25	35	1	1	1	5	1	15
Future Vol, veh/h	135	210	1	1	25	35	1	1	1	5	1	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	1	1	1	3	3	3	1	1	1	1	1	1
Mvmt Flow	178	276	1	1	33	46	1	1	1	7	1	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	79	0	0	277	0	0	652	714	139	553	691	40
Stage 1	-	-	-	-	-	-	633	633	-	58	58	-
Stage 2	-	-	-	-	-	-	19	81	-	495	633	-
Critical Hdwy	4.12	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	1525	-	-	1404	-	-	436	413	*1014	519	427	1026
Stage 1	-	-	-	-	-	-	514	527	-	950	848	-
Stage 2	-	-	-	-	-	-	1000	829	-	627	527	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1525	-	-	1404	-	-	381	355	*1014	462	367	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	419	424	-	507	428	-
Stage 1	-	-	-	-	-	-	443	454	-	819	847	-
Stage 2	-	-	-	-	-	-	978	828	-	538	454	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.1			0.1			11.9			9.8		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	523	1525	-	-	1404	-	-	783				
HCM Lane V/C Ratio	0.008	0.116	-	-	0.001	-	-	0.035				
HCM Control Delay (s)	11.9	7.7	0.2	-	7.6	0	-	9.8				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0.4	-	-	0	-	-	0.1				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

HCM 6th TWSC
130: East Driveway & Research Drive

08/01/2023

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	195	1	1	55	35	1	1	1	5	1	5
Future Vol, veh/h	20	195	1	1	55	35	1	1	1	5	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	2	2	2	1	1	1	1	1	1
Mvmt Flow	25	247	1	1	70	44	1	1	1	6	1	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	114	0	0	248	0	0	336	414	124	268	392	57
Stage 1	-	-	-	-	-	-	298	298	-	94	94	-
Stage 2	-	-	-	-	-	-	38	116	-	174	298	-
Critical Hdwy	4.12	-	-	4.14	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.22	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	1480	-	-	1315	-	-	596	529	907	666	545	1001
Stage 1	-	-	-	-	-	-	689	668	-	905	819	-
Stage 2	-	-	-	-	-	-	975	801	-	814	668	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1480	-	-	1315	-	-	582	518	907	653	534	1001
Mov Cap-2 Maneuver	-	-	-	-	-	-	582	518	-	653	534	-
Stage 1	-	-	-	-	-	-	675	655	-	887	818	-
Stage 2	-	-	-	-	-	-	966	800	-	795	655	-
Approach	EB		WB				NB			SB		
HCM Control Delay, s	0.8		0.1				10.7			9.8		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	631	1480	-	-	1315	-	-	757				
HCM Lane V/C Ratio	0.006	0.017	-	-	0.001	-	-	0.018				
HCM Control Delay (s)	10.7	7.5	0.1	-	7.7	0	-	9.8				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1				

APPENDIX C

Year 2023 Full Build Traffic Analysis Outputs

Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	20	5	25	75	5	165	5	15	2260	200	5	165
Future Volume (vph)	20	5	25	75	5	165	5	15	2260	200	5	165
Satd. Flow (prot)	0	1645	0	1678	1560	0	0	1757	6364	1478	0	3376
Flt Permitted		0.785		0.722				0.950				0.950
Satd. Flow (perm)	0	1317	0	1275	1560	0	0	1757	6364	1478	0	3376
Satd. Flow (RTOR)												
Lane Group Flow (vph)	0	54	0	82	184	0	0	21	2457	135	0	184
Turn Type	Perm	NA		D,P+P	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4		3	8		1	1	6		5	5
Permitted Phases	4			4						6		
Total Split (s)	20.0	20.0		30.0	50.0		16.0	16.0	70.0	70.0	30.0	30.0
Total Lost Time (s)		8.7		5.5	8.7			5.5	6.7	6.7		5.5
Act Effect Green (s)		11.5		24.3	25.5			6.6	91.5	91.5		12.1
Actuated g/C Ratio		0.08		0.16	0.17			0.04	0.61	0.61		0.08
v/c Ratio		0.54		0.34	0.69			0.27	0.63	0.15		0.68
Control Delay		85.7		53.4	71.3			78.0	20.9	15.1		103.7
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Delay		85.7		53.4	71.3			78.0	20.9	15.1		103.7
LOS		F		D	E			E	C	B		F
Approach Delay		85.7			65.8				21.0			
Approach LOS		F			E				C			
Queue Length 50th (ft)		52		69	171			20	426	55		90
Queue Length 95th (ft)		99		112	241			51	571	109		140
Internal Link Dist (ft)		74			642				1113			
Turn Bay Length (ft)								305		275		225
Base Capacity (vph)		107		323	429			122	3882	901		551
Starvation Cap Reductn		0		0	0			0	0	0		0
Spillback Cap Reductn		0		0	0			0	0	0		0
Storage Cap Reductn		0		0	0			0	0	0		0
Reduced v/c Ratio		0.50		0.25	0.43			0.17	0.63	0.15		0.33

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 125 (83%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 22.4

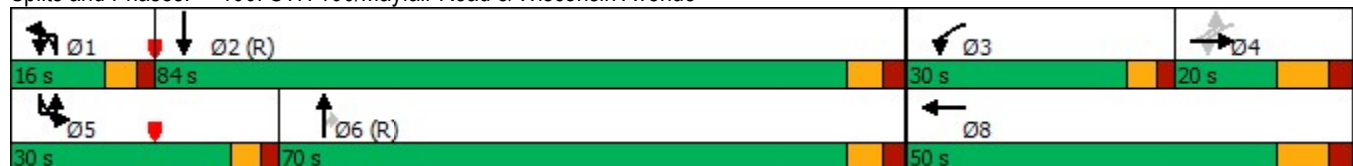
Intersection LOS: C

Intersection Capacity Utilization 75.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 100: STH 100/Mayfair Road & Wisconsin Avenue



Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	1275	5
Future Volume (vph)	1275	5
Satd. Flow (prot)	6296	0
Flt Permitted		
Satd. Flow (perm)	6296	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	1391	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	84.0	
Total Lost Time (s)	6.7	
Act Effct Green (s)	101.6	
Actuated g/C Ratio	0.68	
v/c Ratio	0.33	
Control Delay	3.6	
Queue Delay	0.0	
Total Delay	3.6	
LOS	A	
Approach Delay	15.3	
Approach LOS	B	
Queue Length 50th (ft)	68	
Queue Length 95th (ft)	76	
Internal Link Dist (ft)	922	
Turn Bay Length (ft)		
Base Capacity (vph)	4264	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.33	
Intersection Summary		

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	20	5	25	75	5	165	5	15	2260	200	5	165
Future Volume (veh/h)	20	5	25	75	5	165	5	15	2260	200	5	165
Initial Q (Qb), veh	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
Parking Bus, Adj	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					
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1841	1841		1922	1922	1870		1906
Adj Flow Rate, veh/h	22	5	27	82	5	179		16	2457	135		179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92		0.92
Percent Heavy Veh, %	2	2	2	4	4	4		2	2	2		3
Cap, veh/h	60	20	47	234	7	241		36	4222	1012		225
Arrive On Green	0.07	0.07	0.07	0.05	0.16	0.16		0.02	0.64	0.64		0.13
Sat Flow, veh/h	400	299	700	1753	43	1524		1830	6610	1585		3522
Grp Volume(v), veh/h	54	0	0	82	0	184		16	2457	135		179
Grp Sat Flow(s),veh/h/ln	1400	0	0	1753	0	1566		1830	1653	1585		1761
Q Serve(g_s), s	2.6	0.0	0.0	6.5	0.0	16.8		1.3	32.1	5.0		7.4
Cycle Q Clear(g_c), s	5.7	0.0	0.0	6.5	0.0	16.8		1.3	32.1	5.0		7.4
Prop In Lane	0.41		0.50	1.00		0.97		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	127	0	0	234	0	248		36	4222	1012		225
V/C Ratio(X)	0.42	0.00	0.00	0.35	0.00	0.74		0.45	0.58	0.13		0.80
Avail Cap(c_a), veh/h	139	0	0	424	0	431		128	4222	1012		575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		0.92
Uniform Delay (d), s/veh	67.8	0.0	0.0	60.7	0.0	60.2		72.7	15.6	10.7		64.5
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.3	0.0	1.7		3.3	0.6	0.3		2.3
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
%ile BackOfQ(95%),veh/ln	3.7	0.0	0.0	5.2	0.0	11.0		1.1	17.2	3.2		5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.7	0.0	0.0	61.0	0.0	61.9		76.0	16.2	11.0		66.8
LnGrp LOS	E	A	A	E	A	E		E	B	B		E
Approach Vol, veh/h	54			266			2608					
Approach Delay, s/veh	68.7			61.6			16.3					
Approach LOS	E			E			B					
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	109.1	13.7	18.7	15.1	102.5		32.4				
Change Period (Y+Rc), s	5.5	* 6.7	5.5	8.7	5.5	* 6.7		8.7				
Max Green Setting (Gmax), s	10.5	* 77	24.5	11.3	24.5	* 63		41.3				
Max Q Clear Time (g_c+I1), s	3.3	2.0	8.5	7.7	9.4	34.1		18.8				
Green Ext Time (p_c), s	0.0	7.2	0.0	0.0	0.2	17.7		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				16.7								
HCM 6th LOS				B								
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (veh/h)	1275	5
Future Volume (veh/h)	1275	5
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1906	1906
Adj Flow Rate, veh/h	1386	5
Peak Hour Factor	0.92	0.92
Percent Heavy Veh, %	3	3
Cap, veh/h	4641	17
Arrive On Green	1.00	1.00
Sat Flow, veh/h	6796	25
Grp Volume(v), veh/h	1003	388
Grp Sat Flow(s),veh/h/ln	1639	1902
Q Serve(g_s), s	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0
Prop In Lane		0.01
Lane Grp Cap(c), veh/h	3359	1299
V/C Ratio(X)	0.30	0.30
Avail Cap(c_a), veh/h	3359	1299
HCM Platoon Ratio	2.00	2.00
Upstream Filter(I)	0.92	0.92
Uniform Delay (d), s/veh	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.4
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	0.2	0.5
LnGrp LOS	A	A
Approach Vol, veh/h	1570	
Approach Delay, s/veh	7.9	
Approach LOS	A	
Timer - Assigned Phs		

Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	110	0	85	125	0	60	5	120	1860	460	5	135
Future Volume (vph)	110	0	85	125	0	60	5	120	1860	460	5	135
Satd. Flow (prot)	1711	0	1583	3351	0	1599	0	1724	6241	1501	0	3260
Flt Permitted	0.950			0.950				0.950				0.950
Satd. Flow (perm)	1711	0	1583	3351	0	1599	0	1724	6241	1501	0	3260
Satd. Flow (RTOR)												
Lane Group Flow (vph)	122	0	59	139	0	41	0	139	2067	317	0	156
Turn Type	Prot		Perm	Prot		Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7			3			1	1	6		5	5
Permitted Phases			7			3				6		
Total Split (s)	25.0		25.0	25.0		25.0	28.0	28.0	97.0	97.0	28.0	28.0
Total Lost Time (s)	5.5		5.5	5.5		5.5		5.5	6.4	6.4		5.5
Act Effect Green (s)	14.6		14.6	14.6		14.6		22.5	106.9	106.9		11.1
Actuated g/C Ratio	0.10		0.10	0.10		0.10		0.15	0.71	0.71		0.07
v/c Ratio	0.73		0.38	0.43		0.26		0.54	0.46	0.30		0.65
Control Delay	89.8		69.5	66.9		65.4		50.7	2.3	2.6		79.8
Queue Delay	0.0		0.0	0.0		0.0		0.0	0.0	0.0		0.0
Total Delay	89.8		69.5	66.9		65.4		50.7	2.3	2.6		79.8
LOS	F		E	E		E		D	A	A		E
Approach Delay		83.2			66.6				5.0			
Approach LOS		F			E				A			
Queue Length 50th (ft)	118		55	65		38		130	43	23		77
Queue Length 95th (ft)	185		101	98		75		206	46	30		114
Internal Link Dist (ft)		276			332				922			
Turn Bay Length (ft)	100					205		515		465		380
Base Capacity (vph)	222		205	435		207		258	4446	1069		489
Starvation Cap Reductn	0		0	0		0		0	0	0		0
Spillback Cap Reductn	0		0	0		0		0	0	0		0
Storage Cap Reductn	0		0	0		0		0	0	0		0
Reduced v/c Ratio	0.55		0.29	0.32		0.20		0.54	0.46	0.30		0.32

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 101 (67%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 16.1

Intersection LOS: B

Intersection Capacity Utilization 63.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 110: STH 100/Mayfair Road & Potter Road/Research Drive



Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	1235	180
Future Volume (vph)	1235	180
Satd. Flow (prot)	6182	0
Flt Permitted		
Satd. Flow (perm)	6182	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	1572	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	97.0	
Total Lost Time (s)	6.4	
Act Effct Green (s)	95.5	
Actuated g/C Ratio	0.64	
v/c Ratio	0.40	
Control Delay	14.0	
Queue Delay	0.0	
Total Delay	14.0	
LOS	B	
Approach Delay	19.9	
Approach LOS	B	
Queue Length 50th (ft)	206	
Queue Length 95th (ft)	253	
Internal Link Dist (ft)	1585	
Turn Bay Length (ft)		
Base Capacity (vph)	3933	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.40	
Intersection Summary		

HCM 6th Signalized Intersection Summary

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	110	0	85	125	0	60	5	120	1860	460	5	135
Future Volume (veh/h)	110	0	85	125	0	60	5	120	1860	460	5	135
Initial Q (Qb), veh	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
Parking Bus, Adj	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					
Adj Sat Flow, veh/h/ln	1870	0	1870	1885	0	1885		1891	1891	1841		1906
Adj Flow Rate, veh/h	122	0	59	139	0	41		133	2067	317		150
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90	0.90		0.90
Percent Heavy Veh, %	2	0	2	1	0	1		4	4	4		3
Cap, veh/h	144	0	0	281	0	0		348	4860	1165		198
Arrive On Green	0.08	0.00	0.00	0.08	0.00	0.00		0.39	1.00	1.00		0.06
Sat Flow, veh/h	1781	122		3483	139			1801	6505	1560		3522
Grp Volume(v), veh/h	122	76.1		139	66.5			133	2067	317		150
Grp Sat Flow(s),veh/h/ln	1781	E		1742	E			1801	1626	1560		1761
Q Serve(g_s), s	10.1			5.7				8.0	0.0	0.0		6.3
Cycle Q Clear(g_c), s	10.1			5.7				8.0	0.0	0.0		6.3
Prop In Lane	1.00			1.00				1.00		1.00		1.00
Lane Grp Cap(c), veh/h	144			281				348	4860	1165		198
V/C Ratio(X)	0.85			0.49				0.38	0.43	0.27		0.76
Avail Cap(c_a), veh/h	232			453				348	4860	1165		528
HCM Platoon Ratio	1.00			1.00				2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00			1.00				0.73	0.73	0.73		1.00
Uniform Delay (d), s/veh	68.0			66.0				39.6	0.0	0.0		69.8
Incr Delay (d2), s/veh	8.1			0.5				0.2	0.2	0.4		2.3
Initial Q Delay(d3),s/veh	0.0			0.0				0.0	0.0	0.0		0.0
%ile BackOfQ(95%),veh/ln	8.7			4.7				5.8	0.1	0.2		5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.1			66.5				39.8	0.2	0.4		72.1
LnGrp LOS	E			E				D	A	A		E
Approach Vol, veh/h	2517											
Approach Delay, s/veh	2.3											
Approach LOS	A											
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	35.4	97.0	17.6		13.9	118.5	17.6					
Change Period (Y+Rc), s	6.4	* 6.4	5.5		5.5	6.4	5.5					
Max Green Setting (Gmax), s	22.5	* 91	19.5		22.5	90.6	19.5					
Max Q Clear Time (g_c+I1), s	10.0	20.4	7.7		8.3	2.0	12.1					
Green Ext Time (p_c), s	0.1	9.0	0.1		0.1	19.1	0.1					
Intersection Summary												
HCM 6th Ctrl Delay	13.4											
HCM 6th LOS	B											
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary 110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	TTT
Traffic Volume (veh/h)	1235	180
Future Volume (veh/h)	1235	180
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1906	1906
Adj Flow Rate, veh/h	1372	200
Peak Hour Factor	0.90	0.90
Percent Heavy Veh, %	3	3
Cap, veh/h	3518	512
Arrive On Green	0.60	0.60
Sat Flow, veh/h	5825	847
Grp Volume(v), veh/h	1158	414
Grp Sat Flow(s),veh/h/ln	1639	1754
Q Serve(g_s), s	18.3	18.4
Cycle Q Clear(g_c), s	18.3	18.4
Prop In Lane		0.48
Lane Grp Cap(c), veh/h	2971	1059
V/C Ratio(X)	0.39	0.39
Avail Cap(c_a), veh/h	2971	1059
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	15.4	15.4
Incr Delay (d2), s/veh	0.4	1.1
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.0	11.9
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	15.8	16.5
LnGrp LOS	B	B
Approach Vol, veh/h	1722	
Approach Delay, s/veh	20.8	
Approach LOS	C	
Timer - Assigned Phs		

HCM 6th TWSC
120: West Driveways & Research Drive

08/01/2023

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	135	270	190	65	40	35	130	1	15	5	1	15
Future Vol, veh/h	135	270	190	65	40	35	130	1	15	5	1	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	1	1	1	3	3	3	1	1	1	1	1	1
Mvmt Flow	178	355	250	86	53	46	171	1	20	7	1	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	99	0	0	605	0	0	1035	1107	303	782	1209	50
Stage 1	-	-	-	-	-	-	836	836	-	248	248	-
Stage 2	-	-	-	-	-	-	199	271	-	534	961	-
Critical Hdwy	4.12	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	1499	-	-	1098	-	-	248	255	*971	395	218	1011
Stage 1	-	-	-	-	-	-	420	448	-	737	702	-
Stage 2	-	-	-	-	-	-	787	686	-	664	387	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1499	-	-	1098	-	-	194	190	*971	310	163	1011
Mov Cap-2 Maneuver	-	-	-	-	-	-	308	311	-	403	216	-
Stage 1	-	-	-	-	-	-	342	364	-	599	644	-
Stage 2	-	-	-	-	-	-	706	629	-	527	315	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.9			4			29.9			10.7		
HCM LOS							D			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	331	1499	-	-	1098	-	-	659				
HCM Lane V/C Ratio	0.58	0.119	-	-	0.078	-	-	0.042				
HCM Control Delay (s)	29.9	7.7	0.4	-	8.6	0.1	-	10.7				
HCM Lane LOS	D	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	3.5	0.4	-	-	0.3	-	-	0.1				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

