

**Traffic Impact Study**  
Mitchell Elementary School &  
Scarlett Middle School

Ann Arbor, Michigan  
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C O N S U L T I N G

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## Appendix Contents

- **Turning Movement Count Data**
  - 3/9 counts (included)
  - 3/10 counts (excluded, but available on request)
- **Signal Timing Plans**
- **HCM Output Pages**
- **SimTraffic Output Pages**
- **Stop Warrant Analysis for Scarlett/Fernwood Alignment**

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## 1.0 Executive Summary

The proposed New Mitchell Elementary School is located on the south side of Lorraine Street near Pittsview Drive in Ann Arbor. The new school building is expected to serve 630 students, which is a ~35% increase in its 2021/2022 school year population of 467 students in the old Mitchell School building. The Scarlett Middle School, also located on the same campus, had a population of 602 students in the 2021-2022 school year when the traffic counts for this study were taken. Once the new school is constructed and Mitchell students are transferred to the new school building, the old school building will be used as a temporary or Flex School for up to 5 years of time.

The flex school will operate with approximately 600 students, however to minimize its impact to the neighborhood, the current plan is to bus in the vast majority of its students rather than having the flex school parents drop off at the Mitchell/Scarlett campus. After the flex school ends its operation, the campus will be reduced back to just the two existing schools Scarlett Middle School and Mitchell Elementary.

Starting times of Scarlett Middle school, the Flex School, and the New Mitchell School will likely be spaced roughly 30 minutes apart to limit the impact of operating three schools on campus.

With respect to vehicular traffic, the intersections of Platt and Lorraine and Fernwood and Packard, the two major intersections to/from the school campus, currently operate at an acceptable level of service LOS, and are not significantly impacted by any of the future traffic scenarios operate at an acceptable level of service for all future traffic scenarios.

However, there is significant existing congestion and spillback onto Lorraine and Fernwood from both school driveways during both the morning peak and afterschool peaks for each school. As the student population increases over time at the new Mitchell School, congestion will worsen if no improvements are implemented.

To alleviate the existing and future congestion, the School is proposing to realign the existing Scarlett Driveway across from Fernwood, change the traffic control from a two-way to a four-way stop, and to create a new parent drop-off loop for the New Mitchell School (and to a lesser extent the Flex School). The proposed realignment will improve traffic flow and safety in a few different ways. First, it will reduce the number of pedestrian crossing locations near the Scarlett Driveway by one. Second, it will allow vehicular traffic to come from and depart to Fernwood in a single movement rather than making a right-turn followed by a left turn a short distance away. Third, the all-way stop control will provide an acceptable level of service through the day, improve delays for vehicles leaving campus during the Scarlett school peak hour, and it will stop vehicular traffic at the intersection, making it easier for pedestrians to cross Lorraine Street.

The new one-way drop off loop, accessible from the Scarlett Driveway, will lead to the New Mitchell School and then exit to Lorraine at the existing Mitchell Driveway. The new loop will provide ~1200' of on-campus storage for driving parents, an increase in approximately 675' from the existing Mitchell drop-off. The increased storage is expected to accommodate nearly all of the vehicles that accumulate at the Mitchell School during the school peaks. By pulling more traffic off of Lorraine, Mitchell should have less of an impact on existing neighborhood traffic along Lorraine despite the increase in the future number of students.

Parent drop-off and pickup is generally the largest source of congestion around any school campus. Since the Flex School plans to bus in the vast majority of its students, it will not have a significant impact on the traffic conditions in the study area. Employees will arrive and park, and students will arrive by bus and will be dropped off in the loop south of the Old Mitchell building.

The following list of improvements is recommended to improve traffic flow and safety around the campus:

- **Align the Scarlett Driveway and Fernwood intersection** to simplify traffic flow between these two intersections and consolidate the two pedestrian crossings west of Fernwood down to one crossing.
  - Control intersection with a four-way stop to improve delays during Scarlett peak times and provide better opportunities for pedestrians to cross Lorraine Street. The benefit of the four-way stop control to average vehicular delays is generally limited to the Scarlett peaks, however the traffic control still provides an acceptable level of service at all other times of the day.
    - MMUTCD Stop Warrant Analysis is included in the Appendix. The volume criteria are not met, however there is an option for City officials to approve four-way stop control based on the “need to control vehicular/pedestrian conflicts near locations that generate high pedestrian volumes”.
  - Aligned intersection should be designed as a raised intersection (as Fernwood is currently).
- **The Test Fit E plan, which creates the long drop off loop for the new Mitchell school, is expected to provide significantly more on site storage of drop off traffic which will help reduce its impact on the adjacent neighborhood. Queues lengths may still exceed the provided storage and so bus traffic will need to arrive prior to the drop off loop filling up with vehicles.**
- **The NW pedestrian crossing, just south of the new drop off loop, needs updating. At a minimum the pavement striping needs refreshing. Since the Test Fit Plan E will introduce a left-turn lane to enter the drop off loop, a pedestrian refuge island should be constructed at this crossing. Other treatments should include stop bars for vehicular traffic, updated signage, and a raised crosswalk to calm traffic and increase pedestrian visibility.**

- A pedestrian route should be considered for the eastern side of the new drop off loop that either passes across the parking lot entrance/egress points or completely around the parking lot. This would allow pedestrians on the northern side of Lorraine to cross near Pittsview and reach the Mitchell entrance with fewer pedestrian/vehicular interactions.
- Pittsview crossing should be updated with high-visibility pavement markings and a raised crosswalk to calm traffic if desired, particularly if the eastern route sees more pedestrian traffic once the new school is constructed.
- While we understand that there is a trend in reduced bussing demand, increasing bussing to the schools would significantly reduce the need to parent drop off traffic to be present on campus which would improve traffic capacity, storage of vehicles, and safety.
- A pre-school morning early admission program, if feasible, could help reduce the amount of traffic that needlessly waits along the Mitchell drop off lane during the morning peak hour.

## 2.0 Introduction

A new school building is planned for Mitchell Elementary that will serve an estimated 630 students, an increase of about 35% from the existing 2021-2022 student population of about 467 students. Once the new school is completed and occupied, the existing building will be used by approximately 600 displaced flex school students for a period of up to five years. After that, the flex school will be demolished and those student will return to their districts. Scarlett Middle School during this study had a 2021-2022 population of 602 students.

## 3.0 Area Description & Site Plans

### 3.1 Proposed Site Location and Surroundings

The Scarlett / Mitchell Campus is located at 3300 Lorraine Street in southeast Ann Arbor Michigan. Lorraine Street is ~30' wide residential collector with a speed limit of 25 MPH. The neighborhood as a whole has five vehicular access points to the north to Packard Street and two vehicular access points to Platt Road. Lorraine Street to the west and Fernwood Avenue to the north carry the majority of the site's traffic.

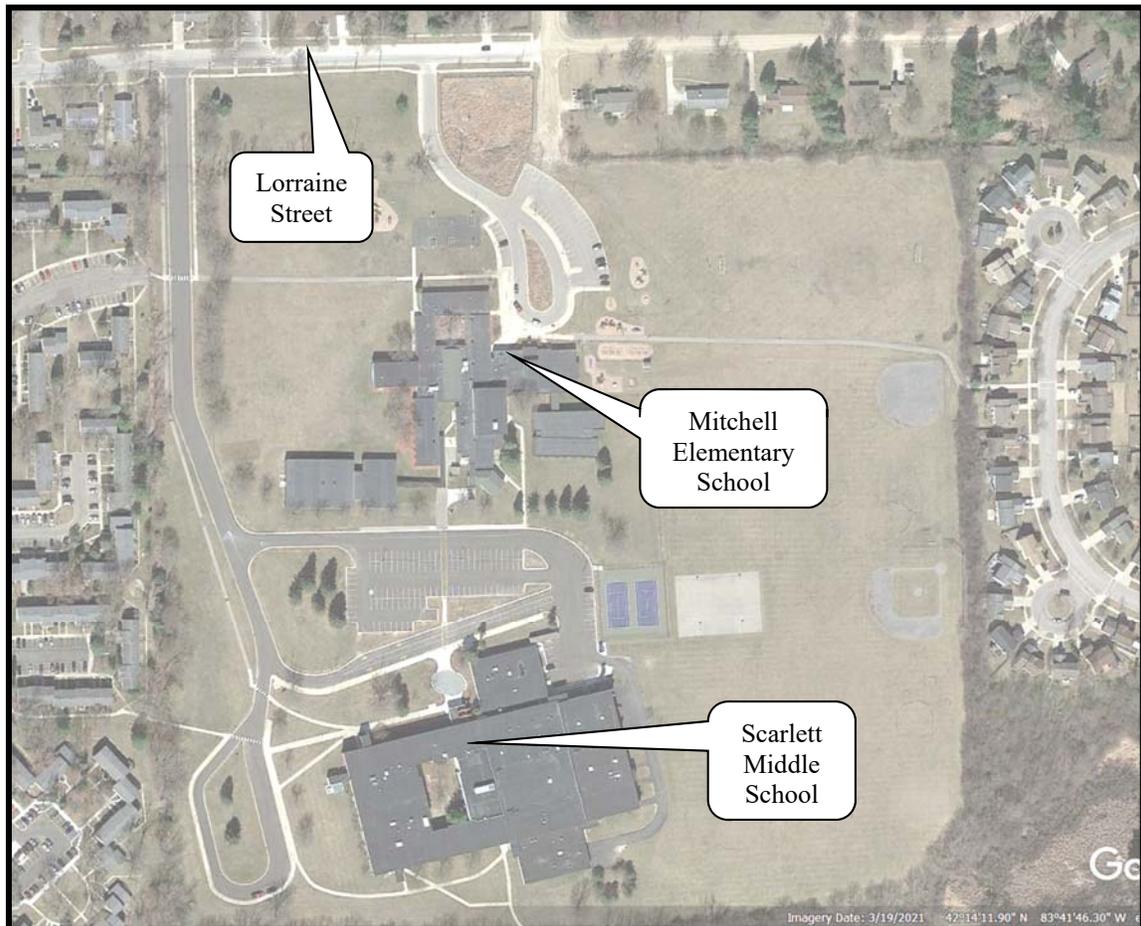


Figure 3.1.1 – Aerial - Scarlett / Mitchell Campus

### 3.2 Test Fit Plan E

In the proposed Test Fit E plan, traffic generated by all three schools will enter the campus via the re-aligned Scarlett Driveway. Mitchell/Flex School employees and Mitchell drop-off traffic will turn left from the Scarlett Drive to use the drop-off loop and then depart via the existing Mitchell Driveway. All buses will drop-off/pick-up their students either in the Scarlett Bus Loop or adjacent to the curb of the southern parking lot.

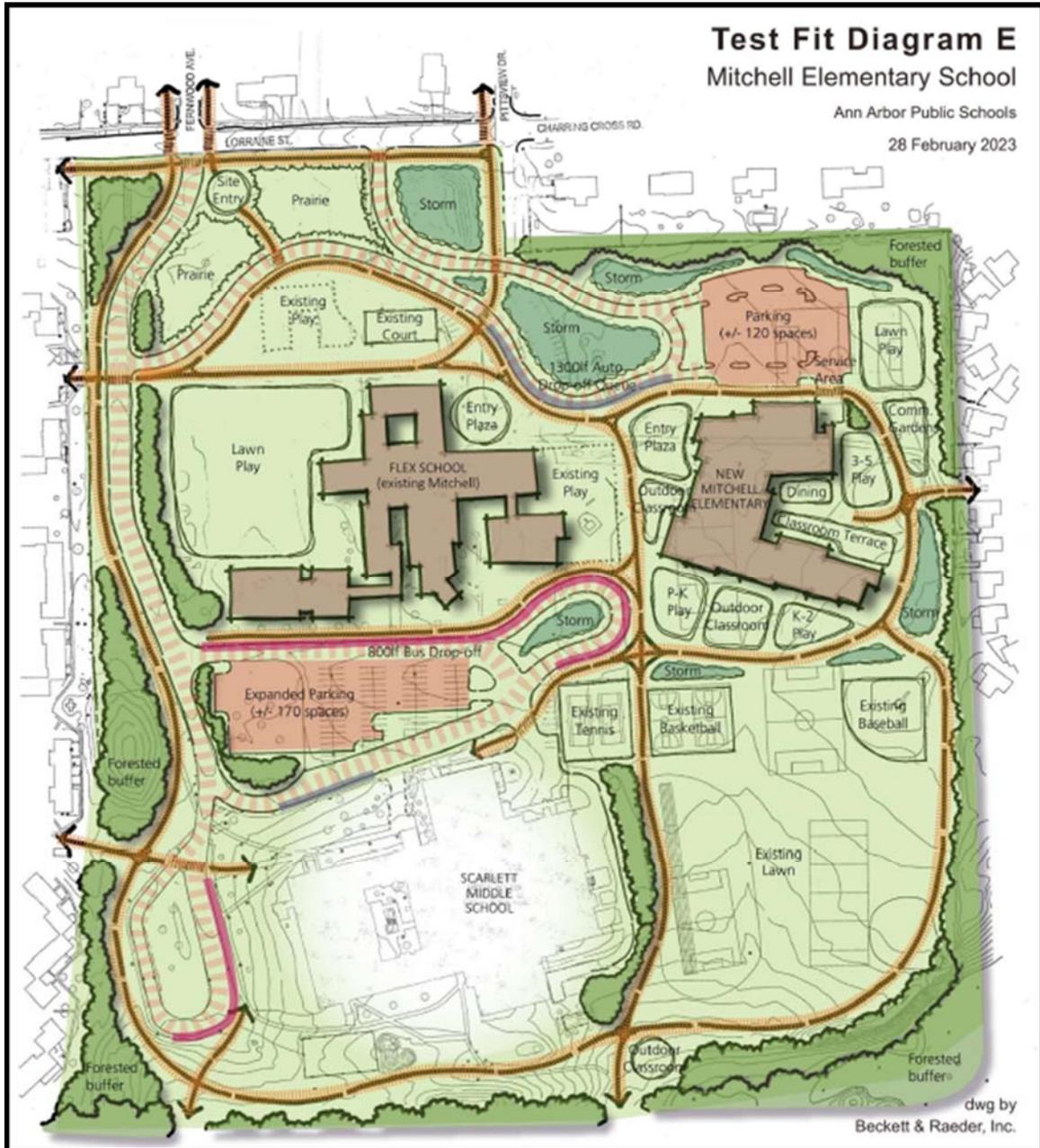


Figure 3.2.2 – Test Fit Plan E– Scarlett/Mitchell Campus

## 4.0 Data Collection & Existing Traffic Volumes

### 4.1 Campus Traffic Counts

Video cameras were installed around the campus to record traffic on March 9<sup>th</sup> and March 10<sup>th</sup> 2022. The video files were then uploaded to and counted by [www.spacksolutions.com](http://www.spacksolutions.com). Both days exhibited comparable traffic volumes and patterns with March 9<sup>th</sup> being slightly busier. The March 9<sup>th</sup> traffic counts shall represent the existing conditions at the school and the base of our analyses. The March 10<sup>th</sup> counts are not shown in the body of the report, but are included in the appendix.

The traffic counts include the following intersections:

- |  |                            |
|--|----------------------------|
| • 1001-Lorraine Street & Platt Road                      | 6:00AM-7:00PM              |
| • 1002-Lorraine Street & Scarlett Middle School Driveway | All 24 Hours               |
| • 1003-Lorraine Street & Fernwood Avenue                 | 6:00AM-7:00PM              |
| • 1004-Lorraine Street & Mitchell Elementary             | *7:30-9:15AM, 2:30-4:15 PM |
| • 1005-Lorraine Street & Pittsview Drive                 | 6:00AM-7:00PM              |
| • 1006-Fernwood Avenue & Packard Street                  | 6:00AM-7:00PM              |
| • 1007-NW Pedestrian Access                              | 6:00AM-7:00PM              |
| • 1008-Scarlett Driveway & Parking Lot Exit              | 6:00AM-7:00PM              |

\*A resident moved the camera that was specifically positioned to record the Lorraine/Mitchell entrance shortly after installation. The camera that recorded the Pittsview intersection provided a view of the Mitchell driveway and was used to count traffic there during peak times.

Other camera locations were used to obtain drop-off information and pedestrian traffic volumes during the school peak hours (7:30-9:15AM, 2:30-4:15 PM).

- 1009-Scarlett Driveway & Drop-off Lane
- 1010-Scarlett Bus Loop & SW Pedestrian Crossing
- NE Pedestrian Access
- Mitchell Drop-off Loop

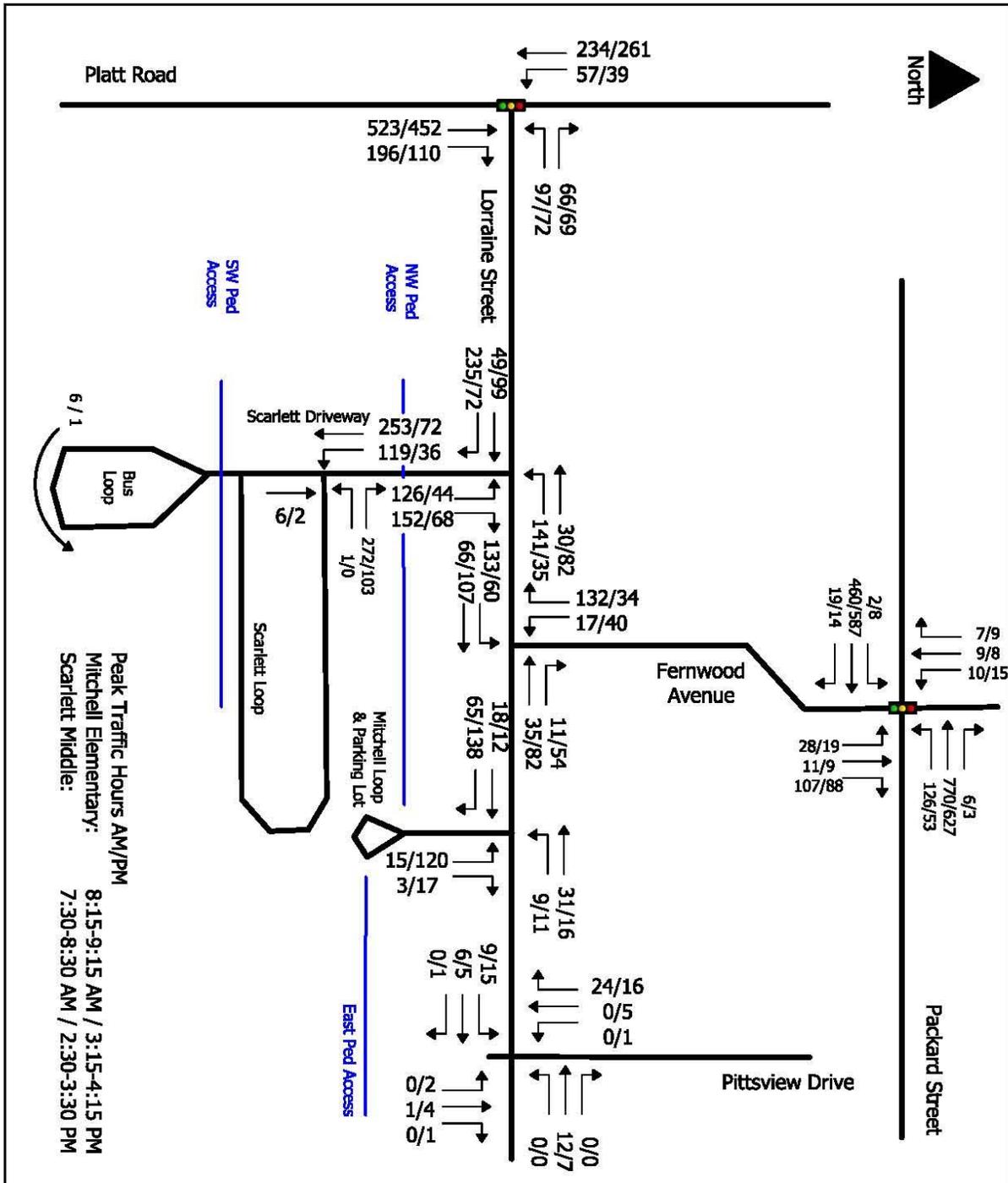
Findings:

The Scarlett Middle School's day currently begins at 8:15 AM and ends at 3:03 PM. Scarlett's peak traffic hours occur at 7:30-8:30 AM and 2:30-3:30 PM.

Mitchell Elementary School's day currently begins at 8:45 AM and ends at 3:48 PM. Mitchell's peak traffic hours occur at 8:15-9:15 AM and 3:15-4:15 PM.

Figures 4.1 and 4.2 show the existing morning and afternoon peak hour vehicular traffic volumes for the area.

Figures 4.3 and 4.4 show the existing morning and afternoon peak hour pedestrian traffic volumes for the area.



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<b>Date:</b> 2022	<b>Alternative:</b> Existing AM Peak Hours Scarlett / Mitchell	
<b>Figure:</b> EX-AM Peaks		

Figure 4.1 – Existing Scarlett/Mitchell Morning Peak Hour Vehicular Volumes

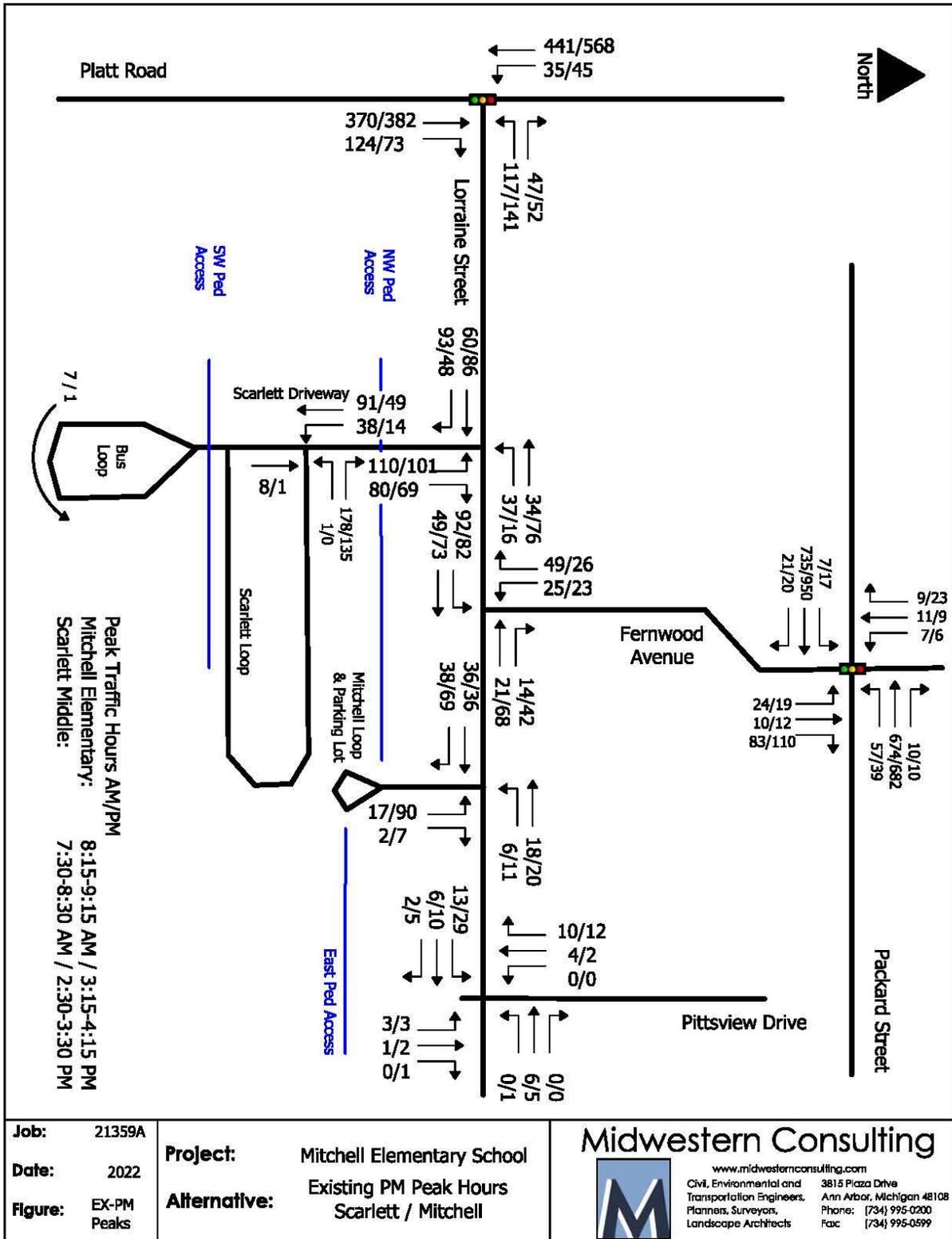
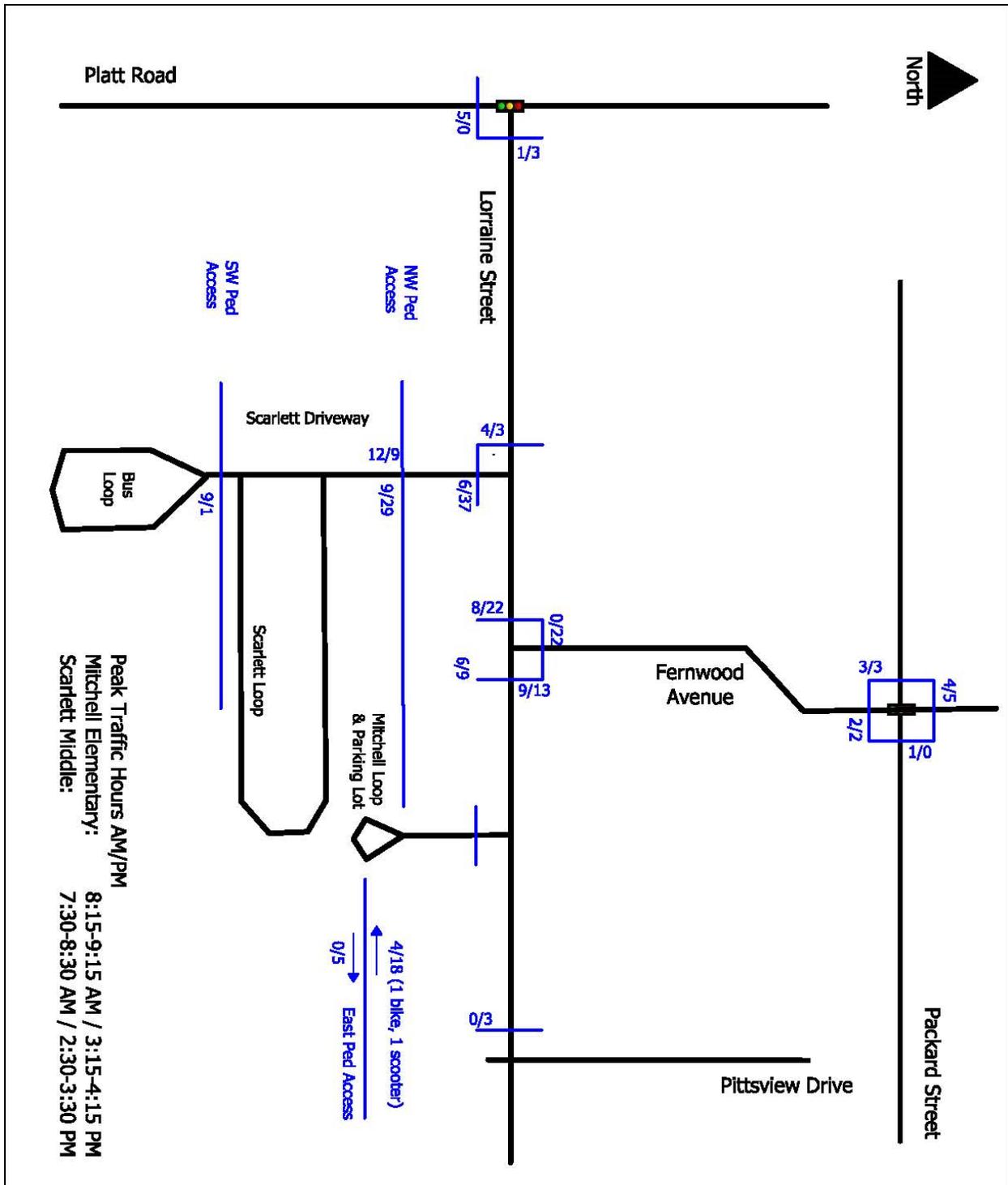


Figure 4.2 – Existing Scarlett/Mitchell Afternoon Peak Hour Vehicular Volumes



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<b>Date:</b> 2022	<b>Alternative:</b> Scarlett / Mitchell AM Peak Pedestrian Movements	
<b>Figure:</b> EX-AM Peds		

Figure 4.3 – Existing Scarlett/Mitchell Morning Peak Hour Pedestrian Volumes

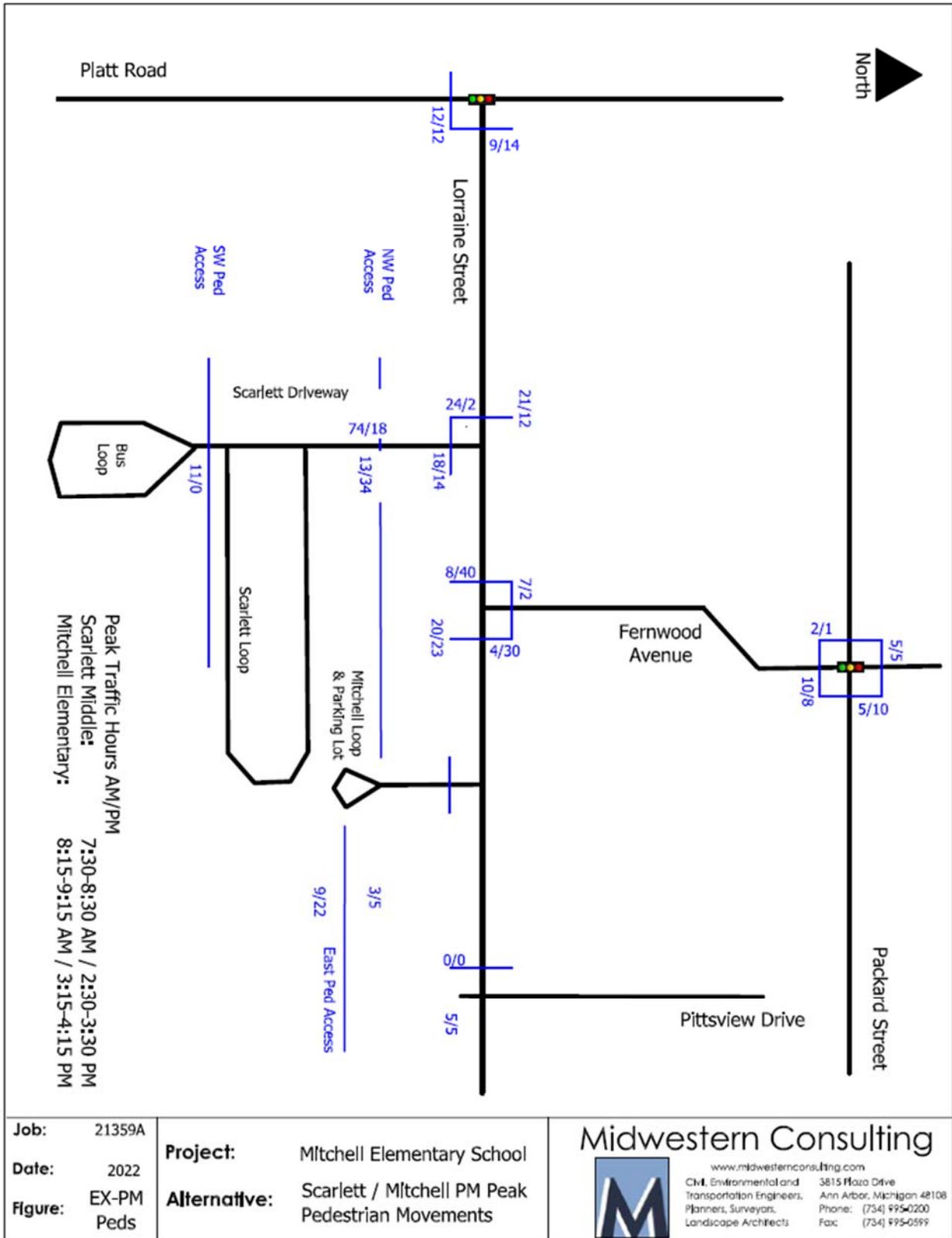


Figure 4.4 – Existing Scarlett/Mitchell Afternoon Peak Hour Pedestrian Volumes

## 4.2 Observations on Existing Traffic Conditions

The following general observations were made during the counting process and during the site visit:

### 4.2.1 - Lorraine Street & Platt Road (#1001)

The traffic signal at Lorraine & Platt allows roughly 5-8 vehicles per cycle to turn from Lorraine Street during peak times. Westbound traffic was steadily busy from 7:45-9:00 AM with the busiest 15 minute interval of 51 turns between 8:00-8:15 AM. During the afternoon peak hour westbound traffic ramps up at 3:00 PM and continues to about 4:15 PM. The busiest westbound 15 minute interval occurred between 3:15-3:30 PM with 80 westbound vehicles turning from Lorraine. There was more pedestrian activity in the afternoon.



Figure 4.3.1A – View of Lorraine Street & Platt Road – AM Peak



Figure 4.3.1B – View of Lorraine Street & Platt Road - PM Peak

#### 4.2.2 - Lorraine Street & Scarlett Driveway (#1002)

The intersection of Lorraine and Scarlett Driveway is stop-controlled for the northbound driveway approach. There is a pedestrian crosswalk on the eastbound leg of the intersection.

- Scarlett Middle School AM Peak
  - Northbound queues were typically around 4-6 vehicles waiting to turn onto Lorraine.
  - Westbound traffic backed up from about 7:58-8:01 AM on Lorraine and around the corner on Fernwood Avenue as left-turning vehicles were waiting for an opportunity to turn left into the driveway, approximately 20 vehicles turned toward the Scarlett Driveway in that 3 minute period.
  - Eastbound inbound traffic backed up a little around 8:06-8:08 AM as traffic was processing through the stop-controlled intersection of the NW pedestrian access and slowing down due to the drop-off queue. The maximum eastbound rolling queue was approximately 15-20 vehicles long.
  - 4 pedestrians crossed Lorraine Street, and 6 pedestrians traveled east/west past this intersection during the Scarlett AM peak hour.
- Mitchell Elementary School AM Peak
  - Eastbound queues backed up from the Mitchell Driveway past Fernwood Avenue and the Scarlett Driveway at around 8:40 AM for a couple of minutes, until the drop-offs begin at Mitchell and traffic starts moving at which point traffic clears out of the intersection and flows smoothly again.
  - 3 pedestrians crossed Lorraine Street, and 37 pedestrians traveled east/west past this intersection.



Figure 4.3.2A – View of Lorraine Street & Scarlett Driveway - AM Peak

- **Scarlett Middle School PM Peak**
  - During the afternoon peak hour the Scarlett Middle School traffic fills into the driveway and queues back out onto Lorraine at approximately 2:52 PM and traffic doesn't move until about 3:08 PM.
  - About 15 vehicles drove past this driveway and 29 vehicles entered the driveway between 3:08 and 3:17 PM, the time when traffic is no longer waiting on Lorraine to enter the Scarlett Driveway. During the same time, 24 vehicles turned onto Lorraine from Platt Road. Therefore, the approximate queuing of School traffic on Lorraine was about 20 vehicles long during the Scarlett peak.
  - 24 pedestrians crossed Lorraine Street during the Scarlett PM peak hour, while 18 pedestrians were traveling east/west past this intersection.
- **Mitchell Elementary School PM Peak**
  - Queues from the Mitchell drop-off begin to back up past the Scarlett Driveway at 3:38 PM and remain until 3:51 PM when traffic starts moving. The queues no longer extend past the Scarlett Driveway at about 3:55 PM. The eastbound queue length was about 15 vehicles beyond the Scarlett Driveway during the Mitchell peak hour.
  - 2 pedestrians crossed Lorraine Street during the Mitchell PM peak hour, while 14 pedestrians were traveling east/west past this intersection.



Figure 4.3.2B – View of Lorraine Street & Scarlett Driveway - PM Peak

#### 4.2.3 – Lorraine Street & Fernwood Avenue (#1003)

- Scarlett Middle School AM Peak
  - 17 pedestrians crossed Lorraine Street during the Scarlett AM peak hour, while 6 pedestrians traveled east/west past this intersection.
  - During a short time period of 3 minutes from 7:58 to 8:00 AM, traffic backed up onto Fernwood Avenue as vehicles were waiting to turn into the Scarlett Driveway. Approximately 20 vehicle eventually turned into the Scarlett Driveway during that window of time.
- Mitchell Elementary School AM Peak
  - 35 pedestrians crossed Lorraine Street during the Mitchell AM peak hour, while 31 pedestrians were walking east/west along Lorraine Street past this intersection.
  - Only a few vehicles were queued up along Fernwood Avenue during the Mitchell School peak at around 8:40 AM when queues were extending past Fernwood Avenue which lasted for a few minutes.



Figure 4.3.3A – View of Lorraine Street & Fernwood Avenue - AM Peak

- Scarlett Middle School PM Peak
  - 12 pedestrians crossed Lorraine Street during the Scarlett PM peak hour, while 27 pedestrians traveled east/west past this intersection.
  - Southbound Fernwood Avenue vehicle queues were not particularly long during the PM peak hour with a few vehicles waiting around 3:08 PM to turn right towards the Scarlett Driveway.
- Mitchell Elementary School PM Peak
  - 70 pedestrians crossed Lorraine Street during the Mitchell PM peak hour, while 25 pedestrians traveled east/west past this intersection.
  - Southbound Fernwood Avenue queues were fairly short during the Mitchell PM peak hour, however some drivers trying to leave the area during this time were observed to pass vehicles that were waiting to turn left towards the Mitchell driveway which is not a safe maneuver.
  - Eastbound queues were present starting at 3:31PM and later dissipated after 3:55pm.



Figure 4.3.3B – View of Lorraine Street & Fernwood Avenue - PM Peak

#### 4.2.4 – Lorraine Street & Mitchell Driveway (#1004)

- Scarlett Middle School AM Peak
  - The traffic didn't appear to back up too much around the Mitchell Driveway during the Scarlett AM Peak Hour.
- Mitchell Elementary School AM Peak
  - Traffic began to queue up from the Mitchell drop-off onto Lorraine Street starting around 8:31 AM and didn't start moving until 8:41 AM. Eastbound queues along Lorraine Street lasted until about 8:45 AM.
  - A vast majority of traffic entered the Mitchell Driveway from the west, and all queuing occurred on the western side of the driveway.
  - A few people dropped off on the eastern side of the driveway on Lorraine Street and it appeared some people used the short Pittsview stub street to park/drop-off.



Figure 4.3.4A – View of Lorraine Street & Mitchell - AM Peak

- Scarlett Middle School PM Peak
  - Vehicles waiting in the pick-up lane were spilling out onto Lorraine Street by approximately 3:23 PM, still within Scarlett Peak Hour.
- Mitchell Elementary School PM Peak
  - Traffic in the pick-up lane begins moving at about 3:49 PM. By that time, vehicles are parked on either side of Lorraine Street east of the driveway.
  - Eastbound queues on Lorraine are gone by 4:00 PM and most traffic has left the area by 4:05 PM.



Figure 4.3.4B – View of Lorraine Street & Mitchell - PM Peak

#### 4.2.5 – Packard Street & Fernwood Avenue (#1006)

- Traffic did not appear to back up significantly during either Scarlett or Mitchell morning or afternoon peak hours, with typical queues on the northbound approach were about 4-5 vehicles long, with one signal cycle having a northbound queue of about 10 vehicles long at about 8:05 AM.
- The longest queue during the afterschool peak occurred at about 3:25 PM and was about 8 vehicles. Otherwise northbound vehicles queues were about 3-5 vehicles long per signal cycle.



Figure 4.3.5A – View of Packard Street & Fernwood Avenue - AM Peak



Figure 4.3.5B – View of Packard Street & Fernwood Avenue - PM Peak

#### 4.2.6 – Scarlett Driveway & NW Pedestrian Access (#1007)

- Scarlett Middle School – AM Peak Hour
  - Traffic passing through the NW Pedestrian Access starts to pick up at about 7:51 AM and is consistently busy until about 8:15 AM at which point inbound traffic starts to tail off. Vehicles are commonly queued to Lorraine Street as they process through the stop-controlled crossing.
- Scarlett Middle School – PM Peak Hour
  - The queue for vehicles waiting to pick-up students at the end of the school day passes the NW Pedestrian Crossing at about 2:45 PM, and extends out to Lorraine Street by 2:47 PM. Outbound queues extended past this intersection from about 3:11 PM until about 3:23 PM.
- Pedestrian Crossings
  - There were 9 pedestrians crossing here during the Scarlett AM peak hour, and 29 pedestrians crossing the driveway during the Mitchell AM Peak hour.
  - During the afternoon peak hours, there were 13 crossings during the Scarlett peak hour and 34 crossings during the Mitchell peak hour.
- A crossing guard was present here from 8:30 AM to about 8:50 AM, but was not present after school.
- Some parents were observed to park along the northbound side of the driveway to pick up students during the Mitchell peak hour.



**Figure 4.3.6A – Scarlett Driveway and NW Pedestrian Access – Scarlett AM Peak**



**Figure 4.3.6B – Scarlett Driveway and NW Pedestrian Access – Scarlett PM Peak**

#### 4.2.7 – Scarlett Driveway & Parking Lot Exit (#1008)

- Scarlett Middle School AM Peak
  - Drop-off traffic queues past this intersection from about 8:00 AM to 8:19 AM.
  - Limited pedestrian activity west of the intersection.
- Scarlett Middle School PM Peak
  - Vehicles begin to queue past this intersection by 2:35 PM until about 3:19 PM.
  - Significant pedestrian activity from 3:04-3:15 PM.



Figure 4.3.7A – Scarlett Driveway and Parking Lot / Drop-off Exit – Scarlett AM Peak



Figure 4.3.7B – Scarlett Driveway and Parking Lot / Drop-off Exit – Scarlett PM Peak

#### 4.2.8 – Scarlett Drop-off Lane (#1009)

- Scarlett Middle School AM Peak
  - Drop-off traffic queues extend past this intersection from about 7:56 AM to 8:22 AM.
  - The drop-off lane serviced 122 vehicles in a 20 minute period from 7:55 to 8:15 AM or an average of about 1 vehicle every 9.8 seconds.
- Scarlett Middle School PM Peak
  - Vehicles begin to queue past this intersection by 2:29 PM.
  - Traffic begins to move after about 3:07.
  - 93 pedestrians used the crosswalk shown in the figure in the peak 15 minute window of 3:00-3:15 PM with another 16 pedestrians from 3:15-3:30 PM.
  - From 3:07 to 3:20, there were 73 vehicles entering the drop-off lane, or about 1 vehicle every 10.7 seconds. Not all pickups are completed within the short section as many vehicles bypassed the curb lane and continued through the loop.
  - Vehicle queues in the drop-off lane are very short after 3:21 PM.



Figure 4.3.8A – Scarlett Driveway and Drop-off – Scarlett AM Peak



Figure 4.3.8B – Scarlett Driveway and Drop-off – Scarlett PM Peak

#### 4.2.9 – Scarlett Bus Loop (#1010)

- Scarlett Middle School AM Peak
  - There were 6 buses that passed through this loop during the morning peak hour.
  - 9 pedestrians crossed at the crosswalk at this location during the morning peak hour.
- Scarlett Middle School PM Peak
  - There were 7 buses that passed through this loop in the peak hour at the end of the school day.
  - 11 pedestrians crossed at the crosswalk at this location at the end of the school day.



Figure 4.3.9A – Scarlett Bus Loop – Scarlett AM Peak



Figure 4.3.9B – Scarlett Bus Loop – Scarlett PM Peak

#### 4.2.10 – Mitchell Drop-Off Loop (#1010)

- Mitchell Elementary School AM Peak
  - During the morning peak hour vehicles quickly accumulate beginning around 8:30 AM along the drop off loop and remain standing until about 8:40 AM when traffic begins to flow around the loop.
  - The vehicle backup along Lorraine Street reached beyond the Scarlett driveway, a distance of over 961 feet or roughly 38 vehicles long.
  - The queue dissipated fairly quickly dropping to within the boundary of the Mitchell driveway by about 8:47 AM.
  - Once traffic starting moving, the drop-off loop was able to service 66 vehicles in a 10-minute window from 8:42 to 8:52 or rate of 6.6 vehicles per minute.
- Mitchell Elementary School PM Peak
  - Vehicles begin to queue up along the loop and out to Lorraine Street by 3:21 PM.
  - Vehicles begin to depart at about 3:49 PM.
  - The pick-up queues extend beyond the Scarlett Driveway until about 3:56 PM.

The existing Mitchell Drop-Off Loop is shown in the figure below.



Figure 4.3.10 – Mitchell Drop-Off Loop

## **5.0 Existing School Traffic Distribution**

### **Scarlett AM Peak Traffic Distribution**

Based on the existing traffic volumes recorded in the area during Scarlett's AM peak hour of traffic, approximately 63% of Scarlett traffic enters the driveway from the west along Lorraine Street, 30% enter the driveway from Fernwood Avenue and the remaining 7% comes in through the Pittsview intersection.

Approximately 45% of Scarlett's morning traffic departs back to the west along Lorraine, while 55% turn right. Most drivers immediately turn left (48%) and use Fernwood Avenue to leave the area, although some (7%) continue to Pittsview or also stop at the Mitchell Drop-off.

### **Scarlett PM Peak Traffic Distribution**

71% of Scarlett's traffic enters the campus from the west, while 20% use Fernwood Avenue and the remaining 9% passes through the Pittsview intersection.

58% of Scarlett's traffic departs the area to the west, while 27% use Fernwood Avenue and the remaining 15% passes through the Pittsview intersection or stops at the Mitchell Drop-off.

### **Mitchell AM Peak Traffic Distribution**

Approximately 93% of Scarlett traffic enters the driveway from the west along Lorraine Street, with approximately 27% coming from Fernwood Avenue and 66% comes from Lorraine Street. The remaining 7% comes in through the Pittsview intersection.

Approximately 12% of Scarlett's morning traffic departs to the east through the Pittsview intersection, 35% depart to Fernwood Avenue, and the remaining 53% departs to westbound Lorraine Street.

### **Mitchell PM Peak Traffic Distribution**

Approximately 14% of Mitchell traffic enters the driveway from the east through the Pittsview intersection, 21% enters the area from Fernwood Avenue, while the remaining 65% comes from Lorraine Street.

Approximately 7% of Mitchell traffic departs to the east, while 35% departs to Fernwood Avenue and the remaining 58% departs to the west along Lorraine Street.

## 6.0 Capacity Analysis

### 6.1 Methodology and Analysis Tools

Capacity analysis for this traffic study utilizes the Synchro/SimTraffic (Version 11) program to create a traffic model of the existing and forecast traffic scenarios. Synchro provides the **Highway Capacity Manual's** (HCM) level of service for each study intersection, while the SimTraffic model provides an alternative and sometimes more realistic analysis of traffic conditions and impacts where queuing at intersections may impact other driveways, or delays for other turning movements at the same or other nearby intersections.

#### Synchro - HCM Level-of-service (LOS)

The Highway Capacity Manual assigns the following level-of-service grades to the ranges of control delay in seconds for unsignalized and signalized intersections. Generally LOS D is considered the limit of acceptable delay.

Table 8.1 – Highway Capacity Manual  
Level of Service Delay Ranges and Grades

Unsignalized Level-of-service Grades						
Delay (sec.)	0-10	10-15	15-25	25-35	35-50	50+
LOS	A	B	C	D	E	F

Signalized Level-of-service Grades						
Delay (sec.)	0-10	10-20	20-35	35-55	55-80	80+
LOS	A	B	C	D	E	F

The Scarlett peak hour currently occurs between 7:30-8:30 AM, while the Mitchell peak hour occurs between 8:15-9:15 AM. The after-school peak hours currently occurs between 2:30-3:30 PM for Scarlett and 3:15-4:15 PM for Mitchell.

When the Flex School is operational, Scarlett will shift its start time earlier, so the before-school peak hour will move to 7:15 AM-8:15AM, the Flex School's peak is assumed to occur at 7:45-8:45 AM, while Mitchell's new peak hour is expected to occur from 8:30-9:30 AM.

The after-school peak hours are assumed to occur at 2:15-3:15 PM for Scarlett, 2:45-3:45 for the Flex School, and 3:30-4:30 PM for Mitchell.

This analysis assumes that the school population at Mitchell is expected to increase from 467 to 630 students, while the Flex School's population will be around 600, but with the vast majority of its students being bussed to/from the campus rather than encouraging parents to drive to the school.

## 6.2 Platt Road/Lorraine Street and Packard Street/Fernwood Avenue

The average intersection delay and LOS for the Platt Road / Lorraine Street and Fernwood Ave / Packard Street intersections are summarized in Table 6.2.1 for the existing conditions.

Table 6.2.1 – Average Intersection Delay – Existing Peak Hours

Existing Conditions	Platt Road & Lorraine Street	Packard Street & Fernwood Avenue
Morning Peak Hour		
Scarlett AM Peak	LOS B (13.2 Sec)	LOS B (10.3 Sec)
Mitchell AM Peak	LOS B (11.2 Sec)	LOS A (8.2 Sec)
Afternoon Peak Hour		
Scarlett PM Peak	LOS B (14.8 Sec)	LOS A (9.9 Sec)
Mitchell PM Peak	LOS B (14.8 Sec)	LOS B (10.2 Sec)

Once the Flex school is in operation, the start/departure times for Scarlett are shifted forward, Mitchell is shifted later, and the Flex school will operate in between. For this analysis, we have assumed that the staff for the Flex school will drive to the school, and all students are assumed to be bused in.

Table 6.2.2 summarizes the average intersection level of service and delay at the two major intersections for the Flex Conditions.

Table 6.2.2 – Average Intersection Delay – Forecast with Flex School

Flex Conditions	Platt Road & Lorraine Street	Packard Street & Fernwood Avenue
Morning Peak Hour		
Scarlett AM Peak	LOS B (13.1 Sec)	LOS B (10.6 Sec)
Flex AM Peak	LOS B (12.5 Sec)	LOS A (9.4 Sec)
Mitchell AM Peak	LOS B (10.9 Sec)	LOS A (8.2 Sec)
Afternoon Peak Hour		
Scarlett PM Peak	LOS B (14.1 Sec)	LOS A (9.6 Sec)
Flex PM Peak	LOS B (19.7 Sec)	LOS B (14.2 Sec)
Mitchell PM Peak	LOS B (14.2 Sec)	LOS B (11.3 Sec)

The major takeaways from this analysis is that the Flex School traffic should not significantly impact traffic entering and exiting the neighborhood. There will be some small increases in average delay with the Flex School, however both of the major intersections are still expected to operate within acceptable levels. And, once the Flex School is no longer in operation and removed, the average delays will decrease again by small amount as those Flex School employees and buses will no longer be in this area. All of the HCM summary pages which provide additional details on the various turning movements for each traffic scenario are included in the Appendix.

### **6.3 Lorraine at the School Driveways and Fernwood**

During the existing morning school peaks, drop-off traffic queues up in the drop-off lane and builds up over time, spilling back out onto Lorraine and Fernwood. The queue dissipates fairly quickly after the school has opened their doors and traffic proceeds through the drop-off area. However, the backup impacts the ability of school traffic to proceed through the intersections of Lorraine with the two school driveways and Fernwood. During the afterschool peaks, there is less overall traffic but more parents arrive early and wait in the drop-off lanes and so the queues end up spilling back onto Lorraine similarly to the queues during the morning peak hour.

It is important to note that the capacity analysis and traffic model cannot accurately take into account the extra congestion brought on by vehicles standing in the intersection when queues from the Scarlett and Mitchell existing drop-off loops back out onto Lorraine during both peak hours. From the various scenarios that were analyzed throughout the evolution of this traffic study, it became apparent that leaving the Mitchell / Flex School drop-off lane in roughly the same configuration as existing conditions would not achieve the goals of the AAPS district to improve operations at this campus. Such configurations would lead to additional congestion and queuing out onto Lorraine and Fernwood as the Mitchell student population grew to capacity in the future.

Because a significant portion of site traffic comes from and leaves to Fernwood Avenue, a plan was developed (Test Fit E) to align the Scarlett and Fernwood intersections, and to bring in all campus traffic into this driveway. The Scarlett traffic and all of the school buses would exit as it does today through this intersection, but the Mitchell and any Flex School traffic would depart the campus via the existing Mitchell driveway, essentially creating a one-way traffic loop for the new Mitchell building. The proposed plan would provide approximately 1200' of storage space for Mitchell traffic to queue within the Campus, an additional 675' over the existing 525' of storage space at the existing Mitchell drop off loop. Assuming 1 vehicle per 20', the 1200' loop can provide storage for around 60 vehicles before school traffic would begin spilling out onto Lorraine.

Existing Mitchell queue lengths were found to be around 50 vehicles long with a good portion of that queue spilling out onto Lorraine and back west beyond the Scarlett Driveway and Fernwood. Based on the arrival and departure patterns of Mitchell traffic, the future growth of the school population would likely result in an additional 20 vehicles in the drop-off/pick up queues. The Test Fit E plan accommodates most of that queue internally which will help minimize the School's impact on the neighborhood.

While the traffic model cannot perfectly match the congested conditions when school begins and ends at the campus, it can provide an average delay based on the traffic control and traffic volumes at each intersection and then again at the re-aligned intersection. The vehicular benefits of a 4-Way stop control over a 2-Way stop control are greater when there is more traffic departing from the side streets, such as the Scarlett Driveway and the Fernwood Avenue approaches. When there is less the traffic on the side streets, the vehicular benefits decrease.

The following table shows a simplified comparison that summed together the HCM calculated average delays at the two separate intersections of Lorraine Street with the Scarlett Driveway and with Fernwood Avenue. This sum is compared then to the intersection assuming they have been realigned as shown in the Test Fit E plan. According to a HCM based analysis, aligning the intersection of Fernwood with the Scarlett Driveway and controlling it with a 4-Way stop control provides a ~30% improvement over existing conditions during the school peak hours and would help mitigate the extremely long delays predicted for the northbound Scarlett and southbound Fernwood approaches during the Scarlet AM peak hour.

Table 6.3.1 – HCM Comparison – Existing Conditions vs. 2-Way vs. 4-Way Stop Control

	Existing Conditions (Two Separate Intersections)			Forecast Conditions (Aligned Intersection)	
	Scarlett Driveway	Fernwood	Simple Sum	Aligned 2-Way Stop	Aligned 4-Way Stop
Scarlett AM	24.6	6.8	31.4	85.2	19.3
Mitchell AM	6.5	3.5	10	5.9	11.4
<i>Average</i>	<i>15.55</i>	<i>5.15</i>	<i>20.7</i>	<i>45.55</i>	<i>15.35</i>
Scarlett PM	11.0	5.6	16.6	12.5	10.6
Mitchel PM	10.7	3.8	14.5	8.5	13.6
<i>Average</i>	<i>10.85</i>	<i>4.7</i>	<i>15.55</i>	<i>10.5</i>	<i>12.1</i>

According to a SimTraffic based analysis, which does not predict as much delay for the stop-controlled approaches at a 2-Way stop intersection, aligning the intersection of Fernwood with the Scarlett Driveway and controlling it with a 4-Way stop control benefits vehicular traffic more during the morning Scarlett Peak hour, while 2-Way stop control is more beneficial for vehicles during off peak and Mitchell start times.

Table 6.3.2 – SimTraffic Comparison – Existing Conditions vs. 2-Way vs. 4-Way Stop Control

	Existing Conditions (Two Separate Intersections)			Forecast Conditions (Aligned Intersection)	
	Scarlett Driveway	Fernwood	Simple Sum	Aligned 2-Way Stop	Aligned 4-Way Stop
Scarlett AM	8.9	3	11.9	12.3	8.4
Mitchell AM	3.4	2.3	5.7	4	7.1
<i>Average</i>	<i>6.15</i>	<i>2.65</i>	<i>8.8</i>	<i>8.15</i>	<i>7.75</i>
Scarlett PM	6.1	1.8	7.9	4.3	6.2
Mitchel PM	5.7	2.7	8.4	4.9	10.6
<i>Average</i>	<i>5.9</i>	<i>2.25</i>	<i>8.15</i>	<i>4.6</i>	<i>8.4</i>

From a pedestrian safety perspective, the realignment will eliminate the weaving from the Scarlett Driveway to Fernwood Avenue which increases the complexity of the driver's decision making and also reduces the number of pedestrian crossings from 5 to 4 approaches in this area.

All pedestrians will still need to exercise caution when traveling through this busy intersection. A four-way stop controlled intersection does not necessarily provide additional safety for pedestrians, as it might create a false sense of security for crossing pedestrians if someone were to disregard the stop sign.

However, a four way stop is generally easier to cross as all drivers that pass through this intersection would be required to stop rather than having to decide to stop for a pedestrian in the crosswalk, particularly students that may dart into the intersection. The City of Ann Arbor has expressed interest in continuing to utilize the raised intersection as a tool to help improve visibility and calm traffic through the realigned intersection.

A four-way stop warrant analysis based on the requirements set forth in the MMUTCD is included in the Appendix. The traffic volume requirements for the 4-Way Stop are not met, however there is room in the warrant for City officials to use engineering judgment to approve 4-way stop control in this location based on the "need to control vehicular/pedestrian conflicts near locations that generate high pedestrian volumes" per the warrant's options.

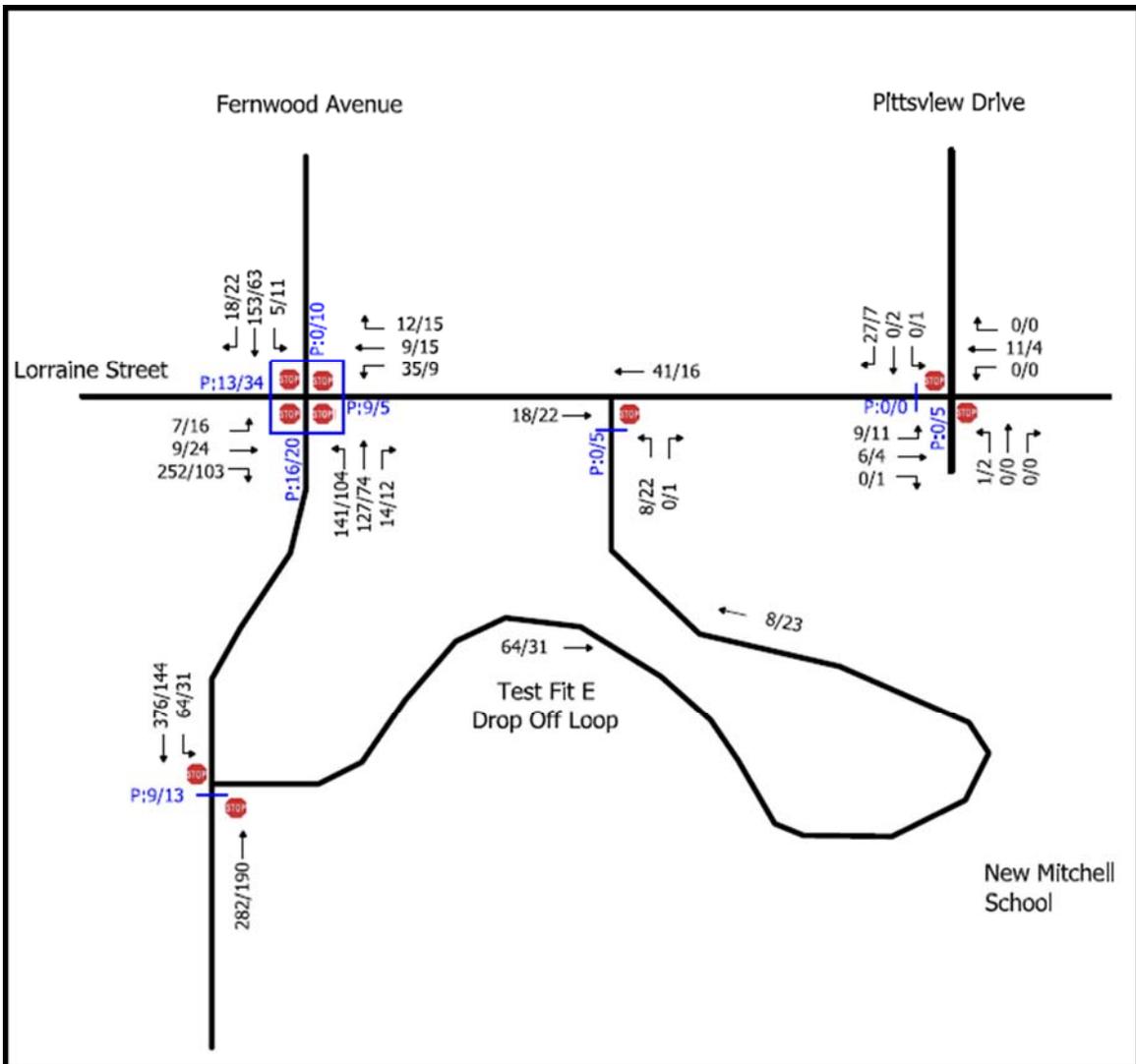


Figure 6.3.3 – Scarlett Before/After School Peak Hour Volumes

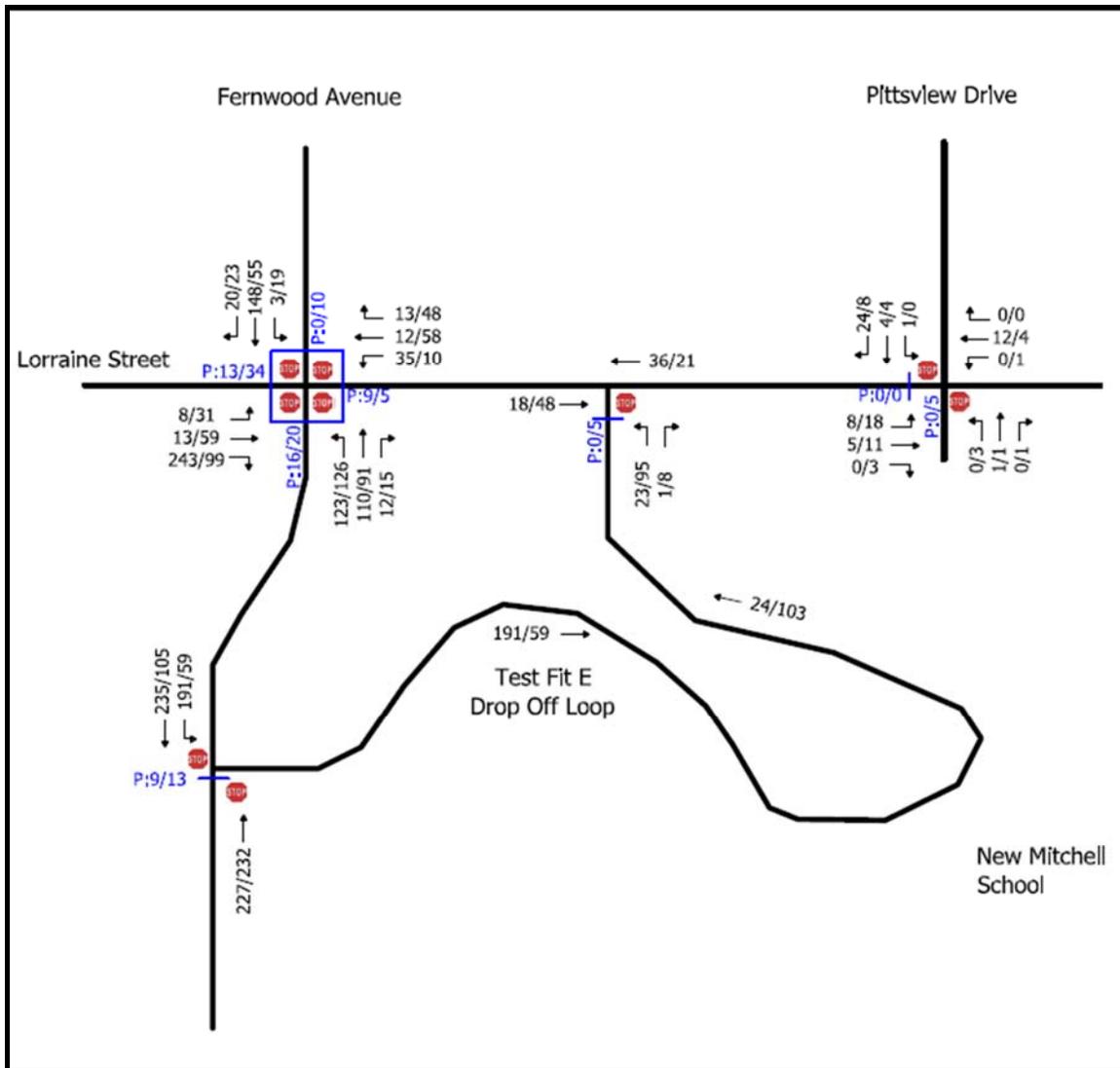


Figure 6.3.4 – Flex Before/After School Peak Hour Volumes

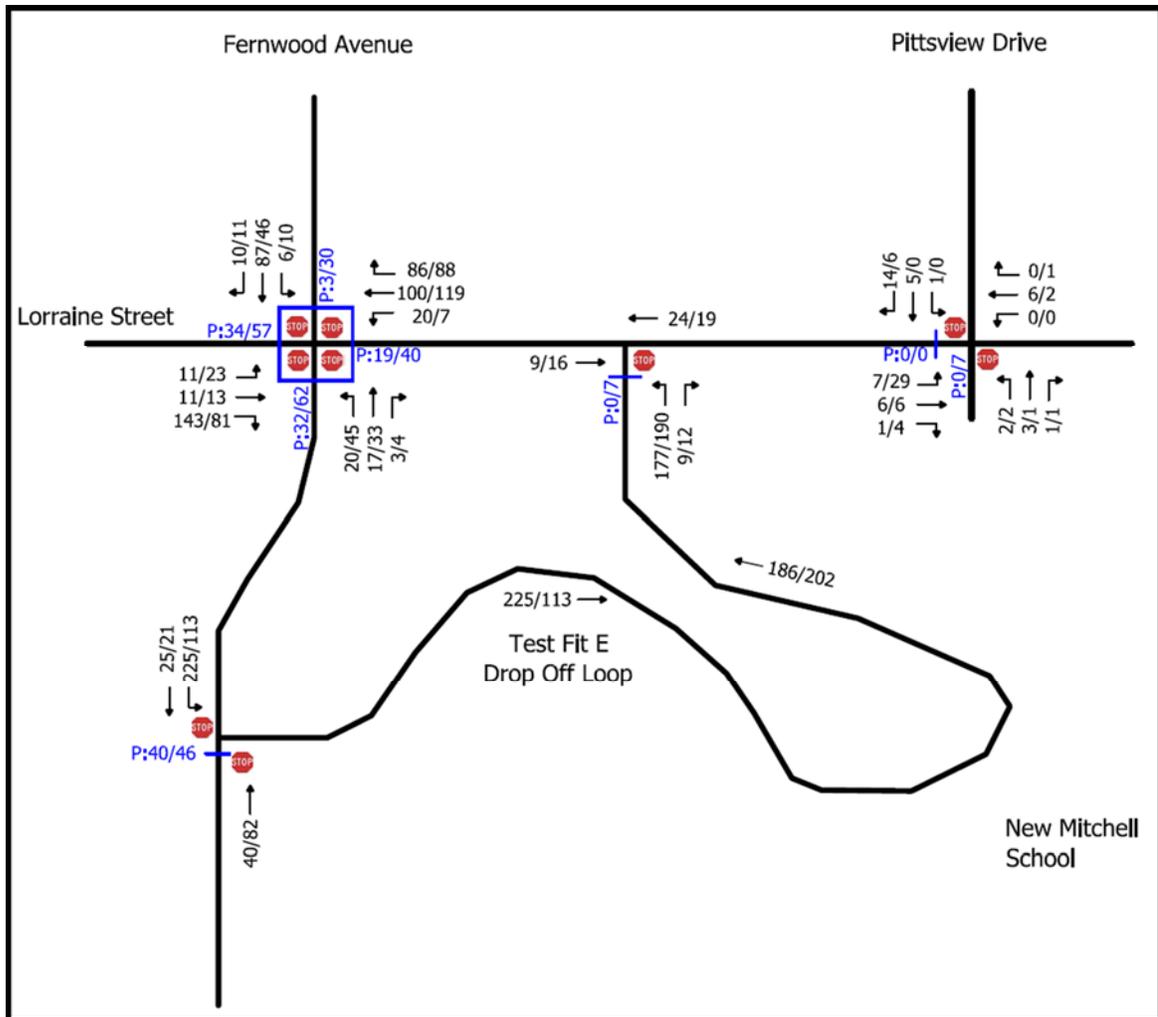


Figure 6.3.5 – Mitchell Before/After School Peak Hour Volumes

#### 6.4 Lorraine Street and Pittsview Drive

The average intersection delay and LOS for the Lorraine Street and Pittsview Drive two-way stop controlled intersection is summarized in Table 6.4.1 for the existing conditions and Table 6.4.2 for the forecast conditions. Most school related traffic does not currently nor is expected to pass through this intersection. As the tables show, the temporary school is not expected to impact the traffic conditions at this intersection, and all movements operate at a LOS A. The HCM capacity summary pages can be found in the Appendix.

Table 6.4.1 – Average Intersection Delay – Existing Peak Hours

Existing Conditions	Lorraine Street & Pittsview
Scarlett AM Peak	LOS A (5.5 Sec.)
Mitchell AM Peak	LOS A (6.1 Sec.)
Scarlett PM Peak	LOS A (6.0 Sec.)
Mitchell PM Peak	LOS A (5.9 Sec.)

Table 6.4.2 – Average Intersection Delay – Forecast Peak Hours – Test Fit E

Forecast Conditions	Lorraine Street & Pittsview
Scarlett AM Peak	LOS A (5.7 Sec.)
Temp AM Peak	LOS A (5.9 Sec.)
Mitchell AM Peak	LOS A (5.8 Sec.)
Scarlett PM Peak	LOS A (6.1 Sec.)
Temp PM Peak	LOS A (5.5 Sec.)
Mitchell PM Peak	LOS A (6.0 Sec.)

### **6.5 Existing Drop-off Statistics at Scarlett**

The Scarlett Drop-off area is roughly 280' between the parking lot crosswalk and the turn from the entry driveway. There is another 150' of Drop-off area beyond the parking lot crosswalk, but that area is less frequently used for Drop-off maneuvers. Based on observations at the Scarlett Drop-off Area from 7:45 to 8:00 AM, Drop-off movements typically took about an average of 23 seconds at uncongested times.

In the 20 minutes where Drop-off queues exceeded the length of the Drop-off lane, the Scarlett Drop-off area was able to process 122 vehicles in 1200 seconds or roughly 1 vehicle every 9.8 seconds, or 6.1 vehicles per minute.

### **6.6 Existing Mitchell Drop-off Loop Statistics**

During the morning peak hour vehicles were observed to be standing in the drop-off area until about 8:40 AM at which time vehicles began to circulate around the ~ 200' drop-off loop. For the next 10 minutes traffic in the drop-off loop is busy, but after that 10 minutes traffic arrives about half as frequently and there is no longer any significant queuing in the drop-off loop.

The Mitchell drop-off loop processed vehicles at an average rate of 6.6 vehicles per minute or about 1 vehicle per 9.1 seconds.

### 6.7 Pedestrian Changes – Existing Conditions to Test Fit E

The following describes the existing pedestrian experience and routes to Scarlett & Mitchell schools.

#### South Lorraine

Pedestrians that came from the south side of Lorraine either turned south at the Scarlett Driveway to either head towards the Scarlett Middle School or use the stop-controlled pedestrian crossing at the NW end of the campus to head towards Mitchell. A few pedestrians were observed to also cross Pittsview.

#### North Lorraine

Pedestrians that come from the north side of Lorraine Street must cross Lorraine to reach the campus. The closest crosswalks are located at the west leg of the Scarlett Driveway intersection, at either side of Fernwood Avenue (with a crossing at the north leg of Fernwood, or much further east at the west leg of Pittsview Drive. Most pedestrians chose to cross at either the Scarlett Driveway or at either side of Fernwood.

#### Fernwood Avenue

Pedestrian that come from the north along Fernwood generally crossed Lorraine at either side of the Fernwood.

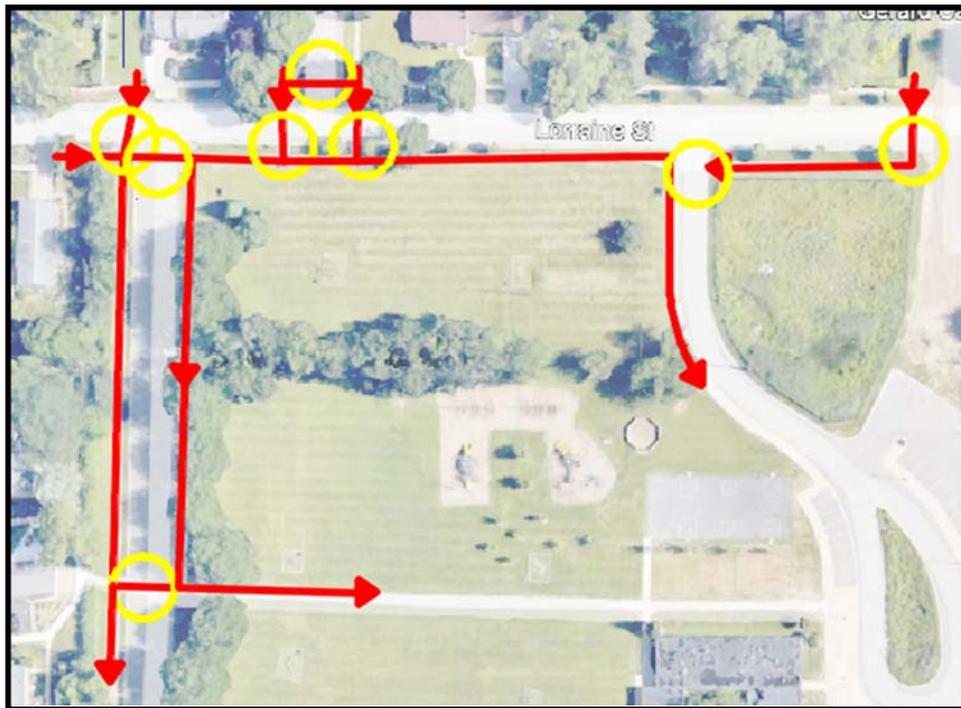


Figure 6.7.1 - Existing Pedestrian Conflict Points

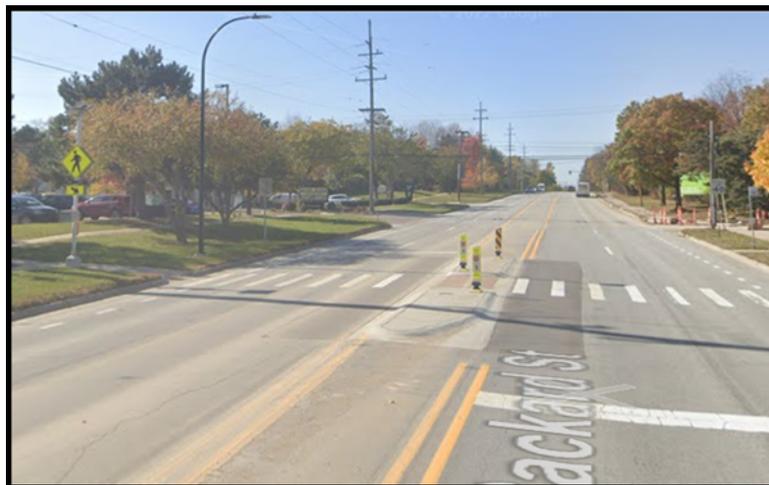
The Test Fit E plan consolidates the number of crossings at Scarlett Driveway/Fernwood intersection from 5 existing to 4 at the realigned intersection.

The proposed four-way stop control is expected to allow pedestrians more opportunities to cross the intersection, as all drivers will be required to stop at this location. The raised style intersection at the realigned intersection promotes better visibility for pedestrians in the crosswalk and helps to calm traffic along Lorrain Street and Fernwood Avenue.

The existing NW Ped access which is currently controlled by stop signs in conjunction with the yield to pedestrian signs in the center of the roadway, will need updating with the implementation of the Test Fit E plan. A left-turn lane is planned for the new southbound approach the Test Fit E loop, and so a median should be installed on the southern side of the intersection in order to create a pedestrian refuge island for pedestrians that cross in this location. Currently there are stop signs, but no painted stop bars for vehicles. As seen in Figure 6.7.2, at minimum the striping need to be refreshed. Other treatments could involve a raised pedestrian crosswalk to calm traffic.



**Figure 6.7.2 – Existing NW Pedestrian Crossing**



**Figure 6.7.3 – Sample Refuge Island**

In Test Fit E, there are three new pedestrian crossings of the one way loop. The drop off loop will see its greatest vehicular activity during the Mitchell peak hour as drop-off/pick-up traffic passes through the loop. During the Mitchell peak times, pedestrians from the west on Lorraine should consider using the updated NW pedestrian crossing as most Mitchell traffic turn into the drop-off loop. Pedestrian traffic along Fernwood could cross directly at Lorraine and then use either the NW Ped Crossing or the one-way loop crossing, however there is less exposure to vehicular traffic if pedestrians go further east and cross at Pittsview Drive, but only if a new pedestrian path is provide either in between the parking lot and the drop-off loop, or completely around the parking lot itself (safer, but less direct). The Pittsview Drive crossing will also need to be updated with ladder style pavement markings, updated ramps, and a raised crosswalk if desired to help calm traffic. While we can expect some traffic to be exiting/entering the parking lot as students walk to/from school, the volume of those interactions is still less than crossing the drop-off loop.

Table 6.7.4 shows some extent of vehicular interaction with crossing pedestrians for some of the various paths to reach the entrance of the New Mitchell School based on the paths provided in Test Fit E. From a pure vehicular volume perspective, it makes more sense for pedestrians to use routes that include using the NW Ped crossing, or, if new sidewalk can feasibly be added to Test Fit E, travel east between the parking lot and the drop off loop or completely around the parking lot itself.

Table 6.7.4 - Vehicular traffic during Mitchell before and afterschool peak hours.

Pedestrian Origin	Route Used	Vehicular Crossings Needed			Total Vehicles Crossed
		1	2	3	
South Side of Lorraine West	Turn South and cross the Scarlett Driveway at NW Ped Access. Vehicles = 65 AM / 103 PM	65 AM 103 PM	-	-	65 AM 103 PM
North Side of Lorraine West Opt 1	Cross Lorraine on west side of Fernwood, then cross at NW Ped Access	293 AM 292 PM	65 AM 103 PM	-	358 AM 395 PM
North Side of Lorraine West Opt 2 (if sidewalk is added to Test Fit E)	Cross North Leg of Fernwood, cross Lorraine near Pittsview, cross Parking Lot	217 AM 211 PM	36 AM 52 PM	39 AM 89 PM	292 AM 352 PM
North Side of Lorraine West Opt 3	Cross Lorraine, cross Driveway, cross Loop	293 AM 292 PM	290 AM 216 Pm	225 AM 113 PM	808 AM 621 PM
West Fernwood (Opt 2)	Cross North Leg of Fernwood, cross Lorraine near Pittsview, cross Parking Lot	217 AM 211 PM	36 AM 52 PM	39 AM 89 PM	292 AM 352 PM
East Fernwood (Opt 1)	Cross Lorraine at Fernwood, cross drop off loop	226 AM 241 PM	225 AM 113 PM	-	451 AM 354 PM
East Fernwood (Opt 2)	Cross Lorraine near Pittsview	36 AM 52 PM	39 AM 89 PM	-	75 AM 141 AM

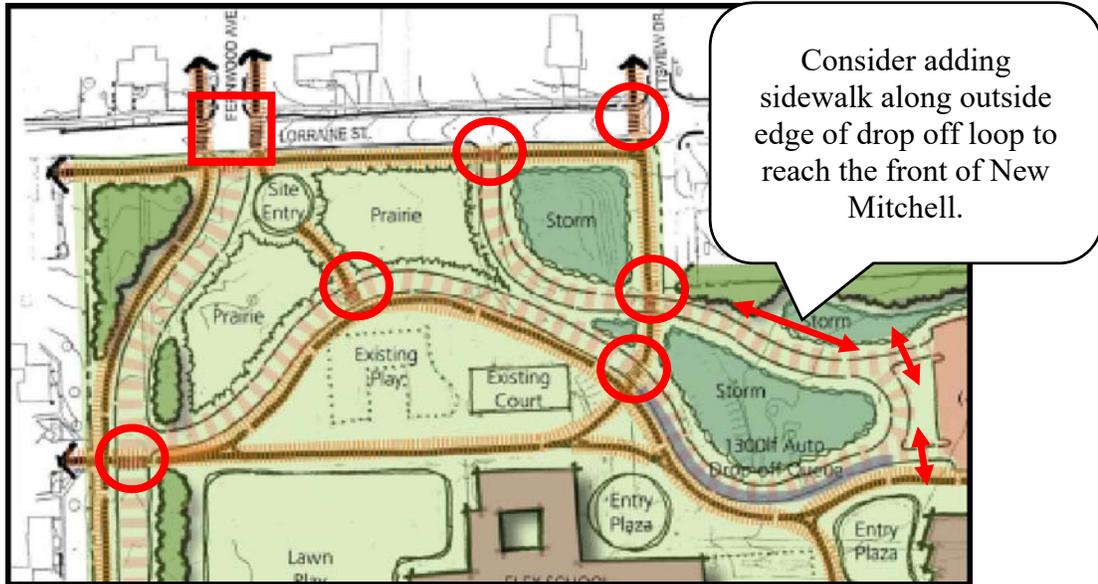


Figure 6.7.5 - Pedestrian Conflict Points – Test Fit E



Figure 6.7.8 Pedestrian Crossing at Pittsview

## 7.0 Crash Data

According to data found at the michigantrafficcrashfacts.org website data base there were only 11 crashes over the past 10 years along Lorraine Street from Platt Road to Pittsview Drive. A review of traffic crash reports indicated that of those 11 crashes, there were 6 that might have involved school related traffic the Scarlett/Mitchell campus in some way or another. The only (minor) injury crash involved a child bicyclist which occurred later in the day at ~6pm at the Lorraine/Platt Road intersection where a right-turning vehicle struck the crossing bicyclist.

The six non-injury crashes that might have been related in some way to school traffic are listed below.

- One angle crash at Fernwood occurred at 8:10 AM in the morning on a Thursday, where a driver pulled out into oncoming traffic. School traffic was not specifically mentioned in the report but may have been present at that date and time.
- One single vehicle crash involved the delivery of a mobile school unit when attempting to turn onto Lorraine Street.
- One single vehicle crash of a bus (type unspecified) turning onto Lorraine Street from Platt Road.
- One sideswipe crash where a driver passed someone and turned in front of a vehicle that had stopped to allow a left-turning school bus onto Lorraine Street.
- One rear end crash where a driver quickly stopped to avoid a crossing school child at Lorraine/Fernwood and was rear ended after school had let out (~4pm).
- One angle crash where westbound driver on Lorraine collided with a driver leaving their driveway at around 9:13 AM. The influence of School traffic was not mentioned in the report, but occurred near a time when school Drop-offs were ending.

10 Year Crash History along Lorraine Street from Platt Road to Pittsview

Crash Instance	Crash Type	Crash: Pedestrian	Crash: Bicyclist	Crash Year	Worst Injury in Crash
201294366	Single Motor Vehicle	No Pedestrian Involved	No Bicyclist Involved	2012	No Injury (O)
201482579	Angle	No Pedestrian Involved	No Bicyclist Involved	2014	No Injury (O)
201565557	Single Motor Vehicle	No Pedestrian Involved	No Bicyclist Involved	2015	No Injury (O)
2011280900	Rear-End	No Pedestrian Involved	No Bicyclist Involved	2011	No Injury (O)
2013127603	Other/Unknown	No Pedestrian Involved	No Bicyclist Involved	2013	No Injury (O)
2013219566	Other/Unknown	No Pedestrian Involved	Bicyclist Involved	2013	Possible Injury (C)
2016222155	Single Motor Vehicle	No Pedestrian Involved	No Bicyclist Involved	2016	No Injury (O)
2017129108	Single Motor Vehicle	No Pedestrian Involved	No Bicyclist Involved	2017	No Injury (O)
2018100997	Sideswipe - Same Direction	No Pedestrian Involved	No Bicyclist Involved	2018	No Injury (O)
2018302056	Rear-End	No Pedestrian Involved	No Bicyclist Involved	2018	No Injury (O)
2019277675	Angle	No Pedestrian Involved	No Bicyclist Involved	2019	No Injury (O)

## 8.0 Summary of Recommendations

The stated goal of the AAPS is to minimize the impact of the Flex School and once the Flex School is no longer needed restore conditions to better than existing levels.

This study recommends the following:

- No improvements are necessary at either the Lorraine/Platt, Fernwood/Packard, or Lorraine/Pittsview intersections with respect to vehicular traffic as those intersections are expected to operate within acceptable levels for all scenarios.
- Align the Scarlett Driveway and Fernwood intersection to simplify traffic flow between these two intersections and consolidate the two pedestrian crossings west of Fernwood down to one crossing.
  - Control intersection with a four-way stop to improve delays during Scarlett peak times and provide better opportunities for pedestrians to cross Lorraine Street. The benefit of the four-way stop control to average vehicular delays is generally limited to the Scarlett peaks, however the traffic control still provides an acceptable level of service at all other times of the day.
  - Intersection should be designed as a raised intersection.
- The Test Fit E plan, which creates the long drop off loop for the new Mitchell school, is expected to provide significantly more on site storage of drop off traffic which will help reduce its impact on the adjacent neighborhood. Queues lengths may still exceed the provided storage and so bus traffic will need to arrive prior to the drop off loop filling up with vehicles.
- The NW pedestrian crossing, just south of the new drop off loop, needs updating. At a minimum the pavement striping needs refreshing. Since the Test Fit Plan E will introduce a left-turn lane to enter the drop off loop, a pedestrian refuge island should be constructed at this crossing. Other treatments could include stop bars for vehicular traffic, and a raised crosswalk to calm traffic and increase pedestrian visibility.
- A pedestrian route should be considered for the eastern side of the new drop off loop that either passes across the parking lot entrance/egress points or completely around the parking lot. This would allow pedestrians on the northern side of Lorraine to cross near Pittsview and reach the Mitchell entrance with fewer pedestrian/vehicular interactions.
- Pittsview crossing should be updated with high-visibility pavement markings and a raised crosswalk to calm traffic if desired, particularly if the eastern route sees more pedestrian traffic once the new school is constructed.
- While we understand that there is a trend in reduced bussing demand, increasing bussing to the schools would significantly reduce the need to parent drop off traffic to be present on campus which would improve traffic capacity, storage of vehicles, and safety.
- A pre-school morning early admission program, if feasible, could help reduce the amount of traffic that needlessly waits along the Mitchell drop off lane during the morning peak hour.