HCM 6th TWSC
130: East Driveway & Research Drive

08/01/2023

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	210	60	25	120	35	15	1	10	5	1	5
Future Vol, veh/h	20	210	60	25	120	35	15	1	10	5	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	2	2	2	1	1	1	1	1	1
Mvmt Flow	25	266	76	32	152	44	19	1	13	6	1	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	196	0	0	342	0	0	495	614	171	422	630	98
Stage 1	-	-	-	-	-	-	354	354	-	238	238	-
Stage 2	-	-	-	-	-	-	141	260	-	184	392	-
Critical Hdwy	4.12	-	-	4.14	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.22	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	1382	-	-	1214	-	-	460	408	846	518	399	942
Stage 1	-	-	-	-	-	-	639	631	-	747	710	-
Stage 2	-	-	-	-	-	-	850	694	-	803	607	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1382	-	-	1214	-	-	437	387	846	488	378	942
Mov Cap-2 Maneuver	-	-	-	-	-	-	437	387	-	488	378	-
Stage 1	-	-	-	-	-	-	624	616	-	730	689	-
Stage 2	-	-	-	-	-	-	817	673	-	771	593	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			1.2			12.2			11.1		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	534	1382	-	-	1214	-	-	604				
HCM Lane V/C Ratio	0.062	0.018	-	-	0.026	-	-	0.023				
HCM Control Delay (s)	12.2	7.7	0.1	-	8	0.1	-	11.1				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-	0.1				

Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	30	5	45	305	10	220	15	15	1540	65	5	155
Future Volume (vph)	30	5	45	305	10	220	15	15	1540	65	5	155
Satd. Flow (prot)	0	1650	0	1728	1610	0	0	1775	6427	1492	0	3443
Flt Permitted		0.777		0.718				0.950				0.950
Satd. Flow (perm)	0	1306	0	1306	1610	0	0	1775	6427	1492	0	3443
Satd. Flow (RTOR)												
Lane Group Flow (vph)	0	83	0	318	239	0	0	32	1604	42	0	166
Turn Type	Perm	NA		D,P+P	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4		3	8		1	1	6		5	5
Permitted Phases	4			4						6		
Total Split (s)	24.0	24.0		36.0	60.0		18.0	18.0	62.0	62.0	28.0	28.0
Total Lost Time (s)		8.7		5.5	8.7			5.5	6.7	6.7		5.5
Act Effect Green (s)		13.2		42.6	44.9			7.2	73.1	73.1		11.1
Actuated g/C Ratio		0.09		0.28	0.30			0.05	0.49	0.49		0.07
v/c Ratio		0.72		0.72	0.50			0.38	0.51	0.06		0.65
Control Delay		98.8		51.6	46.1			81.1	28.1	24.0		76.8
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Delay		98.8		51.6	46.1			81.1	28.1	24.0		76.8
LOS		F		D	D			F	C	C		E
Approach Delay		98.8			49.2				29.0			
Approach LOS		F			D				C			
Queue Length 50th (ft)		80		257	191			31	311	22		84
Queue Length 95th (ft)		#149		340	265			68	388	51		126
Internal Link Dist (ft)		74			642				1113			
Turn Bay Length (ft)								305		275		225
Base Capacity (vph)		135		483	550			147	3131	727		516
Starvation Cap Reductn		0		0	0			0	0	0		0
Spillback Cap Reductn		0		0	0			0	0	0		0
Storage Cap Reductn		0		0	0			0	0	0		0
Reduced v/c Ratio		0.61		0.66	0.43			0.22	0.51	0.06		0.32

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 129 (86%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 31.5

Intersection LOS: C

Intersection Capacity Utilization 93.8%

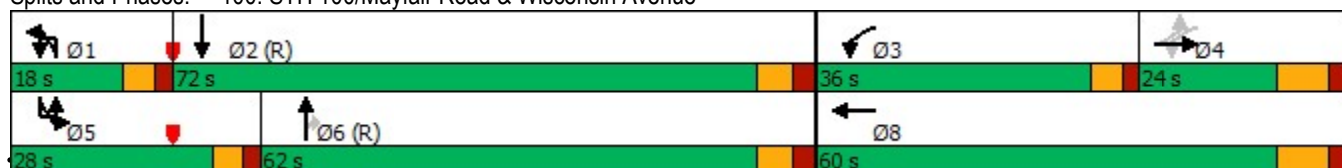
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: STH 100/Mayfair Road & Wisconsin Avenue

2023 Full Build Volumes
Timing Plan: PM Peak HourSynchro 11 Report
TADI

Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	2785	5
Future Volume (vph)	2785	5
Satd. Flow (prot)	6427	0
Flt Permitted		
Satd. Flow (perm)	6427	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	2906	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	72.0	
Total Lost Time (s)	6.7	
Act Effct Green (s)	81.6	
Actuated g/C Ratio	0.54	
v/c Ratio	0.83	
Control Delay	25.0	
Queue Delay	0.0	
Total Delay	25.0	
LOS	C	
Approach Delay	27.8	
Approach LOS	C	
Queue Length 50th (ft)	361	
Queue Length 95th (ft)	#895	
Internal Link Dist (ft)	922	
Turn Bay Length (ft)		
Base Capacity (vph)	3497	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.83	
Intersection Summary		

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	30	5	45	305	10	220	15	15	1540	65	5	155
Future Volume (veh/h)	30	5	45	305	10	220	15	15	1540	65	5	155
Initial Q (Qb), veh	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
Parking Bus, Adj	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					
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885		1937	1937	1885		1937
Adj Flow Rate, veh/h	31	5	47	318	10	229		16	1604	42		161
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		0.96	0.96	0.96		0.96
Percent Heavy Veh, %	1	1	1	1	1	1		1	1	1		1
Cap, veh/h	63	14	57	443	19	435		36	3465	831		207
Arrive On Green	0.07	0.07	0.07	0.18	0.28	0.28		0.02	0.52	0.52		0.12
Sat Flow, veh/h	435	198	826	1795	67	1541		1845	6662	1598		3578
Grp Volume(v), veh/h	83	0	0	318	0	239		16	1604	42		161
Grp Sat Flow(s),veh/h/ln	1459	0	0	1795	0	1608		1845	1666	1598		1789
Q Serve(g_s), s	6.5	0.0	0.0	24.3	0.0	18.8		1.3	22.8	1.9		6.6
Cycle Q Clear(g_c), s	8.3	0.0	0.0	24.3	0.0	18.8		1.3	22.8	1.9		6.6
Prop In Lane	0.37		0.57	1.00		0.96		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	134	0	0	443	0	454		36	3465	831		207
V/C Ratio(X)	0.62	0.00	0.00	0.72	0.00	0.53		0.45	0.46	0.05		0.78
Avail Cap(c_a), veh/h	180	0	0	491	0	550		154	3465	831		537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		0.67
Uniform Delay (d), s/veh	68.7	0.0	0.0	51.8	0.0	45.3		72.7	22.8	17.7		65.4
Incr Delay (d2), s/veh	1.7	0.0	0.0	3.5	0.0	0.4		3.2	0.4	0.1		1.6
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
%ile BackOfQ(95%),veh/ln	5.8	0.0	0.0	16.9	0.0	12.1		1.1	13.8	1.3		5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.4	0.0	0.0	55.3	0.0	45.7		75.9	23.2	17.9		67.0
LnGrp LOS	E	A	A	E	A	D		E	C	B		E
Approach Vol, veh/h	83			557				1662				
Approach Delay, s/veh	70.4			51.2				23.6				
Approach LOS	E			D				C				
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	90.5	32.0	19.1	14.2	84.7		51.1				
Change Period (Y+Rc), s	5.5	* 6.7	5.5	8.7	5.5	* 6.7		8.7				
Max Green Setting (Gmax), s	12.5	* 65	30.5	15.3	22.5	* 55		51.3				
Max Q Clear Time (g_c+I1), s	3.3	2.0	26.3	10.3	8.6	24.8		20.8				
Green Ext Time (p_c), s	0.0	28.7	0.1	0.1	0.1	9.3		0.8				
Intersection Summary												
HCM 6th Ctrl Delay	16.7											
HCM 6th LOS	B											
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (veh/h)	2785	5
Future Volume (veh/h)	2785	5
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1937	1937
Adj Flow Rate, veh/h	2901	5
Peak Hour Factor	0.96	0.96
Percent Heavy Veh, %	1	1
Cap, veh/h	3865	7
Arrive On Green	1.00	1.00
Sat Flow, veh/h	6920	12
Grp Volume(v), veh/h	2095	811
Grp Sat Flow(s),veh/h/ln	1666	1935
Q Serve(g_s), s	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0
Prop In Lane		0.01
Lane Grp Cap(c), veh/h	2791	1081
V/C Ratio(X)	0.75	0.75
Avail Cap(c_a), veh/h	2791	1081
HCM Platoon Ratio	2.00	2.00
Upstream Filter(I)	0.67	0.67
Uniform Delay (d), s/veh	0.0	0.0
Incr Delay (d2), s/veh	1.3	3.3
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	1.8
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	1.3	3.3
LnGrp LOS	A	A
Approach Vol, veh/h	3067	
Approach Delay, s/veh	5.3	
Approach LOS	A	
Timer - Assigned Phs		

Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	125	0	130	430	0	150	15	85	1535	165	10	90
Future Volume (vph)	125	0	130	430	0	150	15	85	1535	165	10	90
Satd. Flow (prot)	1728	0	1599	3319	0	1583	0	1757	6364	1531	0	3260
Flt Permitted	0.950			0.950				0.950				0.950
Satd. Flow (perm)	1728	0	1599	3319	0	1583	0	1757	6364	1531	0	3260
Satd. Flow (RTOR)												
Lane Group Flow (vph)	133	0	86	457	0	99	0	106	1633	109	0	107
Turn Type	Prot		Perm	Prot		Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7			3			1	1	6		5	5
Permitted Phases			7			3				6		
Total Split (s)	40.0		40.0	40.0		40.0	32.0	32.0	92.0	92.0	18.0	18.0
Total Lost Time (s)	5.5		5.5	5.5		5.5		5.5	6.4	6.4		5.5
Act Effect Green (s)	24.6		24.6	24.6		24.6		13.0	99.1	99.1		8.9
Actuated g/C Ratio	0.16		0.16	0.16		0.16		0.09	0.66	0.66		0.06
v/c Ratio	0.47		0.33	0.84		0.38		0.70	0.39	0.11		0.56
Control Delay	61.5		57.7	74.4		59.1		109.1	5.3	5.2		79.3
Queue Delay	0.0		0.0	0.0		0.0		0.0	0.0	0.0		0.0
Total Delay	61.5		57.7	74.4		59.1		109.1	5.3	5.2		79.3
LOS	E		E	E		E		F	A	A		E
Approach Delay		60.0			71.7				11.2			
Approach LOS		E			E				B			
Queue Length 50th (ft)	119		75	219		85		110	65	15		53
Queue Length 95th (ft)	181		126	260		133		177	71	24		85
Internal Link Dist (ft)		276			332				922			
Turn Bay Length (ft)	100					205		515		465		380
Base Capacity (vph)	397		367	763		364		310	4204	1011		271
Starvation Cap Reductn	0		0	0		0		0	0	0		0
Spillback Cap Reductn	0		0	0		0		0	0	0		0
Storage Cap Reductn	0		0	0		0		0	0	0		0
Reduced v/c Ratio	0.34		0.23	0.60		0.27		0.34	0.39	0.11		0.39

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 134 (89%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 24.9

Intersection LOS: C

Intersection Capacity Utilization 79.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 110: STH 100/Mayfair Road & Potter Road/Research Drive



Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	2375	110
Future Volume (vph)	2375	110
Satd. Flow (prot)	6258	0
Flt Permitted		
Satd. Flow (perm)	6258	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	2644	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	78.0	
Total Lost Time (s)	6.4	
Act Effct Green (s)	95.0	
Actuated g/C Ratio	0.63	
v/c Ratio	0.67	
Control Delay	19.6	
Queue Delay	0.0	
Total Delay	19.6	
LOS	B	
Approach Delay	21.9	
Approach LOS	C	
Queue Length 50th (ft)	454	
Queue Length 95th (ft)	599	
Internal Link Dist (ft)	1585	
Turn Bay Length (ft)		
Base Capacity (vph)	3963	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.67	
Intersection Summary		

HCM 6th Signalized Intersection Summary

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	125	0	130	430	0	150	15	85	1535	165	10	90
Future Volume (veh/h)	125	0	130	430	0	150	15	85	1535	165	10	90
Initial Q (Qb), veh	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
Parking Bus, Adj	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					
Adj Sat Flow, veh/h/ln	1885	0	1885	1870	0	1870		1922	1922	1870		1906
Adj Flow Rate, veh/h	133	0	86	457	0	99		90	1633	109		96
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94	0.94		0.94
Percent Heavy Veh, %	1	0	1	2	0	2		2	2	2		3
Cap, veh/h	264	0	0	508	0	0		110	4609	1105		140
Arrive On Green	0.15	0.00	0.00	0.15	0.00	0.00		0.12	1.00	1.00		0.04
Sat Flow, veh/h	1795	133		3456	457			1830	6610	1585		3522
Grp Volume(v), veh/h	133	59.5		457	69.0			90	1633	109		96
Grp Sat Flow(s),veh/h/ln	1795	E		1728	E			1830	1653	1585		1761
Q Serve(g_s), s	10.2			19.5				7.2	0.0	0.0		4.0
Cycle Q Clear(g_c), s	10.2			19.5				7.2	0.0	0.0		4.0
Prop In Lane	1.00			1.00				1.00		1.00		1.00
Lane Grp Cap(c), veh/h	264			508				110	4609	1105		140
V/C Ratio(X)	0.50			0.90				0.82	0.35	0.10		0.69
Avail Cap(c_a), veh/h	413			795				323	4609	1105		294
HCM Platoon Ratio	1.00			1.00				2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00			1.00				0.85	0.85	0.85		1.00
Uniform Delay (d), s/veh	58.9			62.9				65.2	0.0	0.0		71.1
Incr Delay (d2), s/veh	0.6			6.1				4.7	0.2	0.2		2.2
Initial Q Delay(d3),s/veh	0.0			0.0				0.0	0.0	0.0		0.0
%ile BackOfQ(95%),veh/ln	8.3			14.0				5.9	0.1	0.1		3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5			69.0				69.9	0.2	0.2		73.3
LnGrp LOS	E			E				E	A	A		E
Approach Vol, veh/h									1832			
Approach Delay, s/veh									3.6			
Approach LOS									A			
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	14.5	107.9	27.5		11.5	111.0	27.5					
Change Period (Y+Rc), s	5.5	6.4	5.5		5.5	6.4	5.5					
Max Green Setting (Gmax), s	26.5	71.6	34.5		12.5	85.6	34.5					
Max Q Clear Time (g_c+I1), s	9.2	33.2	21.5		6.0	2.0	12.2					
Green Ext Time (p_c), s	0.1	19.7	0.5		0.0	10.9	0.1					
Intersection Summary												
HCM 6th Ctrl Delay			17.4									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (veh/h)	2375	110
Future Volume (veh/h)	2375	110
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1906	1906
Adj Flow Rate, veh/h	2527	117
Peak Hour Factor	0.94	0.94
Percent Heavy Veh, %	3	3
Cap, veh/h	4381	202
Arrive On Green	0.68	0.68
Sat Flow, veh/h	6472	299
Grp Volume(v), veh/h	1919	725
Grp Sat Flow(s),veh/h/ln	1639	1853
Q Serve(g_s), s	31.0	31.2
Cycle Q Clear(g_c), s	31.0	31.2
Prop In Lane		0.16
Lane Grp Cap(c), veh/h	3329	1254
V/C Ratio(X)	0.58	0.58
Avail Cap(c_a), veh/h	3329	1254
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	12.8	12.9
Incr Delay (d2), s/veh	0.7	1.9
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.2	18.6
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	13.6	14.8
LnGrp LOS	B	B
Approach Vol, veh/h	2740	
Approach Delay, s/veh	16.0	
Approach LOS	B	
Timer - Assigned Phs		

HCM 6th TWSC
120: West Driveways & Research Drive

08/01/2023

Intersection													
Int Delay, s/veh	11.9												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↔↔			↔↔			↔↔			↔↔	
Traffic Vol, veh/h	5	25	70	155	30	230	10	220	1	70	30	1	125
Future Vol, veh/h	5	25	70	155	30	230	10	220	1	70	30	1	125
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	9	9	9	9	2	2	2	1	1	1	1	1	1
Mvmt Flow	7	35	97	215	42	319	14	306	1	97	42	1	174
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	333	333	0	0	312	0	0	533	706	156	543	806	167
Stage 1	-	-	-	-	-	-	-	289	289	-	410	410	-
Stage 2	-	-	-	-	-	-	-	244	417	-	133	396	-
Critical Hdwy	6.58	4.28	-	-	4.14	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.59	2.29	-	-	2.22	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	850	1174	-	-	1256	-	-	441	366	884	434	320	851
Stage 1	-	-	-	-	-	-	-	710	682	-	592	596	-
Stage 2	-	-	-	-	-	-	-	741	592	-	876	612	-
Platoon blocked, %			-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1064	1064	-	-	1256	-	-	327	333	884	359	292	851
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	464	465	-	499	443	-
Stage 1	-	-	-	-	-	-	-	675	649	-	563	572	-
Stage 2	-	-	-	-	-	-	-	564	568	-	740	582	-
Approach	EB			WB			NB			SB			
HCM Control Delay, s	1.1			1			31.4			11.8			
HCM LOS							D			B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	524	1064	-	-	1256	-	-	745					
HCM Lane V/C Ratio	0.771	0.033	-	-	0.033	-	-	0.291					
HCM Control Delay (s)	31.4	8.5	0.2	-	8	0.1	-	11.8					
HCM Lane LOS	D	A	A	-	A	A	-	B					
HCM 95th %tile Q(veh)	6.9	0.1	-	-	0.1	-	-	1.2					