# Appendix

# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Platt  
Weather:

File Name : TMC\_Lorraine & Platt\_Mar-09-2022  
Site Code : 1001  
Start Date : 3/9/2022  
Page No : 1

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	None Eastbound				Lorraine Street Westbound				Platt Northbound				Platt Southbound				Int. Total	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	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	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	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	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	0	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	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	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	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM	0	0	0	0	0	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	0	0	0	0	0
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	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	0	0	0	0	0
06:00 AM	0	0	0	0	3	0	2	0	0	32	2	0	0	11	0	0	0	50
06:15 AM	0	0	0	0	0	0	0	0	0	44	1	0	0	12	0	0	0	57
06:30 AM	0	0	0	0	2	0	2	0	0	73	2	0	1	14	0	0	0	94
06:45 AM	0	0	0	0	0	0	1	0	0	59	6	0	3	26	0	0	0	95
Total	0	0	0	0	5	0	5	0	0	208	11	0	4	63	0	0	0	296
07:00 AM	0	0	0	0	9	0	2	0	0	64	2	0	1	31	0	0	0	109
07:15 AM	0	0	0	0	5	0	1	0	0	86	12	0	1	33	0	0	0	138
07:30 AM	0	0	0	0	10	0	11	0	0	148	24	2	10	41	0	0	0	246
07:45 AM	0	0	0	0	30	0	14	1	0	156	60	3	15	66	0	0	0	345
Total	0	0	0	0	54	0	28	1	0	454	98	5	27	171	0	0	0	838
08:00 AM	0	0	0	0	40	0	11	0	0	117	66	0	17	68	0	0	0	319
08:15 AM	0	0	0	0	17	0	30	1	0	102	46	0	15	59	0	0	0	270
08:30 AM	0	0	0	0	22	0	13	1	0	121	30	0	10	51	0	0	0	248
08:45 AM	0	0	0	0	25	0	19	0	0	124	23	0	12	73	0	0	0	276
Total	0	0	0	0	104	0	73	2	0	464	165	0	54	251	0	0	0	1113
09:00 AM	0	0	0	0	8	0	7	1	0	105	11	0	2	78	0	0	0	212
09:15 AM	0	0	0	0	4	0	6	1	0	89	6	0	6	60	0	0	0	172
09:30 AM	0	0	0	0	7	0	4	0	0	72	5	0	1	42	0	0	0	131
09:45 AM	0	0	0	0	7	0	0	0	0	91	6	0	3	68	0	0	0	175
Total	0	0	0	0	26	0	17	2	0	357	28	0	12	248	0	0	0	690



# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Platt  
Weather:

File Name : TMC\_Lorraine & Platt\_Mar-09-2022  
Site Code : 1001  
Start Date : 3/9/2022  
Page No : 3

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	None Eastbound				Lorraine Street Westbound				Platt Northbound				Platt Southbound				Int. Total	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	0	0	0	0	0	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	0	0	0	0	0
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	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	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	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	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	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	0	0	0	0	0
Grand Total	0	0	0	0	625	0	298	44	0	4534	659	34	255	4634	0	4	11087	
Apprch %	0	0	0	0	64.6	0	30.8	4.6	0	86.7	12.6	0.7	5.2	94.7	0	0.1		
Total %	0	0	0	0	5.6	0	2.7	0.4	0	40.9	5.9	0.3	2.3	41.8	0	0		
Cars & Peds	0	0	0	0	605	0	289	39	0	4414	643	32	244	4481	0	4	10751	
% Cars & Peds	0	0	0	0	96.8	0	97	88.6	0	97.4	97.6	94.1	95.7	96.7	0	100	97	
H.V. & Bikes	0	0	0	0	20	0	8	5	0	112	12	2	9	146	0	0	314	
% H.V. & Bikes	0	0	0	0	3.2	0	2.7	11.4	0	2.5	1.8	5.9	3.5	3.2	0	0	2.8	
Bikes on Street	0	0	0	0	0	0	1	0	0	8	4	0	2	7	0	0	22	
% Bikes on Street	0	0	0	0	0	0	0.3	0	0	0.2	0.6	0	0.8	0.2	0	0	0.2	

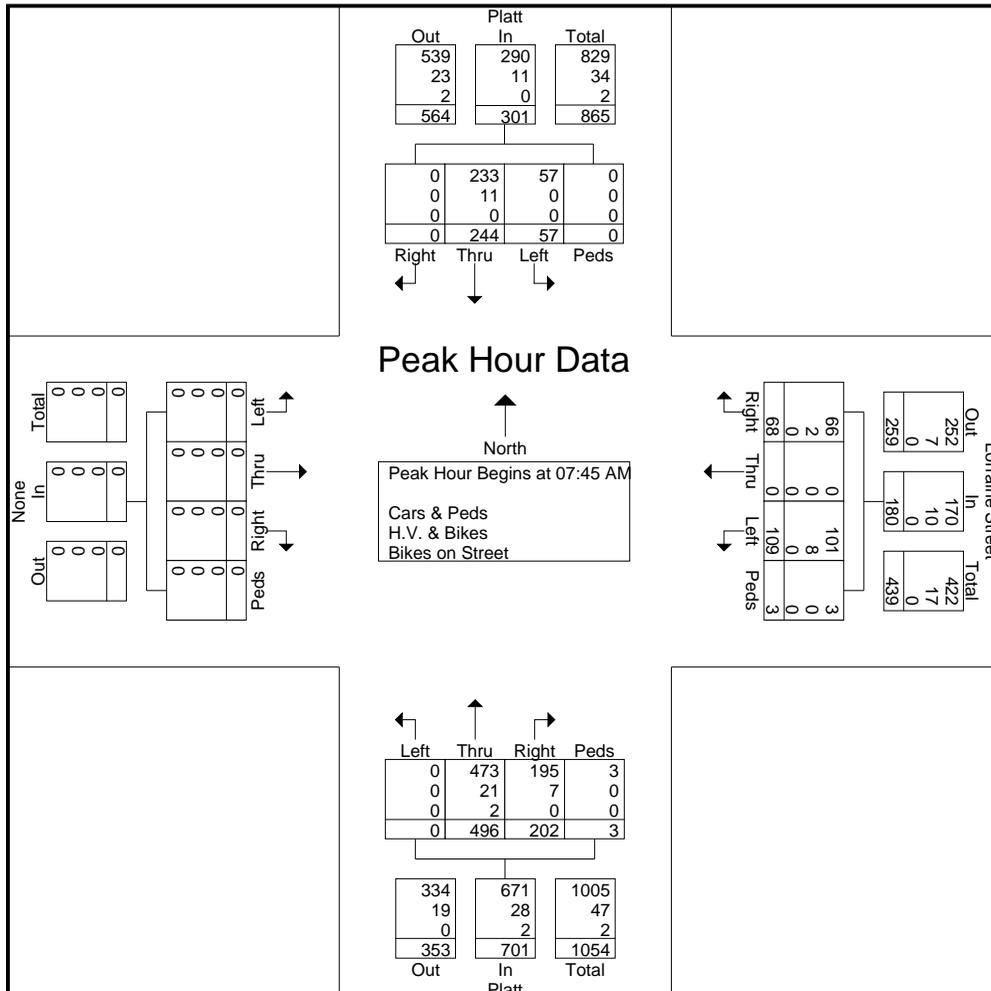
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Platt  
Weather:

File Name : TMC\_Lorraine & Platt\_Mar-09-2022  
Site Code : 1001  
Start Date : 3/9/2022  
Page No : 4

Start Time	None Eastbound					Lorraine Street Westbound					Platt Northbound					Platt Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 10:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	30	0	14	1	45	0	156	60	3	219	15	66	0	0	81	345
08:00 AM	0	0	0	0	0	40	0	11	0	51	0	117	66	0	183	17	68	0	0	85	319
08:15 AM	0	0	0	0	0	17	0	30	1	48	0	102	46	0	148	15	59	0	0	74	270
08:30 AM	0	0	0	0	0	22	0	13	1	36	0	121	30	0	151	10	51	0	0	61	248
Total Volume	0	0	0	0	0	109	0	68	3	180	0	496	202	3	701	57	244	0	0	301	1182
% App. Total	0	0	0	0	0	60.6	0	37.8	1.7		0	70.8	28.8	0.4		18.9	81.1	0	0		
PHF	.000	.000	.000	.000	.000	.681	.000	.567	.750	.882	.000	.795	.765	.250	.800	.838	.897	.000	.000	.885	.857
Cars & Peds	0	0	0	0	0	101	0	66	3	170	0	473	195	3	671	57	233	0	0	290	1131
% Cars & Peds	0	0	0	0	0	92.7	0	97.1	100	94.4	0	95.4	96.5	100	95.7	100	95.5	0	0	96.3	95.7
H.V. & Bikes	0	0	0	0	0	8	0	2	0	10	0	21	7	0	28	0	11	0	0	11	49
% H.V. & Bikes	0	0	0	0	0	7.3	0	2.9	0	5.6	0	4.2	3.5	0	4.0	0	4.5	0	0	3.7	4.1
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0.3	0	0	0	0	0	0.2



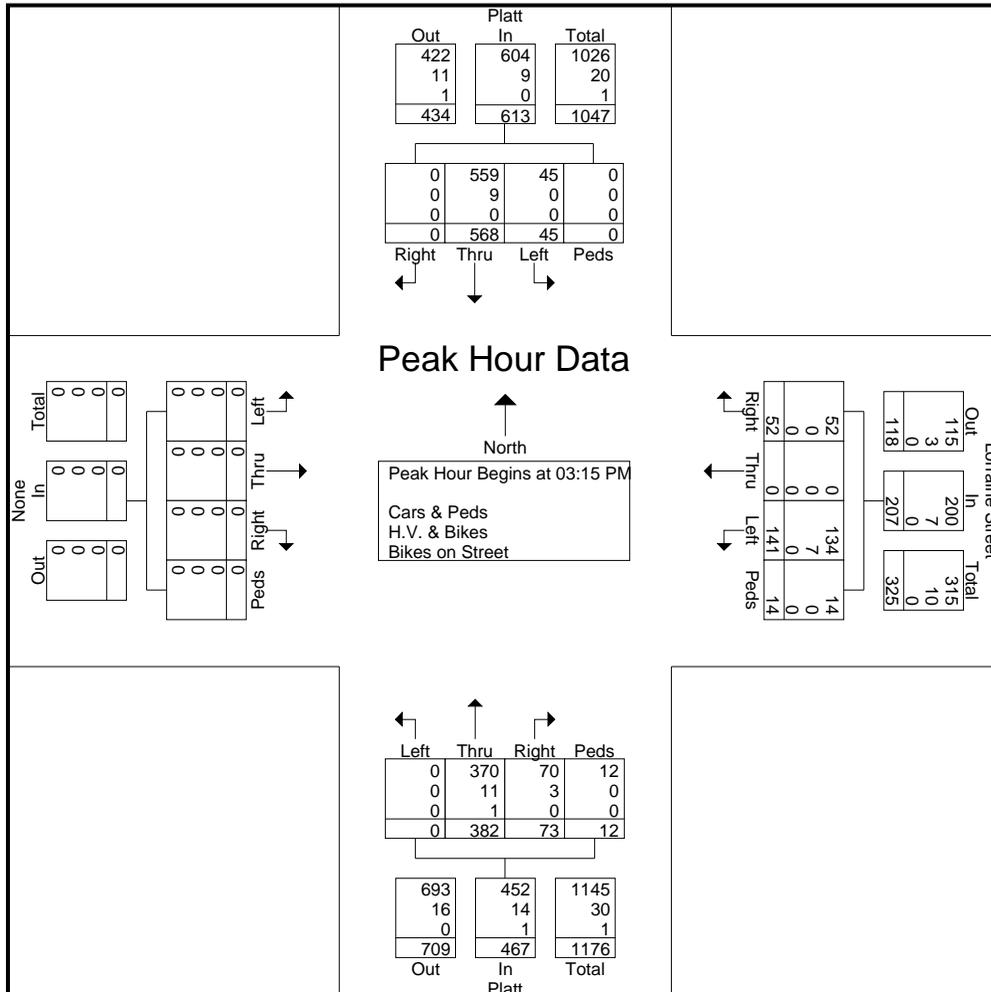
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Platt  
Weather:

File Name : TMC\_Lorraine & Platt\_Mar-09-2022  
Site Code : 1001  
Start Date : 3/9/2022  
Page No : 5

Start Time	None Eastbound					Lorraine Street Westbound					Platt Northbound					Platt Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 01:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:15 PM																					
03:15 PM	0	0	0	0	0	61	0	19	5	85	0	105	31	3	139	11	123	0	0	134	358
03:30 PM	0	0	0	0	0	13	0	9	1	23	0	103	25	5	133	11	136	0	0	147	303
03:45 PM	0	0	0	0	0	44	0	14	1	59	0	70	14	2	86	16	136	0	0	152	297
04:00 PM	0	0	0	0	0	23	0	10	7	40	0	104	3	2	109	7	173	0	0	180	329
Total Volume	0	0	0	0	0	141	0	52	14	207	0	382	73	12	467	45	568	0	0	613	1287
% App. Total	0	0	0	0	0	68.1	0	25.1	6.8		0	81.8	15.6	2.6		7.3	92.7	0	0		
PHF	.000	.000	.000	.000	.000	.578	.000	.684	.500	.609	.000	.910	.589	.600	.840	.703	.821	.000	.000	.851	.899
Cars & Peds	0	0	0	0	0	134	0	52	14	200	0	370	70	12	452	45	559	0	0	604	1256
% Cars & Peds	0	0	0	0	0	95.0	0	100	100	96.6	0	96.9	95.9	100	96.8	100	98.4	0	0	98.5	97.6
H.V. & Bikes	0	0	0	0	0	7	0	0	0	7	0	11	3	0	14	0	9	0	0	9	30
% H.V. & Bikes	0	0	0	0	0	5.0	0	0	0	3.4	0	2.9	4.1	0	3.0	0	1.6	0	0	1.5	2.3
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.2	0	0	0	0	0	0.1



# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Scarlett  
Weather:

File Name : TMC\_Lorraine & Scarlett\_Mar-09-2022  
Site Code : 1002  
Start Date : 3/9/2022  
Page No : 1

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	Lorraine Street Eastbound				Lorraine Street Westbound				Scarlett Northbound				None Southbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
12:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
01:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	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	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
05:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:15 AM	0	0	5	0	0	1	0	0	0	0	0	0	0	0	0	0	6
05:30 AM	0	0	2	0	2	0	0	0	1	0	0	0	0	0	0	0	5
05:45 AM	0	1	5	0	1	1	0	0	0	0	0	0	0	0	0	0	8
Total	0	1	12	0	4	2	0	0	1	0	0	0	0	0	0	0	20
06:00 AM	0	1	1	0	3	4	0	0	0	0	0	0	0	0	0	0	9
06:15 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
06:30 AM	0	1	2	0	0	1	0	0	0	0	0	0	0	0	0	0	4
06:45 AM	0	1	6	0	1	1	0	0	1	0	0	0	0	0	0	0	10
Total	0	3	10	0	4	7	0	0	1	0	0	0	0	0	0	0	25
07:00 AM	0	3	1	0	0	5	0	0	1	0	0	0	0	0	0	0	10
07:15 AM	0	3	9	0	7	3	0	0	2	0	0	0	0	0	0	0	24
07:30 AM	0	8	31	1	15	9	0	8	13	0	4	6	0	0	1	0	96
07:45 AM	0	9	80	2	53	5	0	1	37	0	29	0	0	0	0	2	218
Total	0	23	121	3	75	22	0	9	53	0	33	6	0	0	1	2	348
08:00 AM	0	7	80	1	51	4	0	2	51	0	66	0	0	0	0	1	263
08:15 AM	0	25	44	0	22	12	0	5	25	0	53	0	0	0	0	3	189
08:30 AM	0	32	20	1	10	24	0	24	12	0	10	0	0	0	1	9	143
08:45 AM	0	32	6	0	2	35	0	8	5	0	5	0	0	0	0	1	94
Total	0	96	150	2	85	75	0	39	93	0	134	0	0	0	1	14	689
09:00 AM	0	10	2	2	1	11	0	0	2	0	0	0	0	0	0	2	30
09:15 AM	0	8	5	2	3	5	0	0	2	0	1	0	0	0	0	0	26
09:30 AM	0	2	3	0	3	4	0	0	4	0	3	0	0	0	0	0	19
09:45 AM	0	0	4	0	2	3	0	0	3	0	0	0	0	0	0	0	12
Total	0	20	14	4	9	23	0	0	11	0	4	0	0	0	0	2	87

# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Scarlett  
Weather:

File Name : TMC\_Lorraine & Scarlett\_Mar-09-2022  
Site Code : 1002  
Start Date : 3/9/2022  
Page No : 2

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	Lorraine Street Eastbound				Lorraine Street Westbound				Scarlett Northbound				None Southbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
10:00 AM	0	2	4	0	1	0	0	1	2	0	2	0	0	0	0	0	12
10:15 AM	0	3	3	1	1	1	0	0	3	0	3	3	0	0	0	0	18
10:30 AM	0	2	0	0	3	1	0	0	3	0	1	0	0	0	0	0	10
10:45 AM	0	4	2	1	0	2	0	0	1	0	1	0	0	0	0	1	12
Total	0	11	9	2	5	4	0	1	9	0	7	3	0	0	0	1	52
11:00 AM	0	6	5	0	2	2	0	0	5	0	1	0	0	0	0	0	21
11:15 AM	0	4	2	0	1	5	0	1	5	0	2	0	0	0	0	2	22
11:30 AM	0	4	1	0	0	2	0	0	3	0	2	0	0	0	0	3	15
11:45 AM	0	3	6	0	1	5	0	0	2	0	0	0	0	0	0	0	17
Total	0	17	14	0	4	14	0	1	15	0	5	0	0	0	0	5	75
12:00 PM	0	5	3	0	0	5	0	0	6	0	1	0	0	0	0	0	20
12:15 PM	0	2	4	1	3	2	0	0	1	0	1	0	0	0	0	1	15
12:30 PM	0	1	2	1	1	4	0	1	7	0	3	2	0	0	0	1	23
12:45 PM	1	6	0	0	2	6	0	0	3	0	0	0	0	0	0	1	19
Total	1	14	9	2	6	17	0	1	17	0	5	2	0	0	0	3	77
01:00 PM	0	4	5	0	0	5	0	1	1	0	4	2	0	0	0	4	26
01:15 PM	0	9	0	1	2	5	0	1	6	0	1	0	0	0	0	0	25
01:30 PM	0	6	4	1	3	6	0	1	1	0	3	1	0	0	0	0	26
01:45 PM	0	6	0	1	1	7	0	0	6	0	1	0	0	0	0	2	24
Total	0	25	9	3	6	23	0	3	14	0	9	3	0	0	0	6	101
02:00 PM	0	2	4	2	3	4	0	0	6	0	4	2	0	0	0	0	27
02:15 PM	0	7	12	2	9	6	0	1	5	0	2	1	0	0	0	1	46
02:30 PM	0	6	29	1	13	8	0	0	7	0	3	0	0	0	0	0	67
02:45 PM	0	10	17	0	8	9	0	1	8	0	6	2	0	0	1	1	63
Total	0	25	62	5	33	27	0	2	26	0	15	5	0	0	1	2	203
03:00 PM	0	10	22	21	12	9	0	7	37	0	24	14	0	0	0	20	176
03:15 PM	1	34	25	2	4	8	0	2	58	0	47	2	0	0	0	0	183
03:30 PM	0	19	14	0	5	7	0	15	11	0	6	0	0	0	0	0	77
03:45 PM	1	26	6	0	6	36	0	27	27	0	9	7	0	0	0	11	156
Total	2	89	67	23	27	60	0	51	133	0	86	23	0	0	0	31	592
04:00 PM	0	7	3	0	1	25	0	6	5	0	7	5	0	0	0	1	60
04:15 PM	0	8	3	0	2	6	0	6	7	0	2	4	0	0	0	4	42
04:30 PM	0	5	0	1	0	8	0	1	5	0	1	0	0	0	0	1	22
04:45 PM	0	5	0	0	1	4	0	2	5	0	3	3	0	0	0	0	23
Total	0	25	6	1	4	43	0	15	22	0	13	12	0	0	0	6	147
05:00 PM	0	5	0	0	0	8	0	3	10	0	3	1	0	0	0	1	31
05:15 PM	0	6	0	0	0	12	0	4	4	0	3	0	0	0	0	3	32
05:30 PM	0	8	1	0	0	8	0	1	2	0	2	0	0	0	0	3	25
05:45 PM	0	10	0	0	2	10	0	0	2	0	1	0	0	0	0	1	26
Total	0	29	1	0	2	38	0	8	18	0	9	1	0	0	0	8	114
06:00 PM	1	3	1	0	0	3	0	1	1	0	0	0	0	0	0	0	10
06:15 PM	0	4	1	0	0	7	0	0	1	0	0	0	0	0	0	1	14
06:30 PM	0	2	0	0	0	3	0	0	1	0	1	0	0	0	0	1	8
06:45 PM	0	3	0	1	0	1	0	0	0	0	0	2	0	0	0	0	7
Total	1	12	2	1	0	14	0	1	3	0	1	2	0	0	0	2	39
07:00 PM	0	4	0	1	0	4	0	0	1	0	0	0	0	0	0	0	10
07:15 PM	0	1	0	0	1	5	0	0	1	0	1	0	0	0	0	0	9
07:30 PM	0	2	0	0	1	0	0	0	0	0	1	0	0	0	0	0	4
07:45 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Total	0	9	0	1	2	10	0	0	2	0	2	0	0	0	0	0	26

# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Scarlett  
Weather:

File Name : TMC\_Lorraine & Scarlett\_Mar-09-2022  
Site Code : 1002  
Start Date : 3/9/2022  
Page No : 3

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	Lorraine Street Eastbound				Lorraine Street Westbound				Scarlett Northbound				None Southbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
08:00 PM	0	3	0	0	1	4	0	0	1	0	0	0	0	0	0	0	9
08:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
08:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<b>Total</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>
09:00 PM	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
09:15 PM	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	4
09:30 PM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>
10:00 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
10:15 PM	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
10:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>
11:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:30 PM	0	1	0	0	0	2	0	0	1	0	3	0	0	0	0	0	7
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>
<b>Grand Total</b>	<b>5</b>	<b>418</b>	<b>488</b>	<b>47</b>	<b>268</b>	<b>395</b>	<b>0</b>	<b>131</b>	<b>424</b>	<b>0</b>	<b>327</b>	<b>57</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>82</b>	<b>2645</b>
Apprch %	0.5	43.6	50.9	4.9	33.8	49.7	0	16.5	52.5	0	40.5	7.1	0	0	3.5	96.5	
Total %	0.2	15.8	18.4	1.8	10.1	14.9	0	5	16	0	12.4	2.2	0	0	0.1	3.1	
Cars & Peds	5	411	466	46	265	386	0	131	403	0	324	57	0	0	3	81	2578
% Cars & Peds	100	98.3	95.5	97.9	98.9	97.7	0	100	95	0	99.1	100	0	0	100	98.8	97.5
H.V. & Bikes	0	4	22	1	3	6	0	0	21	0	3	0	0	0	0	1	61
% H.V. & Bikes	0	1	4.5	2.1	1.1	1.5	0	0	5	0	0.9	0	0	0	0	1.2	2.3
Bikes on Street	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6
% Bikes on Street	0	0.7	0	0	0	0.8	0	0	0	0	0	0	0	0	0	0	0.2

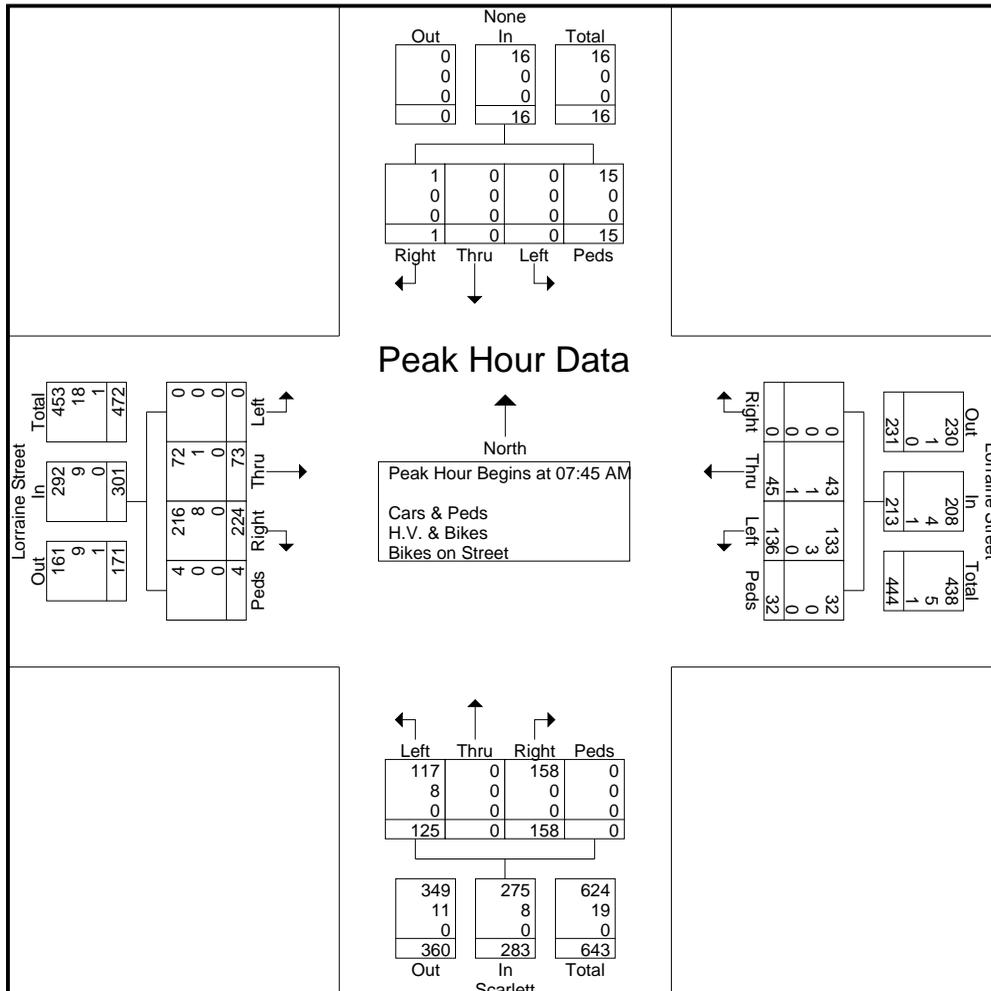
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Scarlett  
Weather:

File Name : TMC\_Lorraine & Scarlett\_Mar-09-2022  
Site Code : 1002  
Start Date : 3/9/2022  
Page No : 4

Start Time	Lorraine Street Eastbound					Lorraine Street Westbound					Scarlett Northbound					None Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 10:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	9	80	2	91	53	5	0	1	59	37	0	29	0	66	0	0	0	2	2	218
08:00 AM	0	7	80	1	88	51	4	0	2	57	51	0	66	0	117	0	0	0	1	1	263
08:15 AM	0	25	44	0	69	22	12	0	5	39	25	0	53	0	78	0	0	0	3	3	189
08:30 AM	0	32	20	1	53	10	24	0	24	58	12	0	10	0	22	0	0	1	9	10	143
Total Volume	0	73	224	4	301	136	45	0	32	213	125	0	158	0	283	0	0	1	15	16	813
% App. Total	0	24.3	74.4	1.3		63.8	21.1	0	15		44.2	0	55.8	0		0	0	6.2	93.8		
PHF	.000	.570	.700	.500	.827	.642	.469	.000	.333	.903	.613	.000	.598	.000	.605	.000	.000	.250	.417	.400	.773
Cars & Peds	0	72	216	4	292	133	43	0	32	208	117	0	158	0	275	0	0	1	15	16	791
% Cars & Peds	0	98.6	96.4	100	97.0	97.8	95.6	0	100	97.7	93.6	0	100	0	97.2	0	0	100	100	100	97.3
H.V. & Bikes	0	1	8	0	9	3	1	0	0	4	8	0	0	0	8	0	0	0	0	0	21
% H.V. & Bikes	0	1.4	3.6	0	3.0	2.2	2.2	0	0	1.9	6.4	0	0	0	2.8	0	0	0	0	0	2.6
Bikes on Street	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Bikes on Street	0	0	0	0	0	0	2.2	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0.1



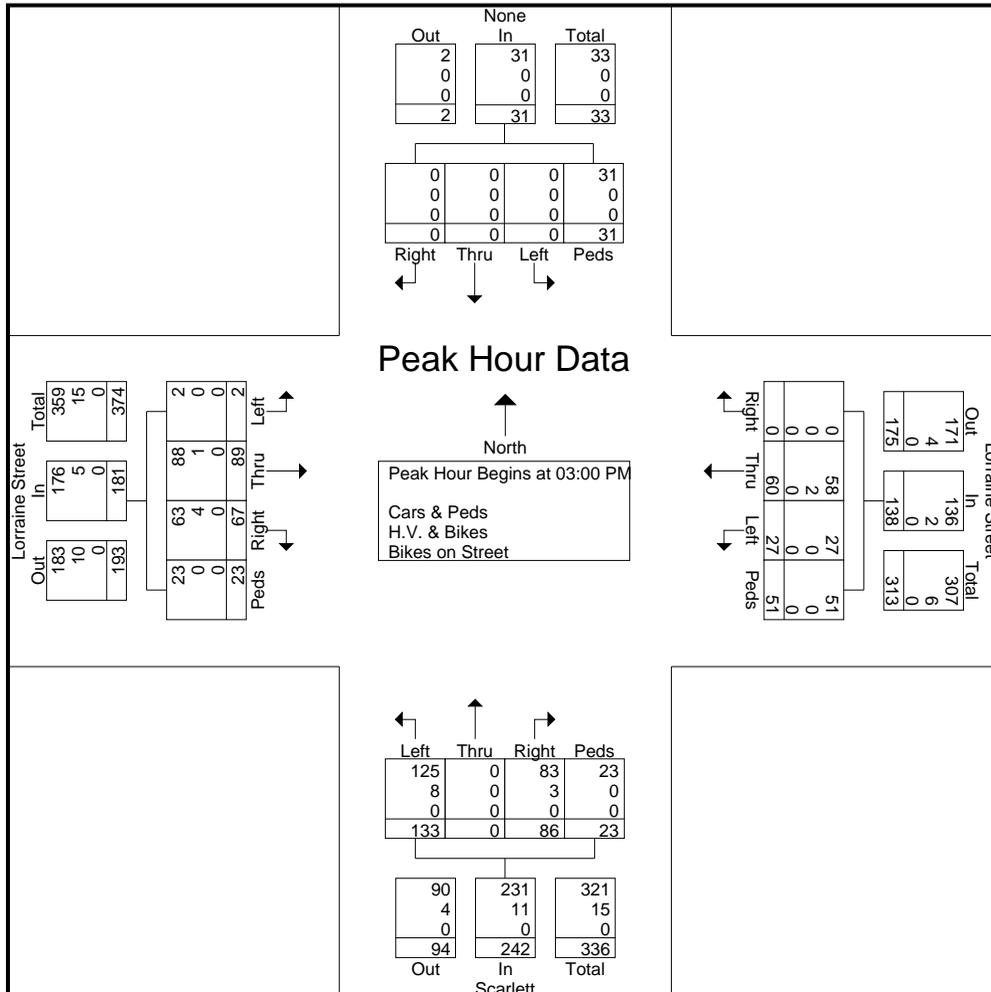
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Scarlett  
Weather:

File Name : TMC\_Lorraine & Scarlett\_Mar-09-2022  
Site Code : 1002  
Start Date : 3/9/2022  
Page No : 5

Start Time	Lorraine Street Eastbound					Lorraine Street Westbound					Scarlett Northbound					None Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 01:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	10	22	21	53	12	9	0	7	28	37	0	24	14	75	0	0	0	20	20	176
03:15 PM	1	34	25	2	62	4	8	0	2	14	58	0	47	2	107	0	0	0	0	0	183
03:30 PM	0	19	14	0	33	5	7	0	15	27	11	0	6	0	17	0	0	0	0	0	77
03:45 PM	1	26	6	0	33	6	36	0	27	69	27	0	9	7	43	0	0	0	11	11	156
Total Volume	2	89	67	23	181	27	60	0	51	138	133	0	86	23	242	0	0	0	31	31	592
% App. Total	1.1	49.2	37	12.7		19.6	43.5	0	37		55	0	35.5	9.5		0	0	0	100		
PHF	.500	.654	.670	.274	.730	.563	.417	.000	.472	.500	.573	.000	.457	.411	.565	.000	.000	.000	.388	.388	.809
Cars & Peds	2	88	63	23	176	27	58	0	51	136	125	0	83	23	231	0	0	0	31	31	574
% Cars & Peds	100	98.9	94.0	100	97.2	100	96.7	0	100	98.6	94.0	0	96.5	100	95.5	0	0	0	100	100	97.0
H.V. & Bikes	0	1	4	0	5	0	2	0	0	2	8	0	3	0	11	0	0	0	0	0	18
% H.V. & Bikes	0	1.1	6.0	0	2.8	0	3.3	0	0	1.4	6.0	0	3.5	0	4.5	0	0	0	0	0	3.0
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Fernwood  
Weather:

File Name : TMC\_Lorraine & Fernwood\_Mar-09-2022  
Site Code : 1003  
Start Date : 3/9/2022  
Page No : 1

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	Lorraine Street Eastbound				Lorraine Street Westbound				None Northbound				Fernwood Southbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
*** BREAK ***																	
06:00 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	6	0	8
*** BREAK ***																	
06:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
06:45 AM	0	1	0	0	0	1	1	0	0	0	0	0	0	0	1	0	4
Total	2	1	0	0	0	2	1	0	0	0	0	0	0	0	8	0	14
07:00 AM	0	3	0	0	0	1	0	0	0	0	0	0	0	0	4	0	8
07:15 AM	0	3	0	0	0	4	2	0	0	0	0	0	2	0	6	0	17
07:30 AM	6	5	0	4	0	3	4	4	0	0	0	3	3	0	19	0	51
07:45 AM	29	9	0	0	0	9	3	1	0	0	0	0	4	0	54	0	109
Total	35	20	0	4	0	17	9	5	0	0	0	3	9	0	83	0	185
08:00 AM	56	17	0	0	0	9	3	1	0	0	0	0	1	0	41	0	128
08:15 AM	42	35	0	4	0	14	1	3	0	0	0	3	9	0	18	0	129
08:30 AM	12	30	0	12	0	22	16	8	0	0	0	3	14	0	11	0	128
08:45 AM	4	34	0	6	0	35	32	2	0	0	0	3	11	0	4	0	131
Total	114	116	0	22	0	80	52	14	0	0	0	9	35	0	74	0	516
09:00 AM	2	8	0	0	0	11	5	0	0	0	0	0	6	0	1	0	33
09:15 AM	2	7	0	0	0	4	1	0	0	0	0	0	2	0	4	0	20
09:30 AM	3	2	0	0	0	4	1	0	0	0	0	0	1	0	3	0	14
09:45 AM	0	0	0	0	0	3	0	0	0	0	0	0	1	0	2	0	6
Total	7	17	0	0	0	22	7	0	0	0	0	0	10	0	10	0	73
10:00 AM	3	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	6
10:15 AM	4	1	0	0	0	0	0	0	0	0	0	3	0	0	1	0	9
10:30 AM	2	1	0	0	0	1	0	0	0	0	0	0	0	0	3	0	7
10:45 AM	3	2	0	0	0	0	2	0	0	0	0	0	1	0	2	0	10
Total	12	5	0	0	0	1	2	0	0	0	0	3	2	0	7	0	32
11:00 AM	4	2	0	0	0	1	0	0	0	0	0	0	0	0	3	0	10
11:15 AM	4	3	0	0	0	2	0	1	0	0	0	0	0	0	4	0	14
11:30 AM	5	1	0	0	0	1	0	0	0	0	0	0	2	0	1	0	10
11:45 AM	2	2	0	0	0	5	2	0	0	0	0	0	0	0	2	0	13
Total	15	8	0	0	0	9	2	1	0	0	0	0	2	0	10	0	47
12:00 PM	1	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	11
12:15 PM	1	2	0	0	0	2	0	0	0	0	0	0	0	0	3	0	8
12:30 PM	3	1	0	1	0	3	2	0	0	0	0	1	3	0	2	1	17
12:45 PM	3	2	0	0	0	3	1	0	0	0	0	2	1	0	5	1	18
Total	8	10	0	1	0	13	3	0	0	0	0	3	4	0	10	2	54
01:00 PM	6	2	0	1	0	0	3	1	0	0	0	3	0	0	5	3	24
01:15 PM	4	6	0	1	0	2	0	0	0	0	0	0	0	0	5	2	20
01:30 PM	4	5	0	0	0	6	3	1	0	0	0	1	1	0	3	0	24
01:45 PM	3	2	0	0	0	5	1	0	0	0	0	0	0	0	3	0	14
Total	17	15	0	2	0	13	7	2	0	0	0	4	1	0	16	5	82
02:00 PM	5	2	0	0	0	2	1	0	0	0	0	2	2	0	5	0	19
02:15 PM	5	3	0	1	0	1	0	0	0	0	0	1	1	0	14	0	26
02:30 PM	5	5	0	0	0	7	1	0	0	0	0	0	5	0	16	0	39
02:45 PM	7	8	0	1	0	5	1	0	0	0	0	0	7	0	12	0	41
Total	22	18	0	2	0	15	3	0	0	0	0	3	15	0	47	0	125
03:00 PM	27	7	0	5	0	5	10	2	0	0	0	18	9	0	14	6	103
03:15 PM	53	29	0	2	0	4	2	2	0	0	0	2	4	0	7	1	106
03:30 PM	12	10	0	10	0	2	3	7	0	0	0	4	9	0	10	0	67

# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Fernwood  
Weather:

File Name : TMC\_Lorraine & Fernwood\_Mar-09-2022  
Site Code : 1003  
Start Date : 3/9/2022  
Page No : 2

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	Lorraine Street Eastbound				Lorraine Street Westbound				None Northbound				Fernwood Southbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
03:45 PM	8	28	0	24	0	38	27	19	0	0	0	13	8	0	4	1	170
Total	100	74	0	41	0	49	42	30	0	0	0	37	30	0	35	8	446
04:00 PM	9	6	0	4	0	24	10	2	0	0	0	4	5	0	2	0	66
04:15 PM	6	4	0	3	0	3	2	2	0	0	0	2	1	0	4	3	30
04:30 PM	5	1	0	1	0	4	2	1	0	0	0	2	1	0	4	0	21
04:45 PM	5	3	0	1	0	2	2	0	0	0	0	2	1	0	3	0	19
Total	25	14	0	9	0	33	16	5	0	0	0	10	8	0	13	3	136
05:00 PM	5	3	0	1	0	6	3	2	0	0	0	3	3	0	3	0	29
05:15 PM	5	4	0	2	0	8	6	2	0	0	0	1	2	0	5	3	38
05:30 PM	6	4	0	0	0	6	2	0	0	0	0	0	0	0	1	2	21
05:45 PM	4	8	0	0	0	7	2	0	0	0	0	0	1	0	5	1	28
Total	20	19	0	3	0	27	13	4	0	0	0	4	6	0	14	6	116
06:00 PM	3	0	0	1	0	3	2	0	0	0	0	1	1	0	0	0	11
06:15 PM	3	1	0	0	0	2	0	0	0	0	0	0	0	0	5	0	11
06:30 PM	1	2	0	0	0	2	2	0	0	0	0	0	0	0	1	0	8
06:45 PM	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5
Total	11	3	0	1	0	7	4	0	0	0	0	1	1	0	7	0	35

\*\*\* BREAK \*\*\*

Grand Total	388	320	0	85	0	288	161	61	0	0	0	77	123	0	334	24	1861
Apprch %	48.9	40.4	0	10.7	0	56.5	31.6	12	0	0	0	100	25.6	0	69.4	5	
Total %	20.8	17.2	0	4.6	0	15.5	8.7	3.3	0	0	0	4.1	6.6	0	17.9	1.3	
Cars & Peds	384	316	0	84	0	282	161	60	0	0	0	74	123	0	330	24	1838
% Cars & Peds	99	98.8	0	98.8	0	97.9	100	98.4	0	0	0	96.1	100	0	98.8	100	98.8
H.V. & Bikes	3	3	0	1	0	5	0	1	0	0	0	3	0	0	3	0	19
% H.V. & Bikes	0.8	0.9	0	1.2	0	1.7	0	1.6	0	0	0	3.9	0	0	0.9	0	1
Bikes on Street	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	4
% Bikes on Street	0.3	0.3	0	0	0	0.3	0	0	0	0	0	0	0	0	0.3	0	0.2

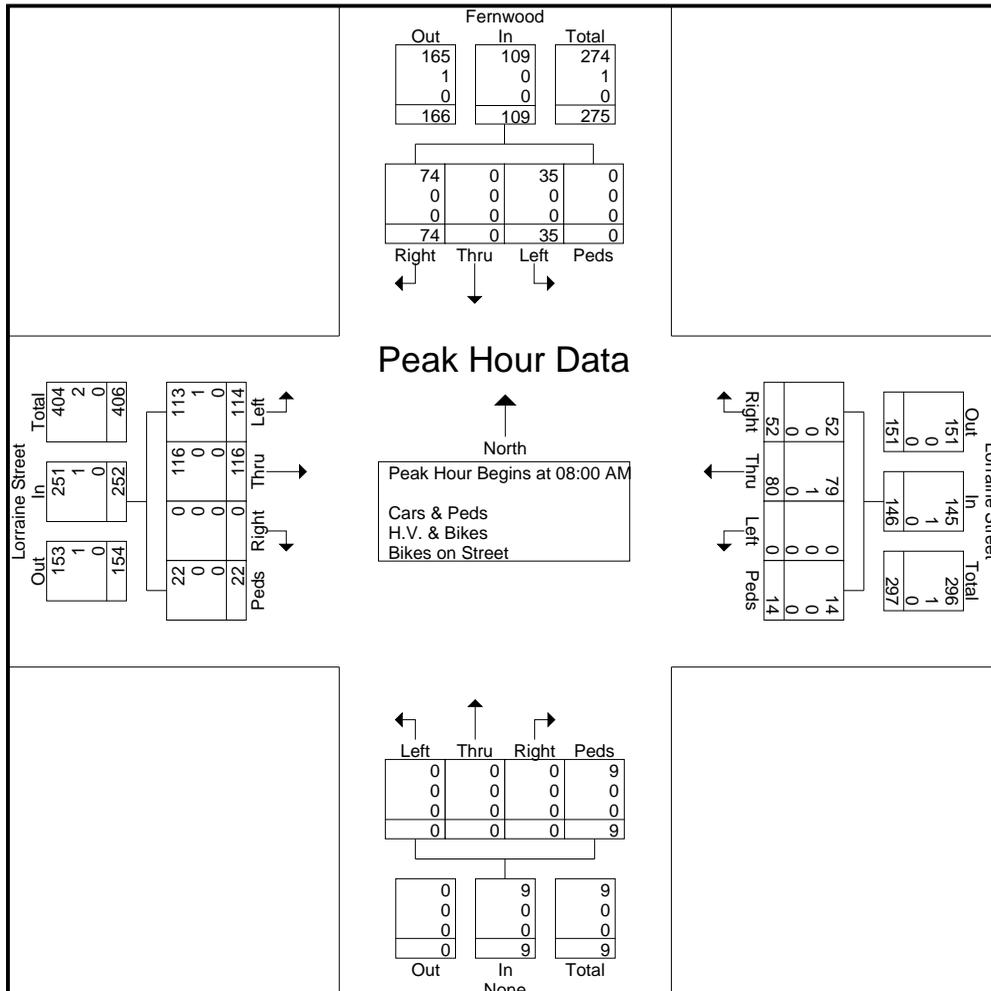
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Fernwood  
Weather:

File Name : TMC\_Lorraine & Fernwood\_Mar-09-2022  
Site Code : 1003  
Start Date : 3/9/2022  
Page No : 3

Start Time	Lorraine Street Eastbound					Lorraine Street Westbound					None Northbound					Fernwood Southbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 07:00 AM to 10:00 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 08:00 AM																						
08:00 AM	56	17	0	0	73	0	9	3	1	13	0	0	0	0	0	1	0	41	0	42	128	
08:15 AM	42	35	0	4	81	0	14	1	3	18	0	0	0	3	3	9	0	18	0	27	129	
08:30 AM	12	30	0	12	54	0	22	16	8	46	0	0	0	3	3	14	0	11	0	25	128	
08:45 AM	4	34	0	6	44	0	35	32	2	69	0	0	0	3	3	11	0	4	0	15	131	
Total Volume	114	116	0	22	252	0	80	52	14	146	0	0	0	9	9	35	0	74	0	109	516	
% App. Total	45.2	46	0	8.7		0	54.8	35.6	9.6		0	0	0	100		32.1	0	67.9	0			
PHF	.509	.829	.000	.458	.778	.000	.571	.406	.438	.529	.000	.000	.000	.750	.750	.625	.000	.451	.000	.649	.985	
Cars & Peds	113	116	0	22	251	0	79	52	14	145	0	0	0	9	9	35	0	74	0	109	514	
% Cars & Peds	99.1	100	0	100	99.6	0	98.8	100	100	99.3	0	0	0	100	100	100	0	100	0	100	99.6	
H.V. & Bikes	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
% H.V. & Bikes	0.9	0	0	0	0.4	0	1.3	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0.4	
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



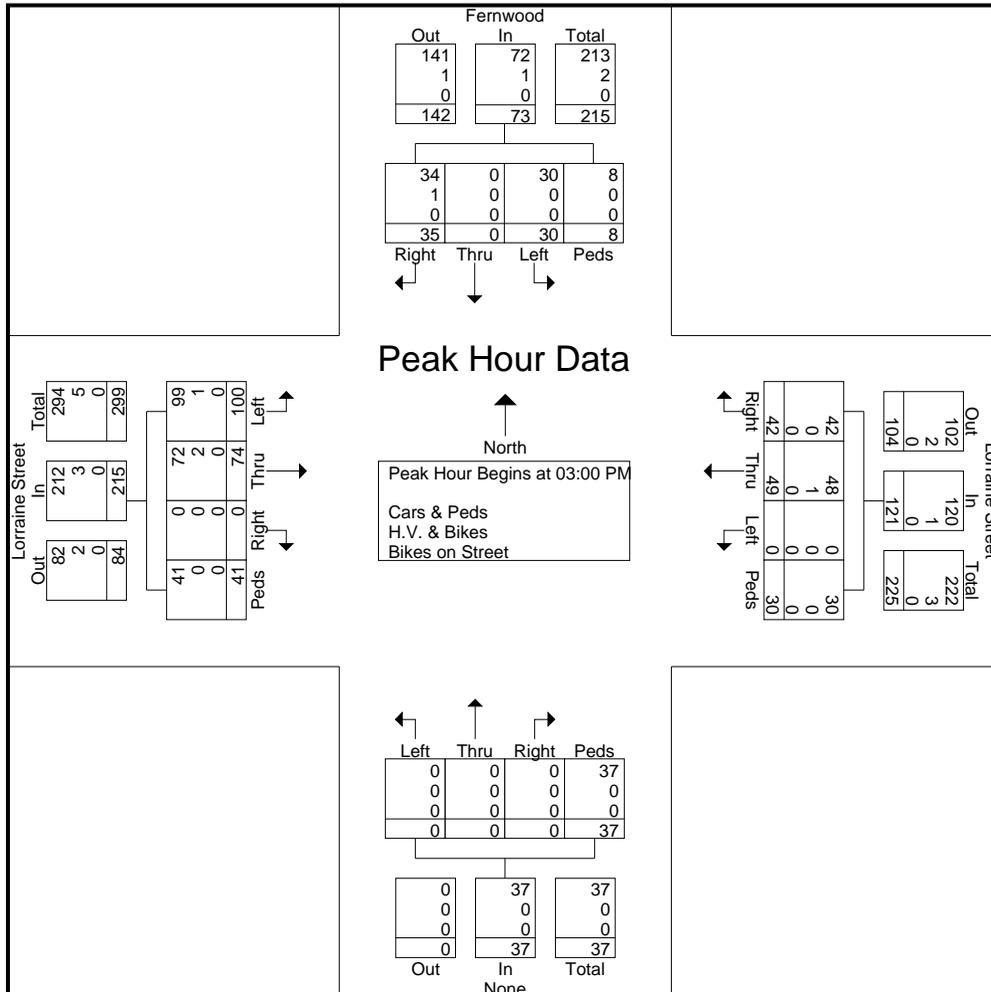
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Fernwood  
Weather:

File Name : TMC\_Lorraine & Fernwood\_Mar-09-2022  
Site Code : 1003  
Start Date : 3/9/2022  
Page No : 4

Start Time	Lorraine Street Eastbound					Lorraine Street Westbound					None Northbound					Fernwood Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 01:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	27	7	0	5	39	0	5	10	2	17	0	0	0	18	18	9	0	14	6	29	103
03:15 PM	53	29	0	2	84	0	4	2	2	8	0	0	0	2	2	4	0	7	1	12	106
03:30 PM	12	10	0	10	32	0	2	3	7	12	0	0	0	4	4	9	0	10	0	19	67
03:45 PM	8	28	0	24	60	0	38	27	19	84	0	0	0	13	13	8	0	4	1	13	170
Total Volume	100	74	0	41	215	0	49	42	30	121	0	0	0	37	37	30	0	35	8	73	446
% App. Total	46.5	34.4	0	19.1		0	40.5	34.7	24.8		0	0	0	100		41.1	0	47.9	11		
PHF	.472	.638	.000	.427	.640	.000	.322	.389	.395	.360	.000	.000	.000	.514	.514	.833	.000	.625	.333	.629	.656
Cars & Peds	99	72	0	41	212	0	48	42	30	120	0	0	0	37	37	30	0	34	8	72	441
% Cars & Peds	99.0	97.3	0	100	98.6	0	98.0	100	100	99.2	0	0	0	100	100	100	0	97.1	100	98.6	98.9
H.V. & Bikes	1	2	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	5
% H.V. & Bikes	1.0	2.7	0	0	1.4	0	2.0	0	0	0.8	0	0	0	0	0	0	0	2.9	0	1.4	1.1
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine Street  
N/S: Mitchel Driveway  
Weather:

File Name : TMC\_Lorraine & Mitchell\_Mar-09-2022  
Site Code : 1004  
Start Date : 3/9/2021  
Page No : 1

## Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	Lorraine Street Eastbound				Lorraine Street Westbound				Mitchell Driveway Northbound				None Southbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
*** BREAK ***																	
07:30 AM	0	4	4	0	0	6	0	0	1	0	1	0	0	0	0	0	16
07:45 AM	0	4	9	0	0	8	0	0	4	0	0	0	0	0	0	0	25
Total	0	8	13	0	0	14	0	0	5	0	1	0	0	0	0	0	41
08:00 AM	0	5	13	0	6	9	0	0	3	0	1	0	0	0	0	0	37
08:15 AM	0	5	39	0	3	8	0	0	7	0	1	0	0	0	0	0	63
08:30 AM	0	4	40	0	1	3	0	0	35	0	4	0	0	0	0	0	87
08:45 AM	0	0	48	0	5	2	0	0	65	0	8	0	0	0	0	0	128
Total	0	14	140	0	15	22	0	0	110	0	14	0	0	0	0	0	315
09:00 AM	0	3	11	0	2	3	0	0	13	0	4	0	0	0	0	0	36
*** BREAK ***																	
Total	0	3	11	0	2	3	0	0	13	0	4	0	0	0	0	0	36
*** BREAK ***																	
02:30 PM	0	1	9	0	0	3	0	0	5	0	0	0	0	0	0	0	18
02:45 PM	0	7	8	0	0	1	0	0	5	0	0	0	0	0	0	0	21
Total	0	8	17	0	0	4	0	0	10	0	0	0	0	0	0	0	39
03:00 PM	0	8	8	0	4	11	0	0	4	0	1	0	0	0	0	0	36
03:15 PM	0	20	13	0	2	3	0	0	3	0	1	0	0	0	0	0	42
03:30 PM	0	13	6	0	5	4	0	0	1	0	0	0	0	0	0	0	29
03:45 PM	0	0	42	0	2	11	0	0	54	0	0	0	0	0	0	0	109
Total	0	41	69	0	13	29	0	0	62	0	2	0	0	0	0	0	216
04:00 PM	0	3	8	0	2	2	0	0	32	0	6	0	0	0	0	0	53
*** BREAK ***																	
Total	0	3	8	0	2	2	0	0	32	0	6	0	0	0	0	0	53
*** BREAK ***																	
Grand Total	0	77	258	0	32	74	0	0	232	0	27	0	0	0	0	0	700
Apprch %	0	23	77	0	30.2	69.8	0	0	89.6	0	10.4	0	0	0	0	0	
Total %	0	11	36.9	0	4.6	10.6	0	0	33.1	0	3.9	0	0	0	0	0	
Cars & Peds	0	77	258	0	32	74	0	0	232	0	27	0	0	0	0	0	700
% Cars & Peds	0	100	100	0	100	100	0	0	100	0	100	0	0	0	0	0	100
H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

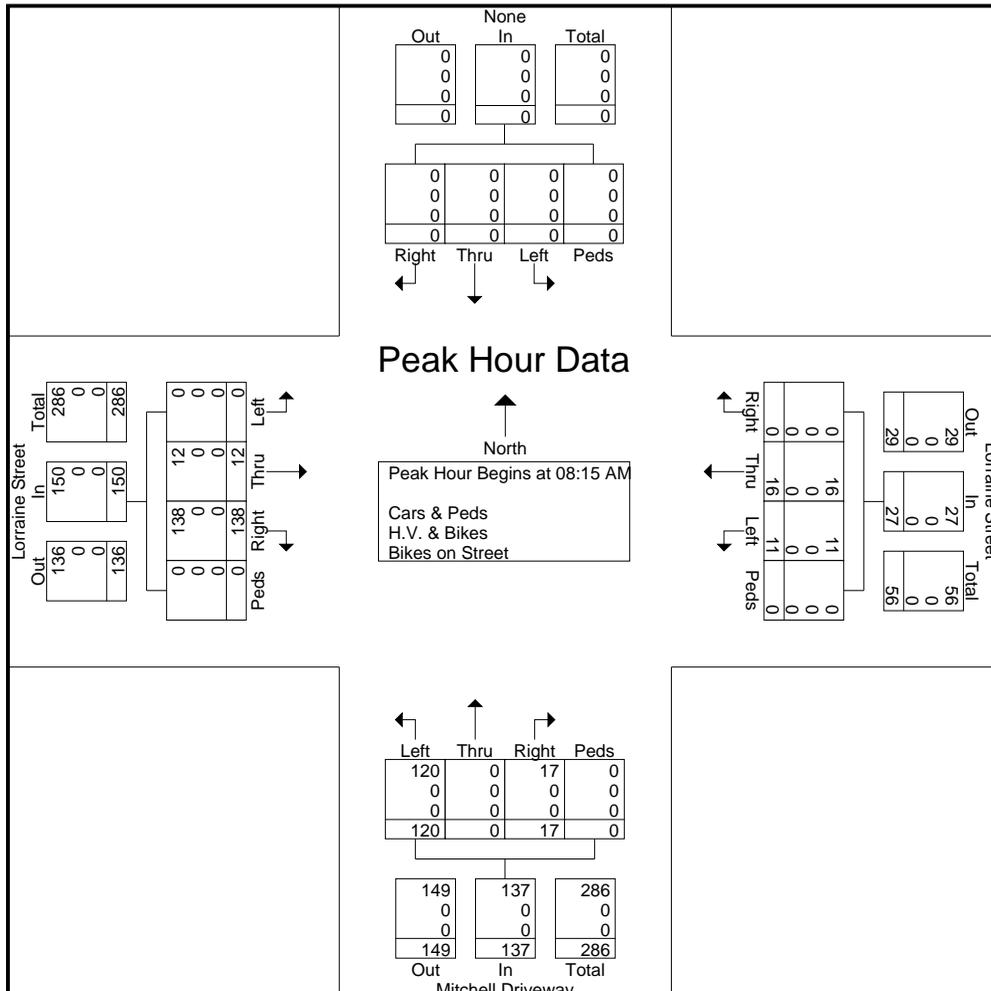
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine Street  
N/S: Mitchell Driveway  
Weather:

File Name : TMC\_Lorraine & Mitchell\_Mar-09-2022  
Site Code : 1004  
Start Date : 3/9/2021  
Page No : 2

Start Time	Lorraine Street Eastbound					Lorraine Street Westbound					Mitchell Driveway Northbound					None Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 08:15 AM to 09:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	0	5	39	0	44	3	8	0	0	11	7	0	1	0	8	0	0	0	0	0	63
08:30 AM	0	4	40	0	44	1	3	0	0	4	35	0	4	0	39	0	0	0	0	0	87
08:45 AM	0	0	48	0	48	5	2	0	0	7	65	0	8	0	73	0	0	0	0	0	128
09:00 AM	0	3	11	0	14	2	3	0	0	5	13	0	4	0	17	0	0	0	0	0	36
Total Volume	0	12	138	0	150	11	16	0	0	27	120	0	17	0	137	0	0	0	0	0	314
% App. Total	0	8	92	0		40.7	59.3	0	0		87.6	0	12.4	0		0	0	0	0	0	
PHF	.000	.600	.719	.000	.781	.550	.500	.000	.000	.614	.462	.000	.531	.000	.469	.000	.000	.000	.000	.000	.613
Cars & Peds	0	12	138	0	150	11	16	0	0	27	120	0	17	0	137	0	0	0	0	0	314
% Cars & Peds	0	100	100	0	100	100	100	0	0	100	100	0	100	0	100	0	0	0	0	0	100
H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



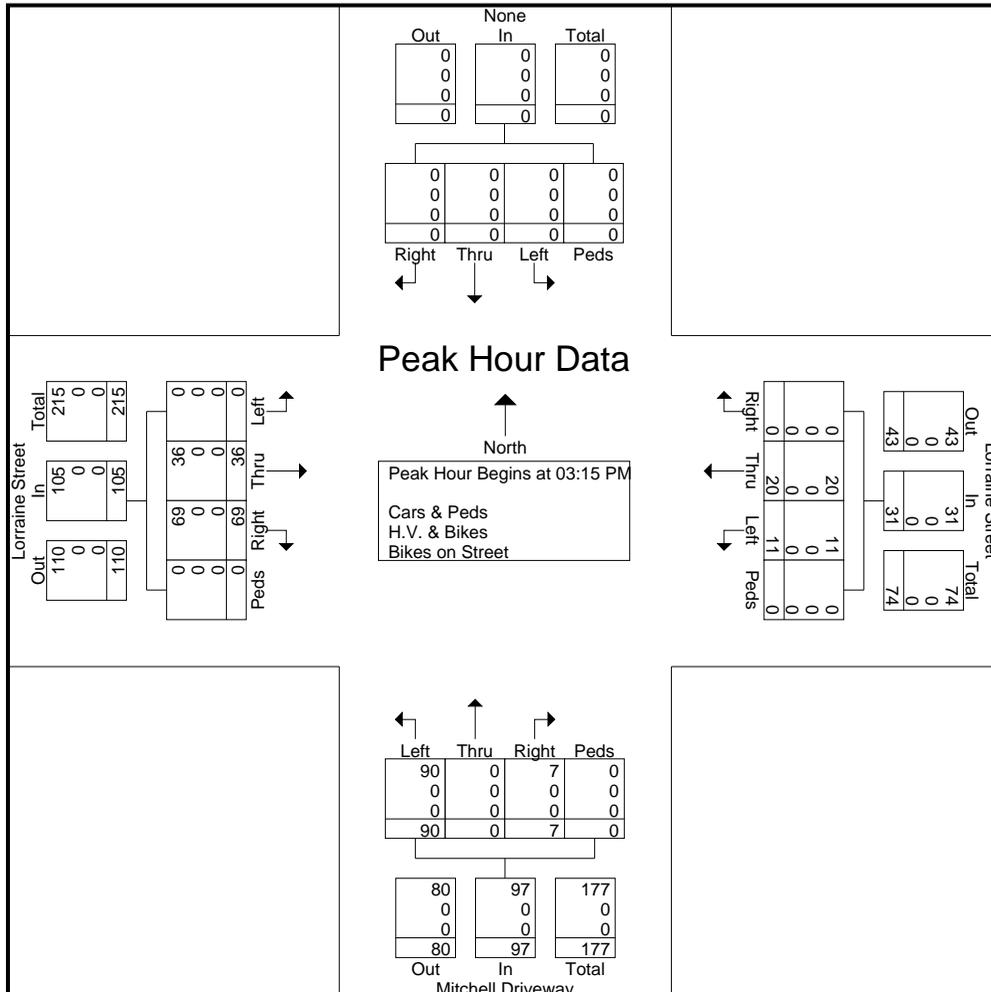
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine Street  
N/S: Mitchel Driveway  
Weather:

File Name : TMC\_Lorraine & Mitchell\_Mar-09-2022  
Site Code : 1004  
Start Date : 3/9/2021  
Page No : 3

Start Time	Lorraine Street Eastbound					Lorraine Street Westbound					Mitchell Driveway Northbound					None Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 03:15 PM to 04:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:15 PM																					
03:15 PM	0	20	13	0	33	2	3	0	0	5	3	0	1	0	4	0	0	0	0	0	42
03:30 PM	0	13	6	0	19	5	4	0	0	9	1	0	0	0	1	0	0	0	0	0	29
03:45 PM	0	0	42	0	42	2	11	0	0	13	54	0	0	0	54	0	0	0	0	0	109
04:00 PM	0	3	8	0	11	2	2	0	0	4	32	0	6	0	38	0	0	0	0	0	53
Total Volume	0	36	69	0	105	11	20	0	0	31	90	0	7	0	97	0	0	0	0	0	233
% App. Total	0	34.3	65.7	0		35.5	64.5	0	0		92.8	0	7.2	0		0	0	0	0		
PHF	.000	.450	.411	.000	.625	.550	.455	.000	.000	.596	.417	.000	.292	.000	.449	.000	.000	.000	.000	.000	.534
Cars & Peds	0	36	69	0	105	11	20	0	0	31	90	0	7	0	97	0	0	0	0	0	233
% Cars & Peds	0	100	100	0	100	100	100	0	0	100	100	0	100	0	100	0	0	0	0	0	100
H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Pittsview  
Weather:

File Name : TMC\_Lorraine & Pittsview\_Mar-09-2022  
Site Code : 1005  
Start Date : 3/9/2022  
Page No : 1

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	Lorraine Street Eastbound				Lorraine Street Westbound				Pittsview Northbound				Pittsview Southbound				Int. Total	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	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	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	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	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	0	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	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	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	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM	0	0	0	0	0	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	0	0	0	0	0
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	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	0	0	0	0	0
06:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
06:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	3
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	0	0	0	2	0	0	0	1	0	0	0	0	1	0	0	5
07:30 AM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	4
07:45 AM	1	2	0	0	0	2	0	0	0	0	0	0	0	0	6	0	0	11
Total	4	2	0	0	0	4	0	0	0	1	0	0	0	0	9	0	0	20
08:00 AM	5	1	0	0	0	5	0	0	0	0	0	0	0	0	10	0	0	21
08:15 AM	1	3	0	0	0	5	0	0	0	0	1	0	0	0	6	0	0	16
08:30 AM	3	1	0	2	0	1	0	0	0	0	0	0	1	4	3	0	0	15
08:45 AM	8	0	0	1	0	0	0	0	0	1	3	1	0	1	5	0	0	20
Total	17	5	0	3	0	11	0	0	0	1	4	1	0	1	5	24	0	72
09:00 AM	4	1	1	0	0	1	0	0	0	1	0	0	0	0	2	0	0	10
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
09:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
09:45 AM	2	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	5
Total	6	2	1	0	0	2	0	0	0	1	0	0	0	0	5	0	0	17





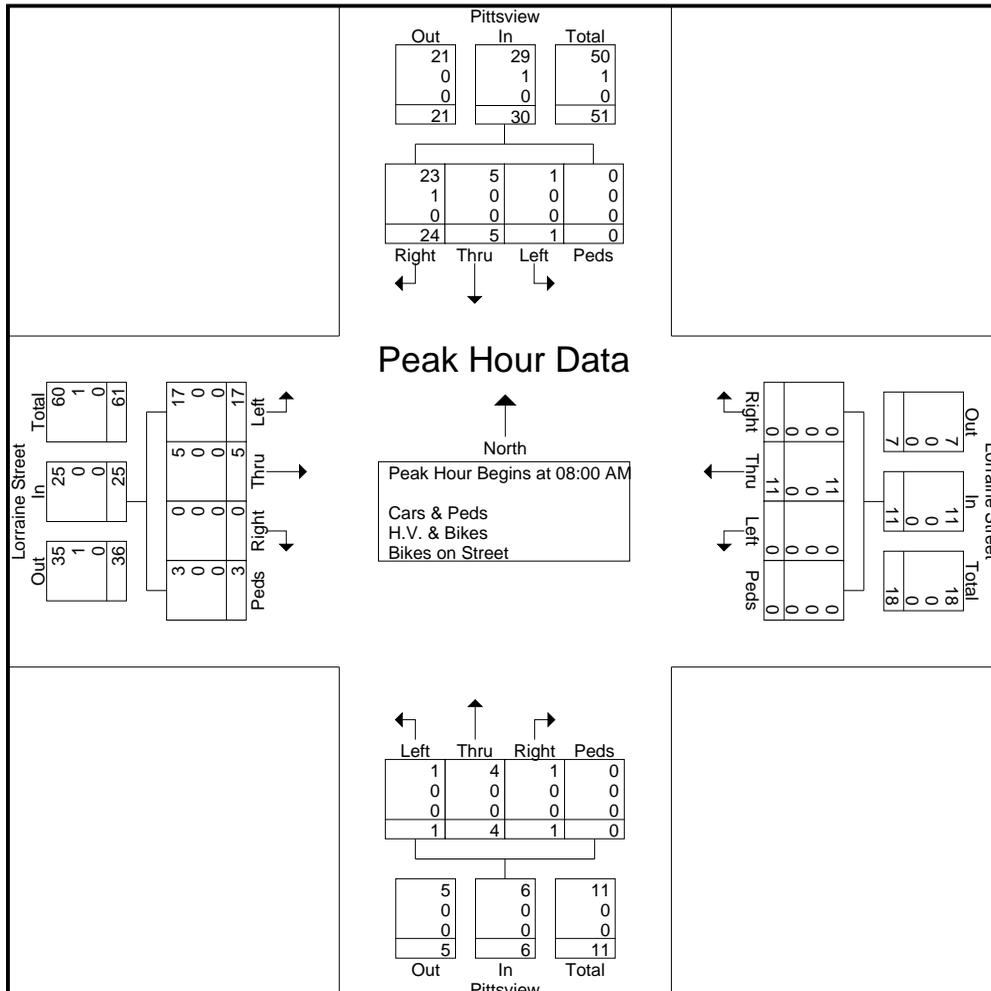
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Pittsview  
Weather:

File Name : TMC\_Lorraine & Pittsview\_Mar-09-2022  
Site Code : 1005  
Start Date : 3/9/2022  
Page No : 4

Start Time	Lorraine Street Eastbound					Lorraine Street Westbound					Pittsview Northbound					Pittsview Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 10:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	5	1	0	0	6	0	5	0	0	5	0	0	0	0	0	0	0	10	0	10	21
08:15 AM	1	3	0	0	4	0	5	0	0	5	0	1	0	0	1	0	0	6	0	6	16
08:30 AM	3	1	0	2	6	0	1	0	0	1	0	0	0	0	0	1	4	3	0	8	15
08:45 AM	8	0	0	1	9	0	0	0	0	0	1	3	1	0	5	0	1	5	0	6	20
Total Volume	17	5	0	3	25	0	11	0	0	11	1	4	1	0	6	1	5	24	0	30	72
% App. Total	68	20	0	12		0	100	0	0		16.7	66.7	16.7	0		3.3	16.7	80	0		
PHF	.531	.417	.000	.375	.694	.000	.550	.000	.000	.550	.250	.333	.250	.000	.300	.250	.313	.600	.000	.750	.857
Cars & Peds	17	5	0	3	25	0	11	0	0	11	1	4	1	0	6	1	5	23	0	29	71
% Cars & Peds	100	100	0	100	100	0	100	0	0	100	100	100	100	0	100	100	100	95.8	0	96.7	98.6
H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.2	0	3.3	1.4
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



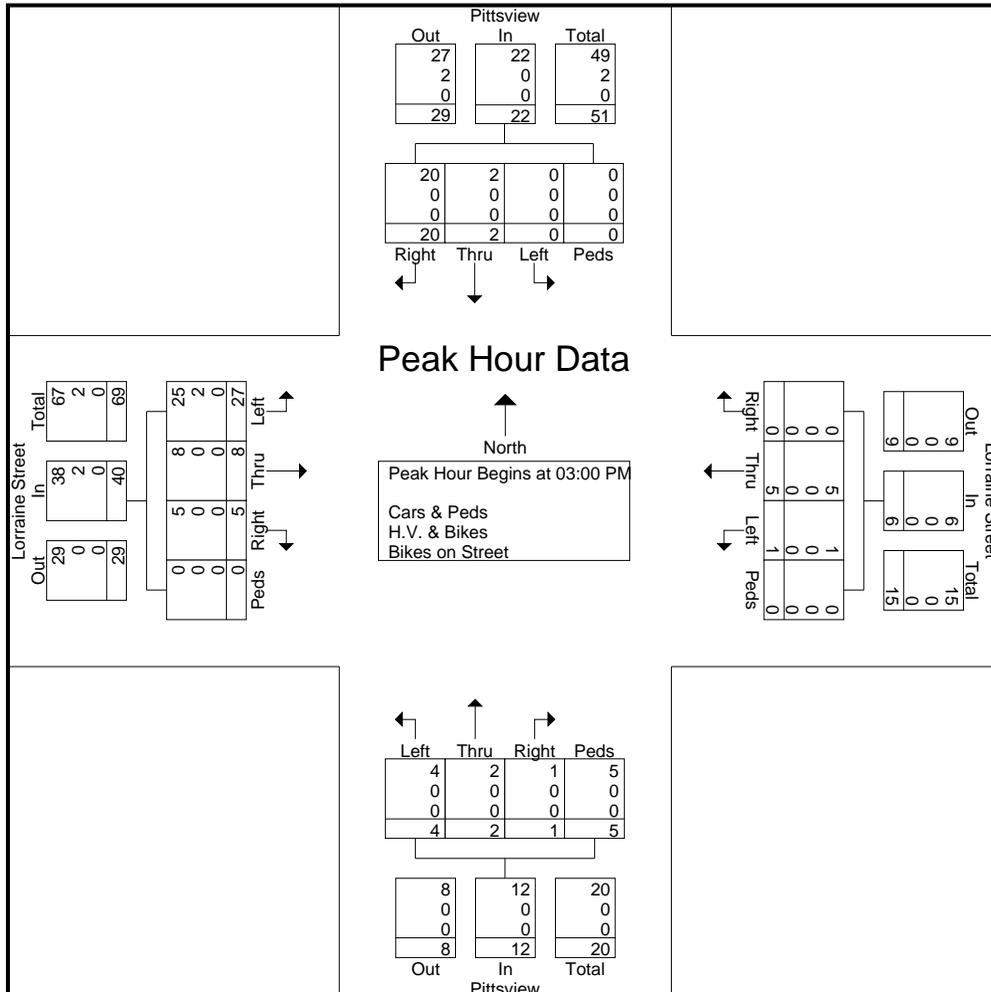
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Lorraine  
N/S: Pittsview  
Weather:

File Name : TMC\_Lorraine & Pittsview\_Mar-09-2022  
Site Code : 1005  
Start Date : 3/9/2022  
Page No : 5

Start Time	Lorraine Street Eastbound					Lorraine Street Westbound					Pittsview Northbound					Pittsview Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 01:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	4	1	0	0	5	0	2	0	0	2	2	0	0	0	2	0	0	8	0	8	17
03:15 PM	7	4	1	0	12	0	1	0	0	1	1	1	0	5	7	0	2	1	0	3	23
03:30 PM	3	1	1	0	5	1	0	0	0	1	0	0	1	0	1	0	0	8	0	8	15
03:45 PM	13	2	3	0	18	0	2	0	0	2	1	1	0	0	2	0	0	3	0	3	25
Total Volume	27	8	5	0	40	1	5	0	0	6	4	2	1	5	12	0	2	20	0	22	80
% App. Total	67.5	20	12.5	0		16.7	83.3	0	0		33.3	16.7	8.3	41.7		0	9.1	90.9	0		
PHF	.519	.500	.417	.000	.556	.250	.625	.000	.000	.750	.500	.500	.250	.250	.429	.000	.250	.625	.000	.688	.800
Cars & Peds	25	8	5	0	38	1	5	0	0	6	4	2	1	5	12	0	2	20	0	22	78
% Cars & Peds	92.6	100	100	0	95.0	100	100	0	0	100	100	100	100	100	100	0	100	100	0	100	97.5
H.V. & Bikes	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% H.V. & Bikes	7.4	0	0	0	5.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.5
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Packard  
N/S: Fernwood  
Weather:

File Name : TMC\_Packard & Fernwood\_Mar-09-2022  
Site Code : 1006  
Start Date : 3/9/2022  
Page No : 1

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	Packard Eastbound				Packard Westbound				None Northbound				Fernwood Southbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
*** BREAK ***																	
06:00 AM	0	24	0	0	4	42	0	0	0	0	1	0	0	0	0	0	71
06:15 AM	0	30	0	0	1	55	0	0	0	0	0	0	1	0	1	0	88
06:30 AM	1	41	2	0	0	64	0	0	0	0	4	0	0	0	4	0	116
06:45 AM	1	46	1	0	2	73	0	1	0	0	2	0	0	0	0	0	126
Total	2	141	3	0	7	234	0	1	0	0	7	0	1	0	5	0	401
07:00 AM	0	54	1	0	0	72	0	0	0	0	2	0	0	1	0	0	130
07:15 AM	0	58	1	0	9	121	1	0	1	0	2	0	1	0	2	0	196
07:30 AM	0	89	6	0	16	224	1	0	7	2	5	0	0	0	2	0	352
07:45 AM	0	106	6	0	58	221	1	1	3	2	22	1	4	4	1	2	432
Total	0	307	14	0	83	638	3	1	11	4	31	1	5	5	5	2	1110
08:00 AM	0	139	2	0	31	164	3	0	11	5	46	1	3	3	2	0	410
08:15 AM	2	126	5	3	21	161	1	0	7	2	34	0	3	2	2	2	371
08:30 AM	2	136	4	0	19	178	1	0	4	1	19	1	4	3	2	1	375
08:45 AM	3	147	3	0	6	150	1	0	6	6	29	0	5	2	4	2	364
Total	7	548	14	3	77	653	6	0	28	14	128	2	15	10	10	5	1520
09:00 AM	1	178	2	0	7	138	0	0	2	0	6	1	3	1	1	0	340
09:15 AM	1	112	0	1	5	115	1	0	1	0	3	3	1	0	1	1	245
09:30 AM	2	108	0	0	4	139	0	0	4	1	5	0	0	0	0	0	263
09:45 AM	1	112	0	0	3	126	2	0	3	0	1	0	3	0	2	1	254
Total	5	510	2	1	19	518	3	0	10	1	15	4	7	1	4	2	1102
10:00 AM	1	106	1	0	1	97	1	1	0	2	1	1	3	0	3	0	218
10:15 AM	0	107	3	0	0	119	1	0	3	0	4	0	2	0	0	0	239
10:30 AM	0	123	0	0	4	114	3	1	0	0	4	1	2	0	3	0	255
10:45 AM	5	139	2	0	1	129	2	1	0	0	4	0	0	0	1	1	285
Total	6	475	6	0	6	459	7	3	3	2	13	2	7	0	7	1	997
11:00 AM	2	112	4	0	3	110	1	0	0	0	5	0	1	1	1	0	240
11:15 AM	2	121	0	0	1	140	0	0	4	1	0	1	1	1	2	1	275
11:30 AM	2	144	1	0	1	140	5	0	1	0	7	0	2	0	0	1	304
11:45 AM	6	145	2	1	1	143	1	0	3	2	4	0	1	1	2	0	312
Total	12	522	7	1	6	533	7	0	8	3	16	1	5	3	5	2	1131
12:00 PM	5	159	0	0	1	144	3	0	1	0	1	0	2	0	1	1	318
12:15 PM	3	202	2	1	4	150	0	0	0	0	1	2	3	0	1	1	370
12:30 PM	2	156	3	2	5	164	2	0	1	0	2	2	1	0	1	3	344
12:45 PM	6	173	2	1	5	149	2	0	2	0	6	1	1	3	4	1	356
Total	16	690	7	4	15	607	7	0	4	0	10	5	7	3	7	6	1388
01:00 PM	2	156	2	1	1	129	5	0	3	0	11	0	4	1	8	1	324
01:15 PM	7	157	1	0	5	138	1	0	1	0	2	0	3	0	4	1	320
01:30 PM	1	165	0	0	3	151	0	0	2	0	7	3	2	0	3	1	338
01:45 PM	2	157	1	0	6	136	2	0	3	0	6	2	0	0	2	2	319
Total	12	635	4	1	15	554	8	0	9	0	26	5	9	1	17	5	1301
02:00 PM	0	193	5	1	4	137	2	1	3	1	6	0	2	0	2	1	358
02:15 PM	0	171	2	1	9	145	4	0	2	0	3	1	3	2	1	1	345
02:30 PM	2	172	2	0	17	148	4	1	4	0	6	3	1	3	3	0	366
02:45 PM	1	192	4	0	15	166	2	0	6	1	4	0	1	2	1	1	396
Total	3	728	13	2	45	596	12	2	15	2	19	4	7	7	7	3	1465
03:00 PM	0	163	12	1	15	191	0	0	6	2	28	2	2	3	3	1	429
03:15 PM	4	208	3	1	10	169	4	4	8	7	45	5	3	3	2	3	479
03:30 PM	3	202	6	0	14	185	2	0	3	0	12	1	1	4	6	0	439

# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Packard  
N/S: Fernwood  
Weather:

File Name : TMC\_Packard & Fernwood\_Mar-09-2022  
Site Code : 1006  
Start Date : 3/9/2022  
Page No : 2

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	Packard Eastbound				Packard Westbound				None Northbound				Fernwood Southbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
03:45 PM	7	285	8	0	12	165	2	0	5	1	26	0	0	2	7	1	521
Total	14	858	29	2	51	710	8	4	22	10	111	8	6	12	18	5	1868
04:00 PM	3	255	3	0	3	163	2	0	3	4	27	2	2	0	8	1	476
04:15 PM	6	250	0	0	7	165	3	0	3	0	9	0	2	1	4	0	450
04:30 PM	3	237	2	0	4	171	1	1	1	0	6	2	2	1	6	2	439
04:45 PM	2	240	4	0	7	199	0	0	2	1	5	0	3	0	2	0	465
Total	14	982	9	0	21	698	6	1	9	5	47	4	9	2	20	3	1830
05:00 PM	4	302	6	1	3	160	4	0	6	2	2	3	1	1	6	3	504
05:15 PM	1	288	2	0	4	176	0	0	6	1	11	1	0	1	9	5	505
05:30 PM	1	241	2	1	2	163	0	0	1	0	6	1	1	1	8	1	429
05:45 PM	0	198	4	1	4	172	1	0	2	1	10	5	4	1	1	1	405
Total	6	1029	14	3	13	671	5	0	15	4	29	10	6	4	24	10	1843
06:00 PM	1	214	4	1	4	151	3	0	0	1	5	0	0	1	1	2	388
06:15 PM	1	169	1	1	8	138	2	0	2	1	3	0	0	1	4	1	332
06:30 PM	0	141	5	0	1	127	2	0	3	0	7	0	4	2	1	1	294
06:45 PM	2	153	4	0	3	123	1	0	2	1	3	0	1	0	2	1	296
Total	4	677	14	2	16	539	8	0	7	3	18	0	5	4	8	5	1310

\*\*\* BREAK \*\*\*

Grand Total	101	8102	136	19	374	7410	80	12	141	48	470	46	89	52	137	49	17266
Apprch %	1.2	96.9	1.6	0.2	4.7	94.1	1	0.2	20	6.8	66.7	6.5	27.2	15.9	41.9	15	
Total %	0.6	46.9	0.8	0.1	2.2	42.9	0.5	0.1	0.8	0.3	2.7	0.3	0.5	0.3	0.8	0.3	
Cars & Peds	99	7975	134	19	373	7274	79	12	140	44	468	34	88	50	130	45	16964
% Cars & Peds	98	98.4	98.5	100	99.7	98.2	98.8	100	99.3	91.7	99.6	73.9	98.9	96.2	94.9	91.8	98.3
H.V. & Bikes	2	126	1	0	0	131	1	0	1	1	2	12	1	2	7	4	291
% H.V. & Bikes	2	1.6	0.7	0	0	1.8	1.2	0	0.7	2.1	0.4	26.1	1.1	3.8	5.1	8.2	1.7
Bikes on Street	0	1	1	0	1	5	0	0	0	3	0	0	0	0	0	0	11
% Bikes on Street	0	0	0.7	0	0.3	0.1	0	0	0	6.2	0	0	0	0	0	0	0.1

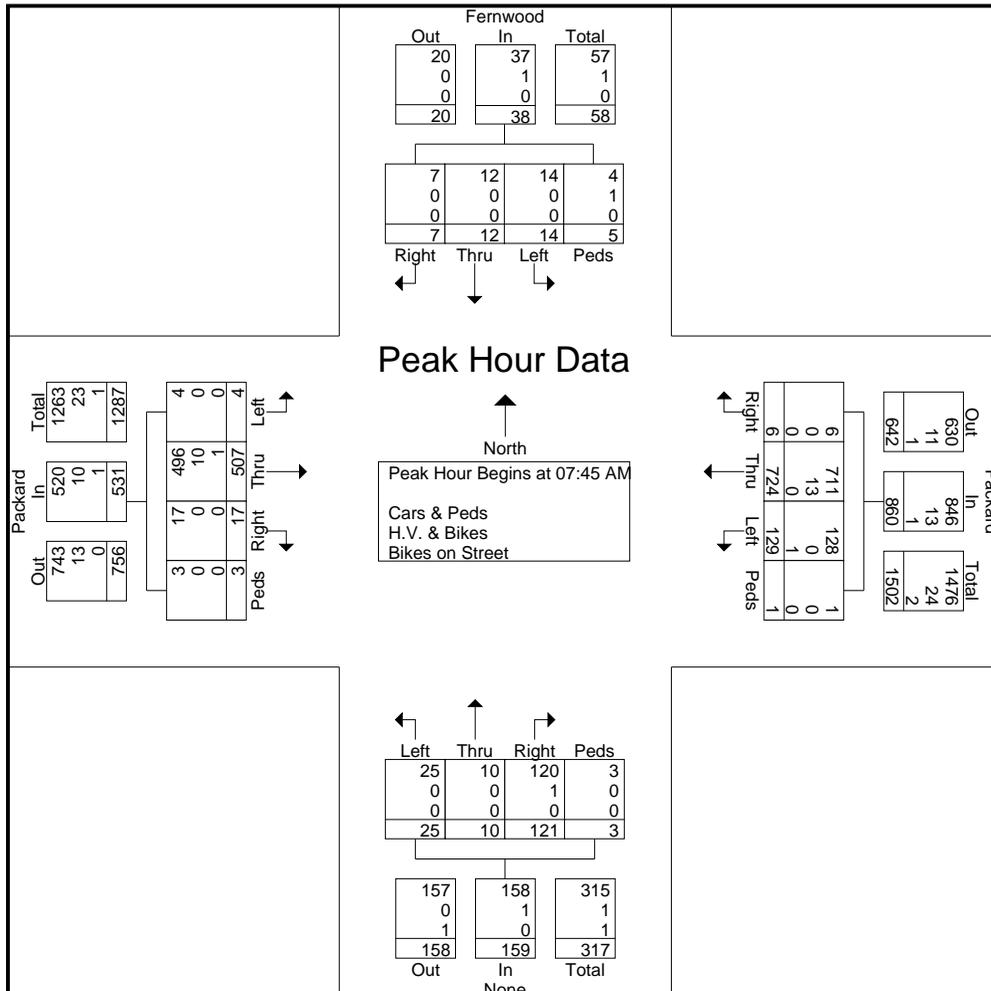
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Packard  
N/S: Fernwood  
Weather:

File Name : TMC\_Packard & Fernwood\_Mar-09-2022  
Site Code : 1006  
Start Date : 3/9/2022  
Page No : 3

Start Time	Packard Eastbound					Packard Westbound					None Northbound					Fernwood Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 10:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	106	6	0	112	58	221	1	1	281	3	2	22	1	28	4	4	1	2	11	432
08:00 AM	0	139	2	0	141	31	164	3	0	198	11	5	46	1	63	3	3	2	0	8	410
08:15 AM	2	126	5	3	136	21	161	1	0	183	7	2	34	0	43	3	2	2	2	9	371
08:30 AM	2	136	4	0	142	19	178	1	0	198	4	1	19	1	25	4	3	2	1	10	375
Total Volume	4	507	17	3	531	129	724	6	1	860	25	10	121	3	159	14	12	7	5	38	1588
% App. Total	0.8	95.5	3.2	0.6		15	84.2	0.7	0.1		15.7	6.3	76.1	1.9		36.8	31.6	18.4	13.2		
PHF	.500	.912	.708	.250	.935	.556	.819	.500	.250	.765	.568	.500	.658	.750	.631	.875	.750	.875	.625	.864	.919
Cars & Peds	4	496	17	3	520	128	711	6	1	846	25	10	120	3	158	14	12	7	4	37	1561
% Cars & Peds	100	97.8	100	100	97.9	99.2	98.2	100	100	98.4	100	100	99.2	100	99.4	100	100	100	80.0	97.4	98.3
H.V. & Bikes	0	10	0	0	10	0	13	0	0	13	0	0	1	0	1	0	0	0	1	1	25
% H.V. & Bikes	0	2.0	0	0	1.9	0	1.8	0	0	1.5	0	0	0.8	0	0.6	0	0	0	20.0	2.6	1.6
Bikes on Street	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Bikes on Street	0	0.2	0	0	0.2	0.8	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.1



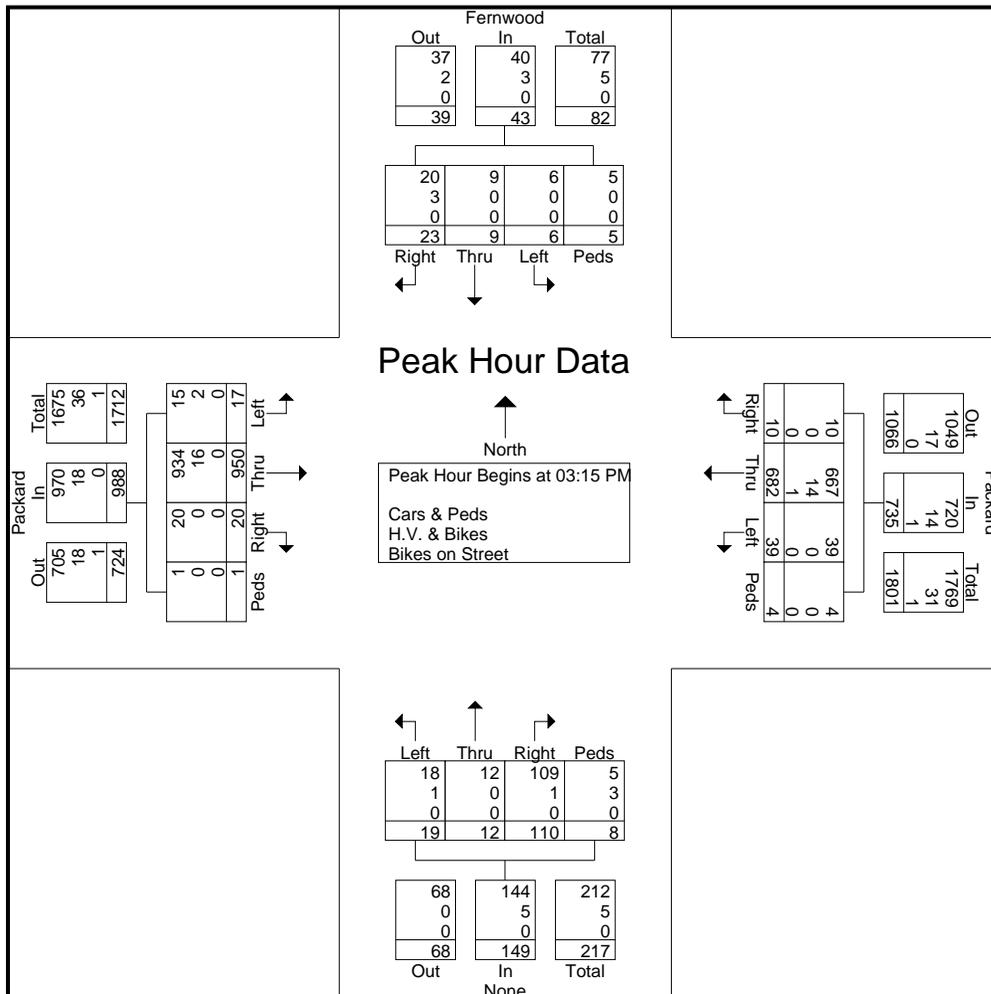
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Packard  
N/S: Fernwood  
Weather:

File Name : TMC\_Packard & Fernwood\_Mar-09-2022  
Site Code : 1006  
Start Date : 3/9/2022  
Page No : 4

Start Time	Packard Eastbound					Packard Westbound					None Northbound					Fernwood Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 01:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:15 PM																					
03:15 PM	4	208	3	1	216	10	169	4	4	187	8	7	45	5	65	3	3	2	3	11	479
03:30 PM	3	202	6	0	211	14	185	2	0	201	3	0	12	1	16	1	4	6	0	11	439
03:45 PM	7	285	8	0	300	12	165	2	0	179	5	1	26	0	32	0	2	7	1	10	521
04:00 PM	3	255	3	0	261	3	163	2	0	168	3	4	27	2	36	2	0	8	1	11	476
Total Volume	17	950	20	1	988	39	682	10	4	735	19	12	110	8	149	6	9	23	5	43	1915
% App. Total	1.7	96.2	2	0.1		5.3	92.8	1.4	0.5		12.8	8.1	73.8	5.4		14	20.9	53.5	11.6		
PHF	.607	.833	.625	.250	.823	.696	.922	.625	.250	.914	.594	.429	.611	.400	.573	.500	.563	.719	.417	.977	.919
Cars & Peds	15	934	20	1	970	39	667	10	4	720	18	12	109	5	144	6	9	20	5	40	1874
% Cars & Peds	88.2	98.3	100	100	98.2	100	97.8	100	100	98.0	94.7	100	99.1	62.5	96.6	100	100	87.0	100	93.0	97.9
H.V. & Bikes	2	16	0	0	18	0	14	0	0	14	1	0	1	3	5	0	0	3	0	3	40
% H.V. & Bikes	11.8	1.7	0	0	1.8	0	2.1	0	0	1.9	5.3	0	0.9	37.5	3.4	0	0	13.0	0	7.0	2.1
Bikes on Street	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Bikes on Street	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.1



# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: NW Ped Xing  
N/S: Scarlett  
Weather:

File Name : TMC\_Scarlett & NW Ped\_Mar-09-2022  
Site Code : 1007  
Start Date : 3/9/2022  
Page No : 1

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	Ped Xing Eastbound				Ped Xing Westbound				Scarlett Northbound				Scarlett Southbound				Int. Total	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	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	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	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	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	0	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	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	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	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM	0	0	0	0	0	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	0	0	0	0	0
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	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	0	0	0	0	0
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
06:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0	0	0	7
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	15	0	0	0	16
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3
07:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	17	0	0	0	19
07:30 AM	0	0	0	1	0	0	0	0	0	19	0	8	0	45	0	0	0	73
07:45 AM	0	0	0	4	0	0	0	0	0	72	0	0	0	128	0	0	0	204
Total	0	0	0	5	0	0	0	0	0	94	0	8	0	192	0	0	0	299
08:00 AM	0	0	0	2	0	0	0	0	0	111	0	0	0	133	0	0	0	246
08:15 AM	0	0	0	5	0	0	0	0	0	76	0	1	0	67	0	0	0	149
08:30 AM	0	0	0	2	0	0	0	0	0	23	0	21	0	28	0	0	0	74
08:45 AM	0	0	0	2	0	0	0	0	0	9	0	5	0	8	0	0	0	24
Total	0	0	0	11	0	0	0	0	0	219	0	27	0	236	0	0	0	493
09:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	0	0	7
09:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	8	0	0	0	11
09:30 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	6	0	0	0	13
09:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	6	0	0	0	9
Total	0	0	0	0	0	0	0	0	0	15	0	2	0	23	0	0	0	40





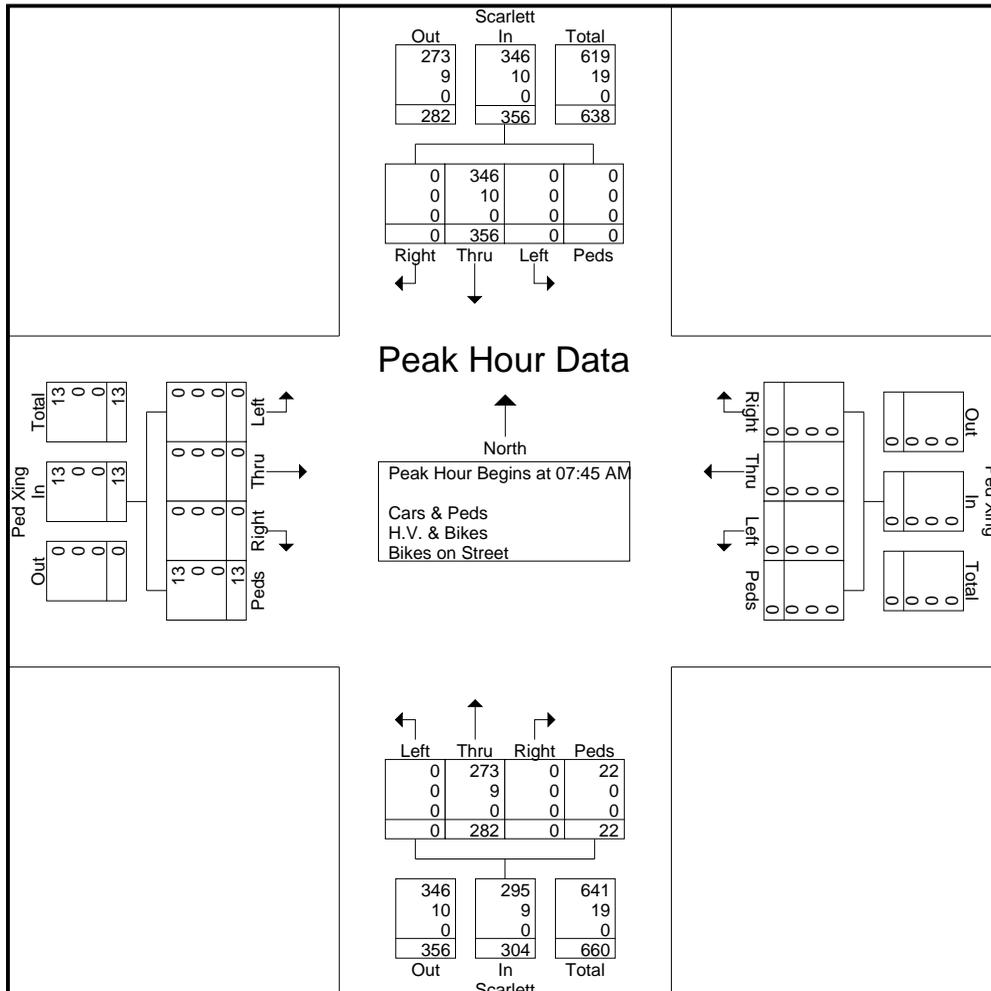
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: NW Ped Xing  
N/S: Scarlett  
Weather:

File Name : TMC\_Scarlett & NW Ped\_Mar-09-2022  
Site Code : 1007  
Start Date : 3/9/2022  
Page No : 4

Start Time	Ped Xing Eastbound					Ped Xing Westbound					Scarlett Northbound					Scarlett Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 10:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	4	4	0	0	0	0	0	0	72	0	0	72	0	128	0	0	128	204
08:00 AM	0	0	0	2	2	0	0	0	0	0	0	111	0	0	111	0	133	0	0	133	246
08:15 AM	0	0	0	5	5	0	0	0	0	0	0	76	0	1	77	0	67	0	0	67	149
08:30 AM	0	0	0	2	2	0	0	0	0	0	0	23	0	21	44	0	28	0	0	28	74
Total Volume	0	0	0	13	13	0	0	0	0	0	0	282	0	22	304	0	356	0	0	356	673
% App. Total	0	0	0	100		0	0	0	0		0	92.8	0	7.2		0	100	0	0		
PHF	.000	.000	.000	.650	.650	.000	.000	.000	.000	.000	.000	.635	.000	.262	.685	.000	.669	.000	.000	.669	.684
Cars & Peds	0	0	0	13	13	0	0	0	0	0	0	273	0	22	295	0	346	0	0	346	654
% Cars & Peds	0	0	0	100	100	0	0	0	0	0	0	96.8	0	100	97.0	0	97.2	0	0	97.2	97.2
H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	10	0	0	10	19
% H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	3.2	0	0	3.0	0	2.8	0	0	2.8	2.8
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



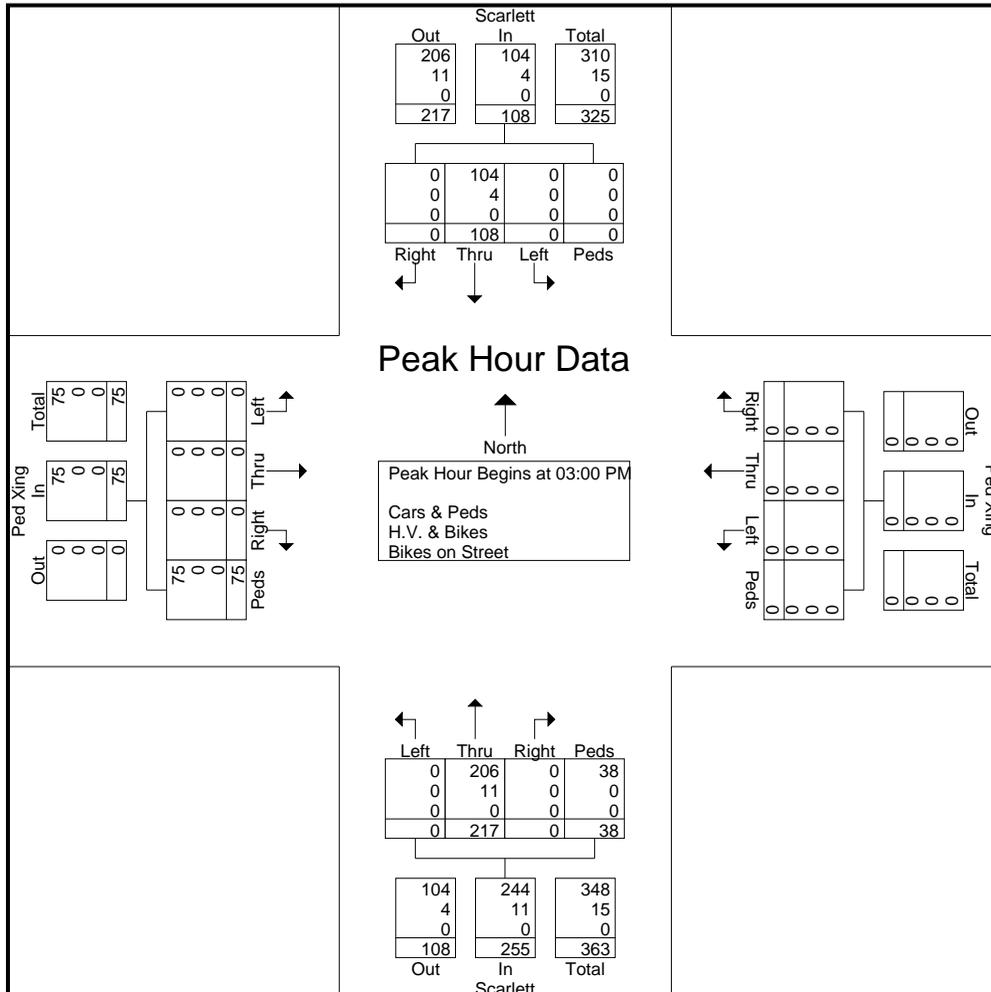
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: NW Ped Xing  
N/S: Scarlett  
Weather:

File Name : TMC\_Scarlett & NW Ped\_Mar-09-2022  
Site Code : 1007  
Start Date : 3/9/2022  
Page No : 5

Start Time	Ped Xing Eastbound					Ped Xing Westbound					Scarlett Northbound					Scarlett Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 01:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	0	0	59	59	0	0	0	0	0	0	68	0	8	76	0	45	0	0	45	180
03:15 PM	0	0	0	14	14	0	0	0	0	0	0	97	0	1	98	0	32	0	0	32	144
03:30 PM	0	0	0	2	2	0	0	0	0	0	0	18	0	7	25	0	19	0	0	19	46
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	34	0	22	56	0	12	0	0	12	68
Total Volume	0	0	0	75	75	0	0	0	0	0	0	217	0	38	255	0	108	0	0	108	438
% App. Total	0	0	0	100		0	0	0	0		0	85.1	0	14.9		0	100	0	0		
PHF	.000	.000	.000	.318	.318	.000	.000	.000	.000	.000	.000	.559	.000	.432	.651	.000	.600	.000	.000	.600	.608
Cars & Peds	0	0	0	75	75	0	0	0	0	0	0	206	0	38	244	0	104	0	0	104	423
% Cars & Peds	0	0	0	100	100	0	0	0	0	0	0	94.9	0	100	95.7	0	96.3	0	0	96.3	96.6
H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	4	0	0	4	15
% H.V. & Bikes	0	0	0	0	0	0	0	0	0	0	0	5.1	0	0	4.3	0	3.7	0	0	3.7	3.4
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Drop Off Exit  
N/S: Scarlett  
Weather:

File Name : TMC\_Scarlett & DO Exit\_Mar-09-2022  
Site Code : 1008  
Start Date : 3/9/2022  
Page No : 1

Groups Printed- Cars & Peds - H.V. & Bikes - Bikes on Street

Start Time	None Eastbound				Drop Off Loop Exit Westbound				Scarlett Northbound				Scarlett Southbound				Int. Total	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	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	0	0	0	0	0
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	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	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	0	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	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	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	0	0	0	0	0
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM	0	0	0	0	0	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	0	0	0	0	0
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM	0	0	0	0	0	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	0	0	0	0	0
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
06:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	5	1	0	0	0	7
Total	0	0	0	0	0	0	0	1	0	0	0	0	13	2	0	0	0	16
07:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	3
07:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	14	1	0	0	0	17
07:30 AM	0	0	0	0	0	0	0	17	0	0	0	0	23	21	0	0	0	61
07:45 AM	0	0	0	0	1	0	0	72	0	0	2	0	42	83	0	0	0	200
Total	0	0	0	0	1	0	0	92	0	0	2	0	81	105	0	0	0	281
08:00 AM	0	0	0	0	0	0	0	106	0	0	4	0	29	100	0	0	0	239
08:15 AM	0	0	0	0	0	0	0	77	0	0	0	0	25	49	0	0	0	151
08:30 AM	0	0	0	0	0	0	0	17	0	0	0	0	8	15	0	0	0	40
08:45 AM	0	0	0	0	0	0	0	7	0	0	0	0	2	6	0	0	0	15
Total	0	0	0	0	0	0	0	207	0	0	4	0	64	170	0	0	0	445
09:00 AM	0	0	0	0	0	0	0	2	0	0	2	0	1	2	0	0	0	7
09:15 AM	0	0	0	0	0	0	0	3	0	0	0	0	2	6	0	0	0	11
09:30 AM	0	0	0	0	0	0	0	8	0	0	0	0	3	3	0	0	0	14
09:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	2	4	0	0	0	8
Total	0	0	0	0	0	0	0	15	0	0	2	0	8	15	0	0	0	40





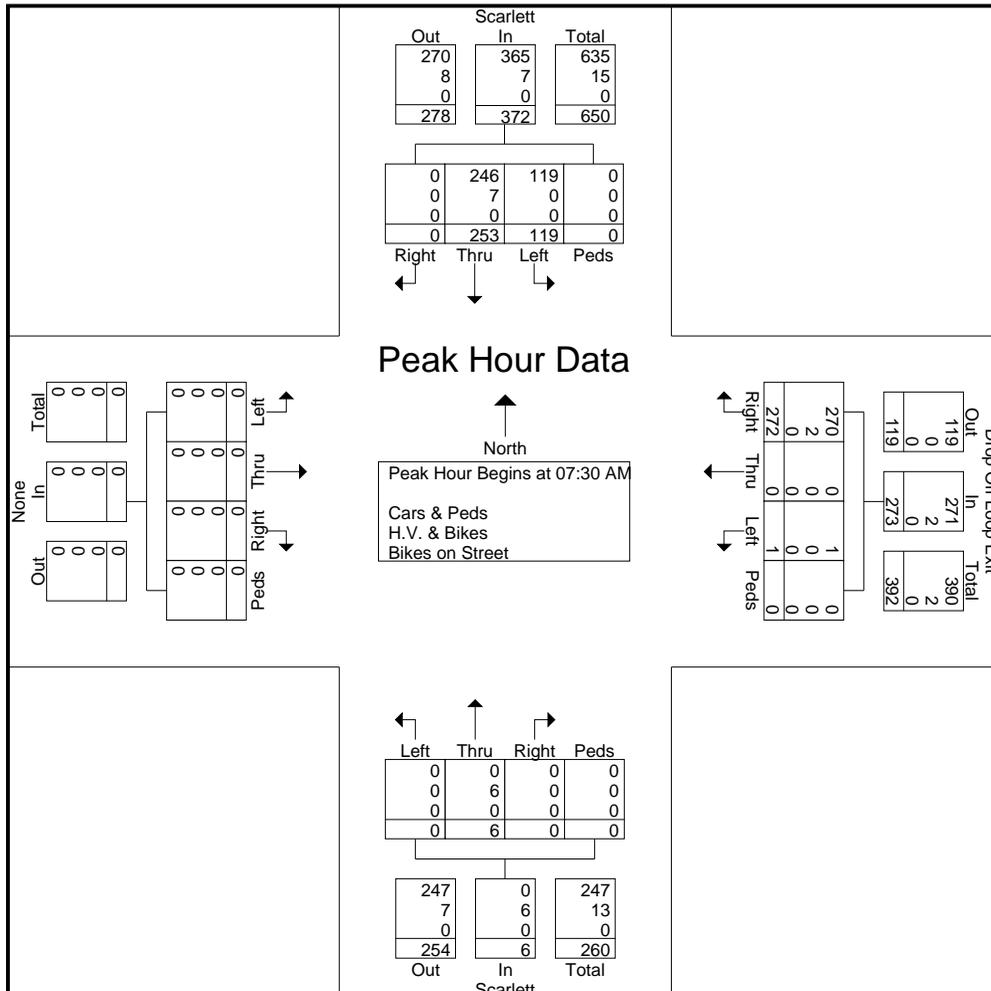
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Drop Off Exit  
N/S: Scarlett  
Weather:

File Name : TMC\_Scarlett & DO Exit\_Mar-09-2022  
Site Code : 1008  
Start Date : 3/9/2022  
Page No : 4

Start Time	None Eastbound					Drop Off Loop Exit Westbound					Scarlett Northbound					Scarlett Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 10:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	0	0	17	0	17	0	0	0	0	0	23	21	0	0	44	61
07:45 AM	0	0	0	0	0	1	0	72	0	73	0	2	0	0	2	42	83	0	0	125	200
08:00 AM	0	0	0	0	0	0	0	106	0	106	0	4	0	0	4	29	100	0	0	129	239
08:15 AM	0	0	0	0	0	0	0	77	0	77	0	0	0	0	0	25	49	0	0	74	151
Total Volume	0	0	0	0	0	1	0	272	0	273	0	6	0	0	6	119	253	0	0	372	651
% App. Total	0	0	0	0	0	0.4	0	99.6	0	0	0	100	0	0	0	32	68	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.642	.000	.644	.000	.375	.000	.000	.375	.708	.633	.000	.000	.721	.681
Cars & Peds	0	0	0	0	0	1	0	270	0	271	0	0	0	0	0	119	246	0	0	365	636
% Cars & Peds	0	0	0	0	0	100	0	99.3	0	99.3	0	0	0	0	0	100	97.2	0	0	98.1	97.7
H.V. & Bikes	0	0	0	0	0	0	0	2	0	2	0	6	0	0	6	0	7	0	0	7	15
% H.V. & Bikes	0	0	0	0	0	0	0	0.7	0	0.7	0	100	0	0	100	0	2.8	0	0	1.9	2.3
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



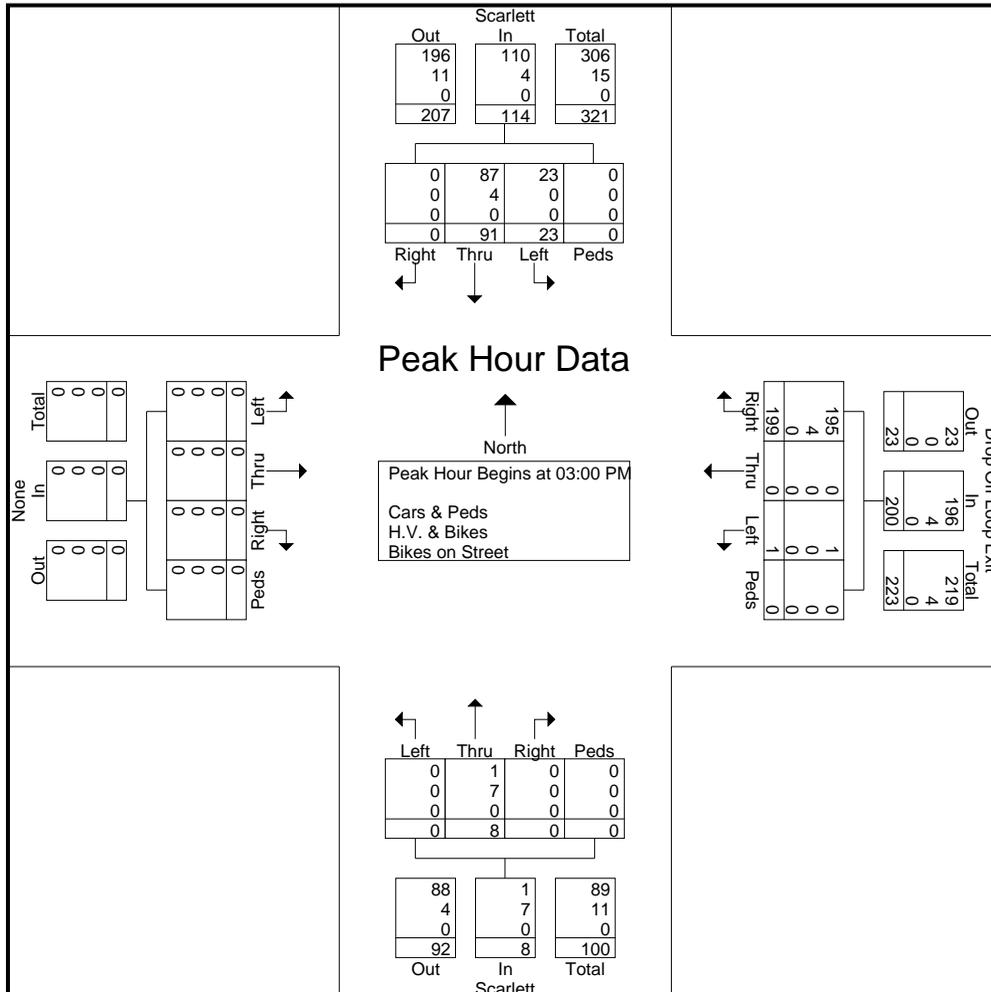
# Midwestern Consulting

3815 Plaza Drive  
Ann Arbor, MI, 48108  
(734) 995-0200

Intersection  
E/W: Drop Off Exit  
N/S: Scarlett  
Weather:

File Name : TMC\_Scarlett & DO Exit\_Mar-09-2022  
Site Code : 1008  
Start Date : 3/9/2022  
Page No : 5

Start Time	None Eastbound					Drop Off Loop Exit Westbound					Scarlett Northbound					Scarlett Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 01:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	0	0	0	0	1	0	73	0	74	0	7	0	0	7	9	46	0	0	55	136
03:15 PM	0	0	0	0	0	0	0	81	0	81	0	1	0	0	1	6	30	0	0	36	118
03:30 PM	0	0	0	0	0	0	0	17	0	17	0	0	0	0	0	5	11	0	0	16	33
03:45 PM	0	0	0	0	0	0	0	28	0	28	0	0	0	0	0	3	4	0	0	7	35
Total Volume	0	0	0	0	0	1	0	199	0	200	0	8	0	0	8	23	91	0	0	114	322
% App. Total	0	0	0	0	0	0.5	0	99.5	0	100	0	100	0	0	100	20.2	79.8	0	0	100	
PHF	.000	.000	.000	.000	.000	.250	.000	.614	.000	.617	.000	.286	.000	.000	.286	.639	.495	.000	.000	.518	.592
Cars & Peds	0	0	0	0	0	1	0	195	0	196	0	1	0	0	1	23	87	0	0	110	307
% Cars & Peds	0	0	0	0	0	100	0	98.0	0	98.0	0	12.5	0	0	12.5	100	95.6	0	0	96.5	95.3
H.V. & Bikes	0	0	0	0	0	0	0	4	0	4	0	7	0	0	7	0	4	0	0	4	15
% H.V. & Bikes	0	0	0	0	0	0	0	2.0	0	2.0	0	87.5	0	0	87.5	0	4.4	0	0	3.5	4.7
Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes on Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0







# HCM 6th Signalized Intersection Summary

## 1001: Platt Road & Lorraine Street

10/17/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	72	69	452	110	39	261
Future Volume (veh/h)	72	69	452	110	39	261
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	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	1811	1811	1841	1841	1841	1841
Adj Flow Rate, veh/h	96	92	486	118	44	297
Peak Hour Factor	0.75	0.75	0.93	0.93	0.88	0.88
Percent Heavy Veh, %	6	6	4	4	4	4
Cap, veh/h	118	113	1038	252	558	1336
Arrive On Green	0.14	0.14	0.73	0.73	0.73	0.73
Sat Flow, veh/h	827	792	1430	347	803	1841
Grp Volume(v), veh/h	189	0	0	604	44	297
Grp Sat Flow(s),veh/h/ln	1627	0	0	1777	803	1841
Q Serve(g_s), s	9.1	0.0	0.0	11.4	2.0	4.3
Cycle Q Clear(g_c), s	9.1	0.0	0.0	11.4	13.4	4.3
Prop In Lane	0.51	0.49		0.20	1.00	
Lane Grp Cap(c), veh/h	232	0	0	1290	558	1336
V/C Ratio(X)	0.82	0.00	0.00	0.47	0.08	0.22
Avail Cap(c_a), veh/h	703	0	0	1290	558	1336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	0.0	0.0	4.6	7.4	3.6
Incr Delay (d2), s/veh	6.9	0.0	0.0	1.2	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.2	0.0	0.0	6.6	0.6	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.6	0.0	0.0	5.8	7.7	4.0
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	189		604			341
Approach Delay, s/veh	40.6		5.8			4.5
Approach LOS	D		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		64.1			64.1	16.9
Change Period (Y+Rc), s		* 5.3			* 5.3	5.4
Max Green Setting (Gmax), s		* 35			* 35	35.0
Max Q Clear Time (g_c+I1), s		13.4			15.4	11.1
Green Ext Time (p_c), s		7.9			3.7	0.6

### Intersection Summary

HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
1002: Scarlett Driveway & Lorraine Street

10/17/2022

Intersection						
Int Delay, s/veh	6.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	99	72	35	82	44	68
Future Vol, veh/h	99	72	35	82	44	68
Conflicting Peds, #/hr	0	0	0	0	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	62	79	79	36	36
Heavy Vehicles, %	3	3	2	2	3	3
Mvmt Flow	160	116	44	104	122	189

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	276	0	413 218
Stage 1	-	-	-	-	218 -
Stage 2	-	-	-	-	195 -
Critical Hdwy	-	-	4.12	-	6.43 6.23
Critical Hdwy Stg 1	-	-	-	-	5.43 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	-	-	2.218	-	3.527 3.327
Pot Cap-1 Maneuver	-	-	1287	-	594 819
Stage 1	-	-	-	-	816 -
Stage 2	-	-	-	-	836 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1287	-	571 819
Mov Cap-2 Maneuver	-	-	-	-	571 -
Stage 1	-	-	-	-	816 -
Stage 2	-	-	-	-	803 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	700	-	-	1287	-
HCM Lane V/C Ratio	0.444	-	-	0.034	-
HCM Control Delay (s)	14.2	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	2.3	-	-	0.1	-

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	60	107	82	54	40	34
Future Vol, veh/h	60	107	82	54	40	34
Conflicting Peds, #/hr	9	0	0	9	13	22
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	54	54	51	51	69	69
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	111	198	161	106	58	49

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	276	0	-	0	656 245
Stage 1	-	-	-	-	223 -
Stage 2	-	-	-	-	433 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1293	-	-	-	432 796
Stage 1	-	-	-	-	816 -
Stage 2	-	-	-	-	656 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1282	-	-	-	383 773
Mov Cap-2 Maneuver	-	-	-	-	383 -
Stage 1	-	-	-	-	730 -
Stage 2	-	-	-	-	650 -

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1282	-	-	-	499
HCM Lane V/C Ratio	0.087	-	-	-	0.215
HCM Control Delay (s)	8.1	0	-	-	14.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.8

Intersection						
Int Delay, s/veh	6.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	138	11	16	120	17
Future Vol, veh/h	12	138	11	16	120	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	61	61	47	47
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	177	18	26	255	36

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	192	0	166
Stage 1	-	-	-	-	104
Stage 2	-	-	-	-	62
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1394	-	829
Stage 1	-	-	-	-	925
Stage 2	-	-	-	-	966
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1394	-	818
Mov Cap-2 Maneuver	-	-	-	-	818
Stage 1	-	-	-	-	925
Stage 2	-	-	-	-	953

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	833	-	-	1394	-
HCM Lane V/C Ratio	0.35	-	-	0.013	-
HCM Control Delay (s)	11.6	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0	-

HCM 6th TWSC  
1005: Pittsview Drive & Lorraine Street

10/17/2022

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	5	1	0	7	0	2	4	1	1	5	16
Future Vol, veh/h	16	5	1	0	7	0	2	4	1	1	5	16
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	35	35	35	35	35	35	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	23	7	1	0	20	0	6	11	3	1	7	23

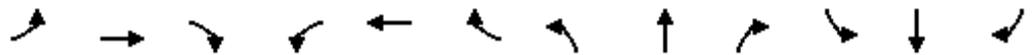
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	20	0	0	8	0	0	92	74	8	81	74	23
Stage 1	-	-	-	-	-	-	54	54	-	20	20	-
Stage 2	-	-	-	-	-	-	38	20	-	61	54	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	1609	-	-	1625	-	-	897	820	1080	909	818	1057
Stage 1	-	-	-	-	-	-	963	854	-	1001	881	-
Stage 2	-	-	-	-	-	-	982	883	-	953	852	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1609	-	-	1625	-	-	859	809	1080	887	807	1054
Mov Cap-2 Maneuver	-	-	-	-	-	-	859	809	-	887	807	-
Stage 1	-	-	-	-	-	-	950	842	-	987	881	-
Stage 2	-	-	-	-	-	-	950	883	-	924	840	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.3	0	9.3	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	854	1609	-	-	1625	-	-	978
HCM Lane V/C Ratio	0.023	0.014	-	-	-	-	-	0.033
HCM Control Delay (s)	9.3	7.3	0	-	0	-	-	8.8
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary  
 1006: Fernwood & Packard Street

10/17/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	
Traffic Volume (veh/h)	8	587	14	53	627	3	19	9	88	15	8	9
Future Volume (veh/h)	8	587	14	53	627	3	19	9	88	15	8	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	10	699	17	62	729	3	28	13	131	21	11	12
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.67	0.67	0.67	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	556	2519	61	565	2578	11	79	31	176	153	80	61
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	724	3545	86	735	3630	15	164	217	1218	573	550	421
Grp Volume(v), veh/h	10	350	366	62	357	375	172	0	0	44	0	0
Grp Sat Flow(s),veh/h/ln	724	1777	1854	735	1777	1868	1599	0	0	1544	0	0
Q Serve(g_s), s	0.4	5.4	5.4	2.5	5.5	5.5	3.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.9	5.4	5.4	7.9	5.5	5.5	7.8	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.01	0.16		0.76	0.48		0.27
Lane Grp Cap(c), veh/h	556	1262	1317	565	1262	1327	287	0	0	294	0	0
V/C Ratio(X)	0.02	0.28	0.28	0.11	0.28	0.28	0.60	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	556	1262	1317	565	1262	1327	472	0	0	465	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.1	4.0	4.0	5.4	4.0	4.0	31.1	0.0	0.0	28.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.5	0.4	0.6	0.5	3.4	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	2.5	2.6	0.6	2.6	2.7	5.8	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.1	4.5	4.5	5.8	4.5	4.5	34.5	0.0	0.0	28.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		726			794			172				44
Approach Delay, s/veh		4.5			4.6			34.5				28.9
Approach LOS		A			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.4		16.6		59.4		16.6				
Change Period (Y+Rc), s		5.4		5.6		5.4		5.6				
Max Green Setting (Gmax), s		45.0		20.0		45.0		20.0				
Max Q Clear Time (g_c+I1), s		7.9		3.6		9.9		9.8				
Green Ext Time (p_c), s		4.6		0.2		5.2		1.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				8.2								
HCM 6th LOS				A								

HCM 6th TWSC  
 1007: Scarlett Driveway & NW Ped Access

10/17/2022

Intersection												
Int Delay, s/veh	10.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	0	0	0	0	0	0	110	0	0	106	0
Future Vol, veh/h	0	0	0	0	0	0	0	110	0	0	106	0
Conflicting Peds, #/hr	0	0	29	29	0	0	9	0	0	0	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	36	36	36	40	40	40
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	0	0	0	306	0	0	265	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	-	-	-	0	-	2	-	-	2	-
Stage 1	-	-	-	-	-	-	-	1	-	-	1	-
Stage 2	-	-	-	-	-	-	-	1	-	-	1	-
Critical Hdwy	-	-	-	-	-	-	-	6.53	-	-	6.53	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.53	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.53	-	-	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	-	4.027	-	-	4.027	-
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	892	0	0	892	0
Stage 1	0	-	0	0	-	0	0	893	0	0	893	0
Stage 2	0	-	0	0	-	0	0	893	0	0	893	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	892	-	-	892	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	892	-	-	892	-
Stage 1	-	-	-	-	-	-	-	893	-	-	893	-
Stage 2	-	-	-	-	-	-	-	893	-	-	893	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11.1	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1
Capacity (veh/h)	892	-	-	892
HCM Lane V/C Ratio	0.343	-	-	0.297
HCM Control Delay (s)	11.1	-	-	10.7
HCM Lane LOS	B	-	-	B
HCM 95th %tile Q(veh)	1.5	-	-	1.2

HCM 6th TWSC  
 1008: Scarlett Driveway & Parking Exit

10/17/2022

Intersection						
Int Delay, s/veh	6.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	103	2	0	36	72
Future Vol, veh/h	0	103	2	0	36	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	33	33	25	25	36	36
Heavy Vehicles, %	1	1	100	100	2	2
Mvmt Flow	0	312	8	0	100	200

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	408	8	0	0	8
Stage 1	8	-	-	-	-
Stage 2	400	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218
Pot Cap-1 Maneuver	601	1077	-	-	1612
Stage 1	1018	-	-	-	-
Stage 2	679	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	559	1077	-	-	1612
Mov Cap-2 Maneuver	559	-	-	-	-
Stage 1	1018	-	-	-	-
Stage 2	631	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	2.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1077	1612
HCM Lane V/C Ratio	-	-	0.29	0.062
HCM Control Delay (s)	-	-	9.7	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0.2

# HCM 6th Signalized Intersection Summary

## 1001: Platt Road & Lorraine Street

10/17/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	141	52	382	73	45	568
Future Volume (veh/h)	141	52	382	73	45	568
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.97		0.99	1.00	
Parking Bus, Adj	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	1856	1856	1856	1856	1870	1870
Adj Flow Rate, veh/h	235	87	455	87	53	668
Peak Hour Factor	0.60	0.60	0.84	0.84	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	2	2
Cap, veh/h	272	101	979	187	517	1212
Arrive On Green	0.22	0.22	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1234	457	1511	289	864	1870
Grp Volume(v), veh/h	323	0	0	542	53	668
Grp Sat Flow(s),veh/h/ln	1696	0	0	1800	864	1870
Q Serve(g_s), s	14.9	0.0	0.0	12.3	2.7	15.8
Cycle Q Clear(g_c), s	14.9	0.0	0.0	12.3	15.0	15.8
Prop In Lane	0.73	0.27		0.16	1.00	
Lane Grp Cap(c), veh/h	373	0	0	1166	517	1212
V/C Ratio(X)	0.87	0.00	0.00	0.46	0.10	0.55
Avail Cap(c_a), veh/h	733	0	0	1166	517	1212
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	0.0	0.0	7.2	11.0	7.8
Incr Delay (d2), s/veh	6.1	0.0	0.0	1.3	0.4	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.8	0.0	0.0	8.0	1.0	10.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.5	0.0	0.0	8.5	11.4	9.6
LnGrp LOS	D	A	A	A	B	A
Approach Vol, veh/h	323		542			721
Approach Delay, s/veh	36.5		8.5			9.7
Approach LOS	D		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		57.8			57.8	23.2
Change Period (Y+Rc), s		* 5.3			* 5.3	5.4
Max Green Setting (Gmax), s		* 35			* 35	35.0
Max Q Clear Time (g_c+I1), s		14.3			17.8	16.9
Green Ext Time (p_c), s		6.8			8.2	1.0

### Intersection Summary

HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
1002: Scarlett Driveway & Lorraine Street

10/17/2022

Intersection						
Int Delay, s/veh	10.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	86	48	16	76	101	69
Future Vol, veh/h	86	48	16	76	101	69
Conflicting Peds, #/hr	0	14	14	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	55	55	40	40
Heavy Vehicles, %	3	3	2	2	5	5
Mvmt Flow	151	84	29	138	253	173

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	249	0	405
Stage 1	-	-	-	-	207
Stage 2	-	-	-	-	198
Critical Hdwy	-	-	4.12	-	6.45
Critical Hdwy Stg 1	-	-	-	-	5.45
Critical Hdwy Stg 2	-	-	-	-	5.45
Follow-up Hdwy	-	-	2.218	-	3.545
Pot Cap-1 Maneuver	-	-	1317	-	596
Stage 1	-	-	-	-	821
Stage 2	-	-	-	-	828
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1299	-	573
Mov Cap-2 Maneuver	-	-	-	-	573
Stage 1	-	-	-	-	810
Stage 2	-	-	-	-	806

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	652	-	-	1299	-
HCM Lane V/C Ratio	0.652	-	-	0.022	-
HCM Control Delay (s)	20.3	-	-	7.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	4.8	-	-	0.1	-

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	82	73	68	42	26	23
Future Vol, veh/h	82	73	68	42	26	23
Conflicting Peds, #/hr	2	0	0	2	30	40
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	47	47	42	42	64	64
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	174	155	162	100	41	36

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	264	0	-	0	747
Stage 1	-	-	-	-	214
Stage 2	-	-	-	-	533
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1312	-	-	-	383
Stage 1	-	-	-	-	826
Stage 2	-	-	-	-	593
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1310	-	-	-	326
Mov Cap-2 Maneuver	-	-	-	-	326
Stage 1	-	-	-	-	705
Stage 2	-	-	-	-	592

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1310	-	-	-	445
HCM Lane V/C Ratio	0.133	-	-	-	0.172
HCM Control Delay (s)	8.2	0	-	-	14.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.6

Intersection						
Int Delay, s/veh	5.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	69	11	20	90	7
Future Vol, veh/h	36	69	11	20	90	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	60	60	45	45
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	57	110	18	33	200	16

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	167	0	181
Stage 1	-	-	-	-	112
Stage 2	-	-	-	-	69
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1423	-	813
Stage 1	-	-	-	-	918
Stage 2	-	-	-	-	959
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1423	-	802
Mov Cap-2 Maneuver	-	-	-	-	802
Stage 1	-	-	-	-	918
Stage 2	-	-	-	-	947

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	811	-	-	1423	-
HCM Lane V/C Ratio	0.266	-	-	0.013	-
HCM Control Delay (s)	11	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0	-

HCM 6th TWSC  
1005: Pittsview Drive & Lorraine Street

10/17/2022

Intersection													
Int Delay, s/veh	5.9												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕			↕			↕		
Traffic Vol, veh/h	29	10	5	1	5	0	3	2	1	0	2	12	
Future Vol, veh/h	29	10	5	1	5	0	3	2	1	0	2	12	
Conflicting Peds, #/hr	0	0	5	5	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										
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	61	61	61	75	75	75	75	75	75	44	44	44	
Heavy Vehicles, %	6	6	6	0	0	0	0	0	0	0	0	0	
Mvmt Flow	48	16	8	1	7	0	4	3	1	0	5	27	

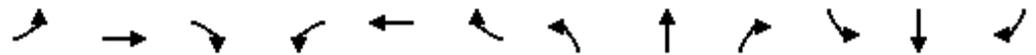
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	7	0	0	29	0	0	146	130	25	127	134	7
Stage 1	-	-	-	-	-	-	121	121	-	9	9	-
Stage 2	-	-	-	-	-	-	25	9	-	118	125	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1588	-	-	1597	-	-	827	764	1057	851	760	1081
Stage 1	-	-	-	-	-	-	888	800	-	1017	892	-
Stage 2	-	-	-	-	-	-	998	892	-	891	796	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1588	-	-	1589	-	-	779	736	1052	827	732	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	779	736	-	827	732	-
Stage 1	-	-	-	-	-	-	856	771	-	985	891	-
Stage 2	-	-	-	-	-	-	967	891	-	859	767	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.8			1.2			9.6			8.7		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	798	1588	-	-	1589	-	-	1012
HCM Lane V/C Ratio	0.01	0.03	-	-	0.001	-	-	0.031
HCM Control Delay (s)	9.6	7.3	0	-	7.3	0	-	8.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary  
 1006: Fernwood & Packard Street

10/17/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	950	20	39	682	10	19	12	110	6	9	23
Future Volume (veh/h)	17	950	20	39	682	10	19	12	110	6	9	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	21	1159	24	43	749	11	32	20	186	7	10	27
Peak Hour Factor	0.82	0.82	0.82	0.91	0.91	0.91	0.59	0.59	0.59	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	504	2378	49	335	2395	35	78	40	231	79	98	194
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	705	3560	74	474	3585	53	131	213	1231	128	524	1037
Grp Volume(v), veh/h	21	578	605	43	371	389	238	0	0	44	0	0
Grp Sat Flow(s),veh/h/ln	705	1777	1857	474	1777	1861	1576	0	0	1690	0	0
Q Serve(g_s), s	1.0	12.2	12.2	3.7	6.7	6.7	5.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.6	12.2	12.2	15.9	6.7	6.7	10.9	0.0	0.0	1.7	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.03	0.13		0.78	0.16		0.61
Lane Grp Cap(c), veh/h	504	1187	1240	335	1187	1243	349	0	0	371	0	0
V/C Ratio(X)	0.04	0.49	0.49	0.13	0.31	0.31	0.68	0.00	0.00	0.12	0.00	0.00
Avail Cap(c_a), veh/h	504	1187	1240	335	1187	1243	466	0	0	489	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.9	6.2	6.2	10.1	5.3	5.3	29.5	0.0	0.0	25.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.4	1.4	0.8	0.7	0.7	4.1	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	6.5	6.8	0.7	3.5	3.7	7.9	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.1	7.6	7.6	10.9	6.0	6.0	33.6	0.0	0.0	26.0	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1204			803			238				44
Approach Delay, s/veh		7.6			6.2			33.6				26.0
Approach LOS		A			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.2		19.8		56.2		19.8				
Change Period (Y+Rc), s		5.4		5.6		5.4		5.6				
Max Green Setting (Gmax), s		45.0		20.0		45.0		20.0				
Max Q Clear Time (g_c+I1), s		14.2		3.7		17.9		12.9				
Green Ext Time (p_c), s		9.0		0.2		5.4		1.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				10.2								
HCM 6th LOS				B								

HCM 6th TWSC  
1007: Scarlett Driveway & NW Ped Access

10/17/2022

Intersection												
Int Delay, s/veh	11.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	0	0	0	0	0	0	160	0	0	67	0
Future Vol, veh/h	0	0	0	0	0	0	0	160	0	0	67	0
Conflicting Peds, #/hr	0	0	34	34	0	0	18	0	0	0	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	41	41	41	52	52	52
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	4	4	4
Mvmt Flow	0	0	0	0	0	0	0	390	0	0	129	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	-	-	-	0	-	2	-	-	2	-
Stage 1	-	-	-	-	-	-	-	1	-	-	1	-
Stage 2	-	-	-	-	-	-	-	1	-	-	1	-
Critical Hdwy	-	-	-	-	-	-	-	6.54	-	-	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.54	-	-	5.54	-
Follow-up Hdwy	-	-	-	-	-	-	-	4.036	-	-	4.036	-
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	890	0	0	890	0
Stage 1	0	-	0	0	-	0	0	891	0	0	891	0
Stage 2	0	-	0	0	-	0	0	891	0	0	891	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	890	-	-	890	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	890	-	-	890	-
Stage 1	-	-	-	-	-	-	-	891	-	-	891	-
Stage 2	-	-	-	-	-	-	-	891	-	-	891	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	12.2	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1
Capacity (veh/h)	890	-	-	890
HCM Lane V/C Ratio	0.438	-	-	0.145
HCM Control Delay (s)	12.2	-	-	9.7
HCM Lane LOS	B	-	-	A
HCM 95th %tile Q(veh)	2.3	-	-	0.5

HCM 6th TWSC  
 1008: Scarlett Driveway & Parking Exit

10/17/2022

Intersection						
Int Delay, s/veh	7.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	135	1	0	14	49
Future Vol, veh/h	0	135	1	0	14	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	42	42	25	25	44	44
Heavy Vehicles, %	1	1	100	100	2	2
Mvmt Flow	0	321	4	0	32	111

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	179	4	0	0	4	0
Stage 1	4	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	813	1082	-	-	1618	-
Stage 1	1022	-	-	-	-	-
Stage 2	858	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	796	1082	-	-	1618	-
Mov Cap-2 Maneuver	796	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	840	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1082	1618
HCM Lane V/C Ratio	-	-	0.297	0.02
HCM Control Delay (s)	-	-	9.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0.1

HCM 6th Signalized Intersection Summary  
 1001: Platt Road & Lorraine Street

10/20/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	97	66	523	196	57	234
Future Volume (veh/h)	97	66	523	196	57	234
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.98		1.00	1.00	
Parking Bus, Adj	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	1811	1811	1841	1841	1841	1841
Adj Flow Rate, veh/h	121	82	630	236	66	272
Peak Hour Factor	0.80	0.80	0.83	0.83	0.86	0.86
Percent Heavy Veh, %	6	6	4	4	4	4
Cap, veh/h	147	100	914	342	365	1318
Arrive On Green	0.15	0.15	0.72	0.72	0.72	0.72
Sat Flow, veh/h	968	656	1276	478	629	1841
Grp Volume(v), veh/h	204	0	0	866	66	272
Grp Sat Flow(s),veh/h/ln	1632	0	0	1754	629	1841
Q Serve(g_s), s	9.8	0.0	0.0	22.4	5.3	4.0
Cycle Q Clear(g_c), s	9.8	0.0	0.0	22.4	27.8	4.0
Prop In Lane	0.59	0.40		0.27	1.00	
Lane Grp Cap(c), veh/h	248	0	0	1256	365	1318
V/C Ratio(X)	0.82	0.00	0.00	0.69	0.18	0.21
Avail Cap(c_a), veh/h	705	0	0	1256	365	1318
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	0.0	0.0	6.5	14.2	3.8
Incr Delay (d2), s/veh	6.7	0.0	0.0	3.1	1.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.7	0.0	0.0	12.0	1.5	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.0	0.0	0.0	9.6	15.3	4.2
LnGrp LOS	D	A	A	A	B	A
Approach Vol, veh/h	204		866			338
Approach Delay, s/veh	40.0		9.6			6.4
Approach LOS	D		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		63.3			63.3	17.7
Change Period (Y+Rc), s		* 5.3			* 5.3	5.4
Max Green Setting (Gmax), s		* 35			* 35	35.0
Max Q Clear Time (g_c+I1), s		24.4			29.8	11.8
Green Ext Time (p_c), s		7.2			1.5	0.6

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
1002: Scarlett Driveway & Lorraine Street

10/20/2022

Intersection						
Int Delay, s/veh	24.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	49	235	141	30	126	152
Future Vol, veh/h	49	235	141	30	126	152
Conflicting Peds, #/hr	0	6	6	0	16	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	74	74	59	59
Heavy Vehicles, %	3	3	2	2	3	3
Mvmt Flow	61	294	191	41	214	258

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	361	0	653	218
Stage 1	-	-	-	-	214	-
Stage 2	-	-	-	-	439	-
Critical Hdwy	-	-	4.12	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.218	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1198	-	430	819
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	648	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1191	-	352	811
Mov Cap-2 Maneuver	-	-	-	-	352	-
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	533	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.1	51.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	510	-	-	1191	-
HCM Lane V/C Ratio	0.924	-	-	0.16	-
HCM Control Delay (s)	51.8	-	-	8.6	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	11.1	-	-	0.6	-

Intersection						
Int Delay, s/veh	6.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	133	66	35	11	17	132
Future Vol, veh/h	133	66	35	11	17	132
Conflicting Peds, #/hr	0	0	0	0	9	8
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	65	65	77	77	64	64
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	205	102	45	14	27	206

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	59	0	-	0	573 60
Stage 1	-	-	-	-	52 -
Stage 2	-	-	-	-	521 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1551	-	-	-	483 1008
Stage 1	-	-	-	-	973 -
Stage 2	-	-	-	-	598 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1551	-	-	-	415 1000
Mov Cap-2 Maneuver	-	-	-	-	415 -
Stage 1	-	-	-	-	837 -
Stage 2	-	-	-	-	598 -

Approach	EB	WB	SB
HCM Control Delay, s	5.1	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1551	-	-	-	861
HCM Lane V/C Ratio	0.132	-	-	-	0.27
HCM Control Delay (s)	7.7	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.1

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	18	65	9	31	15	3
Future Vol, veh/h	18	65	9	31	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	47	47	67	67	56	56
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	38	138	13	46	27	5

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	176	0	179
Stage 1	-	-	-	-	107
Stage 2	-	-	-	-	72
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1412	-	815
Stage 1	-	-	-	-	922
Stage 2	-	-	-	-	956
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1412	-	808
Mov Cap-2 Maneuver	-	-	-	-	808
Stage 1	-	-	-	-	922
Stage 2	-	-	-	-	947

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	829	-	-	1412	-
HCM Lane V/C Ratio	0.039	-	-	0.01	-
HCM Control Delay (s)	9.5	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC  
1005: Pittsview Drive & Lorraine Street

10/20/2022

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	6	0	0	12	0	0	1	0	0	0	24
Future Vol, veh/h	9	6	0	0	12	0	0	1	0	0	0	24
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									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	60	60	60	25	25	25	60	60	60
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	14	10	0	0	20	0	0	4	0	0	0	40

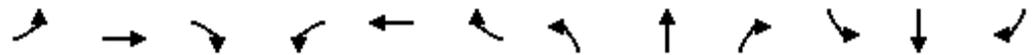
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	20	0	0	10	0	0	78	58	10	60	58	20
Stage 1	-	-	-	-	-	-	38	38	-	20	20	-
Stage 2	-	-	-	-	-	-	40	20	-	40	38	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	1609	-	-	1623	-	-	916	837	1077	938	835	1061
Stage 1	-	-	-	-	-	-	982	867	-	1001	881	-
Stage 2	-	-	-	-	-	-	980	883	-	977	865	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1609	-	-	1623	-	-	876	829	1077	928	827	1061
Mov Cap-2 Maneuver	-	-	-	-	-	-	876	829	-	928	827	-
Stage 1	-	-	-	-	-	-	973	859	-	992	881	-
Stage 2	-	-	-	-	-	-	943	883	-	964	857	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.4	0	9.4	8.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	829	1609	-	-	1623	-	-	1061
HCM Lane V/C Ratio	0.005	0.009	-	-	-	-	-	0.038
HCM Control Delay (s)	9.4	7.3	0	-	0	-	-	8.5
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary  
 1006: Fernwood & Packard Street

10/20/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘			↕			↕	
Traffic Volume (veh/h)	2	460	19	126	770	6	28	11	108	10	9	7
Future Volume (veh/h)	2	460	19	126	770	6	28	11	108	10	9	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	2	541	22	156	951	7	47	19	183	14	12	10
Peak Hour Factor	0.85	0.85	0.85	0.81	0.81	0.81	0.59	0.59	0.59	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	413	2310	94	604	2400	18	97	41	224	147	121	78
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	586	3480	141	847	3616	27	211	212	1171	422	631	405
Grp Volume(v), veh/h	2	276	287	156	467	491	249	0	0	36	0	0
Grp Sat Flow(s),veh/h/ln	586	1777	1844	847	1777	1865	1594	0	0	1458	0	0
Q Serve(g_s), s	0.1	4.7	4.7	6.8	9.1	9.1	7.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.2	4.7	4.7	11.5	9.1	9.1	11.3	0.0	0.0	1.3	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.01	0.19		0.73	0.39		0.28
Lane Grp Cap(c), veh/h	413	1179	1224	604	1179	1238	362	0	0	345	0	0
V/C Ratio(X)	0.00	0.23	0.23	0.26	0.40	0.40	0.69	0.00	0.00	0.10	0.00	0.00
Avail Cap(c_a), veh/h	413	1179	1224	604	1179	1238	474	0	0	450	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.9	5.1	5.1	7.4	5.8	5.8	29.3	0.0	0.0	25.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.4	1.0	1.0	1.0	4.3	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.5	2.6	2.1	4.9	5.1	8.2	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	5.6	5.5	8.4	6.8	6.8	33.6	0.0	0.0	25.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		565			1114			249				36
Approach Delay, s/veh		5.6			7.0			33.6				25.6
Approach LOS		A			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.8		20.2		55.8		20.2				
Change Period (Y+Rc), s		5.4		5.6		5.4		5.6				
Max Green Setting (Gmax), s		45.0		20.0		45.0		20.0				
Max Q Clear Time (g_c+I1), s		11.2		3.3		13.5		13.3				
Green Ext Time (p_c), s		3.4		0.2		7.8		1.2				