HCM 6th TWSC
130: East Driveway & Research Drive

08/01/2023

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	135	30	15	180	5	70	1	30	30	1	20
Future Vol, veh/h	5	135	30	15	180	5	70	1	30	30	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	1	1	1
Mvmt Flow	6	173	38	19	231	6	90	1	38	38	1	26
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	237	0	0	211	0	0	358	479	106	371	495	119
Stage 1	-	-	-	-	-	-	204	204	-	272	272	-
Stage 2	-	-	-	-	-	-	154	275	-	99	223	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.22	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	1327	-	-	1364	-	-	575	487	931	563	476	913
Stage 1	-	-	-	-	-	-	782	734	-	713	686	-
Stage 2	-	-	-	-	-	-	836	684	-	899	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1327	-	-	1364	-	-	549	477	931	530	466	913
Mov Cap-2 Maneuver	-	-	-	-	-	-	549	477	-	530	466	-
Stage 1	-	-	-	-	-	-	778	730	-	709	675	-
Stage 2	-	-	-	-	-	-	798	673	-	856	716	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.7			12.3			11.4		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	624	1327	-	-	1364	-	-	632				
HCM Lane V/C Ratio	0.208	0.005	-	-	0.014	-	-	0.103				
HCM Control Delay (s)	12.3	7.7	0	-	7.7	0.1	-	11.4				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.3				

Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	20	5	25	75	5	165	5	15	2260	200	5	165
Future Volume (vph)	20	5	25	75	5	165	5	15	2260	200	5	165
Satd. Flow (prot)	0	1645	0	1678	1560	0	0	1757	6364	1478	0	3376
Flt Permitted		0.785		0.722				0.950				0.950
Satd. Flow (perm)	0	1317	0	1275	1560	0	0	1757	6364	1478	0	3376
Satd. Flow (RTOR)												
Lane Group Flow (vph)	0	54	0	82	184	0	0	21	2457	135	0	184
Turn Type	Perm	NA		D,P+P	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4		3	8		1	1	6		5	5
Permitted Phases	4			4						6		
Total Split (s)	20.0	20.0		30.0	50.0		16.0	16.0	70.0	70.0	30.0	30.0
Total Lost Time (s)		8.7		5.5	8.7			5.5	6.7	6.7		5.5
Act Effect Green (s)		11.5		24.3	25.5			6.6	91.5	91.5		12.1
Actuated g/C Ratio		0.08		0.16	0.17			0.04	0.61	0.61		0.08
v/c Ratio		0.54		0.34	0.69			0.27	0.63	0.15		0.68
Control Delay		85.7		53.4	71.3			78.0	20.9	15.1		103.7
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Delay		85.7		53.4	71.3			78.0	20.9	15.1		103.7
LOS		F		D	E			E	C	B		F
Approach Delay		85.7			65.8				21.0			
Approach LOS		F			E				C			
Queue Length 50th (ft)		52		69	171			20	426	55		90
Queue Length 95th (ft)		99		112	241			51	571	109		140
Internal Link Dist (ft)		74			642				1113			
Turn Bay Length (ft)								305		275		225
Base Capacity (vph)		107		323	429			122	3882	901		551
Starvation Cap Reductn		0		0	0			0	0	0		0
Spillback Cap Reductn		0		0	0			0	0	0		0
Storage Cap Reductn		0		0	0			0	0	0		0
Reduced v/c Ratio		0.50		0.25	0.43			0.17	0.63	0.15		0.33

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 125 (83%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 22.4

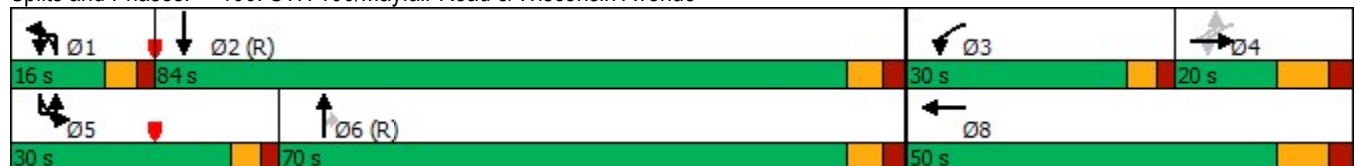
Intersection LOS: C

Intersection Capacity Utilization 75.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 100: STH 100/Mayfair Road & Wisconsin Avenue



Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	1275	5
Future Volume (vph)	1275	5
Satd. Flow (prot)	6296	0
Flt Permitted		
Satd. Flow (perm)	6296	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	1391	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	84.0	
Total Lost Time (s)	6.7	
Act Effct Green (s)	101.6	
Actuated g/C Ratio	0.68	
v/c Ratio	0.33	
Control Delay	3.6	
Queue Delay	0.0	
Total Delay	3.6	
LOS	A	
Approach Delay	15.3	
Approach LOS	B	
Queue Length 50th (ft)	68	
Queue Length 95th (ft)	76	
Internal Link Dist (ft)	922	
Turn Bay Length (ft)		
Base Capacity (vph)	4264	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.33	
Intersection Summary		

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	20	5	25	75	5	165	5	15	2260	200	5	165
Future Volume (veh/h)	20	5	25	75	5	165	5	15	2260	200	5	165
Initial Q (Qb), veh	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
Parking Bus, Adj	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					
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1841	1841		1922	1922	1870		1906
Adj Flow Rate, veh/h	22	5	27	82	5	179		16	2457	135		179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92		0.92
Percent Heavy Veh, %	2	2	2	4	4	4		2	2	2		3
Cap, veh/h	60	20	47	234	7	241		36	4222	1012		225
Arrive On Green	0.07	0.07	0.07	0.05	0.16	0.16		0.02	0.64	0.64		0.13
Sat Flow, veh/h	400	299	700	1753	43	1524		1830	6610	1585		3522
Grp Volume(v), veh/h	54	0	0	82	0	184		16	2457	135		179
Grp Sat Flow(s),veh/h/ln	1400	0	0	1753	0	1566		1830	1653	1585		1761
Q Serve(g_s), s	2.6	0.0	0.0	6.5	0.0	16.8		1.3	32.1	5.0		7.4
Cycle Q Clear(g_c), s	5.7	0.0	0.0	6.5	0.0	16.8		1.3	32.1	5.0		7.4
Prop In Lane	0.41		0.50	1.00		0.97		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	127	0	0	234	0	248		36	4222	1012		225
V/C Ratio(X)	0.42	0.00	0.00	0.35	0.00	0.74		0.45	0.58	0.13		0.80
Avail Cap(c_a), veh/h	139	0	0	424	0	431		128	4222	1012		575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		0.92
Uniform Delay (d), s/veh	67.8	0.0	0.0	60.7	0.0	60.2		72.7	15.6	10.7		64.5
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.3	0.0	1.7		3.3	0.6	0.3		2.3
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
%ile BackOfQ(95%),veh/ln	3.7	0.0	0.0	5.2	0.0	11.0		1.1	17.2	3.2		5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.7	0.0	0.0	61.0	0.0	61.9		76.0	16.2	11.0		66.8
LnGrp LOS	E	A	A	E	A	E		E	B	B		E
Approach Vol, veh/h	54			266			2608					
Approach Delay, s/veh	68.7			61.6			16.3					
Approach LOS	E			E			B					
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	109.1	13.7	18.7	15.1	102.5		32.4				
Change Period (Y+Rc), s	5.5	* 6.7	5.5	8.7	5.5	* 6.7		8.7				
Max Green Setting (Gmax), s	10.5	* 77	24.5	11.3	24.5	* 63		41.3				
Max Q Clear Time (g_c+I1), s	3.3	2.0	8.5	7.7	9.4	34.1		18.8				
Green Ext Time (p_c), s	0.0	7.2	0.0	0.0	0.2	17.7		0.5				
Intersection Summary												
HCM 6th Ctrl Delay	16.7											
HCM 6th LOS	B											
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (veh/h)	1275	5
Future Volume (veh/h)	1275	5
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1906	1906
Adj Flow Rate, veh/h	1386	5
Peak Hour Factor	0.92	0.92
Percent Heavy Veh, %	3	3
Cap, veh/h	4641	17
Arrive On Green	1.00	1.00
Sat Flow, veh/h	6796	25
Grp Volume(v), veh/h	1003	388
Grp Sat Flow(s),veh/h/ln	1639	1902
Q Serve(g_s), s	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0
Prop In Lane		0.01
Lane Grp Cap(c), veh/h	3359	1299
V/C Ratio(X)	0.30	0.30
Avail Cap(c_a), veh/h	3359	1299
HCM Platoon Ratio	2.00	2.00
Upstream Filter(I)	0.92	0.92
Uniform Delay (d), s/veh	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.4
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	0.2	0.5
LnGrp LOS	A	A
Approach Vol, veh/h	1570	
Approach Delay, s/veh	7.9	
Approach LOS	A	
Timer - Assigned Phs		

Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	110	0	85	125	0	60	5	120	1860	460	5	135
Future Volume (vph)	110	0	85	125	0	60	5	120	1860	460	5	135
Satd. Flow (prot)	1711	0	1583	3351	0	1599	0	1724	6241	1501	0	3260
Flt Permitted	0.950			0.950				0.950				0.950
Satd. Flow (perm)	1711	0	1583	3351	0	1599	0	1724	6241	1501	0	3260
Satd. Flow (RTOR)												
Lane Group Flow (vph)	122	0	59	139	0	41	0	139	2067	317	0	156
Turn Type	Prot		Perm	Prot		Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7			3			1	1	6		5	5
Permitted Phases			7			3				6		
Total Split (s)	25.0		25.0	25.0		25.0	28.0	28.0	97.0	97.0	28.0	28.0
Total Lost Time (s)	5.5		5.5	5.5		5.5		5.5	6.4	6.4		5.5
Act Effct Green (s)	14.6		14.6	14.6		14.6		22.5	106.9	106.9		11.1
Actuated g/C Ratio	0.10		0.10	0.10		0.10		0.15	0.71	0.71		0.07
v/c Ratio	0.73		0.38	0.43		0.26		0.54	0.46	0.30		0.65
Control Delay	89.8		69.5	66.9		65.4		50.7	2.3	2.6		79.8
Queue Delay	0.0		0.0	0.0		0.0		0.0	0.0	0.0		0.0
Total Delay	89.8		69.5	66.9		65.4		50.7	2.3	2.6		79.8
LOS	F		E	E		E		D	A	A		E
Approach Delay		83.2			66.6				5.0			
Approach LOS		F			E				A			
Queue Length 50th (ft)	118		55	65		38		130	43	23		77
Queue Length 95th (ft)	185		101	98		75		206	46	30		114
Internal Link Dist (ft)		276			332				922			
Turn Bay Length (ft)	100					205		515		465		380
Base Capacity (vph)	222		205	435		207		258	4446	1069		489
Starvation Cap Reductn	0		0	0		0		0	0	0		0
Spillback Cap Reductn	0		0	0		0		0	0	0		0
Storage Cap Reductn	0		0	0		0		0	0	0		0
Reduced v/c Ratio	0.55		0.29	0.32		0.20		0.54	0.46	0.30		0.32

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 101 (67%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 16.1

Intersection LOS: B

Intersection Capacity Utilization 63.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 110: STH 100/Mayfair Road & Potter Road/Research Drive



Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	1235	180
Future Volume (vph)	1235	180
Satd. Flow (prot)	6182	0
Flt Permitted		
Satd. Flow (perm)	6182	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	1572	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	97.0	
Total Lost Time (s)	6.4	
Act Effct Green (s)	95.5	
Actuated g/C Ratio	0.64	
v/c Ratio	0.40	
Control Delay	14.0	
Queue Delay	0.0	
Total Delay	14.0	
LOS	B	
Approach Delay	19.9	
Approach LOS	B	
Queue Length 50th (ft)	206	
Queue Length 95th (ft)	253	
Internal Link Dist (ft)	1585	
Turn Bay Length (ft)		
Base Capacity (vph)	3933	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.40	
Intersection Summary		

HCM 6th Signalized Intersection Summary

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	110	0	85	125	0	60	5	120	1860	460	5	135
Future Volume (veh/h)	110	0	85	125	0	60	5	120	1860	460	5	135
Initial Q (Qb), veh	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
Parking Bus, Adj	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				
Adj Sat Flow, veh/h/ln	1870	0	1870	1885	0	1885		1891	1891	1841		1906
Adj Flow Rate, veh/h	122	0	59	139	0	41		133	2067	317		150
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90	0.90		0.90
Percent Heavy Veh, %	2	0	2	1	0	1		4	4	4		3
Cap, veh/h	144	0	0	281	0	0		348	4860	1165		198
Arrive On Green	0.08	0.00	0.00	0.08	0.00	0.00		0.39	1.00	1.00		0.06
Sat Flow, veh/h	1781	122		3483	139			1801	6505	1560		3522
Grp Volume(v), veh/h	122	76.1		139	66.5			133	2067	317		150
Grp Sat Flow(s),veh/h/ln	1781	E		1742	E			1801	1626	1560		1761
Q Serve(g_s), s	10.1			5.7				8.0	0.0	0.0		6.3
Cycle Q Clear(g_c), s	10.1			5.7				8.0	0.0	0.0		6.3
Prop In Lane	1.00			1.00				1.00		1.00		1.00
Lane Grp Cap(c), veh/h	144			281				348	4860	1165		198
V/C Ratio(X)	0.85			0.49				0.38	0.43	0.27		0.76
Avail Cap(c_a), veh/h	232			453				348	4860	1165		528
HCM Platoon Ratio	1.00			1.00				2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00			1.00				0.73	0.73	0.73		1.00
Uniform Delay (d), s/veh	68.0			66.0				39.6	0.0	0.0		69.8
Incr Delay (d2), s/veh	8.1			0.5				0.2	0.2	0.4		2.3
Initial Q Delay(d3),s/veh	0.0			0.0				0.0	0.0	0.0		0.0
%ile BackOfQ(95%),veh/ln	8.7			4.7				5.8	0.1	0.2		5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.1			66.5				39.8	0.2	0.4		72.1
LnGrp LOS	E			E				D	A	A		E
Approach Vol, veh/h									2517			
Approach Delay, s/veh									2.3			
Approach LOS									A			
Timer - Assigned Phs	1	2	3	5		6	7					
Phs Duration (G+Y+Rc), s	35.4	97.0	17.6	13.9		118.5	17.6					
Change Period (Y+Rc), s	6.4	* 6.4	5.5	5.5		6.4	5.5					
Max Green Setting (Gmax), s	22.5	* 91	19.5	22.5		90.6	19.5					
Max Q Clear Time (g_c+I1), s	10.0	20.4	7.7	8.3		2.0	12.1					
Green Ext Time (p_c), s	0.1	9.0	0.1	0.1		19.1	0.1					
Intersection Summary												
HCM 6th Ctrl Delay	13.4											
HCM 6th LOS	B											
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary 110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (veh/h)	1235	180
Future Volume (veh/h)	1235	180
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1906	1906
Adj Flow Rate, veh/h	1372	200
Peak Hour Factor	0.90	0.90
Percent Heavy Veh, %	3	3
Cap, veh/h	3518	512
Arrive On Green	0.60	0.60
Sat Flow, veh/h	5825	847
Grp Volume(v), veh/h	1158	414
Grp Sat Flow(s),veh/h/ln	1639	1754
Q Serve(g_s), s	18.3	18.4
Cycle Q Clear(g_c), s	18.3	18.4
Prop In Lane		0.48
Lane Grp Cap(c), veh/h	2971	1059
V/C Ratio(X)	0.39	0.39
Avail Cap(c_a), veh/h	2971	1059
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	15.4	15.4
Incr Delay (d2), s/veh	0.4	1.1
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.0	11.9
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	15.8	16.5
LnGrp LOS	B	B
Approach Vol, veh/h	1722	
Approach Delay, s/veh	20.8	
Approach LOS	C	
Timer - Assigned Phs		

HCM 6th TWSC
120: West Driveways & Research Drive

08/01/2023

Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔			↔↔			↵	↵		↔↔		
Traffic Vol, veh/h	135	270	190	65	40	35	130	1	15	5	1	15
Future Vol, veh/h	135	270	190	65	40	35	130	1	15	5	1	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	1	1	1	3	3	3	1	1	1	1	1	1
Mvmt Flow	178	355	250	86	53	46	171	1	20	7	1	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	99	0	0	605	0	0	1035	1107	303	782	1209	50
Stage 1	-	-	-	-	-	-	836	836	-	248	248	-
Stage 2	-	-	-	-	-	-	199	271	-	534	961	-
Critical Hdwy	4.12	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	1499	-	-	1098	-	-	248	255	*971	395	218	1011
Stage 1	-	-	-	-	-	-	420	448	-	737	702	-
Stage 2	-	-	-	-	-	-	787	686	-	664	387	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1499	-	-	1098	-	-	194	190	*971	310	163	1011
Mov Cap-2 Maneuver	-	-	-	-	-	-	308	311	-	403	216	-
Stage 1	-	-	-	-	-	-	342	364	-	599	644	-
Stage 2	-	-	-	-	-	-	706	629	-	527	315	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.9			4			28.1			10.7		
HCM LOS							D			B		
Minor Lane/Major Mvmt	NBLn1		NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1		
Capacity (veh/h)	308		857	1499	-	-	1098	-	-	659		
HCM Lane V/C Ratio	0.555		0.025	0.119	-	-	0.078	-	-	0.042		
HCM Control Delay (s)	30.4		9.3	7.7	0.4	-	8.6	0.1	-	10.7		
HCM Lane LOS	D		A	A	A	-	A	A	-	B		
HCM 95th %tile Q(veh)	3.2		0.1	0.4	-	-	0.3	-	-	0.1		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

HCM 6th TWSC
130: East Driveway & Research Drive

08/01/2023

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	210	60	25	120	35	15	1	10	5	1	5
Future Vol, veh/h	20	210	60	25	120	35	15	1	10	5	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	2	2	2	1	1	1	1	1	1
Mvmt Flow	25	266	76	32	152	44	19	1	13	6	1	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	196	0	0	342	0	0	495	614	171	422	630	98
Stage 1	-	-	-	-	-	-	354	354	-	238	238	-
Stage 2	-	-	-	-	-	-	141	260	-	184	392	-
Critical Hdwy	4.12	-	-	4.14	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.22	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	1382	-	-	1214	-	-	460	408	846	518	399	942
Stage 1	-	-	-	-	-	-	639	631	-	747	710	-
Stage 2	-	-	-	-	-	-	850	694	-	803	607	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1382	-	-	1214	-	-	437	387	846	488	378	942
Mov Cap-2 Maneuver	-	-	-	-	-	-	437	387	-	488	378	-
Stage 1	-	-	-	-	-	-	624	616	-	730	689	-
Stage 2	-	-	-	-	-	-	817	673	-	771	593	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			1.2			12.2			11.1		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	534	1382	-	-	1214	-	-	604				
HCM Lane V/C Ratio	0.062	0.018	-	-	0.026	-	-	0.023				
HCM Control Delay (s)	12.2	7.7	0.1	-	8	0.1	-	11.1				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-	0.1				

Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	30	5	45	305	10	220	15	15	1540	65	5	155
Future Volume (vph)	30	5	45	305	10	220	15	15	1540	65	5	155
Satd. Flow (prot)	0	1650	0	1728	1610	0	0	1775	6427	1492	0	3443
Flt Permitted		0.777		0.717				0.950				0.950
Satd. Flow (perm)	0	1306	0	1304	1610	0	0	1775	6427	1492	0	3443
Satd. Flow (RTOR)												
Lane Group Flow (vph)	0	83	0	318	239	0	0	32	1604	42	0	166
Turn Type	Perm	NA		D,P+P	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases		4		3	8		1	1	6		5	5
Permitted Phases	4			4						6		
Total Split (s)	24.0	24.0		33.0	57.0		17.0	17.0	65.0	65.0	28.0	28.0
Total Lost Time (s)		8.7		5.5	8.7			5.5	6.7	6.7		5.5
Act Effect Green (s)		13.0		41.3	43.6			7.2	74.3	74.3		11.1
Actuated g/C Ratio		0.09		0.28	0.29			0.05	0.50	0.50		0.07
v/c Ratio		0.73		0.74	0.51			0.38	0.50	0.06		0.65
Control Delay		100.6		54.4	47.7			81.1	27.0	22.8		78.3
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Delay		100.6		54.4	47.7			81.1	27.0	22.8		78.3
LOS		F		D	D			F	C	C		E
Approach Delay		100.6			51.5				28.0			
Approach LOS		F			D				C			
Queue Length 50th (ft)		80		257	191			31	310	22		87
Queue Length 95th (ft)		#149		352	274			68	373	49		127
Internal Link Dist (ft)		74			642				1113			
Turn Bay Length (ft)								305		275		225
Base Capacity (vph)		133		453	518			136	3185	739		516
Starvation Cap Reductn		0		0	0			0	0	0		0
Spillback Cap Reductn		0		0	0			0	0	0		0
Storage Cap Reductn		0		0	0			0	0	0		0
Reduced v/c Ratio		0.62		0.70	0.46			0.24	0.50	0.06		0.32

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 129 (86%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 30.5

Intersection LOS: C

Intersection Capacity Utilization 93.8%

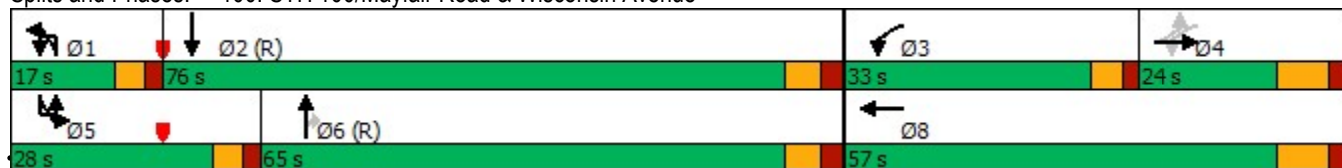
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: STH 100/Mayfair Road & Wisconsin Avenue



2023 Full Build Volumes; Improved Geometry & Signal Timings

Timing Plan: PM Peak Hour

Synchro 11 Report

TADI

Queues

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	2785	5
Future Volume (vph)	2785	5
Satd. Flow (prot)	6427	0
Flt Permitted		
Satd. Flow (perm)	6427	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	2906	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	76.0	
Total Lost Time (s)	6.7	
Act Effct Green (s)	82.9	
Actuated g/C Ratio	0.55	
v/c Ratio	0.82	
Control Delay	23.3	
Queue Delay	0.0	
Total Delay	23.3	
LOS	C	
Approach Delay	26.2	
Approach LOS	C	
Queue Length 50th (ft)	388	
Queue Length 95th (ft)	525	
Internal Link Dist (ft)	922	
Turn Bay Length (ft)		
Base Capacity (vph)	3550	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.82	
Intersection Summary		

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	30	5	45	305	10	220	15	15	1540	65	5	155
Future Volume (veh/h)	30	5	45	305	10	220	15	15	1540	65	5	155
Initial Q (Qb), veh	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
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885		1937	1937	1885		1937
Adj Flow Rate, veh/h	31	5	47	318	10	229		16	1604	42		161
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		0.96	0.96	0.96		0.96
Percent Heavy Veh, %	1	1	1	1	1	1		1	1	1		1
Cap, veh/h	63	14	57	442	19	435		36	3468	832		207
Arrive On Green	0.07	0.07	0.07	0.18	0.28	0.28		0.02	0.52	0.52		0.12
Sat Flow, veh/h	435	198	826	1795	67	1541		1845	6662	1598		3578
Grp Volume(v), veh/h	83	0	0	318	0	239		16	1604	42		161
Grp Sat Flow(s),veh/h/ln	1459	0	0	1795	0	1608		1845	1666	1598		1789
Q Serve(g_s), s	6.5	0.0	0.0	24.4	0.0	18.8		1.3	22.8	1.9		6.6
Cycle Q Clear(g_c), s	8.3	0.0	0.0	24.4	0.0	18.8		1.3	22.8	1.9		6.6
Prop In Lane	0.37		0.57	1.00		0.96		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	134	0	0	442	0	454		36	3468	832		207
V/C Ratio(X)	0.62	0.00	0.00	0.72	0.00	0.53		0.45	0.46	0.05		0.78
Avail Cap(c_a), veh/h	180	0	0	455	0	518		141	3468	832		537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00		1.00	1.00	1.00		0.67
Uniform Delay (d), s/veh	68.7	0.0	0.0	51.9	0.0	45.4		72.7	22.7	17.7		65.4
Incr Delay (d2), s/veh	1.7	0.0	0.0	4.5	0.0	0.4		3.2	0.4	0.1		1.6
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
%ile BackOfQ(95%),veh/ln	5.8	0.0	0.0	17.0	0.0	12.1		1.1	13.8	1.3		5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.4	0.0	0.0	56.4	0.0	45.7		75.9	23.2	17.8		67.0
LnGrp LOS	E	A	A	E	A	D		E	C	B		E
Approach Vol, veh/h		83			557				1662			
Approach Delay, s/veh		70.4			51.8				23.5			
Approach LOS		E			D				C			
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	90.6	31.9	19.1	14.2	84.8		51.0				
Change Period (Y+Rc), s	5.5	* 6.7	5.5	8.7	5.5	* 6.7		8.7				
Max Green Setting (Gmax), s	11.5	* 69	27.5	15.3	22.5	* 58		48.3				
Max Q Clear Time (g_c+I1), s	3.3	2.0	26.4	10.3	8.6	24.8		20.8				
Green Ext Time (p_c), s	0.0	29.3	0.0	0.1	0.1	9.5		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			16.7									
HCM 6th LOS			B									
Notes												
User approved ignoring U-Turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

100: STH 100/Mayfair Road & Wisconsin Avenue

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (veh/h)	2785	5
Future Volume (veh/h)	2785	5
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1937	1937
Adj Flow Rate, veh/h	2901	5
Peak Hour Factor	0.96	0.96
Percent Heavy Veh, %	1	1
Cap, veh/h	3868	7
Arrive On Green	1.00	1.00
Sat Flow, veh/h	6920	12
Grp Volume(v), veh/h	2095	811
Grp Sat Flow(s),veh/h/ln	1666	1935
Q Serve(g_s), s	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0
Prop In Lane		0.01
Lane Grp Cap(c), veh/h	2793	1081
V/C Ratio(X)	0.75	0.75
Avail Cap(c_a), veh/h	2793	1081
HCM Platoon Ratio	2.00	2.00
Upstream Filter(I)	0.67	0.67
Uniform Delay (d), s/veh	0.0	0.0
Incr Delay (d2), s/veh	1.3	3.3
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	1.8
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	1.3	3.3
LnGrp LOS	A	A
Approach Vol, veh/h	3067	
Approach Delay, s/veh	5.3	
Approach LOS	A	
Timer - Assigned Phs		

Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	125	0	130	430	0	150	15	85	1535	165	10	90
Future Volume (vph)	125	0	130	430	0	150	15	85	1535	165	10	90
Satd. Flow (prot)	1728	0	1599	3319	0	1583	0	1757	6364	1531	0	3260
Flt Permitted	0.950			0.950				0.950				0.950
Satd. Flow (perm)	1728	0	1599	3319	0	1583	0	1757	6364	1531	0	3260
Satd. Flow (RTOR)												
Lane Group Flow (vph)	133	0	86	457	0	99	0	106	1633	109	0	107
Turn Type	Prot		Perm	Prot		Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7			3			1	1	6		5	5
Permitted Phases			7			3				6		
Total Split (s)	40.0		40.0	40.0		40.0	32.0	32.0	92.0	92.0	18.0	18.0
Total Lost Time (s)	5.5		5.5	5.5		5.5		5.5	6.4	6.4		5.5
Act Effect Green (s)	24.6		24.6	24.6		24.6		13.0	99.1	99.1		8.9
Actuated g/C Ratio	0.16		0.16	0.16		0.16		0.09	0.66	0.66		0.06
v/c Ratio	0.47		0.33	0.84		0.38		0.70	0.39	0.11		0.56
Control Delay	61.5		57.7	74.4		59.1		106.4	5.3	5.1		79.3
Queue Delay	0.0		0.0	0.0		0.0		0.0	0.0	0.0		0.0
Total Delay	61.5		57.7	74.4		59.1		106.4	5.3	5.1		79.3
LOS	E		E	E		E		F	A	A		E
Approach Delay		60.0			71.7				11.1			
Approach LOS		E			E				B			
Queue Length 50th (ft)	119		75	219		85		108	69	16		53
Queue Length 95th (ft)	181		126	260		133		177	75	25		85
Internal Link Dist (ft)		276			332				922			
Turn Bay Length (ft)	100					205		515		465		380
Base Capacity (vph)	397		367	763		364		310	4204	1011		271
Starvation Cap Reductn	0		0	0		0		0	0	0		0
Spillback Cap Reductn	0		0	0		0		0	0	0		0
Storage Cap Reductn	0		0	0		0		0	0	0		0
Reduced v/c Ratio	0.34		0.23	0.60		0.27		0.34	0.39	0.11		0.39