Intersection Summary

HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

HCM 6th TWSC  
1007: Scarlett Driveway & NW Ped Access

10/20/2022

Intersection												
Int Delay, s/veh	13.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	0	0	0	0	0	0	278	0	0	373	0
Future Vol, veh/h	0	0	0	0	0	0	0	278	0	0	373	0
Conflicting Peds, #/hr	0	0	9	9	0	0	12	0	0	0	0	12
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	63	63	63	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	0	0	0	441	0	0	533	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	-	-	-	0	-	2	-	-	2	-
Stage 1	-	-	-	-	-	-	-	1	-	-	1	-
Stage 2	-	-	-	-	-	-	-	1	-	-	1	-
Critical Hdwy	-	-	-	-	-	-	-	6.53	-	-	6.53	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.53	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.53	-	-	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	-	4.027	-	-	4.027	-
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	892	0	0	892	0
Stage 1	0	-	0	0	-	0	0	893	0	0	893	0
Stage 2	0	-	0	0	-	0	0	893	0	0	893	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	892	-	-	892	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	892	-	-	892	-
Stage 1	-	-	-	-	-	-	-	893	-	-	893	-
Stage 2	-	-	-	-	-	-	-	893	-	-	893	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	12.9	14.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1
Capacity (veh/h)	892	-	-	892
HCM Lane V/C Ratio	0.495	-	-	0.597
HCM Control Delay (s)	12.9	-	-	14.8
HCM Lane LOS	B	-	-	B
HCM 95th %tile Q(veh)	2.8	-	-	4.1

HCM 6th TWSC  
1008: Scarlett Driveway & Parking Exit

10/20/2022

Intersection						
Int Delay, s/veh	6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	272	6	0	119	253
Future Vol, veh/h	0	272	6	0	119	253
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	64	64	38	38	72	72
Heavy Vehicles, %	1	1	100	100	2	2
Mvmt Flow	0	425	16	0	165	351

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	697	16	0	0	16
Stage 1	16	-	-	-	-
Stage 2	681	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218
Pot Cap-1 Maneuver	409	1066	-	-	1602
Stage 1	1009	-	-	-	-
Stage 2	504	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	357	1066	-	-	1602
Mov Cap-2 Maneuver	357	-	-	-	-
Stage 1	1009	-	-	-	-
Stage 2	439	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1066	1602
HCM Lane V/C Ratio	-	-	0.399	0.103
HCM Control Delay (s)	-	-	10.6	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.9	0.3

# HCM 6th Signalized Intersection Summary

## 1001: Platt Road & Lorraine Street

10/17/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	117	47	370	124	35	441
Future Volume (veh/h)	117	47	370	124	35	441
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.97		0.99	1.00	
Parking Bus, Adj	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	1856	1856	1856	1856	1870	1870
Adj Flow Rate, veh/h	229	92	407	136	39	496
Peak Hour Factor	0.51	0.51	0.91	0.91	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	2	2
Cap, veh/h	265	106	861	288	514	1212
Arrive On Green	0.22	0.22	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1204	484	1328	444	863	1870
Grp Volume(v), veh/h	322	0	0	543	39	496
Grp Sat Flow(s),veh/h/ln	1692	0	0	1772	863	1870
Q Serve(g_s), s	14.8	0.0	0.0	12.6	1.9	10.3
Cycle Q Clear(g_c), s	14.8	0.0	0.0	12.6	14.5	10.3
Prop In Lane	0.71	0.29		0.25	1.00	
Lane Grp Cap(c), veh/h	372	0	0	1148	514	1212
V/C Ratio(X)	0.87	0.00	0.00	0.47	0.08	0.41
Avail Cap(c_a), veh/h	731	0	0	1148	514	1212
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	0.0	0.0	7.2	10.9	6.8
Incr Delay (d2), s/veh	6.1	0.0	0.0	1.4	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.7	0.0	0.0	8.1	0.7	7.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.5	0.0	0.0	8.6	11.2	7.9
LnGrp LOS	D	A	A	A	B	A
Approach Vol, veh/h	322		543			535
Approach Delay, s/veh	36.5		8.6			8.1
Approach LOS	D		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		57.8			57.8	23.2
Change Period (Y+Rc), s		* 5.3			* 5.3	5.4
Max Green Setting (Gmax), s		* 35			* 35	35.0
Max Q Clear Time (g_c+I1), s		14.6			16.5	16.8
Green Ext Time (p_c), s		6.8			6.0	1.0

### Intersection Summary

HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC  
1002: Scarlett Driveway & Lorraine Street

10/17/2022

Intersection						
Int Delay, s/veh	11					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	60	93	37	34	110	80
Future Vol, veh/h	60	93	37	34	110	80
Conflicting Peds, #/hr	0	18	18	0	24	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	85	85	45	45
Heavy Vehicles, %	3	3	2	2	5	5
Mvmt Flow	92	143	44	40	244	178

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	253	0	334
Stage 1	-	-	-	-	182
Stage 2	-	-	-	-	152
Critical Hdwy	-	-	4.12	-	6.45
Critical Hdwy Stg 1	-	-	-	-	5.45
Critical Hdwy Stg 2	-	-	-	-	5.45
Follow-up Hdwy	-	-	2.218	-	3.545
Pot Cap-1 Maneuver	-	-	1312	-	655
Stage 1	-	-	-	-	842
Stage 2	-	-	-	-	869
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1290	-	607
Mov Cap-2 Maneuver	-	-	-	-	607
Stage 1	-	-	-	-	828
Stage 2	-	-	-	-	819

Approach	EB	WB	NB
HCM Control Delay, s	0	4.1	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	682	-	-	1290	-
HCM Lane V/C Ratio	0.619	-	-	0.034	-
HCM Control Delay (s)	18.5	-	-	7.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	4.3	-	-	0.1	-

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	92	49	21	14	25	49
Future Vol, veh/h	92	49	21	14	25	49
Conflicting Peds, #/hr	7	0	0	7	4	8
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	43	43	58	58	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	214	114	36	24	31	61

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	67	0	-	0	601 63
Stage 1	-	-	-	-	55 -
Stage 2	-	-	-	-	546 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1547	-	-	-	467 1007
Stage 1	-	-	-	-	973 -
Stage 2	-	-	-	-	584 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1537	-	-	-	392 993
Mov Cap-2 Maneuver	-	-	-	-	392 -
Stage 1	-	-	-	-	822 -
Stage 2	-	-	-	-	580 -

Approach	EB	WB	SB
HCM Control Delay, s	5	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1537	-	-	-	654
HCM Lane V/C Ratio	0.139	-	-	-	0.141
HCM Control Delay (s)	7.7	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.5

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	38	6	18	17	2
Future Vol, veh/h	36	38	6	18	17	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	56	56	40	40	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	64	68	15	45	18	2

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	132	0	173
Stage 1	-	-	-	-	98
Stage 2	-	-	-	-	75
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1466	-	822
Stage 1	-	-	-	-	931
Stage 2	-	-	-	-	953
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1466	-	814
Mov Cap-2 Maneuver	-	-	-	-	814
Stage 1	-	-	-	-	931
Stage 2	-	-	-	-	943

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	827	-	-	1466	-
HCM Lane V/C Ratio	0.024	-	-	0.01	-
HCM Control Delay (s)	9.5	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC  
1005: Pittsview Drive & Lorraine Street

10/17/2022

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	6	2	0	6	0	3	1	0	0	4	10
Future Vol, veh/h	13	6	2	0	6	0	3	1	0	0	4	10
Conflicting Peds, #/hr	0	0	5	5	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									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	44	44	44	75	75	75	50	50	50	44	44	44
Heavy Vehicles, %	6	6	6	0	0	0	0	0	0	0	0	0
Mvmt Flow	30	14	5	0	8	0	6	2	0	0	9	23

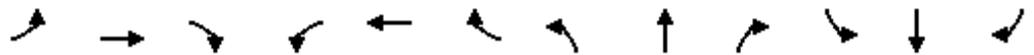
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	8	0	0	24	0	0	106	90	22	86	92	8
Stage 1	-	-	-	-	-	-	82	82	-	8	8	-
Stage 2	-	-	-	-	-	-	24	8	-	78	84	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1586	-	-	1604	-	-	878	804	1061	905	802	1080
Stage 1	-	-	-	-	-	-	931	831	-	1019	893	-
Stage 2	-	-	-	-	-	-	999	893	-	936	829	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1586	-	-	1596	-	-	836	785	1056	891	783	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	836	785	-	891	783	-
Stage 1	-	-	-	-	-	-	909	811	-	1000	893	-
Stage 2	-	-	-	-	-	-	968	893	-	916	809	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.5	0	9.4	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	823	1586	-	-	1596	-	-	974
HCM Lane V/C Ratio	0.01	0.019	-	-	-	-	-	0.033
HCM Control Delay (s)	9.4	7.3	0	-	0	-	-	8.8
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary  
 1006: Fernwood & Packard Street

10/17/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	7	735	21	57	674	10	24	10	83	7	11	9
Future Volume (veh/h)	7	735	21	57	674	10	24	10	83	7	11	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	8	826	24	63	749	11	49	20	169	8	13	11
Peak Hour Factor	0.89	0.89	0.89	0.90	0.90	0.90	0.49	0.49	0.49	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	503	2351	68	461	2391	35	100	42	209	108	158	108
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	705	3525	102	649	3585	53	229	224	1110	257	839	574
Grp Volume(v), veh/h	8	416	434	63	371	389	238	0	0	32	0	0
Grp Sat Flow(s),veh/h/ln	705	1777	1851	649	1777	1860	1563	0	0	1669	0	0
Q Serve(g_s), s	0.4	7.7	7.7	3.6	6.7	6.7	7.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	7.7	7.7	11.3	6.7	6.7	11.0	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.06	1.00		0.03	0.21		0.71	0.25		0.34
Lane Grp Cap(c), veh/h	503	1185	1235	461	1185	1241	351	0	0	374	0	0
V/C Ratio(X)	0.02	0.35	0.35	0.14	0.31	0.31	0.68	0.00	0.00	0.09	0.00	0.00
Avail Cap(c_a), veh/h	503	1185	1235	461	1185	1241	466	0	0	489	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.8	5.5	5.5	8.0	5.3	5.3	29.4	0.0	0.0	25.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.8	0.8	0.6	0.7	0.7	4.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	4.1	4.3	0.9	3.5	3.7	7.9	0.0	0.0	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.9	6.3	6.3	8.6	6.0	6.0	33.4	0.0	0.0	25.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		858			823			238				32
Approach Delay, s/veh		6.3			6.2			33.4				25.7
Approach LOS		A			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.1		19.9		56.1		19.9				
Change Period (Y+Rc), s		5.4		5.6		5.4		5.6				
Max Green Setting (Gmax), s		45.0		20.0		45.0		20.0				
Max Q Clear Time (g_c+I1), s		9.7		3.1		13.3		13.0				
Green Ext Time (p_c), s		5.7		0.1		5.5		1.2				

Intersection Summary

HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

HCM 6th TWSC  
 1007: Scarlett Driveway & NW Ped Access

10/17/2022

Intersection												
Int Delay, s/veh	11.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	0	0	0	0	0	0	189	0	0	132	0
Future Vol, veh/h	0	0	0	0	0	0	0	189	0	0	132	0
Conflicting Peds, #/hr	0	0	13	13	0	0	74	0	0	0	0	74
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	49	49	49	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	4	4	4
Mvmt Flow	0	0	0	0	0	0	0	386	0	0	181	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	-	-	-	0	-	2	-	-	2	-
Stage 1	-	-	-	-	-	-	-	1	-	-	1	-
Stage 2	-	-	-	-	-	-	-	1	-	-	1	-
Critical Hdwy	-	-	-	-	-	-	-	6.54	-	-	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.54	-	-	5.54	-
Follow-up Hdwy	-	-	-	-	-	-	-	4.036	-	-	4.036	-
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	890	0	0	890	0
Stage 1	0	-	0	0	-	0	0	891	0	0	891	0
Stage 2	0	-	0	0	-	0	0	891	0	0	891	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	890	-	-	890	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	890	-	-	890	-
Stage 1	-	-	-	-	-	-	-	891	-	-	891	-
Stage 2	-	-	-	-	-	-	-	891	-	-	891	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	12.1	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1
Capacity (veh/h)	890	-	-	890
HCM Lane V/C Ratio	0.433	-	-	0.203
HCM Control Delay (s)	12.1	-	-	10.1
HCM Lane LOS	B	-	-	B
HCM 95th %tile Q(veh)	2.2	-	-	0.8

HCM 6th TWSC  
 1008: Scarlett Driveway & Parking Exit

10/17/2022

Intersection						
Int Delay, s/veh	6.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	178	8	0	38	91
Future Vol, veh/h	0	178	8	0	38	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	55	55	29	29	59	59
Heavy Vehicles, %	1	1	100	100	2	2
Mvmt Flow	0	324	28	0	64	154

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	310	28	0	0	28	0
Stage 1	28	-	-	-	-	-
Stage 2	282	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	684	1050	-	-	1585	-
Stage 1	997	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	654	1050	-	-	1585	-
Mov Cap-2 Maneuver	654	-	-	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	734	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	2.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1050	1585
HCM Lane V/C Ratio	-	-	0.308	0.041
HCM Control Delay (s)	-	-	9.9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0.1

HCM 6th Signalized Intersection Summary  
 1001: Platt Road & Lorraine Street

03/30/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	77	56	560	117	37	262
Future Volume (veh/h)	77	56	560	117	37	262
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	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	1811	1811	1841	1841	1841	1841
Adj Flow Rate, veh/h	103	75	602	126	42	298
Peak Hour Factor	0.75	0.75	0.93	0.93	0.88	0.88
Percent Heavy Veh, %	6	6	4	4	4	4
Cap, veh/h	127	93	1082	226	482	1349
Arrive On Green	0.13	0.13	0.73	0.73	0.73	0.73
Sat Flow, veh/h	944	687	1476	309	715	1841
Grp Volume(v), veh/h	179	0	0	728	42	298
Grp Sat Flow(s),veh/h/ln	1640	0	0	1784	715	1841
Q Serve(g_s), s	8.6	0.0	0.0	14.9	2.3	4.2
Cycle Q Clear(g_c), s	8.6	0.0	0.0	14.9	17.2	4.2
Prop In Lane	0.58	0.42		0.17	1.00	
Lane Grp Cap(c), veh/h	221	0	0	1308	482	1349
V/C Ratio(X)	0.81	0.00	0.00	0.56	0.09	0.22
Avail Cap(c_a), veh/h	709	0	0	1308	482	1349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	0.0	0.0	4.9	8.7	3.4
Incr Delay (d2), s/veh	6.9	0.0	0.0	1.7	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.8	0.0	0.0	8.3	0.7	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.0	0.0	0.0	6.6	9.1	3.8
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	179		728			340
Approach Delay, s/veh	41.0		6.6			4.5
Approach LOS	D		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		64.7			64.7	16.3
Change Period (Y+Rc), s		* 5.3			* 5.3	5.4
Max Green Setting (Gmax), s		* 35			* 35	35.0
Max Q Clear Time (g_c+I1), s		16.9			19.2	10.6
Green Ext Time (p_c), s		8.9			3.3	0.5

Intersection Summary

HCM 6th Ctrl Delay	10.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

**Intersection**

Intersection Delay, s/veh 11.4

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	11	143	20	100	86	20	17	3	6	87	10
Future Vol, veh/h	11	11	143	20	100	86	20	17	3	6	87	10
Peak Hour Factor	0.54	0.54	0.54	0.51	0.51	0.51	0.60	0.60	0.60	0.69	0.69	0.69
Heavy Vehicles, %	1	1	2	2	1	1	2	2	2	1	2	1
Mvmt Flow	20	20	265	39	196	169	33	28	5	9	126	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.5	12.8	9.7	10.4
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	7%	10%	6%
Vol Thru, %	43%	7%	49%	84%
Vol Right, %	7%	87%	42%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	165	206	103
LT Vol	20	11	20	6
Through Vol	17	11	100	87
RT Vol	3	143	86	10
Lane Flow Rate	67	306	404	149
Geometry Grp	1	1	1	1
Degree of Util (X)	0.11	0.389	0.521	0.234
Departure Headway (Hd)	5.944	4.586	4.749	5.651
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	604	788	763	637
Service Time	3.968	2.586	2.749	3.67
HCM Lane V/C Ratio	0.111	0.388	0.529	0.234
HCM Control Delay	9.7	10.5	12.8	10.4
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.4	1.9	3.1	0.9

Intersection						
Int Delay, s/veh	10					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	9	0	0	24	177	9
Future Vol, veh/h	9	0	0	24	177	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	61	61	47	47
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	0	0	39	377	19

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	12	0	51
Stage 1	-	-	-	-	12
Stage 2	-	-	-	-	39
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1620	-	963
Stage 1	-	-	-	-	1016
Stage 2	-	-	-	-	989
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1620	-	963
Mov Cap-2 Maneuver	-	-	-	-	963
Stage 1	-	-	-	-	1016
Stage 2	-	-	-	-	989

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	968	-	-	1620	-
HCM Lane V/C Ratio	0.409	-	-	-	-
HCM Control Delay (s)	11.3	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	2	-	-	0	-

HCM 6th TWSC  
1005: Pittsview Drive & Lorraine Street

03/30/2023

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	6	1	0	6	0	2	3	1	1	5	14
Future Vol, veh/h	7	6	1	0	6	0	2	3	1	1	5	14
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	35	35	35	35	35	35	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	10	9	1	0	17	0	6	9	3	1	7	20

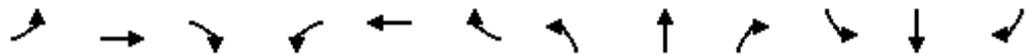
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	17	0	0	10	0	0	64	47	10	53	47	20
Stage 1	-	-	-	-	-	-	30	30	-	17	17	-
Stage 2	-	-	-	-	-	-	34	17	-	36	30	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	1613	-	-	1623	-	-	935	849	1077	948	847	1061
Stage 1	-	-	-	-	-	-	992	874	-	1005	883	-
Stage 2	-	-	-	-	-	-	987	885	-	982	872	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1613	-	-	1623	-	-	904	844	1077	934	842	1058
Mov Cap-2 Maneuver	-	-	-	-	-	-	904	844	-	934	842	-
Stage 1	-	-	-	-	-	-	986	869	-	999	883	-
Stage 2	-	-	-	-	-	-	957	885	-	964	867	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.6	0	9.1	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	896	1613	-	-	1623	-	-	988
HCM Lane V/C Ratio	0.019	0.006	-	-	-	-	-	0.029
HCM Control Delay (s)	9.1	7.2	0	-	0	-	-	8.8
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary  
 1006: Fernwood & Packard Street

03/30/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	7	573	13	83	581	3	22	8	86	13	7	8
Future Volume (veh/h)	7	573	13	83	581	3	22	8	86	13	7	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	8	682	15	97	676	3	33	12	128	18	10	11
Peak Hour Factor	0.84	0.84	0.84	0.86	0.86	0.86	0.67	0.67	0.67	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	584	2523	55	574	2575	11	86	31	172	150	83	64
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	761	3555	78	748	3628	16	202	213	1179	553	568	440
Grp Volume(v), veh/h	8	341	356	97	331	348	173	0	0	39	0	0
Grp Sat Flow(s),veh/h/ln	761	1777	1856	748	1777	1867	1593	0	0	1562	0	0
Q Serve(g_s), s	0.3	5.2	5.2	4.1	5.1	5.1	4.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.3	5.2	5.2	9.3	5.1	5.1	7.8	0.0	0.0	1.5	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.01	0.19		0.74	0.46		0.28
Lane Grp Cap(c), veh/h	584	1261	1317	574	1261	1325	288	0	0	297	0	0
V/C Ratio(X)	0.01	0.27	0.27	0.17	0.26	0.26	0.60	0.00	0.00	0.13	0.00	0.00
Avail Cap(c_a), veh/h	584	1261	1317	574	1261	1325	472	0	0	468	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.9	4.0	4.0	5.6	3.9	3.9	31.0	0.0	0.0	28.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.6	0.5	0.5	3.4	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	2.4	2.5	1.0	2.4	2.5	5.9	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.9	4.5	4.5	6.3	4.4	4.4	34.4	0.0	0.0	28.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		705			776			173				39
Approach Delay, s/veh		4.5			4.7			34.4				28.7
Approach LOS		A			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.3		16.7		59.3		16.7				
Change Period (Y+Rc), s		5.4		5.6		5.4		5.6				
Max Green Setting (Gmax), s		45.0		20.0		45.0		20.0				
Max Q Clear Time (g_c+I1), s		7.3		3.5		11.3		9.8				
Green Ext Time (p_c), s		4.5		0.2		5.1		1.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				8.2								
HCM 6th LOS				A								

HCM 6th TWSC  
 1007: Scarlett Driveway & NW Ped Access

03/30/2023

Intersection												
Int Delay, s/veh	15.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑		↓	↑	
Traffic Vol, veh/h	0	0	0	0	0	0	0	40	0	225	25	0
Future Vol, veh/h	0	0	0	0	0	0	0	40	0	225	25	0
Conflicting Peds, #/hr	0	0	40	40	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									
Storage Length	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	36	36	36	40	40	40
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	0	0	0	111	0	563	63	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	-	-	-	0	-	2	-	58	2	-
Stage 1	-	-	-	-	-	-	-	1	-	1	1	-
Stage 2	-	-	-	-	-	-	-	1	-	57	1	-
Critical Hdwy	-	-	-	-	-	-	-	6.53	-	7.13	6.53	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.53	-	6.13	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	-	4.027	-	3.527	4.027	-
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	892	0	936	892	0
Stage 1	0	-	0	0	-	0	0	893	0	1019	893	0
Stage 2	0	-	0	0	-	0	0	893	0	952	893	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	892	-	847	892	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	892	-	847	892	-
Stage 1	-	-	-	-	-	-	-	893	-	1019	893	-
Stage 2	-	-	-	-	-	-	-	893	-	834	893	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.6	16.4
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	892	-	-	847	892
HCM Lane V/C Ratio	0.125	-	-	0.664	0.07
HCM Control Delay (s)	9.6	-	-	17.2	9.3
HCM Lane LOS	A	-	-	C	A
HCM 95th %tile Q(veh)	0.4	-	-	5.2	0.2

HCM 6th TWSC  
 1008: Scarlett Driveway & Parking Exit

03/30/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	40	0	0	0	25
Future Vol, veh/h	0	40	0	0	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	33	33	25	25	36	36
Heavy Vehicles, %	1	1	100	100	2	2
Mvmt Flow	0	121	0	0	0	69

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	69	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	69	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	938	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	938	-	-	-	-	-
Mov Cap-2 Maneuver	938	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	956	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC  
 1003: Scarlett Driveway/Fernwood & Lorraine Street

03/31/2023

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	11	143	20	100	86	20	17	3	6	87	10
Future Vol, veh/h	11	11	143	20	100	86	20	17	3	6	87	10
Conflicting Peds, #/hr	3	0	32	32	0	3	34	0	19	19	0	34
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	54	54	54	51	51	51	60	60	60	69	69	69
Heavy Vehicles, %	1	1	2	2	1	1	2	2	2	1	2	1
Mvmt Flow	20	20	265	39	196	169	33	28	5	9	126	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	368	0	0	317	0	0	688	671	204	590	719	318
Stage 1	-	-	-	-	-	-	225	225	-	362	362	-
Stage 2	-	-	-	-	-	-	463	446	-	228	357	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.12	6.52	6.22	7.11	6.52	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.11	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.11	5.52	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.518	4.018	3.318	3.509	4.018	3.309
Pot Cap-1 Maneuver	1196	-	-	1243	-	-	360	378	837	421	354	725
Stage 1	-	-	-	-	-	-	778	718	-	659	625	-
Stage 2	-	-	-	-	-	-	579	574	-	777	628	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1193	-	-	1205	-	-	219	343	797	366	321	700
Mov Cap-2 Maneuver	-	-	-	-	-	-	219	343	-	366	321	-
Stage 1	-	-	-	-	-	-	738	682	-	643	597	-
Stage 2	-	-	-	-	-	-	415	548	-	711	597	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.8			22.1			23.5		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	277	1193	-	-	1205	-	-	341
HCM Lane V/C Ratio	0.241	0.017	-	-	0.033	-	-	0.438
HCM Control Delay (s)	22.1	8.1	0	-	8.1	0	-	23.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	2.1

**Approach**

Approach Direction	EB
Median Present?	No
Approach Delay(s)	0.8
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	111
Ped Vol Crossed	34
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.31
Prob of Blocked Lane	0.17
Delay for adq Gap	8.28
Avg Ped Delay (s)	0.81

**Approach**

Approach Direction	WB
Median Present?	No
Approach Delay(s)	0.8
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	111
Ped Vol Crossed	19
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.31
Prob of Blocked Lane	0.17
Delay for adq Gap	8.28
Avg Ped Delay (s)	0.81

# HCM 6th Signalized Intersection Summary

## 1001: Platt Road & Lorraine Street

03/30/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	127	54	372	80	28	577
Future Volume (veh/h)	127	54	372	80	28	577
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.97		0.99	1.00	
Parking Bus, Adj	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	1856	1856	1856	1856	1870	1870
Adj Flow Rate, veh/h	212	90	443	95	33	679
Peak Hour Factor	0.60	0.60	0.84	0.84	0.85	0.85
Percent Heavy Veh, %	3	3	3	3	2	2
Cap, veh/h	247	105	974	209	534	1233
Arrive On Green	0.21	0.21	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1182	502	1478	317	867	1870
Grp Volume(v), veh/h	303	0	0	538	33	679
Grp Sat Flow(s),veh/h/ln	1689	0	0	1794	867	1870
Q Serve(g_s), s	14.0	0.0	0.0	11.8	1.6	15.7
Cycle Q Clear(g_c), s	14.0	0.0	0.0	11.8	13.4	15.7
Prop In Lane	0.70	0.30		0.18	1.00	
Lane Grp Cap(c), veh/h	353	0	0	1183	534	1233
V/C Ratio(X)	0.86	0.00	0.00	0.45	0.06	0.55
Avail Cap(c_a), veh/h	730	0	0	1183	534	1233
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	0.0	0.0	6.7	10.0	7.4
Incr Delay (d2), s/veh	6.1	0.0	0.0	1.3	0.2	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.3	0.0	0.0	7.7	0.6	10.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.0	0.0	0.0	8.0	10.2	9.2
LnGrp LOS	D	A	A	A	B	A
Approach Vol, veh/h	303		538			712
Approach Delay, s/veh	37.0		8.0			9.2
Approach LOS	D		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		58.7			58.7	22.3
Change Period (Y+Rc), s		* 5.3			* 5.3	5.4
Max Green Setting (Gmax), s		* 35			* 35	35.0
Max Q Clear Time (g_c+I1), s		13.8			17.7	16.0
Green Ext Time (p_c), s		6.8			8.2	0.9

### Intersection Summary

HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

**Intersection**

Intersection Delay, s/veh 13.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	23	13	81	7	119	88	45	33	4	10	46	11
Future Vol, veh/h	23	13	81	7	119	88	45	33	4	10	46	11
Peak Hour Factor	0.47	0.47	0.60	0.60	0.42	0.42	0.60	0.60	0.60	0.64	0.64	0.64
Heavy Vehicles, %	0	0	2	2	0	0	2	2	2	0	2	0
Mvmt Flow	49	28	135	12	283	210	75	55	7	16	72	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	16.6	10.7	10.1
HCM LOS	A	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	55%	20%	3%	15%
Vol Thru, %	40%	11%	56%	69%
Vol Right, %	5%	69%	41%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	82	117	214	67
LT Vol	45	23	7	10
Through Vol	33	13	119	46
RT Vol	4	81	88	11
Lane Flow Rate	137	212	505	105
Geometry Grp	1	1	1	1
Degree of Util (X)	0.226	0.289	0.665	0.17
Departure Headway (Hd)	5.946	4.919	4.743	5.838
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	603	728	767	612
Service Time	3.997	2.961	2.743	3.891
HCM Lane V/C Ratio	0.227	0.291	0.658	0.172
HCM Control Delay	10.7	10	16.6	10.1
HCM Lane LOS	B	A	C	B
HCM 95th-tile Q	0.9	1.2	5.1	0.6

Intersection						
Int Delay, s/veh	10.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	16	0	0	19	190	12
Future Vol, veh/h	16	0	0	19	190	12
Conflicting Peds, #/hr	0	7	7	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	60	60	45	45
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	25	0	0	32	422	27

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	32	0	64 32
Stage 1	-	-	-	-	32 -
Stage 2	-	-	-	-	32 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1593	-	947 1048
Stage 1	-	-	-	-	996 -
Stage 2	-	-	-	-	996 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1582	-	940 1041
Mov Cap-2 Maneuver	-	-	-	-	940 -
Stage 1	-	-	-	-	989 -
Stage 2	-	-	-	-	996 -

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	945	-	-	1582	-
HCM Lane V/C Ratio	0.475	-	-	-	-
HCM Control Delay (s)	12.2	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	2.6	-	-	0	-

HCM 6th TWSC  
1005: Pittsview Drive & Lorraine Street

03/30/2023

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	29	6	4	1	2	0	2	1	1	0	0	6
Future Vol, veh/h	29	6	4	1	2	0	2	1	1	0	0	6
Conflicting Peds, #/hr	0	0	5	5	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									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	61	61	61	75	75	75	75	75	75	44	44	44
Heavy Vehicles, %	6	6	6	0	0	0	0	0	0	0	0	0
Mvmt Flow	48	10	7	1	3	0	3	1	1	0	0	14

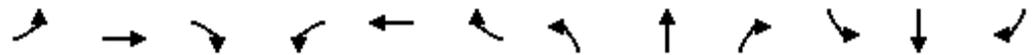
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	22	0	0	127	120	19	116	123	3
Stage 1	-	-	-	-	-	-	115	115	-	5	5	-
Stage 2	-	-	-	-	-	-	12	5	-	111	118	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1593	-	-	1607	-	-	851	774	1065	865	771	1087
Stage 1	-	-	-	-	-	-	895	804	-	1022	896	-
Stage 2	-	-	-	-	-	-	1014	896	-	899	802	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1593	-	-	1599	-	-	817	746	1060	843	743	1087
Mov Cap-2 Maneuver	-	-	-	-	-	-	817	746	-	843	743	-
Stage 1	-	-	-	-	-	-	864	776	-	991	895	-
Stage 2	-	-	-	-	-	-	1000	895	-	869	774	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	5.4			2.4			9.3			8.4		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	845	1593	-	-	1599	-	-	1087
HCM Lane V/C Ratio	0.006	0.03	-	-	0.001	-	-	0.013
HCM Control Delay (s)	9.3	7.3	0	-	7.3	0	-	8.4
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0

HCM 6th Signalized Intersection Summary  
 1006: Fernwood & Packard Street

03/30/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	19	992	19	51	678	9	30	12	116	5	11	25
Future Volume (veh/h)	19	992	19	51	678	9	30	12	116	5	11	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	23	1210	23	56	745	10	51	20	197	6	13	29
Peak Hour Factor	0.82	0.82	0.82	0.91	0.91	0.91	0.59	0.59	0.59	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	491	2319	44	307	2334	31	100	42	235	72	119	210
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	709	3567	68	452	3590	48	211	203	1148	90	582	1026
Grp Volume(v), veh/h	23	603	630	56	369	386	268	0	0	48	0	0
Grp Sat Flow(s),veh/h/ln	709	1777	1858	452	1777	1861	1561	0	0	1698	0	0
Q Serve(g_s), s	1.1	13.6	13.7	5.7	7.0	7.0	8.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.1	13.6	13.7	19.4	7.0	7.0	12.5	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.03	0.19		0.74	0.12		0.60
Lane Grp Cap(c), veh/h	491	1155	1208	307	1155	1210	377	0	0	402	0	0
V/C Ratio(X)	0.05	0.52	0.52	0.18	0.32	0.32	0.71	0.00	0.00	0.12	0.00	0.00
Avail Cap(c_a), veh/h	491	1155	1208	307	1155	1210	466	0	0	493	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	7.0	7.0	12.2	5.9	5.9	28.9	0.0	0.0	24.7	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.7	1.6	1.3	0.7	0.7	5.3	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	7.6	7.8	1.1	3.8	4.0	8.8	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.8	8.7	8.7	13.5	6.6	6.6	34.1	0.0	0.0	24.9	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1256			811			268				48
Approach Delay, s/veh		8.7			7.1			34.1				24.9
Approach LOS		A			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		54.8		21.2		54.8		21.2				
Change Period (Y+Rc), s		5.4		5.6		5.4		5.6				
Max Green Setting (Gmax), s		45.0		20.0		45.0		20.0				
Max Q Clear Time (g_c+I1), s		15.7		3.8		21.4		14.5				
Green Ext Time (p_c), s		9.5		0.2		5.4		1.1				

Intersection Summary

HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

HCM 6th TWSC  
 1007: Scarlett Driveway & NW Ped Access

03/30/2023

Intersection												
Int Delay, s/veh	10.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑		↓	↑	
Traffic Vol, veh/h	0	0	0	0	0	0	0	82	0	113	21	0
Future Vol, veh/h	0	0	0	0	0	0	0	82	0	113	21	0
Conflicting Peds, #/hr	0	0	46	46	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									
Storage Length	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	41	41	41	52	52	52
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	4	4	4
Mvmt Flow	0	0	0	0	0	0	0	200	0	217	40	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	-	-	-	0	-	2	-	102	2	-
Stage 1	-	-	-	-	-	-	-	1	-	1	1	-
Stage 2	-	-	-	-	-	-	-	1	-	101	1	-
Critical Hdwy	-	-	-	-	-	-	-	6.54	-	7.14	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.54	-	6.14	5.54	-
Follow-up Hdwy	-	-	-	-	-	-	-	4.036	-	3.536	4.036	-
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	890	0	874	890	0
Stage 1	0	-	0	0	-	0	0	891	0	1017	891	0
Stage 2	0	-	0	0	-	0	0	891	0	900	891	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	890	-	723	890	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	890	-	723	890	-
Stage 1	-	-	-	-	-	-	-	891	-	1017	891	-
Stage 2	-	-	-	-	-	-	-	891	-	698	891	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.2	11.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	890	-	-	723	890
HCM Lane V/C Ratio	0.225	-	-	0.301	0.045
HCM Control Delay (s)	10.2	-	-	12.1	9.2
HCM Lane LOS	B	-	-	B	A
HCM 95th %tile Q(veh)	0.9	-	-	1.3	0.1

HCM 6th TWSC  
 1008: Scarlett Driveway & Parking Exit

03/30/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	82	0	0	0	21
Future Vol, veh/h	0	82	0	0	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	42	42	25	25	44	44
Heavy Vehicles, %	1	1	100	100	2	2
Mvmt Flow	0	195	0	0	0	48

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	48	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	48	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	964	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	964	-	-	-	-	-
Mov Cap-2 Maneuver	964	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	977	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC  
 1003: Scarlett Driveway/Fernwood & Lorraine Street

03/31/2023

Intersection												
Int Delay, s/veh	8.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	23	13	81	7	119	88	45	33	4	10	46	11
Future Vol, veh/h	23	13	81	7	119	88	45	33	4	10	46	11
Conflicting Peds, #/hr	30	0	62	62	0	30	57	0	40	40	0	57
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	47	47	60	60	42	42	60	60	60	64	64	64
Heavy Vehicles, %	0	0	2	2	0	0	2	2	2	0	2	0
Mvmt Flow	49	28	135	12	283	210	75	55	7	16	72	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	523	0	0	225	0	0	770	803	198	707	765	475
Stage 1	-	-	-	-	-	-	256	256	-	442	442	-
Stage 2	-	-	-	-	-	-	514	547	-	265	323	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.12	6.52	6.22	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.518	4.018	3.318	3.5	4.018	3.3
Pot Cap-1 Maneuver	1054	-	-	1344	-	-	318	317	843	353	333	594
Stage 1	-	-	-	-	-	-	749	696	-	598	576	-
Stage 2	-	-	-	-	-	-	543	517	-	745	650	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1024	-	-	1265	-	-	210	271	763	263	284	546
Mov Cap-2 Maneuver	-	-	-	-	-	-	210	271	-	263	284	-
Stage 1	-	-	-	-	-	-	667	620	-	550	552	-
Stage 2	-	-	-	-	-	-	427	495	-	613	579	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2			0.2			38.1			22.9		
HCM LOS							E			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	240	1024	-	-	1265	-	-	304
HCM Lane V/C Ratio	0.569	0.048	-	-	0.009	-	-	0.344
HCM Control Delay (s)	38.1	8.7	0	-	7.9	0	-	22.9
HCM Lane LOS	E	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	3.2	0.1	-	-	0	-	-	1.5

**Approach**

Approach Direction	EB
Median Present?	No
Approach Delay(s)	1.1
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	132
Ped Vol Crossed	57
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.36
Prob of Blocked Lane	0.20
Delay for adq Gap	8.78
Avg Ped Delay (s)	1.13

**Approach**

Approach Direction	WB
Median Present?	No
Approach Delay(s)	1.1
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	132
Ped Vol Crossed	40
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.36
Prob of Blocked Lane	0.20
Delay for adq Gap	8.78
Avg Ped Delay (s)	1.13

# HCM 6th Signalized Intersection Summary

## 1001: Platt Road & Lorraine Street

03/30/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	96	64	507	199	57	208
Future Volume (veh/h)	96	64	507	199	57	208
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.98		1.00	1.00	
Parking Bus, Adj	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	1811	1811	1841	1841	1841	1841
Adj Flow Rate, veh/h	120	80	611	240	66	242
Peak Hour Factor	0.80	0.80	0.83	0.83	0.86	0.86
Percent Heavy Veh, %	6	6	4	4	4	4
Cap, veh/h	146	97	903	355	377	1322
Arrive On Green	0.15	0.15	0.72	0.72	0.72	0.72
Sat Flow, veh/h	975	650	1257	494	638	1841
Grp Volume(v), veh/h	201	0	0	851	66	242
Grp Sat Flow(s),veh/h/ln	1632	0	0	1751	638	1841
Q Serve(g_s), s	9.7	0.0	0.0	21.6	5.1	3.5
Cycle Q Clear(g_c), s	9.7	0.0	0.0	21.6	26.7	3.5
Prop In Lane	0.60	0.40		0.28	1.00	
Lane Grp Cap(c), veh/h	245	0	0	1258	377	1322
V/C Ratio(X)	0.82	0.00	0.00	0.68	0.18	0.18
Avail Cap(c_a), veh/h	705	0	0	1258	377	1322
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	0.0	0.0	6.3	13.6	3.7
Incr Delay (d2), s/veh	6.7	0.0	0.0	2.9	1.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.6	0.0	0.0	11.5	1.5	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.1	0.0	0.0	9.2	14.6	4.0
LnGrp LOS	D	A	A	A	B	A
Approach Vol, veh/h	201		851			308
Approach Delay, s/veh	40.1		9.2			6.3
Approach LOS	D		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		63.5			63.5	17.5
Change Period (Y+Rc), s		* 5.3			* 5.3	5.4
Max Green Setting (Gmax), s		* 35			* 35	35.0
Max Q Clear Time (g_c+I1), s		23.6			28.7	11.7
Green Ext Time (p_c), s		7.5			1.6	0.6

### Intersection Summary

HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 19.3

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	9	252	35	9	12	141	127	14	5	153	18
Future Vol, veh/h	7	9	252	35	9	12	141	127	14	5	153	18
Peak Hour Factor	0.65	0.65	0.65	0.65	0.77	0.77	0.65	0.65	0.65	0.64	0.65	0.64
Heavy Vehicles, %	1	1	2	2	1	1	2	2	2	1	2	1
Mvmt Flow	11	14	388	54	12	16	217	195	22	8	235	28
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	18.8	11.5	24.1	14.8
HCM LOS	C	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	3%	62%	3%
Vol Thru, %	45%	3%	16%	87%
Vol Right, %	5%	94%	21%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	282	268	56	176
LT Vol	141	7	35	5
Through Vol	127	9	9	153
RT Vol	14	252	12	18
Lane Flow Rate	434	412	81	271
Geometry Grp	1	1	1	1
Degree of Util (X)	0.733	0.652	0.16	0.472
Departure Headway (Hd)	6.086	5.695	7.086	6.268
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	594	635	505	572
Service Time	4.133	3.739	5.156	4.323
HCM Lane V/C Ratio	0.731	0.649	0.16	0.474
HCM Control Delay	24.1	18.8	11.5	14.8
HCM Lane LOS	C	C	B	B
HCM 95th-tile Q	6.2	4.8	0.6	2.5

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	18	0	0	41	8	0
Future Vol, veh/h	18	0	0	41	8	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	47	47	67	67	56	56
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	38	0	0	61	14	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	38	0	99
Stage 1	-	-	-	-	38
Stage 2	-	-	-	-	61
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1585	-	905
Stage 1	-	-	-	-	990
Stage 2	-	-	-	-	967
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1585	-	905
Mov Cap-2 Maneuver	-	-	-	-	905
Stage 1	-	-	-	-	990
Stage 2	-	-	-	-	967

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	905	-	-	1585	-
HCM Lane V/C Ratio	0.016	-	-	-	-
HCM Control Delay (s)	9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC  
1005: Pittsview Drive & Lorraine Street

03/30/2023

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	6	0	0	11	0	1	0	0	0	0	27
Future Vol, veh/h	9	6	0	0	11	0	1	0	0	0	0	27
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									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	60	60	60	25	25	25	60	60	60
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	14	10	0	0	18	0	4	0	0	0	0	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	18	0	0	10	0	0	79	56	10	56	56	18
Stage 1	-	-	-	-	-	-	38	38	-	18	18	-
Stage 2	-	-	-	-	-	-	41	18	-	38	38	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	1612	-	-	1623	-	-	914	839	1077	944	837	1063
Stage 1	-	-	-	-	-	-	982	867	-	1004	882	-
Stage 2	-	-	-	-	-	-	979	884	-	980	865	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1612	-	-	1623	-	-	869	831	1077	937	829	1063
Mov Cap-2 Maneuver	-	-	-	-	-	-	869	831	-	937	829	-
Stage 1	-	-	-	-	-	-	973	859	-	995	882	-
Stage 2	-	-	-	-	-	-	938	884	-	971	857	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.4	0	9.2	8.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	869	1612	-	-	1623	-	-	1063
HCM Lane V/C Ratio	0.005	0.009	-	-	-	-	-	0.042
HCM Control Delay (s)	9.2	7.3	0	-	0	-	-	8.5
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary  
 1006: Fernwood & Packard Street

03/30/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	0	392	22	130	730	6	32	13	106	8	10	7
Future Volume (veh/h)	0	392	22	130	730	6	32	13	106	8	10	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	0	461	26	160	901	7	54	22	180	11	14	10
Peak Hour Factor	0.85	0.85	0.85	0.81	0.81	0.81	0.59	0.59	0.59	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	95	2255	127	646	2384	19	105	45	219	128	153	87
Arrive On Green	0.00	0.66	0.66	0.66	0.66	0.66	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	614	3419	192	908	3614	28	245	228	1119	338	780	447
Grp Volume(v), veh/h	0	239	248	160	443	465	256	0	0	35	0	0
Grp Sat Flow(s),veh/h/ln	614	1777	1835	908	1777	1865	1591	0	0	1564	0	0
Q Serve(g_s), s	0.0	4.0	4.0	6.4	8.6	8.6	7.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.0	4.0	10.4	8.6	8.6	11.7	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.02	0.21		0.70	0.31		0.29
Lane Grp Cap(c), veh/h	95	1172	1210	646	1172	1230	369	0	0	368	0	0
V/C Ratio(X)	0.00	0.20	0.20	0.25	0.38	0.38	0.69	0.00	0.00	0.10	0.00	0.00
Avail Cap(c_a), veh/h	95	1172	1210	646	1172	1230	474	0	0	470	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	5.1	5.1	7.1	5.9	5.9	29.2	0.0	0.0	25.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.9	0.9	0.9	4.5	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.1	2.2	2.0	4.6	4.8	8.4	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.5	5.5	8.1	6.8	6.8	33.7	0.0	0.0	25.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		487			1068			256				35
Approach Delay, s/veh		5.5			7.0			33.7				25.3
Approach LOS		A			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.5		20.5		55.5		20.5				
Change Period (Y+Rc), s		5.4		5.6		5.4		5.6				
Max Green Setting (Gmax), s		45.0		20.0		45.0		20.0				
Max Q Clear Time (g_c+I1), s		6.0		3.2		12.4		13.7				
Green Ext Time (p_c), s		2.9		0.2		7.3		1.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				10.6								
HCM 6th LOS				B								

HCM 6th TWSC  
1007: Scarlett Driveway & NW Ped Access

03/30/2023

Intersection												
Int Delay, s/veh	14.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑		↓	↑	
Traffic Vol, veh/h	0	0	0	0	0	0	0	282	0	64	376	0
Future Vol, veh/h	0	0	0	0	0	0	0	282	0	64	376	0
Conflicting Peds, #/hr	0	0	9	9	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									
Storage Length	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	63	63	63	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	0	0	0	448	0	91	537	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	-	-	-	0	-	2	-	226	2	-
Stage 1	-	-	-	-	-	-	-	1	-	1	1	-
Stage 2	-	-	-	-	-	-	-	1	-	225	1	-
Critical Hdwy	-	-	-	-	-	-	-	6.53	-	7.13	6.53	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.53	-	6.13	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	-	4.027	-	3.527	4.027	-
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	892	0	727	892	0
Stage 1	0	-	0	0	-	0	0	893	0	1019	893	0
Stage 2	0	-	0	0	-	0	0	893	0	775	893	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	892	-	440	892	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	892	-	440	892	-
Stage 1	-	-	-	-	-	-	-	893	-	1019	893	-
Stage 2	-	-	-	-	-	-	-	893	-	387	893	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	13	15
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	892	-	-	440	892
HCM Lane V/C Ratio	0.502	-	-	0.208	0.602
HCM Control Delay (s)	13	-	-	15.3	15
HCM Lane LOS	B	-	-	C	C
HCM 95th %tile Q(veh)	2.9	-	-	0.8	4.2

HCM 6th TWSC  
 1008: Scarlett Driveway & Parking Exit

03/30/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	282	0	0	0	362
Future Vol, veh/h	0	282	0	0	0	362
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	64	64	38	38	72	72
Heavy Vehicles, %	1	1	100	100	2	2
Mvmt Flow	0	441	0	0	0	503

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	503	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	530	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	530	-	-	-	-	-
Mov Cap-2 Maneuver	530	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	609	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC  
 1003: Scarlett Driveway/Fernwood & Lorraine Street

03/31/2023

Intersection												
Int Delay, s/veh	85.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	9	252	35	9	12	141	127	14	5	153	18
Future Vol, veh/h	7	9	252	35	9	12	141	127	14	5	153	18
Conflicting Peds, #/hr	0	0	16	16	0	0	13	0	9	9	0	13
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	65	65	65	65	77	77	65	65	65	64	65	64
Heavy Vehicles, %	1	1	2	2	1	1	2	2	2	1	2	1
Mvmt Flow	11	14	388	54	12	16	217	195	22	8	235	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	418	0	0	519	382	233	476	568	33
Stage 1	-	-	-	-	-	-	246	246	-	128	128	-
Stage 2	-	-	-	-	-	-	273	136	-	348	440	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.12	6.52	6.22	7.11	6.52	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.11	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.11	5.52	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.518	4.018	3.318	3.509	4.018	3.309
Pot Cap-1 Maneuver	1592	-	-	1141	-	-	467	551	806	501	432	1043
Stage 1	-	-	-	-	-	-	758	703	-	878	790	-
Stage 2	-	-	-	-	-	-	733	784	-	670	578	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1592	-	-	1124	-	-	226	511	787	326	401	1030
Mov Cap-2 Maneuver	-	-	-	-	-	-	226	511	-	326	401	-
Stage 1	-	-	-	-	-	-	740	686	-	870	751	-
Stage 2	-	-	-	-	-	-	460	746	-	458	564	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			5.6			217.1			27.3		
HCM LOS							F			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	317	1592	-	-	1124	-	-	425
HCM Lane V/C Ratio	1.369	0.007	-	-	0.048	-	-	0.638
HCM Control Delay (s)	217.1	7.3	0	-	8.4	0	-	27.3
HCM Lane LOS	F	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	22	0	-	-	0.2	-	-	4.3

**Approach**

Approach Direction	EB
Median Present?	No
Approach Delay(s)	0.0
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	18
Ped Vol Crossed	13
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.06
Prob of Blocked Lane	0.03
Delay for adq Gap	6.39
Avg Ped Delay (s)	0.02

**Approach**

Approach Direction	WB
Median Present?	No
Approach Delay(s)	0.0
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	18
Ped Vol Crossed	9
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.06
Prob of Blocked Lane	0.03
Delay for adq Gap	6.39
Avg Ped Delay (s)	0.02

# HCM 6th Signalized Intersection Summary

## 1001: Platt Road & Lorraine Street

03/30/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	105	45	347	116	35	410
Future Volume (veh/h)	105	45	347	116	35	410
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.97		0.99	1.00	
Parking Bus, Adj	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	1856	1856	1856	1856	1870	1870
Adj Flow Rate, veh/h	206	88	381	127	39	461
Peak Hour Factor	0.51	0.51	0.91	0.91	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	2	2
Cap, veh/h	241	103	882	294	560	1242
Arrive On Green	0.20	0.20	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1179	504	1329	443	891	1870
Grp Volume(v), veh/h	295	0	0	508	39	461
Grp Sat Flow(s),veh/h/ln	1688	0	0	1772	891	1870
Q Serve(g_s), s	13.7	0.0	0.0	10.9	1.7	8.9
Cycle Q Clear(g_c), s	13.7	0.0	0.0	10.9	12.7	8.9
Prop In Lane	0.70	0.30		0.25	1.00	
Lane Grp Cap(c), veh/h	344	0	0	1176	560	1242
V/C Ratio(X)	0.86	0.00	0.00	0.43	0.07	0.37
Avail Cap(c_a), veh/h	729	0	0	1176	560	1242
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	0.0	0.0	6.4	9.4	6.1
Incr Delay (d2), s/veh	6.2	0.0	0.0	1.2	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.1	0.0	0.0	7.0	0.7	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.2	0.0	0.0	7.6	9.6	6.9
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	295		508			500
Approach Delay, s/veh	37.2		7.6			7.1
Approach LOS	D		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		59.1			59.1	21.9
Change Period (Y+Rc), s		* 5.3			* 5.3	5.4
Max Green Setting (Gmax), s		* 35			* 35	35.0
Max Q Clear Time (g_c+I1), s		12.9			14.7	15.7
Green Ext Time (p_c), s		6.5			5.8	0.9

### Intersection Summary

HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

**Intersection**

Intersection Delay, s/veh 10.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	24	103	9	15	15	104	74	12	11	63	22
Future Vol, veh/h	16	24	103	9	15	15	104	74	12	11	63	22
Peak Hour Factor	0.43	0.43	0.60	0.60	0.58	0.58	0.60	0.60	0.60	0.80	0.80	0.80
Heavy Vehicles, %	0	0	2	2	0	0	2	2	2	0	2	0
Mvmt Flow	37	56	172	15	26	26	173	123	20	14	79	28
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	8.8	11.8	9.1
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	55%	11%	23%	11%
Vol Thru, %	39%	17%	38%	66%
Vol Right, %	6%	72%	38%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	190	143	39	96
LT Vol	104	16	9	11
Through Vol	74	24	15	63
RT Vol	12	103	15	22
Lane Flow Rate	317	265	67	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.434	0.342	0.098	0.169
Departure Headway (Hd)	4.937	4.65	5.271	5.082
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	722	765	683	710
Service Time	3.024	2.731	3.277	3.082
HCM Lane V/C Ratio	0.439	0.346	0.098	0.169
HCM Control Delay	11.8	10.2	8.8	9.1
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	2.2	1.5	0.3	0.6

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	0	0	16	22	1
Future Vol, veh/h	22	0	0	16	22	1
Conflicting Peds, #/hr	0	5	5	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	56	56	40	40	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	39	0	0	40	23	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	44	0	84
Stage 1	-	-	-	-	44
Stage 2	-	-	-	-	40
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1577	-	923
Stage 1	-	-	-	-	984
Stage 2	-	-	-	-	988
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1569	-	918
Mov Cap-2 Maneuver	-	-	-	-	918
Stage 1	-	-	-	-	979
Stage 2	-	-	-	-	988

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	922	-	-	1569	-
HCM Lane V/C Ratio	0.026	-	-	-	-
HCM Control Delay (s)	9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC  
1005: Pittsview Drive & Lorraine Street

03/30/2023

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	4	1	0	4	0	2	0	0	1	2	7
Future Vol, veh/h	11	4	1	0	4	0	2	0	0	1	2	7
Conflicting Peds, #/hr	0	0	5	5	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									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	44	44	44	75	75	75	50	50	50	44	44	44
Heavy Vehicles, %	6	6	6	0	0	0	0	0	0	0	0	0
Mvmt Flow	25	9	2	0	5	0	4	0	0	2	5	16

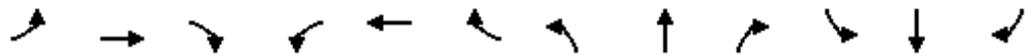
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	5	0	0	16	0	0	81	70	15	65	71	5
Stage 1	-	-	-	-	-	-	65	65	-	5	5	-
Stage 2	-	-	-	-	-	-	16	5	-	60	66	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1590	-	-	1615	-	-	912	824	1070	934	823	1084
Stage 1	-	-	-	-	-	-	951	845	-	1022	896	-
Stage 2	-	-	-	-	-	-	1009	896	-	957	844	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1590	-	-	1607	-	-	880	807	1065	923	806	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	880	807	-	923	806	-
Stage 1	-	-	-	-	-	-	931	827	-	1006	896	-
Stage 2	-	-	-	-	-	-	989	896	-	942	826	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	5			0			9.1			8.7		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	880	1590	-	-	1607	-	-	998
HCM Lane V/C Ratio	0.005	0.016	-	-	-	-	-	0.023
HCM Control Delay (s)	9.1	7.3	0	-	0	-	-	8.7
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary  
 1006: Fernwood & Packard Street

03/30/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	3	698	25	62	650	10	27	9	76	7	11	8
Future Volume (veh/h)	3	698	25	62	650	10	27	9	76	7	11	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	3	784	28	69	722	11	55	18	155	8	13	10
Peak Hour Factor	0.89	0.89	0.89	0.90	0.90	0.90	0.49	0.49	0.49	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	521	2352	84	483	2408	37	110	40	194	109	159	99
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	723	3499	125	672	3582	55	278	220	1057	269	868	542
Grp Volume(v), veh/h	3	398	414	69	358	375	228	0	0	31	0	0
Grp Sat Flow(s),veh/h/ln	723	1777	1847	672	1777	1860	1555	0	0	1679	0	0
Q Serve(g_s), s	0.1	7.2	7.2	3.7	6.3	6.3	7.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.4	7.2	7.2	10.9	6.3	6.3	10.6	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.07	1.00		0.03	0.24		0.68	0.26		0.32
Lane Grp Cap(c), veh/h	521	1194	1241	483	1194	1250	344	0	0	367	0	0
V/C Ratio(X)	0.01	0.33	0.33	0.14	0.30	0.30	0.66	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	521	1194	1241	483	1194	1250	466	0	0	491	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.4	5.3	5.3	7.6	5.1	5.1	29.6	0.0	0.0	25.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.7	0.6	0.6	0.6	3.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.8	3.9	0.9	3.3	3.4	7.6	0.0	0.0	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	6.0	6.0	8.2	5.8	5.7	33.3	0.0	0.0	26.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		815			802			228				31
Approach Delay, s/veh		6.0			6.0			33.3				26.0
Approach LOS		A			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.5		19.5		56.5		19.5				
Change Period (Y+Rc), s		5.4		5.6		5.4		5.6				
Max Green Setting (Gmax), s		45.0		20.0		45.0		20.0				
Max Q Clear Time (g_c+I1), s		9.2		3.1		12.9		12.6				
Green Ext Time (p_c), s		5.4		0.1		5.3		1.2				

Intersection Summary

HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

HCM 6th TWSC  
 1007: Scarlett Driveway & NW Ped Access

03/30/2023

Intersection												
Int Delay, s/veh	11.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑		↓	↑	
Traffic Vol, veh/h	0	0	0	0	0	0	0	190	0	31	144	0
Future Vol, veh/h	0	0	0	0	0	0	0	190	0	31	144	0
Conflicting Peds, #/hr	0	0	13	13	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									
Storage Length	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	49	49	49	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	4	4	4
Mvmt Flow	0	0	0	0	0	0	0	388	0	42	197	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	-	-	-	0	-	2	-	196	2	-
Stage 1	-	-	-	-	-	-	-	1	-	1	1	-
Stage 2	-	-	-	-	-	-	-	1	-	195	1	-
Critical Hdwy	-	-	-	-	-	-	-	6.54	-	7.14	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.54	-	6.14	5.54	-
Follow-up Hdwy	-	-	-	-	-	-	-	4.036	-	3.536	4.036	-
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	890	0	759	890	0
Stage 1	0	-	0	0	-	0	0	891	0	1017	891	0
Stage 2	0	-	0	0	-	0	0	891	0	802	891	0
Platoon blocked, %		-				-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	890	-	500	890	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	890	-	500	890	-
Stage 1	-	-	-	-	-	-	-	891	-	1017	891	-
Stage 2	-	-	-	-	-	-	-	891	-	453	891	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	12.1	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	890	-	-	500	890
HCM Lane V/C Ratio	0.436	-	-	0.085	0.222
HCM Control Delay (s)	12.1	-	-	12.9	10.2
HCM Lane LOS	B	-	-	B	B
HCM 95th %tile Q(veh)	2.2	-	-	0.3	0.8

HCM 6th TWSC  
1008: Scarlett Driveway & Parking Exit

03/30/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	190	0	0	0	144
Future Vol, veh/h	0	190	0	0	0	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	55	55	29	29	59	59
Heavy Vehicles, %	1	1	100	100	2	2
Mvmt Flow	0	345	0	0	0	244

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	244	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	244	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	747	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	747	-	-	-	-	-
Mov Cap-2 Maneuver	747	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC  
 1003: Scarlett Driveway/Fernwood & Lorraine Street

03/31/2023

Intersection												
Int Delay, s/veh	12.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	24	103	9	15	15	104	74	12	11	63	22
Future Vol, veh/h	16	24	103	9	15	15	104	74	12	11	63	22
Conflicting Peds, #/hr	10	0	20	20	0	10	34	0	5	5	0	34
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	43	43	60	60	58	58	60	60	60	80	80	80
Heavy Vehicles, %	0	0	2	2	0	0	2	2	2	0	2	0
Mvmt Flow	37	56	172	15	26	26	173	123	20	14	79	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	62	0	0	248	0	0	393	328	167	372	401	83
Stage 1	-	-	-	-	-	-	236	236	-	79	79	-
Stage 2	-	-	-	-	-	-	157	92	-	293	322	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.12	6.52	6.22	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.518	4.018	3.318	3.5	4.018	3.3
Pot Cap-1 Maneuver	1554	-	-	1318	-	-	566	591	877	589	538	982
Stage 1	-	-	-	-	-	-	767	710	-	935	829	-
Stage 2	-	-	-	-	-	-	845	819	-	719	651	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1539	-	-	1293	-	-	445	551	856	456	502	941
Mov Cap-2 Maneuver	-	-	-	-	-	-	445	551	-	456	502	-
Stage 1	-	-	-	-	-	-	731	677	-	900	811	-
Stage 2	-	-	-	-	-	-	708	801	-	556	621	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			1.8			24.1			13.3		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	497	1539	-	-	1293	-	-	555
HCM Lane V/C Ratio	0.637	0.024	-	-	0.012	-	-	0.216
HCM Control Delay (s)	24.1	7.4	0	-	7.8	0	-	13.3
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	4.4	0.1	-	-	0	-	-	0.8

**Approach**

Approach Direction	EB
Median Present?	No
Approach Delay(s)	0.1
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	39
Ped Vol Crossed	34
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.12
Prob of Blocked Lane	0.06
Delay for adq Gap	6.77
Avg Ped Delay (s)	0.10

**Approach**

Approach Direction	WB
Median Present?	No
Approach Delay(s)	0.1
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	39
Ped Vol Crossed	5
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.12
Prob of Blocked Lane	0.06
Delay for adq Gap	6.77
Avg Ped Delay (s)	0.10

# HCM 6th Signalized Intersection Summary

## 1001: Platt Road & Lorraine Street

03/31/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	90	67	496	188	55	244
Future Volume (veh/h)	90	67	496	188	55	244
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.98		1.00	1.00	
Parking Bus, Adj	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	1811	1811	1841	1841	1841	1841
Adj Flow Rate, veh/h	112	84	598	227	64	284
Peak Hour Factor	0.80	0.80	0.83	0.83	0.86	0.86
Percent Heavy Veh, %	6	6	4	4	4	4
Cap, veh/h	137	102	915	347	397	1326
Arrive On Green	0.15	0.15	0.72	0.72	0.72	0.72
Sat Flow, veh/h	924	693	1271	482	653	1841
Grp Volume(v), veh/h	197	0	0	825	64	284
Grp Sat Flow(s),veh/h/ln	1626	0	0	1753	653	1841
Q Serve(g_s), s	9.5	0.0	0.0	20.1	4.6	4.1
Cycle Q Clear(g_c), s	9.5	0.0	0.0	20.1	24.8	4.1
Prop In Lane	0.57	0.43		0.28	1.00	
Lane Grp Cap(c), veh/h	240	0	0	1263	397	1326
V/C Ratio(X)	0.82	0.00	0.00	0.65	0.16	0.21
Avail Cap(c_a), veh/h	703	0	0	1263	397	1326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	0.0	0.0	6.0	12.5	3.8
Incr Delay (d2), s/veh	6.8	0.0	0.0	2.6	0.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.5	0.0	0.0	10.8	1.4	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.3	0.0	0.0	8.6	13.4	4.1
LnGrp LOS	D	A	A	A	B	A
Approach Vol, veh/h	197		825			348
Approach Delay, s/veh	40.3		8.6			5.8
Approach LOS	D		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		63.6			63.6	17.4
Change Period (Y+Rc), s		* 5.3			* 5.3	5.4
Max Green Setting (Gmax), s		* 35			* 35	35.0
Max Q Clear Time (g_c+I1), s		22.1			26.8	11.5
Green Ext Time (p_c), s		8.0			2.3	0.6

### Intersection Summary

HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 16.4

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	13	243	35	12	13	123	110	12	3	148	20
Future Vol, veh/h	8	13	243	35	12	13	123	110	12	3	148	20
Peak Hour Factor	0.65	0.65	0.65	0.65	0.77	0.77	0.65	0.65	0.65	0.64	0.65	0.64
Heavy Vehicles, %	1	1	2	2	1	1	2	2	2	1	2	1
Mvmt Flow	12	20	374	54	16	17	189	169	18	5	228	31
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	17.1	11.1	18.7	13.9
HCM LOS	C	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	3%	58%	2%
Vol Thru, %	45%	5%	20%	87%
Vol Right, %	5%	92%	22%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	264	60	171
LT Vol	123	8	35	3
Through Vol	110	13	12	148
RT Vol	12	243	13	20
Lane Flow Rate	377	406	86	264
Geometry Grp	1	1	1	1
Degree of Util (X)	0.629	0.621	0.162	0.444
Departure Headway (Hd)	6.009	5.505	6.744	6.063
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	603	658	530	593
Service Time	4.037	3.524	4.806	4.114
HCM Lane V/C Ratio	0.625	0.617	0.162	0.445
HCM Control Delay	18.7	17.1	11.1	13.9
HCM Lane LOS	C	C	B	B
HCM 95th-tile Q	4.4	4.3	0.6	2.3

Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	18	0	0	36	23	1
Future Vol, veh/h	18	0	0	36	23	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	47	47	67	67	56	56
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	38	0	0	54	41	2

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	38	0	92
Stage 1	-	-	-	-	38
Stage 2	-	-	-	-	54
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1585	-	913
Stage 1	-	-	-	-	990
Stage 2	-	-	-	-	974
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1585	-	913
Mov Cap-2 Maneuver	-	-	-	-	913
Stage 1	-	-	-	-	990
Stage 2	-	-	-	-	974

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	918	-	-	1585	-
HCM Lane V/C Ratio	0.047	-	-	-	-
HCM Control Delay (s)	9.1	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC  
1005: Pittsview Drive & Lorraine Street

03/31/2023

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	5	0	0	12	0	0	1	0	1	4	24
Future Vol, veh/h	8	5	0	0	12	0	0	1	0	1	4	24
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									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	63	63	63	60	60	60	25	25	25	60	60	60
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	13	8	0	0	20	0	0	4	0	2	7	40

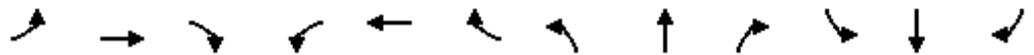
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	20	0	0	8	0	0	78	54	8	56	54	20
Stage 1	-	-	-	-	-	-	34	34	-	20	20	-
Stage 2	-	-	-	-	-	-	44	20	-	36	34	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	1609	-	-	1625	-	-	916	841	1080	944	839	1061
Stage 1	-	-	-	-	-	-	987	871	-	1001	881	-
Stage 2	-	-	-	-	-	-	975	883	-	982	869	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1609	-	-	1625	-	-	871	834	1080	935	832	1061
Mov Cap-2 Maneuver	-	-	-	-	-	-	871	834	-	935	832	-
Stage 1	-	-	-	-	-	-	979	864	-	993	881	-
Stage 2	-	-	-	-	-	-	931	883	-	970	862	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.5	0	9.3	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	834	1609	-	-	1625	-	-	1018
HCM Lane V/C Ratio	0.005	0.008	-	-	-	-	-	0.047
HCM Control Delay (s)	9.3	7.3	0	-	0	-	-	8.7
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary  
 1006: Fernwood & Packard Street

03/31/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	507	21	145	724	6	24	10	93	14	11	7
Future Volume (veh/h)	4	507	21	145	724	6	24	10	93	14	11	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	5	596	25	179	894	7	41	17	158	19	15	10
Peak Hour Factor	0.85	0.85	0.85	0.81	0.81	0.81	0.59	0.59	0.59	0.72	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	453	2373	99	590	2468	19	92	38	201	152	113	58
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	618	3475	146	803	3614	28	207	221	1166	488	657	337
Grp Volume(v), veh/h	5	304	317	179	440	461	216	0	0	44	0	0
Grp Sat Flow(s),veh/h/ln	618	1777	1844	803	1777	1865	1594	0	0	1482	0	0
Q Serve(g_s), s	0.3	5.0	5.0	8.3	7.9	7.9	5.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.2	5.0	5.0	13.3	7.9	7.9	9.8	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.02	0.19		0.73	0.43		0.23
Lane Grp Cap(c), veh/h	453	1214	1259	590	1214	1274	331	0	0	323	0	0
V/C Ratio(X)	0.01	0.25	0.25	0.30	0.36	0.36	0.65	0.00	0.00	0.14	0.00	0.00
Avail Cap(c_a), veh/h	453	1214	1259	590	1214	1274	473	0	0	456	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.8	4.6	4.6	7.2	5.1	5.1	30.0	0.0	0.0	26.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.5	1.3	0.8	0.8	3.7	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	2.5	2.6	2.4	4.0	4.2	7.3	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	5.1	5.1	8.5	5.9	5.9	33.7	0.0	0.0	27.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		626			1080			216				44
Approach Delay, s/veh		5.1			6.3			33.7				27.0
Approach LOS		A			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.3		18.7		57.3		18.7				
Change Period (Y+Rc), s		5.4		5.6		5.4		5.6				
Max Green Setting (Gmax), s		45.0		20.0		45.0		20.0				
Max Q Clear Time (g_c+I1), s		10.2		3.6		15.3		11.8				
Green Ext Time (p_c), s		3.9		0.2		7.5		1.2				

Intersection Summary

HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

HCM 6th TWSC  
1007: Scarlett Driveway & NW Ped Access

03/31/2023

Intersection												
Int Delay, s/veh	14.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑		↓	↑	
Traffic Vol, veh/h	0	0	0	0	0	0	0	245	0	191	235	0
Future Vol, veh/h	0	0	0	0	0	0	0	245	0	191	235	0
Conflicting Peds, #/hr	0	0	9	9	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									
Storage Length	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	63	63	63	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	0	0	0	389	0	273	336	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	-	-	-	0	-	2	-	197	2	-
Stage 1	-	-	-	-	-	-	-	1	-	1	1	-
Stage 2	-	-	-	-	-	-	-	1	-	196	1	-
Critical Hdwy	-	-	-	-	-	-	-	6.53	-	7.13	6.53	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.53	-	6.13	5.53	-
Follow-up Hdwy	-	-	-	-	-	-	-	4.027	-	3.527	4.027	-
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	892	0	760	892	0
Stage 1	0	-	0	0	-	0	0	893	0	1019	893	0
Stage 2	0	-	0	0	-	0	0	893	0	803	893	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	892	-	501	892	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	892	-	501	892	-
Stage 1	-	-	-	-	-	-	-	893	-	1019	893	-
Stage 2	-	-	-	-	-	-	-	893	-	453	893	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	12.1	15.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	892	-	-	501	892
HCM Lane V/C Ratio	0.436	-	-	0.545	0.376
HCM Control Delay (s)	12.1	-	-	20.4	11.5
HCM Lane LOS	B	-	-	C	B
HCM 95th %tile Q(veh)	2.2	-	-	3.2	1.8

HCM 6th TWSC  
 1008: Scarlett Driveway & Parking Exit

03/31/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	245	0	0	0	235
Future Vol, veh/h	0	245	0	0	0	235
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	64	64	38	38	72	72
Heavy Vehicles, %	1	1	100	100	2	2
Mvmt Flow	0	383	0	0	0	326

Major/Minor	Minor1	Major1	Major2	Major3	Major4	Major5
Conflicting Flow All	326	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	326	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	670	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	734	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	670	-	-	-	-	-
Mov Cap-2 Maneuver	670	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	734	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC  
 1003: Scarlett Driveway/Fernwood & Lorraine Street

03/31/2023

Intersection												
Int Delay, s/veh	53.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	13	243	35	12	13	123	110	12	3	148	20
Future Vol, veh/h	8	13	243	35	12	13	123	110	12	3	148	20
Conflicting Peds, #/hr	0	0	16	16	0	0	13	0	9	9	0	13
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	65	65	65	65	77	77	65	65	65	64	65	64
Heavy Vehicles, %	1	1	2	2	1	1	2	2	2	1	2	1
Mvmt Flow	12	20	374	54	16	17	189	169	18	5	228	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	33	0	0	410	0	0	522	388	232	467	567	38
Stage 1	-	-	-	-	-	-	247	247	-	133	133	-
Stage 2	-	-	-	-	-	-	275	141	-	334	434	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.12	6.52	6.22	7.11	6.52	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.11	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.11	5.52	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.518	4.018	3.318	3.509	4.018	3.309
Pot Cap-1 Maneuver	1585	-	-	1149	-	-	465	547	807	508	433	1037
Stage 1	-	-	-	-	-	-	757	702	-	873	786	-
Stage 2	-	-	-	-	-	-	731	780	-	682	581	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1585	-	-	1131	-	-	232	507	788	349	401	1024
Mov Cap-2 Maneuver	-	-	-	-	-	-	232	507	-	349	401	-
Stage 1	-	-	-	-	-	-	738	684	-	864	747	-
Stage 2	-	-	-	-	-	-	463	742	-	492	566	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			5.2			141.8			25.6		
HCM LOS							F			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	321	1585	-	-	1131	-	-	431
HCM Lane V/C Ratio	1.174	0.008	-	-	0.048	-	-	0.612
HCM Control Delay (s)	141.8	7.3	0	-	8.3	0	-	25.6
HCM Lane LOS	F	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	15.9	0	-	-	0.1	-	-	4

**Approach**

Approach Direction	EB
Median Present?	No
Approach Delay(s)	0.0
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	25
Ped Vol Crossed	13
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.08
Prob of Blocked Lane	0.04
Delay for adq Gap	6.51
Avg Ped Delay (s)	0.04

**Approach**

Approach Direction	WB
Median Present?	No
Approach Delay(s)	0.0
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	25
Ped Vol Crossed	9
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.08
Prob of Blocked Lane	0.04
Delay for adq Gap	6.51
Avg Ped Delay (s)	0.04

# HCM 6th Signalized Intersection Summary

## 1001: Platt Road & Lorraine Street

03/31/2023



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	160	68	388	121	36	482
Future Volume (veh/h)	160	68	388	121	36	482
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.98		0.99	1.00	
Parking Bus, Adj	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	1856	1856	1856	1856	1870	1870
Adj Flow Rate, veh/h	314	133	426	133	40	542
Peak Hour Factor	0.51	0.51	0.91	0.91	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	2	2
Cap, veh/h	349	148	776	242	410	1073
Arrive On Green	0.29	0.29	0.57	0.57	0.57	0.57
Sat Flow, veh/h	1187	503	1353	422	850	1870
Grp Volume(v), veh/h	448	0	0	559	40	542
Grp Sat Flow(s),veh/h/ln	1693	0	0	1776	850	1870
Q Serve(g_s), s	20.6	0.0	0.0	15.9	2.5	14.1
Cycle Q Clear(g_c), s	20.6	0.0	0.0	15.9	18.4	14.1
Prop In Lane	0.70	0.30		0.24	1.00	
Lane Grp Cap(c), veh/h	499	0	0	1018	410	1073
V/C Ratio(X)	0.90	0.00	0.00	0.55	0.10	0.51
Avail Cap(c_a), veh/h	732	0	0	1018	410	1073
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.4	0.0	0.0	10.8	16.5	10.4
Incr Delay (d2), s/veh	10.2	0.0	0.0	2.1	0.5	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.5	0.0	0.0	10.4	1.0	9.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.6	0.0	0.0	12.9	16.9	12.1
LnGrp LOS	D	A	A	B	B	B
Approach Vol, veh/h	448		559			582
Approach Delay, s/veh	37.6		12.9			12.4
Approach LOS	D		B			B
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		51.7			51.7	29.3
Change Period (Y+Rc), s		* 5.3			* 5.3	5.4
Max Green Setting (Gmax), s		* 35			* 35	35.0
Max Q Clear Time (g_c+I1), s		17.9			20.4	22.6
Green Ext Time (p_c), s		6.3			5.8	1.3

### Intersection Summary

HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

### Notes

User approved volume balancing among the lanes for turning movement.

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

**Intersection**

Intersection Delay, s/veh 15.7

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	59	99	10	58	48	126	91	15	19	55	23
Future Vol, veh/h	31	59	99	10	58	48	126	91	15	19	55	23
Peak Hour Factor	0.43	0.43	0.60	0.60	0.58	0.58	0.60	0.60	0.60	0.80	0.80	0.80
Heavy Vehicles, %	0	0	2	2	0	0	2	2	2	0	2	0
Mvmt Flow	72	137	165	17	100	83	210	152	25	24	69	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	16.2	12	18.5	11.1
HCM LOS	C	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	54%	16%	9%	20%
Vol Thru, %	39%	31%	50%	57%
Vol Right, %	6%	52%	41%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	232	189	116	97
LT Vol	126	31	10	19
Through Vol	91	59	58	55
RT Vol	15	99	48	23
Lane Flow Rate	387	374	199	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.629	0.584	0.333	0.213
Departure Headway (Hd)	5.971	5.614	6.009	6.313
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	607	648	600	569
Service Time	3.971	3.614	4.032	4.35
HCM Lane V/C Ratio	0.638	0.577	0.332	0.213
HCM Control Delay	18.5	16.2	12	11.1
HCM Lane LOS	C	C	B	B
HCM 95th-tile Q	4.4	3.8	1.5	0.8

Intersection						
Int Delay, s/veh	4.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	48	0	0	21	95	8
Future Vol, veh/h	48	0	0	21	95	8
Conflicting Peds, #/hr	0	5	5	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	56	56	40	40	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	86	0	0	53	100	8

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	91	0	144
Stage 1	-	-	-	-	91
Stage 2	-	-	-	-	53
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1517	-	853
Stage 1	-	-	-	-	938
Stage 2	-	-	-	-	975
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1510	-	849
Mov Cap-2 Maneuver	-	-	-	-	849
Stage 1	-	-	-	-	933
Stage 2	-	-	-	-	975

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	857	-	-	1510	-
HCM Lane V/C Ratio	0.127	-	-	-	-
HCM Control Delay (s)	9.8	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

HCM 6th TWSC  
1005: Pittsview Drive & Lorraine Street

03/31/2023

Intersection													
Int Delay, s/veh	5.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕			↕			↕		
Traffic Vol, veh/h	18	11	3	1	4	0	3	1	1	0	4	8	
Future Vol, veh/h	18	11	3	1	4	0	3	1	1	0	4	8	
Conflicting Peds, #/hr	0	0	5	5	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										
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	44	44	44	75	75	75	50	50	50	44	44	44	
Heavy Vehicles, %	6	6	6	0	0	0	0	0	0	0	0	0	
Mvmt Flow	41	25	7	1	5	0	6	2	2	0	9	18	

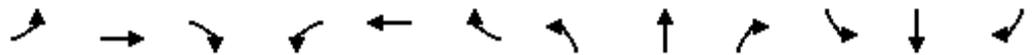
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	5	0	0	37	0	0	137	123	34	120	126	5
Stage 1	-	-	-	-	-	-	116	116	-	7	7	-
Stage 2	-	-	-	-	-	-	21	7	-	113	119	-
Critical Hdwy	4.16	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.254	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1590	-	-	1587	-	-	838	771	1045	860	768	1084
Stage 1	-	-	-	-	-	-	894	803	-	1020	894	-
Stage 2	-	-	-	-	-	-	1003	894	-	897	801	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1590	-	-	1579	-	-	795	746	1040	839	743	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	795	746	-	839	743	-
Stage 1	-	-	-	-	-	-	866	778	-	993	893	-
Stage 2	-	-	-	-	-	-	975	893	-	870	776	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.1			1.5			9.4			8.9		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	823	1590	-	-	1579	-	-	940
HCM Lane V/C Ratio	0.012	0.026	-	-	0.001	-	-	0.029
HCM Control Delay (s)	9.4	7.3	0	-	7.3	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary  
 1006: Fernwood & Packard Street

03/31/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	765	28	70	711	8	37	15	126	7	15	12
Future Volume (veh/h)	8	765	28	70	711	8	37	15	126	7	15	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	9	860	31	78	790	9	76	31	257	8	18	14
Peak Hour Factor	0.89	0.89	0.89	0.90	0.90	0.90	0.49	0.49	0.49	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	426	2095	76	387	2156	25	122	53	282	106	216	143
Arrive On Green	0.60	0.60	0.60	0.60	0.60	0.60	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	680	3497	126	624	3598	41	253	205	1100	190	843	556
Grp Volume(v), veh/h	9	437	454	78	390	409	364	0	0	40	0	0
Grp Sat Flow(s),veh/h/ln	680	1777	1846	624	1777	1863	1558	0	0	1590	0	0
Q Serve(g_s), s	0.5	9.9	9.9	5.8	8.6	8.6	13.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.1	9.9	9.9	15.7	8.6	8.6	17.2	0.0	0.0	1.3	0.0	0.0
Prop In Lane	1.00		0.07	1.00		0.02	0.21		0.71	0.20		0.35
Lane Grp Cap(c), veh/h	426	1064	1106	387	1064	1116	456	0	0	464	0	0
V/C Ratio(X)	0.02	0.41	0.41	0.20	0.37	0.37	0.80	0.00	0.00	0.09	0.00	0.00
Avail Cap(c_a), veh/h	426	1064	1106	387	1064	1116	467	0	0	475	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.2	8.1	8.1	12.3	7.8	7.8	27.3	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.2	1.1	1.2	1.0	0.9	10.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	6.0	6.2	1.5	5.1	5.3	12.0	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.3	9.3	9.2	13.4	8.8	8.8	37.4	0.0	0.0	21.6	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	D	A	A	C	A	A
Approach Vol, veh/h		900			877			364				40
Approach Delay, s/veh		9.3			9.2			37.4				21.6
Approach LOS		A			A			D				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		50.9		25.1		50.9		25.1				
Change Period (Y+Rc), s		5.4		5.6		5.4		5.6				
Max Green Setting (Gmax), s		45.0		20.0		45.0		20.0				
Max Q Clear Time (g_c+I1), s		11.9		3.3		17.7		19.2				
Green Ext Time (p_c), s		6.1		0.2		5.9		0.3				

Intersection Summary

HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

HCM 6th TWSC  
 1007: Scarlett Driveway & NW Ped Access

03/31/2023

Intersection												
Int Delay, s/veh	13											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑		↓	↑	
Traffic Vol, veh/h	0	0	0	0	0	0	0	232	0	59	105	0
Future Vol, veh/h	0	0	0	0	0	0	0	232	0	59	105	0
Conflicting Peds, #/hr	0	0	13	13	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									
Storage Length	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	49	49	49	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	4	4	4
Mvmt Flow	0	0	0	0	0	0	0	473	0	81	144	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	-	0	-	-	-	0	-	2	-	239	2	-
Stage 1	-	-	-	-	-	-	-	1	-	1	1	-
Stage 2	-	-	-	-	-	-	-	1	-	238	1	-
Critical Hdwy	-	-	-	-	-	-	-	6.54	-	7.14	6.54	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.54	-	6.14	5.54	-
Follow-up Hdwy	-	-	-	-	-	-	-	4.036	-	3.536	4.036	-
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	890	0	711	890	0
Stage 1	0	-	0	0	-	0	0	891	0	1017	891	0
Stage 2	0	-	0	0	-	0	0	891	0	761	891	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	890	-	412	890	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	890	-	412	890	-
Stage 1	-	-	-	-	-	-	-	891	-	1017	891	-
Stage 2	-	-	-	-	-	-	-	891	-	357	891	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	13.5	12
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	890	-	-	412	890
HCM Lane V/C Ratio	0.532	-	-	0.196	0.162
HCM Control Delay (s)	13.5	-	-	15.9	9.8
HCM Lane LOS	B	-	-	C	A
HCM 95th %tile Q(veh)	3.2	-	-	0.7	0.6

HCM 6th TWSC  
 1008: Scarlett Driveway & Parking Exit

03/31/2023

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	232	0	0	0	105
Future Vol, veh/h	0	232	0	0	0	105
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	55	55	29	29	59	59
Heavy Vehicles, %	1	1	100	100	2	2
Mvmt Flow	0	422	0	0	0	178

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	178	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	178	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	814	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	814	-	-	-	-	-
Mov Cap-2 Maneuver	814	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC  
 1003: Scarlett Driveway/Fernwood & Lorraine Street

03/31/2023

Intersection												
Int Delay, s/veh	55.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	59	99	10	58	48	126	91	15	19	55	23
Future Vol, veh/h	31	59	99	10	58	48	126	91	15	19	55	23
Conflicting Peds, #/hr	10	0	20	20	0	10	34	0	5	5	0	34
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	43	43	60	60	58	58	60	60	60	80	80	80
Heavy Vehicles, %	0	0	2	2	0	0	2	2	2	0	2	0
Mvmt Flow	72	137	165	17	100	83	210	152	25	24	69	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	193	0	0	322	0	0	643	611	245	643	652	186
Stage 1	-	-	-	-	-	-	384	384	-	186	186	-
Stage 2	-	-	-	-	-	-	259	227	-	457	466	-
Critical Hdwy	4.1	-	-	4.12	-	-	7.12	6.52	6.22	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Follow-up Hdwy	2.2	-	-	2.218	-	-	3.518	4.018	3.318	3.5	4.018	3.3
Pot Cap-1 Maneuver	1392	-	-	1238	-	-	386	409	794	389	387	861
Stage 1	-	-	-	-	-	-	639	611	-	820	746	-
Stage 2	-	-	-	-	-	-	746	716	-	587	562	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1379	-	-	1214	-	-	282	366	775	237	346	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	282	366	-	237	346	-
Stage 1	-	-	-	-	-	-	587	561	-	760	727	-
Stage 2	-	-	-	-	-	-	621	697	-	386	516	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.5			0.7			146.8			19.8		
HCM LOS							F			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	325	1379	-	-	1214	-	-	363
HCM Lane V/C Ratio	1.19	0.052	-	-	0.014	-	-	0.334
HCM Control Delay (s)	146.8	7.8	0	-	8	0	-	19.8
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	16.5	0.2	-	-	0	-	-	1.4

**Approach**

Approach Direction	EB
Median Present?	No
Approach Delay(s)	0.9
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	117
Ped Vol Crossed	34
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.33
Prob of Blocked Lane	0.18
Delay for adq Gap	8.42
Avg Ped Delay (s)	0.90

**Approach**

Approach Direction	WB
Median Present?	No
Approach Delay(s)	0.9
Level of Service	A

**Crosswalk**

Length (ft)	32
Lanes Crossed	2
Veh Vol Crossed	117
Ped Vol Crossed	5
Yield Rate(%)	91
Ped Platooning	No
Critical Headway (s)	12.14
Prob of Delayed X-ing	0.33
Prob of Blocked Lane	0.18
Delay for adq Gap	8.42
Avg Ped Delay (s)	0.90

**1001: Platt Road & Lorraine Street Performance by movement**

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.6	0.6	1.9	0.3	0.4
Total Del/Veh (s)	29.8	0.7	18.2	8.2	6.3	15.3	4.9	9.6
Vehicles Exited	48	20	35	241	58	22	142	566
Hourly Exit Rate	96	40	70	482	116	44	284	1132
Input Volume	96	44	92	486	118	44	297	1177
% of Volume	100	91	76	99	98	100	96	96

**1002: Scarlett Driveway & Lorraine Street Performance by movement**

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.3	0.9	3.5	0.5	9.0	6.3	3.4
Vehicles Exited	80	60	20	81	52	88	381
Hourly Exit Rate	160	120	40	162	104	176	762
Input Volume	160	116	44	167	122	189	798
% of Volume	100	103	91	97	85	93	95

**1003: Lorraine Street & Fernwood Performance by movement**

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Del/Veh (s)	3.0	0.9	1.2	0.8	9.7		6.6	2.3
Vehicles Exited	55	111	90	53	28	0	21	358
Hourly Exit Rate	110	222	180	106	56	0	42	716
Input Volume	111	238	178	106	58	0	49	740
% of Volume	99	93	101	100	97		86	97

**1004: Mitchell & Lorraine Street Performance by movement**

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	0.1	0.1
Total Del/Veh (s)	0.5	0.7	1.8	0.3	5.6	3.7	3.0
Vehicles Exited	36	83	7	18	129	15	288
Hourly Exit Rate	72	166	14	36	258	30	576
Input Volume	79	177	18	31	255	36	596
% of Volume	91	94	78	116	101	83	97

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	WBT	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	1.3	0.2	0.0	3.7	4.3	2.6	4.7	2.8	1.7
Vehicles Exited	10	13	9	3	4	1	3	12	55
Hourly Exit Rate	20	26	18	6	8	2	6	24	110
Input Volume	23	27	20	6	11	3	7	23	122
% of Volume	87	96	90	100	73	67	86	104	90

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.9	0.1	0.2	2.1	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	8.6	5.7	1.7	12.7	5.5	1.3	24.2	8.0	10.4	22.8	17.9	6.2
Vehicles Exited	5	360	6	28	355	2	12	28	65	11	6	6
Hourly Exit Rate	10	720	12	56	710	4	24	56	130	22	12	12
Input Volume	10	699	17	62	729	3	28	58	131	21	11	12
% of Volume	100	103	71	90	97	133	86	97	99	105	109	100

**1006: Fernwood & Packard Street Performance by movement**

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	6.8
Vehicles Exited	884
Hourly Exit Rate	1768
Input Volume	1781
% of Volume	99

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBT	All
Denied Del/Veh (s)	0.0	0.1	0.1
Total Del/Veh (s)	5.6	6.0	5.8
Vehicles Exited	150	134	284
Hourly Exit Rate	300	268	568
Input Volume	320	265	585
% of Volume	94	101	97

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.3	0.1	0.0	0.0	0.2
Total Del/Veh (s)	3.8	0.4	2.9	1.8	2.9
Vehicles Exited	149	7	47	104	307
Hourly Exit Rate	298	14	94	208	614
Input Volume	312	16	100	202	630
% of Volume	96	88	94	103	97

Total Zone Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	83.7
Vehicles Exited	160
Hourly Exit Rate	320
Input Volume	6429
% of Volume	5

**Intersection: 1001: Platt Road & Lorraine Street**

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	164	248	88	119
Average Queue (ft)	93	107	26	58
95th Queue (ft)	156	217	68	122
Link Distance (ft)	1311	1958		1413
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)				2
Queuing Penalty (veh)				1

**Intersection: 1002: Scarlett Driveway & Lorraine Street**

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	11	65	95
Average Queue (ft)	2	19	54
95th Queue (ft)	16	56	90
Link Distance (ft)	1311	84	303
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 1003: Lorraine Street & Fernwood**

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	83	33	87
Average Queue (ft)	35	3	42
95th Queue (ft)	73	19	75
Link Distance (ft)	84	220	1698
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	1		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 1004: Mitchell & Lorraine Street**

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	4	25	70
Average Queue (ft)	0	3	49
95th Queue (ft)	4	18	71
Link Distance (ft)	220	145	459
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 1005: Pittsview Drive & Lorraine Street**

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	6	29	31
Average Queue (ft)	0	13	20
95th Queue (ft)	6	36	43
Link Distance (ft)	145	69	625
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 1006: Fernwood & Packard Street**

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	52	131	94	56	111	103	148	69
Average Queue (ft)	7	73	43	26	63	41	68	28
95th Queue (ft)	36	124	88	54	109	94	123	59
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		2			1			
Queuing Penalty (veh)		0			1			

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Intersection: 1007: Scarlett Driveway & NW Ped Access

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Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	70	93
Average Queue (ft)	42	56
95th Queue (ft)	66	85
Link Distance (ft)	400	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	70	6
Average Queue (ft)	46	0
95th Queue (ft)	69	6
Link Distance (ft)	294	400
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Zone Summary

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Zone wide Queuing Penalty: 3

**1001: Platt Road & Lorraine Street Performance by movement**

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.5	0.4	1.5	0.6	0.4
Total Del/Veh (s)	28.0	1.0	22.6	11.0	7.8	20.2	11.1	13.7
Vehicles Exited	105	35	44	218	41	25	319	787
Hourly Exit Rate	210	70	88	436	82	50	638	1574
Input Volume	235	69	87	455	87	53	668	1654
% of Volume	89	101	101	96	94	94	96	95

**1002: Scarlett Driveway & Lorraine Street Performance by movement**

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.3	0.9	2.4	0.4	11.4	10.0	5.7
Vehicles Exited	81	36	15	87	119	79	417
Hourly Exit Rate	162	72	30	174	238	158	834
Input Volume	151	84	29	173	253	173	863
% of Volume	107	86	103	101	94	91	97