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 134 (89%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 24.9

Intersection LOS: C

Intersection Capacity Utilization 79.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 110: STH 100/Mayfair Road & Potter Road/Research Drive



Queues

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Lane Group	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (vph)	2375	110
Future Volume (vph)	2375	110
Satd. Flow (prot)	6258	0
Flt Permitted		
Satd. Flow (perm)	6258	0
Satd. Flow (RTOR)		
Lane Group Flow (vph)	2644	0
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Total Split (s)	78.0	
Total Lost Time (s)	6.4	
Act Effct Green (s)	95.0	
Actuated g/C Ratio	0.63	
v/c Ratio	0.67	
Control Delay	19.6	
Queue Delay	0.0	
Total Delay	19.6	
LOS	B	
Approach Delay	21.9	
Approach LOS	C	
Queue Length 50th (ft)	454	
Queue Length 95th (ft)	599	
Internal Link Dist (ft)	1585	
Turn Bay Length (ft)		
Base Capacity (vph)	3963	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.67	
Intersection Summary		

HCM 6th Signalized Intersection Summary

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	125	0	130	430	0	150	15	85	1535	165	10	90
Future Volume (veh/h)	125	0	130	430	0	150	15	85	1535	165	10	90
Initial Q (Qb), veh	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
Parking Bus, Adj	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					
Adj Sat Flow, veh/h/ln	1885	0	1885	1870	0	1870		1922	1922	1870		1906
Adj Flow Rate, veh/h	133	0	86	457	0	99		90	1633	109		96
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94	0.94		0.94
Percent Heavy Veh, %	1	0	1	2	0	2		2	2	2		3
Cap, veh/h	264	0	0	508	0	0		110	4609	1105		140
Arrive On Green	0.15	0.00	0.00	0.15	0.00	0.00		0.12	1.00	1.00		0.04
Sat Flow, veh/h	1795	133		3456	457			1830	6610	1585		3522
Grp Volume(v), veh/h	133	59.5		457	69.0			90	1633	109		96
Grp Sat Flow(s),veh/h/ln	1795	E		1728	E			1830	1653	1585		1761
Q Serve(g_s), s	10.2			19.5				7.2	0.0	0.0		4.0
Cycle Q Clear(g_c), s	10.2			19.5				7.2	0.0	0.0		4.0
Prop In Lane	1.00			1.00				1.00		1.00		1.00
Lane Grp Cap(c), veh/h	264			508				110	4609	1105		140
V/C Ratio(X)	0.50			0.90				0.82	0.35	0.10		0.69
Avail Cap(c_a), veh/h	413			795				323	4609	1105		294
HCM Platoon Ratio	1.00			1.00				2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00			1.00				0.86	0.86	0.86		1.00
Uniform Delay (d), s/veh	58.9			62.9				65.2	0.0	0.0		71.1
Incr Delay (d2), s/veh	0.6			6.1				4.7	0.2	0.2		2.2
Initial Q Delay(d3),s/veh	0.0			0.0				0.0	0.0	0.0		0.0
%ile BackOfQ(95%),veh/ln	8.3			14.0				6.0	0.1	0.1		3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5			69.0				69.9	0.2	0.2		73.3
LnGrp LOS	E			E				E	A	A		E
Approach Vol, veh/h									1832			
Approach Delay, s/veh									3.6			
Approach LOS									A			
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	14.5	107.9	27.5		11.5	111.0	27.5					
Change Period (Y+Rc), s	5.5	6.4	5.5		5.5	6.4	5.5					
Max Green Setting (Gmax), s	26.5	71.6	34.5		12.5	85.6	34.5					
Max Q Clear Time (g_c+I1), s	9.2	33.2	21.5		6.0	2.0	12.2					
Green Ext Time (p_c), s	0.1	19.7	0.5		0.0	10.9	0.1					
Intersection Summary												
HCM 6th Ctrl Delay				17.4								
HCM 6th LOS	B											
Notes												
User approved ignoring U-Turning movement.												

HCM 6th Signalized Intersection Summary

110: STH 100/Mayfair Road & Potter Road/Research Drive

08/01/2023



Movement	SBT	SBR
Lane Configurations	TTT	
Traffic Volume (veh/h)	2375	110
Future Volume (veh/h)	2375	110
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1906	1906
Adj Flow Rate, veh/h	2527	117
Peak Hour Factor	0.94	0.94
Percent Heavy Veh, %	3	3
Cap, veh/h	4381	202
Arrive On Green	0.68	0.68
Sat Flow, veh/h	6472	299
Grp Volume(v), veh/h	1919	725
Grp Sat Flow(s),veh/h/ln	1639	1853
Q Serve(g_s), s	31.0	31.2
Cycle Q Clear(g_c), s	31.0	31.2
Prop In Lane		0.16
Lane Grp Cap(c), veh/h	3329	1254
V/C Ratio(X)	0.58	0.58
Avail Cap(c_a), veh/h	3329	1254
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	12.8	12.9
Incr Delay (d2), s/veh	0.7	1.9
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.2	18.6
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	13.6	14.8
LnGrp LOS	B	B
Approach Vol, veh/h	2740	
Approach Delay, s/veh	16.0	
Approach LOS	B	
Timer - Assigned Phs		

HCM 6th TWSC
120: West Driveways & Research Drive

08/01/2023

Intersection													
Int Delay, s/veh	9.2												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			←←			←←		↱	↱			↱	
Traffic Vol, veh/h	5	25	70	155	30	230	10	220	1	70	30	1	125
Future Vol, veh/h	5	25	70	155	30	230	10	220	1	70	30	1	125
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	75	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	9	9	9	9	2	2	2	1	1	1	1	1	1
Mvmt Flow	7	35	97	215	42	319	14	306	1	97	42	1	174

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	333	333	0	0	312	0	0	533	706	156	543	806	167
Stage 1	-	-	-	-	-	-	-	289	289	-	410	410	-
Stage 2	-	-	-	-	-	-	-	244	417	-	133	396	-
Critical Hdwy	6.58	4.28	-	-	4.14	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.59	2.29	-	-	2.22	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	850	1174	-	-	1256	-	-	441	366	884	434	320	851
Stage 1	-	-	-	-	-	-	-	710	682	-	592	596	-
Stage 2	-	-	-	-	-	-	-	741	592	-	876	612	-
Platoon blocked, %			-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1064	1064	-	-	1256	-	-	327	333	884	359	292	851
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	464	465	-	499	443	-
Stage 1	-	-	-	-	-	-	-	675	649	-	563	572	-
Stage 2	-	-	-	-	-	-	-	564	568	-	740	582	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	1	22.4	11.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	464	873	1064	-	-	1256	-	-	745
HCM Lane V/C Ratio	0.659	0.113	0.033	-	-	0.033	-	-	0.291
HCM Control Delay (s)	26.5	9.6	8.5	0.2	-	8	0.1	-	11.8
HCM Lane LOS	D	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	4.7	0.4	0.1	-	-	0.1	-	-	1.2

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔			↔↔			↔			↔		
Traffic Vol, veh/h	5	135	30	15	180	5	70	1	30	30	1	20
Future Vol, veh/h	5	135	30	15	180	5	70	1	30	30	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	1	1	1
Mvmt Flow	6	173	38	19	231	6	90	1	38	38	1	26
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	237	0	0	211	0	0	358	479	106	371	495	119
Stage 1	-	-	-	-	-	-	204	204	-	272	272	-
Stage 2	-	-	-	-	-	-	154	275	-	99	223	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.22	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	1327	-	-	1364	-	-	575	487	931	563	476	913
Stage 1	-	-	-	-	-	-	782	734	-	713	686	-
Stage 2	-	-	-	-	-	-	836	684	-	899	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1327	-	-	1364	-	-	549	477	931	530	466	913
Mov Cap-2 Maneuver	-	-	-	-	-	-	549	477	-	530	466	-
Stage 1	-	-	-	-	-	-	778	730	-	709	675	-
Stage 2	-	-	-	-	-	-	798	673	-	856	716	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.7			12.3			11.4		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	624	1327	-	-	1364	-	-	632				
HCM Lane V/C Ratio	0.208	0.005	-	-	0.014	-	-	0.103				
HCM Control Delay (s)	12.3	7.7	0	-	7.7	0.1	-	11.4				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.3				