**1003: Lorraine Street & Fernwood Performance by movement**

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.3	1.5	1.4	0.8	12.1	0.0	6.4	2.7
Vehicles Exited	86	85	80	49	18	1	21	340
Hourly Exit Rate	172	170	160	98	36	2	42	680
Input Volume	174	169	162	100	41	1	36	683
% of Volume	99	101	99	98	88	200	117	100

**1004: Mitchell & Lorraine Street Performance by movement**

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.4	0.1
Total Del/Veh (s)	0.7	0.6	1.9	0.5	5.7	3.6	3.0
Vehicles Exited	39	58	9	15	101	7	229
Hourly Exit Rate	78	116	18	30	202	14	458
Input Volume	86	110	18	33	200	16	463
% of Volume	91	105	100	91	101	88	99

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0		0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	1.4	0.3	0.2		0.0	3.5	2.9	1.2	4.1	3.0	1.7
Vehicles Exited	21	10	4	0	3	3	2	1	3	12	59
Hourly Exit Rate	42	20	8	0	6	6	4	2	6	24	118
Input Volume	48	21	8	1	7	4	3	1	5	27	125
% of Volume	88	95	100	0	86	150	133	200	120	89	94

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.5	0.2	0.2	2.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.1
Total Del/Veh (s)	17.2	7.6	4.0	25.1	6.1	2.2	26.6	8.6	15.5	27.5	18.5	7.8
Vehicles Exited	11	572	12	18	380	4	13	32	87	5	7	13
Hourly Exit Rate	22	1144	24	36	760	8	26	64	174	10	14	26
Input Volume	21	1159	24	43	749	11	32	64	186	7	10	27
% of Volume	105	99	100	84	101	73	81	100	94	143	140	96

**1006: Fernwood & Packard Street Performance by movement**

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	8.4
Vehicles Exited	1154
Hourly Exit Rate	2308
Input Volume	2333
% of Volume	99

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.1
Total Del/Veh (s)	6.5	5.4	6.3
Vehicles Exited	187	60	247
Hourly Exit Rate	374	120	494
Input Volume	390	129	519
% of Volume	96	93	95

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.3	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.9	0.4	3.2	1.6	3.3
Vehicles Exited	155	3	13	52	223
Hourly Exit Rate	310	6	26	104	446
Input Volume	321	8	32	113	474
% of Volume	97	75	81	92	94

Total Zone Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	167.6
Vehicles Exited	100
Hourly Exit Rate	200
Input Volume	7114
% of Volume	3

**Intersection: 1001: Platt Road & Lorraine Street**

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	267	238	110	296
Average Queue (ft)	146	128	39	164
95th Queue (ft)	244	230	101	286
Link Distance (ft)	1311	1958		1413
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)				15
Queuing Penalty (veh)				8

**Intersection: 1002: Scarlett Driveway & Lorraine Street**

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	31	49	144
Average Queue (ft)	3	8	80
95th Queue (ft)	20	35	136
Link Distance (ft)	1311	84	303
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 1003: Lorraine Street & Fernwood**

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	88	53	76
Average Queue (ft)	45	7	38
95th Queue (ft)	84	33	72
Link Distance (ft)	84	220	1698
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	3		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 1004: Mitchell & Lorraine Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	35	78
Average Queue (ft)	4	44
95th Queue (ft)	23	73
Link Distance (ft)	145	459
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1005: Pittsview Drive & Lorraine Street

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	29	44
Average Queue (ft)	9	20
95th Queue (ft)	31	47
Link Distance (ft)	69	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	56	182	190	71	129	116	195	74
Average Queue (ft)	16	113	85	24	72	54	87	28
95th Queue (ft)	55	182	164	60	119	106	170	64
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		7			1			
Queuing Penalty (veh)		2			0			

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**Intersection: 1007: Scarlett Driveway & NW Ped Access**

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Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	115	62
Average Queue (ft)	60	39
95th Queue (ft)	103	60
Link Distance (ft)	400	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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**Intersection: 1008: Scarlett Driveway & Parking Exit**

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	71
Average Queue (ft)	48
95th Queue (ft)	70
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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**Zone Summary**

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Zone wide Queuing Penalty: 13

**1001: Platt Road & Lorraine Street Performance by movement**

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.8	0.8	1.6	0.3	0.6
Total Del/Veh (s)	32.6	0.9	22.5	12.5	10.3	27.4	5.9	13.2
Vehicles Exited	54	27	36	302	112	31	140	702
Hourly Exit Rate	108	54	72	604	224	62	280	1404
Input Volume	121	56	83	630	236	66	272	1464
% of Volume	89	96	87	96	95	94	103	96

**1002: Scarlett Driveway & Lorraine Street Performance by movement**

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.8		1.1	0.4
Total Del/Veh (s)	2.8	1.8	4.1	1.4	20.0		14.8	8.9
Vehicles Exited	26	142	92	27	98	0	121	506
Hourly Exit Rate	52	284	184	54	196	0	242	1012
Input Volume	62	294	191	63	214	0	258	1082
% of Volume	84	97	96	86	92		94	94

**1003: Lorraine Street & Fernwood Performance by movement**

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Del/Veh (s)	1.2	0.5	0.5	0.4	8.4	0.0	5.9	3.0
Vehicles Exited	97	50	30	6	15	1	96	295
Hourly Exit Rate	194	100	60	12	30	2	192	590
Input Volume	205	114	59	14	27	1	206	626
% of Volume	95	88	102	86	111	200	93	94

**1004: Mitchell & Lorraine Street Performance by movement**

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.7	0.4	2.2	0.3	4.5	2.9	1.1
Vehicles Exited	17	65	7	22	15	3	129
Hourly Exit Rate	34	130	14	44	30	6	258
Input Volume	39	138	13	47	27	5	269
% of Volume	87	94	108	94	111	120	96

1005: Pittsview Drive & Lorraine Street Performance by movement

Movement	EBL	EBT	WBT	NBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.1	0.1
Total Del/Veh (s)	1.4	0.2	0.1	3.7	3.0	1.4
Vehicles Exited	5	15	10	1	19	50
Hourly Exit Rate	10	30	20	2	38	100
Input Volume	14	29	20	4	40	107
% of Volume	71	103	100	50	95	93

1006: Fernwood & Packard Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)		0.1	0.2	1.9	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)		5.6	2.0	13.9	7.3	3.4	24.6	25.9	10.8	28.0	14.9	5.7
Vehicles Exited	0	264	12	74	476	3	21	8	85	6	5	6
Hourly Exit Rate	0	528	24	148	952	6	42	16	170	12	10	12
Input Volume	2	541	22	156	951	7	47	19	183	14	13	10
% of Volume	0	98	109	95	100	86	89	84	93	86	77	120

1006: Fernwood & Packard Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	8.3
Vehicles Exited	960
Hourly Exit Rate	1920
Input Volume	1965
% of Volume	98

1007: Scarlett Driveway & NW Ped Access Performance by movement

Movement	NBT	SBT	All
Denied Del/Veh (s)	0.0	0.1	0.0
Total Del/Veh (s)	6.3	7.4	6.9
Vehicles Exited	211	255	466
Hourly Exit Rate	422	510	932
Input Volume	448	533	981
% of Volume	94	96	95

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1008: Scarlett Driveway & Parking Exit Performance by movement

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Movement	WBR	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.4	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.5	0.3	3.4	2.2	3.4
Vehicles Exited	201	7	76	178	462
Hourly Exit Rate	402	14	152	356	924
Input Volume	425	16	165	368	974
% of Volume	95	88	92	97	95

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Total Zone Performance

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Denied Del/Veh (s)	0.6
Total Del/Veh (s)	195.9
Vehicles Exited	71
Hourly Exit Rate	142
Input Volume	7468
% of Volume	2

Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	215	371	76	150
Average Queue (ft)	105	171	39	65
95th Queue (ft)	190	335	75	134
Link Distance (ft)	1311	1958		1413
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)			0	2
Queuing Penalty (veh)			0	1

Intersection: 1002: Scarlett Driveway & Lorraine Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	41	92	253
Average Queue (ft)	10	45	118
95th Queue (ft)	34	83	243
Link Distance (ft)	1311	84	303
Upstream Blk Time (%)		1	0
Queuing Penalty (veh)		2	2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 1003: Lorraine Street & Fernwood

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	48	129
Average Queue (ft)	11	62
95th Queue (ft)	40	111
Link Distance (ft)	84	1698
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

**Intersection: 1004: Mitchell & Lorraine Street**

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	19	38
Average Queue (ft)	3	21
95th Queue (ft)	19	43
Link Distance (ft)	145	459
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

**Intersection: 1005: Pittsview Drive & Lorraine Street**

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	6	11	35
Average Queue (ft)	0	2	23
95th Queue (ft)	6	14	45
Link Distance (ft)	145	69	625
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 1006: Fernwood & Packard Street**

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	11	111	82	124	152	140	181	49
Average Queue (ft)	1	63	31	55	90	81	85	20
95th Queue (ft)	8	105	71	111	144	138	154	50
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		1		2	3			
Queuing Penalty (veh)		0		8	5			

Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	90	132
Average Queue (ft)	51	74
95th Queue (ft)	84	115
Link Distance (ft)	400	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1008: Scarlett Driveway & Parking Exit

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	91	23
Average Queue (ft)	55	4
95th Queue (ft)	83	26
Link Distance (ft)	294	400
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 20

**1001: Platt Road & Lorraine Street Performance by movement**

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.4	0.5	1.6	0.5	0.4
Total Del/Veh (s)	29.1	1.2	20.8	12.4	11.2	23.5	9.1	14.6
Vehicles Exited	108	2	45	200	77	19	243	694
Hourly Exit Rate	216	4	90	400	154	38	486	1388
Input Volume	229	3	92	407	136	39	496	1402
% of Volume	94	133	98	98	113	97	98	99

**1002: Scarlett Driveway & Lorraine Street Performance by movement**

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2		0.0	0.1
Total Del/Veh (s)	1.9	1.2	2.5	0.6	10.7		9.2	6.1
Vehicles Exited	52	74	22	28	117	0	90	383
Hourly Exit Rate	104	148	44	56	234	0	180	766
Input Volume	92	143	44	55	244	0	178	756
% of Volume	113	103	100	102	96		101	101

**1003: Lorraine Street & Fernwood Performance by movement**

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	1.4	0.7	0.5	0.2	7.1	0.2	4.3	1.8
Vehicles Exited	110	64	22	14	17	4	30	261
Hourly Exit Rate	220	128	44	28	34	8	60	522
Input Volume	214	126	39	24	31	8	61	503
% of Volume	103	102	113	117	110	100	98	104

**1004: Mitchell & Lorraine Street Performance by movement**

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.2	0.0
Total Del/Veh (s)	0.6	0.5	1.3	0.4	4.8	5.0	0.9
Vehicles Exited	39	34	6	27	9	1	116
Hourly Exit Rate	78	68	12	54	18	2	232
Input Volume	77	68	15	45	18	2	225
% of Volume	101	100	80	120	100	100	103

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBT	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	1.5	0.1	0.1	0.1	3.3	5.2	4.7	2.9	1.7
Vehicles Exited	13	16	4	5	4	1	5	13	61
Hourly Exit Rate	26	32	8	10	8	2	10	26	122
Input Volume	30	34	5	8	6	2	9	23	117
% of Volume	87	94	160	125	133	100	111	113	104

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.3	0.2	0.3	2.0	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	11.7	6.7	3.2	16.8	6.1	2.2	27.2	16.8	13.7	30.6	25.9	5.3
Vehicles Exited	2	413	13	31	370	6	23	15	84	2	7	5
Hourly Exit Rate	4	826	26	62	740	12	46	30	168	4	14	10
Input Volume	8	826	24	63	749	11	49	27	169	8	13	11
% of Volume	50	100	108	98	99	109	94	111	99	50	108	91

**1006: Fernwood & Packard Street Performance by movement**

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	8.2
Vehicles Exited	971
Hourly Exit Rate	1942
Input Volume	1958
% of Volume	99

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	6.0	5.1	5.7
Vehicles Exited	200	96	296
Hourly Exit Rate	400	192	592
Input Volume	402	189	591
% of Volume	100	102	100

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1008: Scarlett Driveway & Parking Exit Performance by movement

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Movement	WBR	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.4	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.1	0.4	2.8	1.6	3.2
Vehicles Exited	170	11	33	76	290
Hourly Exit Rate	340	22	66	152	580
Input Volume	324	28	64	157	573
% of Volume	105	79	103	97	101

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Total Zone Performance

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Denied Del/Veh (s)	0.3
Total Del/Veh (s)	218.4
Vehicles Exited	59
Hourly Exit Rate	118
Input Volume	6125
% of Volume	2

**Intersection: 1001: Platt Road & Lorraine Street**

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	254	302	122	231
Average Queue (ft)	147	145	33	119
95th Queue (ft)	229	294	94	221
Link Distance (ft)	1311	1958		1413
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)			1	10
Queuing Penalty (veh)			3	4

**Intersection: 1002: Scarlett Driveway & Lorraine Street**

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	23	52	190
Average Queue (ft)	3	14	88
95th Queue (ft)	17	45	154
Link Distance (ft)	1311	84	303
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 1003: Lorraine Street & Fernwood**

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	64	64
Average Queue (ft)	21	39
95th Queue (ft)	56	63
Link Distance (ft)	84	1698
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1004: Mitchell & Lorraine Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	12	29
Average Queue (ft)	1	14
95th Queue (ft)	9	38
Link Distance (ft)	145	459
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1005: Pittsview Drive & Lorraine Street

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	29	35
Average Queue (ft)	8	23
95th Queue (ft)	30	45
Link Distance (ft)	69	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	22	149	132	68	116	106	208	48
Average Queue (ft)	3	91	56	33	67	54	94	22
95th Queue (ft)	17	141	112	63	110	98	179	52
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		3		0	1			
Queuing Penalty (veh)		0		1	1			

Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	85	70
Average Queue (ft)	52	41
95th Queue (ft)	82	64
Link Distance (ft)	400	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1008: Scarlett Driveway & Parking Exit

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	78	12
Average Queue (ft)	51	2
95th Queue (ft)	74	14
Link Distance (ft)	294	400
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 9
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**1001: Platt Road & Lorraine Street Performance by movement**

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.6	0.7	2.1	0.3	0.5
Total Del/Veh (s)	31.7	1.8	22.4	10.2	7.6	18.9	4.5	10.9
Vehicles Exited	51	31	37	295	62	22	155	653
Hourly Exit Rate	102	62	74	590	124	44	310	1306
Input Volume	103	73	75	602	126	42	298	1319
% of Volume	99	85	99	98	98	105	104	99

**1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	7.4	8.0	8.4	7.9	7.1	5.7	6.1	2.4	5.6	6.8	8.2	4.2	7.1
Vehicles Exited	9	13	132	21	103	78	17	34	2	5	58	6	478
Hourly Exit Rate	18	26	264	42	206	156	34	68	4	10	116	12	956
Input Volume	20	22	265	39	213	169	33	73	5	9	126	14	988
% of Volume	90	118	100	108	97	92	103	93	80	111	92	86	97

**1004: Mitchell & Lorraine Street Performance by movement**

Movement	EBT	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.4	0.3	0.3
Total Del/Veh (s)	1.5	0.3	6.0	4.3	5.1
Vehicles Exited	18	21	184	8	231
Hourly Exit Rate	36	42	368	16	462
Input Volume	34	43	377	19	473
% of Volume	106	98	98	84	98

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0		0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	1.3	0.1		0.0	3.4	4.2	1.9	5.5	2.9	2.1
Vehicles Exited	5	8	0	7	4	4	2	4	9	43
Hourly Exit Rate	10	16	0	14	8	8	4	8	18	86
Input Volume	10	20	1	17	6	9	3	7	20	94
% of Volume	100	80	0	82	133	89	133	114	90	91

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.1	0.1	2.2	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.3
Total Del/Veh (s)	9.3	5.2	2.4	12.4	5.4	1.3	26.8	5.3	10.4	21.6	27.4	5.3	6.7
Vehicles Exited	4	342	7	47	330	1	14	25	58	8	4	4	844
Hourly Exit Rate	8	684	14	94	660	2	28	50	116	16	8	8	1688
Input Volume	8	682	15	97	676	3	33	56	128	18	10	11	1737
% of Volume	100	100	93	97	98	67	85	89	91	89	80	73	97

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.3	0.0	0.3
Total Del/Veh (s)	5.5	7.7	4.4	7.0
Vehicles Exited	61	280	34	375
Hourly Exit Rate	122	560	68	750
Input Volume	123	563	63	749
% of Volume	99	99	108	100

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.2	0.0	0.1
Total Del/Veh (s)	2.9	1.5	2.4
Vehicles Exited	61	36	97
Hourly Exit Rate	122	72	194
Input Volume	121	70	191
% of Volume	101	103	102

Total Zone Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	127.0
Vehicles Exited	114
Hourly Exit Rate	228
Input Volume	5551
% of Volume	4

## Queuing and Blocking Report

03/30/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	184	288	61	112
Average Queue (ft)	93	145	29	52
95th Queue (ft)	172	278	59	105
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)				1
Queuing Penalty (veh)				0

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	114	112	52	84
Average Queue (ft)	67	61	29	48
95th Queue (ft)	102	100	52	78
Link Distance (ft)	1447	226	47	1699
Upstream Blk Time (%)			1	
Queuing Penalty (veh)			1	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1004: Mitchell & Lorraine Street

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Movement	NB
Directions Served	LR
Maximum Queue (ft)	92
Average Queue (ft)	58
95th Queue (ft)	84
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	6	30	31
Average Queue (ft)	0	14	18
95th Queue (ft)	6	38	43
Link Distance (ft)	145	69	625
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	23	125	97	94	103	94	141	44
Average Queue (ft)	4	66	37	38	59	44	65	19
95th Queue (ft)	20	119	83	77	108	97	124	46
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		1		0	1			
Queuing Penalty (veh)		0		1	1			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	57	174	66
Average Queue (ft)	32	103	31
95th Queue (ft)	56	169	55
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	29
95th Queue (ft)	51
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Zone Summary

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Zone wide Queuing Penalty: 3

1001: Platt Road & Lorraine Street Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.7	0.7	2.2	0.3	0.6
Total Del/Veh (s)	31.5	0.9	18.3	9.5	8.4	22.6	4.7	10.4
Vehicles Exited	47	34	36	296	66	25	155	659
Hourly Exit Rate	94	68	72	592	132	50	310	1318
Input Volume	103	73	75	602	126	42	298	1319
% of Volume	91	93	96	98	105	119	104	100

1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	5.8	1.4	1.3	4.9	1.7	1.3	9.0	3.8	8.3	14.0	15.5	9.2	4.0
Vehicles Exited	7	12	135	17	104	85	13	37	3	4	60	6	483
Hourly Exit Rate	14	24	270	34	208	170	26	74	6	8	120	12	966
Input Volume	20	22	265	39	213	169	33	73	5	9	126	14	988
% of Volume	70	109	102	87	98	101	79	101	120	89	95	86	98

1004: Mitchell & Lorraine Street Performance by movement

Movement	EBT	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.4	0.3	0.3
Total Del/Veh (s)	0.5	0.3	6.1	4.8	5.2
Vehicles Exited	18	19	188	8	233
Hourly Exit Rate	36	38	376	16	466
Input Volume	34	43	377	19	473
% of Volume	106	88	100	84	99

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.1	0.1		0.1	0.1	0.1
Total Del/Veh (s)	1.4	0.1	0.1	0.0	2.8	4.2	1.9		4.9	2.7	2.0
Vehicles Exited	5	7	1	7	3	4	2	0	4	9	42
Hourly Exit Rate	10	14	2	14	6	8	4	0	8	18	84
Input Volume	10	20	1	17	6	9	3	1	7	20	94
% of Volume	100	70	200	82	100	89	133	0	114	90	89

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.3	0.1	0.1	2.3	0.2	0.3	0.0	0.0	0.0	0.1	0.1	0.1	0.3
Total Del/Veh (s)	11.5	5.3	2.0	12.7	5.7	0.7	21.1	6.6	12.0	17.6	19.1	4.9	6.8
Vehicles Exited	4	337	9	45	324	2	14	31	58	7	5	4	840
Hourly Exit Rate	8	674	18	90	648	4	28	62	116	14	10	8	1680
Input Volume	8	682	15	97	676	3	33	56	128	18	10	11	1737
% of Volume	100	99	120	93	96	133	85	111	91	78	100	73	97

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.4	0.1	0.3
Total Del/Veh (s)	5.6	7.8	4.7	7.2
Vehicles Exited	60	279	32	371
Hourly Exit Rate	120	558	64	742
Input Volume	123	563	63	749
% of Volume	98	99	102	99

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.2	0.0	0.1
Total Del/Veh (s)	2.8	1.5	2.3
Vehicles Exited	60	32	92
Hourly Exit Rate	120	64	184
Input Volume	121	70	191
% of Volume	99	91	96

Total Zone Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	110.5
Vehicles Exited	122
Hourly Exit Rate	244
Input Volume	5551
% of Volume	4

## Queuing and Blocking Report

03/30/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	159	305	90	120
Average Queue (ft)	87	133	36	54
95th Queue (ft)	157	263	81	107
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)			0	1
Queuing Penalty (veh)			1	0

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	86	82	53	142
Average Queue (ft)	18	23	28	59
95th Queue (ft)	65	66	55	113
Link Distance (ft)	1447	226	47	1699
Upstream Blk Time (%)			2	
Queuing Penalty (veh)			2	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1004: Mitchell & Lorraine Street

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Movement	NB
Directions Served	LR
Maximum Queue (ft)	105
Average Queue (ft)	63
95th Queue (ft)	94
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	11	30	31
Average Queue (ft)	1	13	20
95th Queue (ft)	8	36	44
Link Distance (ft)	145	69	625
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	30	117	110	94	102	102	166	56
Average Queue (ft)	6	65	38	38	60	46	66	21
95th Queue (ft)	25	114	88	80	100	96	132	52
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		1		0	1			
Queuing Penalty (veh)		0		1	1			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	46	172	50
Average Queue (ft)	31	100	28
95th Queue (ft)	46	161	52
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	28
95th Queue (ft)	46
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Zone Summary

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Zone wide Queuing Penalty: 5

**1001: Platt Road & Lorraine Street Performance by movement**

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.4	0.4	1.8	0.6	0.4
Total Del/Veh (s)	29.6	2.1	23.6	11.1	8.2	22.4	11.4	13.9
Vehicles Exited	106	37	40	219	49	12	341	804
Hourly Exit Rate	212	74	80	438	98	24	682	1608
Input Volume	212	80	90	443	95	33	679	1632
% of Volume	100	92	89	99	103	73	100	99

**1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	1.5	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	9.5	8.2	8.6	17.2	14.8	12.4	8.0	4.4	6.8	6.5	9.2	6.6	10.6
Vehicles Exited	24	15	65	6	139	99	38	57	5	9	35	7	499
Hourly Exit Rate	48	30	130	12	278	198	76	114	10	18	70	14	998
Input Volume	49	29	135	12	283	210	75	118	7	16	72	17	1023
% of Volume	98	103	96	100	98	94	101	97	143	112	97	82	98

**1004: Mitchell & Lorraine Street Performance by movement**

Movement	EBT	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.5	0.3	0.4
Total Del/Veh (s)	1.4	0.6	7.0	5.2	6.1
Vehicles Exited	27	12	209	13	261
Hourly Exit Rate	54	24	418	26	522
Input Volume	51	32	422	27	532
% of Volume	106	75	99	96	98

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	1.2	0.2	0.1	0.0	3.8	3.2	2.1	2.9	1.3
Vehicles Exited	24	4	5	2	1	1	1	6	44
Hourly Exit Rate	48	8	10	4	2	2	2	12	88
Input Volume	48	10	7	3	3	1	1	14	88
% of Volume	100	80	143	133	67	200	200	86	100

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.1	0.2	0.4	2.1	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.2
Total Del/Veh (s)	17.5	8.2	3.5	21.5	6.4	1.6	29.0	9.1	16.9	41.2	22.2	6.8	9.1
Vehicles Exited	10	616	13	27	374	6	21	39	90	2	7	13	1218
Hourly Exit Rate	20	1232	26	54	748	12	42	78	180	4	14	26	2436
Input Volume	23	1210	23	56	745	10	51	74	197	6	13	29	2437
% of Volume	87	102	113	96	100	120	82	105	91	67	108	90	100

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.2	4.7	5.0	5.4
Vehicles Exited	100	100	21	221
Hourly Exit Rate	200	200	42	442
Input Volume	201	217	40	458
% of Volume	100	92	105	97

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.2	0.0	0.2
Total Del/Veh (s)	3.2	1.3	2.9
Vehicles Exited	97	24	121
Hourly Exit Rate	194	48	242
Input Volume	195	49	244
% of Volume	99	98	99

Total Zone Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	186.0
Vehicles Exited	111
Hourly Exit Rate	222
Input Volume	6414
% of Volume	3

## Queuing and Blocking Report

03/30/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	248	265	74	333
Average Queue (ft)	150	122	15	173
95th Queue (ft)	248	239	54	313
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)				16
Queuing Penalty (veh)				5

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	B3	SB
Directions Served	LTR	LTR	LTR	T	LTR
Maximum Queue (ft)	92	211	81	7	80
Average Queue (ft)	54	114	42	0	42
95th Queue (ft)	85	199	73	5	73
Link Distance (ft)	1447	226	47	252	1699
Upstream Blk Time (%)		0	4		
Queuing Penalty (veh)		2	8		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1004: Mitchell & Lorraine Street

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Movement	NB
Directions Served	LR
Maximum Queue (ft)	127
Average Queue (ft)	67
95th Queue (ft)	108
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	29	31
Average Queue (ft)	5	9
95th Queue (ft)	24	32
Link Distance (ft)	69	625
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

## Queuing and Blocking Report

03/30/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	46	181	172	71	130	124	178	61
Average Queue (ft)	14	124	98	33	70	56	105	26
95th Queue (ft)	43	183	172	66	118	107	170	56
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		9			2			
Queuing Penalty (veh)		2			1			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	78	82	42
Average Queue (ft)	42	40	23
95th Queue (ft)	69	69	47
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	66
Average Queue (ft)	37
95th Queue (ft)	61
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Zone Summary

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Zone wide Queuing Penalty: 18

**1001: Platt Road & Lorraine Street Performance by movement**

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.5	0.4	1.8	0.7	0.5
Total Del/Veh (s)	31.0	0.9	19.0	10.5	8.5	20.8	10.2	12.9
Vehicles Exited	96	38	37	215	46	15	335	782
Hourly Exit Rate	192	76	74	430	92	30	670	1564
Input Volume	212	80	90	443	95	33	679	1632
% of Volume	91	95	82	97	97	91	99	96

**1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	6.9	1.2	1.7	4.1	2.0	1.5	14.1	9.5	9.0	13.3	15.0	5.6	4.9
Vehicles Exited	20	16	66	5	137	103	30	55	3	9	35	6	485
Hourly Exit Rate	40	32	132	10	274	206	60	110	6	18	70	12	970
Input Volume	49	29	135	12	283	210	75	118	7	16	72	17	1023
% of Volume	82	110	98	83	97	98	80	93	86	112	97	71	95

**1004: Mitchell & Lorraine Street Performance by movement**

Movement	EBT	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.5	0.6	0.4
Total Del/Veh (s)	0.5	0.5	7.1	4.9	5.9
Vehicles Exited	26	17	205	15	263
Hourly Exit Rate	52	34	410	30	526
Input Volume	51	32	422	27	532
% of Volume	102	106	97	111	99

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0		0.1	0.1	0.1		0.1	0.0
Total Del/Veh (s)	1.2	0.4	0.2		0.0	2.6	3.0		2.6	1.3
Vehicles Exited	29	4	3	0	2	2	1	0	7	48
Hourly Exit Rate	58	8	6	0	4	4	2	0	14	96
Input Volume	48	10	7	1	3	3	1	1	14	88
% of Volume	121	80	86	0	133	133	200	0	100	109

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.2	0.2	0.3	2.1	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.2
Total Del/Veh (s)	14.3	8.1	3.2	22.0	6.7	3.8	32.5	9.8	18.9	26.2	21.7	7.5	9.4
Vehicles Exited	12	588	10	28	362	4	21	34	91	3	7	14	1174
Hourly Exit Rate	24	1176	20	56	724	8	42	68	182	6	14	28	2348
Input Volume	23	1210	23	56	745	10	51	74	197	6	13	29	2437
% of Volume	104	97	87	100	97	80	82	92	92	100	108	97	96

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	6.3	4.7	4.9	5.4
Vehicles Exited	89	105	20	214
Hourly Exit Rate	178	210	40	428
Input Volume	201	217	40	458
% of Volume	89	97	100	93

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.2	0.0	0.2
Total Del/Veh (s)	3.1	1.4	2.7
Vehicles Exited	86	24	110
Hourly Exit Rate	172	48	220
Input Volume	195	49	244
% of Volume	88	98	90

Total Zone Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	156.7
Vehicles Exited	113
Hourly Exit Rate	226
Input Volume	6414
% of Volume	4

## Queuing and Blocking Report

03/30/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	232	267	124	354
Average Queue (ft)	138	125	28	165
95th Queue (ft)	228	233	85	325
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)				13
Queuing Penalty (veh)				4

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	B3	SB
Directions Served	LTR	LTR	LTR	T	LTR
Maximum Queue (ft)	66	75	127	50	89
Average Queue (ft)	23	26	55	4	46
95th Queue (ft)	60	65	106	30	80
Link Distance (ft)	1447	226	47	252	1699
Upstream Blk Time (%)			12		
Queuing Penalty (veh)			25		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1004: Mitchell & Lorraine Street

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Movement	NB
Directions Served	LR
Maximum Queue (ft)	133
Average Queue (ft)	74
95th Queue (ft)	116
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	29	31
Average Queue (ft)	5	12
95th Queue (ft)	24	36
Link Distance (ft)	69	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

## Queuing and Blocking Report

03/30/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	86	201	172	78	125	119	221	60
Average Queue (ft)	17	121	91	35	74	57	108	26
95th Queue (ft)	64	195	170	67	119	114	206	60
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		10		0	2			
Queuing Penalty (veh)		2		0	1			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	83	83	54
Average Queue (ft)	44	46	25
95th Queue (ft)	79	74	58
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	49
Average Queue (ft)	35
95th Queue (ft)	54
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Zone Summary

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Zone wide Queuing Penalty: 32

**1001: Platt Road & Lorraine Street Performance by movement**

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.9	0.9	2.2	0.3	0.7
Total Del/Veh (s)	31.6	1.0	19.6	18.0	14.3	63.3	8.7	18.9
Vehicles Exited	65	28	38	305	115	37	122	710
Hourly Exit Rate	130	56	76	610	230	74	244	1420
Input Volume	120	65	80	611	240	66	242	1424
% of Volume	108	86	95	100	96	112	101	100

**1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	9.6	9.3	9.6	7.1	7.1	4.0	6.3	6.2	5.2	7.1	10.8	8.1	8.4
Vehicles Exited	3	11	190	27	7	5	102	99	9	4	114	16	587
Hourly Exit Rate	6	22	380	54	14	10	204	198	18	8	228	32	1174
Input Volume	11	19	388	54	12	16	217	209	22	8	235	28	1219
% of Volume	55	116	98	100	117	62	94	95	82	100	97	114	96

**1004: Mitchell & Lorraine Street Performance by movement**

Movement	EBT	WBT	NBL	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	0.9	0.2	4.1	0.9
Vehicles Exited	20	32	8	60
Hourly Exit Rate	40	64	16	120
Input Volume	44	67	14	125
% of Volume	91	96	114	96

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	WBT	NBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.1
Total Del/Veh (s)	1.4	0.0	0.0	3.0	2.9	1.5
Vehicles Exited	5	13	9	2	21	50
Hourly Exit Rate	10	26	18	4	42	100
Input Volume	14	24	18	4	45	105
% of Volume	71	108	100	100	93	95

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	2.1	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.3
Total Del/Veh (s)	5.8	1.7	13.0	6.9	4.3	25.4	23.1	11.7	19.9	20.8	9.2	8.4
Vehicles Exited	238	13	78	447	4	22	11	80	7	8	5	913
Hourly Exit Rate	476	26	156	894	8	44	22	160	14	16	10	1826
Input Volume	461	26	160	901	7	54	23	180	11	14	10	1847
% of Volume	103	100	98	99	114	81	96	89	127	114	100	99

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.8	5.2	6.5	6.5
Vehicles Exited	213	41	289	543
Hourly Exit Rate	426	82	578	1086
Input Volume	450	91	591	1132
% of Volume	95	90	98	96

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.4	0.0	0.2
Total Del/Veh (s)	4.4	1.8	3.0
Vehicles Exited	210	264	474
Hourly Exit Rate	420	528	948
Input Volume	441	537	978
% of Volume	95	98	97

Total Zone Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	195.7
Vehicles Exited	98
Hourly Exit Rate	196
Input Volume	6830
% of Volume	3

## Queuing and Blocking Report

03/29/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	219	504	122	325
Average Queue (ft)	109	229	62	77
95th Queue (ft)	191	473	122	247
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)			13	2
Queuing Penalty (veh)			31	1

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	B3	SB
Directions Served	LTR	LTR	LTR	T	LTR
Maximum Queue (ft)	157	62	111	15	127
Average Queue (ft)	89	35	59	1	74
95th Queue (ft)	143	59	97	13	119
Link Distance (ft)	1447	226	47	252	1699
Upstream Blk Time (%)			16		
Queuing Penalty (veh)			70		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

## Queuing and Blocking Report

03/29/2023

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### Intersection: 1004: Mitchell & Lorraine Street

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Movement	NB
Directions Served	LR
Maximum Queue (ft)	42
Average Queue (ft)	11
95th Queue (ft)	37
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	23	36
Average Queue (ft)	4	23
95th Queue (ft)	20	46
Link Distance (ft)	69	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

## Queuing and Blocking Report

03/29/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	WB	WB	WB	NB	SB
Directions Served	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	113	73	110	148	141	177	56
Average Queue (ft)	59	30	55	80	72	84	26
95th Queue (ft)	105	66	102	136	128	150	59
Link Distance (ft)	1274	1274		1714	1714	708	266
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			100				
Storage Blk Time (%)	1		1	2			
Queuing Penalty (veh)	0		6	3			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	120	51	128
Average Queue (ft)	60	33	66
95th Queue (ft)	105	55	108
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/29/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

---

Movement	WB
Directions Served	LR
Maximum Queue (ft)	81
Average Queue (ft)	55
95th Queue (ft)	81
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

### Zone Summary

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Zone wide Queuing Penalty: 112

**1001: Platt Road & Lorraine Street Performance by movement**

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.9	0.8	2.1	0.4	0.7
Total Del/Veh (s)	32.8	0.9	20.7	16.0	13.7	54.5	8.6	17.0
Vehicles Exited	59	28	38	301	119	29	125	699
Hourly Exit Rate	118	56	76	602	238	58	250	1398
Input Volume	120	65	80	611	240	66	242	1424
% of Volume	98	86	95	99	99	88	103	98

**1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	2.3	3.1	2.1	6.7	1.3	0.9	14.3	12.4	9.6	21.0	31.5	21.9	12.3
Vehicles Exited	3	10	192	30	8	7	99	104	11	3	106	14	587
Hourly Exit Rate	6	20	384	60	16	14	198	208	22	6	212	28	1174
Input Volume	11	19	388	54	12	16	217	209	22	8	235	28	1219
% of Volume	55	105	99	111	133	88	91	100	100	75	90	100	96

**1004: Mitchell & Lorraine Street Performance by movement**

Movement	EBT	WBT	NBL	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	0.5	0.2	3.8	0.8
Vehicles Exited	21	38	10	69
Hourly Exit Rate	42	76	20	138
Input Volume	44	67	14	125
% of Volume	95	113	143	110

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	WBT	NBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.1
Total Del/Veh (s)	1.7	0.1	0.0	3.4	2.9	1.6
Vehicles Exited	7	9	12	2	23	53
Hourly Exit Rate	14	18	24	4	46	106
Input Volume	14	24	18	4	45	105
% of Volume	100	75	133	100	102	101

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	1.9	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.3
Total Del/Veh (s)	5.4	1.8	12.0	6.8	2.9	27.8	25.1	13.1	23.7	29.6	7.3	8.4
Vehicles Exited	228	11	73	451	3	24	10	81	5	8	3	897
Hourly Exit Rate	456	22	146	902	6	48	20	162	10	16	6	1794
Input Volume	461	26	160	901	7	54	23	180	11	14	10	1847
% of Volume	99	85	91	100	86	89	87	90	91	114	60	97

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.5	4.8	6.3	6.3
Vehicles Exited	218	40	287	545
Hourly Exit Rate	436	80	574	1090
Input Volume	450	91	591	1132
% of Volume	97	88	97	96

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.4	0.0	0.2
Total Del/Veh (s)	4.6	1.8	3.0
Vehicles Exited	216	266	482
Hourly Exit Rate	432	532	964
Input Volume	441	537	978
% of Volume	98	99	99

Total Zone Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	196.5
Vehicles Exited	92
Hourly Exit Rate	184
Input Volume	6830
% of Volume	3

## Queuing and Blocking Report

03/30/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	204	456	91	224
Average Queue (ft)	104	209	46	67
95th Queue (ft)	178	419	99	207
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)			7	1
Queuing Penalty (veh)			18	1

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	B3	SB
Directions Served	LTR	LTR	LTR	T	LTR
Maximum Queue (ft)	74	75	132	172	260
Average Queue (ft)	19	28	96	38	113
95th Queue (ft)	58	65	139	142	224
Link Distance (ft)	1447	226	47	252	1699
Upstream Blk Time (%)			45	0	
Queuing Penalty (veh)			202	1	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1004: Mitchell & Lorraine Street

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Movement	NB
Directions Served	LR
Maximum Queue (ft)	34
Average Queue (ft)	14
95th Queue (ft)	38
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	19	23	36
Average Queue (ft)	2	4	25
95th Queue (ft)	12	21	45
Link Distance (ft)	145	69	625
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	WB	WB	WB	NB	SB
Directions Served	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	96	60	117	158	145	175	52
Average Queue (ft)	56	25	51	80	74	94	23
95th Queue (ft)	102	60	101	145	132	170	54
Link Distance (ft)	1274	1274		1714	1714	708	266
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			100				
Storage Blk Time (%)	1		1	3			
Queuing Penalty (veh)	0		4	4			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	90	50	106
Average Queue (ft)	53	32	64
95th Queue (ft)	84	49	97
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	95
Average Queue (ft)	57
95th Queue (ft)	86
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

### Zone Summary

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Zone wide Queuing Penalty: 230

1001: Platt Road & Lorraine Street Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1		0.1	0.4	0.4	1.8	0.5	0.4
Total Del/Veh (s)	28.7		21.9	10.2	9.0	18.6	8.3	13.2
Vehicles Exited	99	0	41	190	68	18	229	645
Hourly Exit Rate	198	0	82	380	136	36	458	1290
Input Volume	206	0	88	381	127	39	461	1302
% of Volume	96		93	100	107	92	99	99

1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	8.9	7.5	7.8	6.3	5.8	3.2	6.3	4.3	5.8	5.2	6.5	4.8	6.2
Vehicles Exited	18	32	83	7	13	13	85	96	12	6	35	13	413
Hourly Exit Rate	36	64	166	14	26	26	170	192	24	12	70	26	826
Input Volume	37	58	172	15	26	26	173	195	20	14	79	28	843
% of Volume	97	110	97	93	100	100	98	98	120	86	89	93	98

1004: Mitchell & Lorraine Street Performance by movement

Movement	EBT	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.1	0.0
Total Del/Veh (s)	1.6	0.3	4.0	1.7	1.6
Vehicles Exited	47	21	10	1	79
Hourly Exit Rate	94	42	20	2	158
Input Volume	90	40	23	1	154
% of Volume	104	105	87	200	103

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBT	NBL	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1
Total Del/Veh (s)	1.5	0.1	0.1	0.0	2.4	2.8	5.3	2.8	1.7
Vehicles Exited	10	8	1	3	2	1	3	9	37
Hourly Exit Rate	20	16	2	6	4	2	6	18	74
Input Volume	25	16	2	5	4	2	5	16	75
% of Volume	80	100	100	120	100	100	120	112	99

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.2	0.3	2.1	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2
Total Del/Veh (s)	6.1	6.7	2.3	15.0	6.4	2.9	26.2	24.2	14.2	23.0	21.0	7.7	8.2
Vehicles Exited	2	387	13	28	365	4	24	7	74	5	8	6	923
Hourly Exit Rate	4	774	26	56	730	8	48	14	148	10	16	12	1846
Input Volume	3	784	28	69	722	11	55	18	155	8	13	10	1876
% of Volume	133	99	93	81	101	73	87	78	95	125	123	120	98

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.4	4.4	4.5	5.6
Vehicles Exited	194	18	107	319
Hourly Exit Rate	388	36	214	638
Input Volume	388	42	229	659
% of Volume	100	86	93	97

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.3	0.1	0.2
Total Del/Veh (s)	4.2	1.3	3.1
Vehicles Exited	176	117	293
Hourly Exit Rate	352	234	586
Input Volume	345	247	592
% of Volume	102	95	99

Total Zone Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	158.2
Vehicles Exited	93
Hourly Exit Rate	186
Input Volume	5501
% of Volume	3

## Queuing and Blocking Report

03/29/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	266	229	71	227
Average Queue (ft)	133	113	24	107
95th Queue (ft)	222	209	62	189
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)				7
Queuing Penalty (veh)				3

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	B3	SB
Directions Served	LTR	LTR	LTR	T	LTR
Maximum Queue (ft)	103	41	97	10	63
Average Queue (ft)	61	30	51	1	40
95th Queue (ft)	97	45	87	7	61
Link Distance (ft)	1447	226	47	252	1699
Upstream Blk Time (%)			8		
Queuing Penalty (veh)			30		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

## Queuing and Blocking Report

03/29/2023

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### Intersection: 1004: Mitchell & Lorraine Street

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Movement	NB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	15
95th Queue (ft)	39
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	29	36
Average Queue (ft)	3	18
95th Queue (ft)	18	44
Link Distance (ft)	69	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

## Queuing and Blocking Report

03/29/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	42	146	132	76	119	116	177	56
Average Queue (ft)	4	87	57	30	72	56	87	23
95th Queue (ft)	31	143	116	68	115	107	154	55
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		4		1	1			
Queuing Penalty (veh)		0		2	1			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	93	45	63
Average Queue (ft)	56	21	36
95th Queue (ft)	89	47	57
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/29/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	93
Average Queue (ft)	54
95th Queue (ft)	86
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Zone Summary

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Zone wide Queuing Penalty: 35

1001: Platt Road & Lorraine Street Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1		0.1	0.4	0.4	1.8	0.4	0.4
Total Del/Veh (s)	28.7		22.0	11.1	8.5	16.0	7.7	13.1
Vehicles Exited	95	0	42	189	64	19	219	628
Hourly Exit Rate	190	0	84	378	128	38	438	1256
Input Volume	206	0	88	381	127	39	461	1302
% of Volume	92		95	99	101	97	95	96

1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.9	1.0	1.0	2.5	0.7	0.3	7.2	4.7	6.4	6.6	8.6	5.6	4.3
Vehicles Exited	15	30	85	8	12	13	80	99	10	8	41	13	414
Hourly Exit Rate	30	60	170	16	24	26	160	198	20	16	82	26	828
Input Volume	37	58	172	15	26	26	173	195	20	14	79	28	843
% of Volume	81	103	99	107	92	100	92	102	100	114	104	93	98

1004: Mitchell & Lorraine Street Performance by movement

Movement	EBT	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.5	0.3	4.2	2.4	1.1
Vehicles Exited	46	19	13	1	79
Hourly Exit Rate	92	38	26	2	158
Input Volume	90	40	23	1	154
% of Volume	102	95	113	200	103

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBT	NBL	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.1	0.1		0.1	0.1	0.1
Total Del/Veh (s)	1.5	0.2	0.0	0.0	3.7		5.0	2.6	1.6
Vehicles Exited	12	9	2	2	2	0	2	8	37
Hourly Exit Rate	24	18	4	4	4	0	4	16	74
Input Volume	25	16	2	5	4	2	5	16	75
% of Volume	96	112	200	80	100	0	80	100	99

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.4	0.1	0.2	2.2	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2
Total Del/Veh (s)	14.8	6.9	4.1	16.8	6.5	1.9	28.5	27.9	13.6	27.7	22.8	6.4	8.8
Vehicles Exited	2	388	17	35	339	5	28	9	78	7	6	4	918
Hourly Exit Rate	4	776	34	70	678	10	56	18	156	14	12	8	1836
Input Volume	3	784	28	69	722	11	55	18	155	8	13	10	1876
% of Volume	133	99	121	101	94	91	102	100	101	175	92	80	98

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.5	4.3	4.7	5.7
Vehicles Exited	190	21	114	325
Hourly Exit Rate	380	42	228	650
Input Volume	388	42	229	659
% of Volume	98	100	100	99

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.3	0.1	0.2
Total Del/Veh (s)	4.1	1.4	3.0
Vehicles Exited	173	121	294
Hourly Exit Rate	346	242	588
Input Volume	345	247	592
% of Volume	100	98	99

Total Zone Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	160.3
Vehicles Exited	87
Hourly Exit Rate	174
Input Volume	5501
% of Volume	3

## Queuing and Blocking Report

03/30/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	254	283	77	207
Average Queue (ft)	133	128	25	103
95th Queue (ft)	225	244	68	191
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)			0	6
Queuing Penalty (veh)			0	2

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	B3	SB
Directions Served	LTR	LTR	LTR	T	LTR
Maximum Queue (ft)	48	19	95	12	79
Average Queue (ft)	8	3	54	1	45
95th Queue (ft)	35	17	87	12	73
Link Distance (ft)	1447	226	47	252	1699
Upstream Blk Time (%)			9		
Queuing Penalty (veh)			37		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1004: Mitchell & Lorraine Street

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Movement	NB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	18
95th Queue (ft)	40
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	23	36
Average Queue (ft)	4	13
95th Queue (ft)	19	39
Link Distance (ft)	69	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

## Queuing and Blocking Report

03/30/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	27	162	131	78	119	106	191	53
Average Queue (ft)	3	92	59	32	70	51	98	24
95th Queue (ft)	19	153	118	70	115	98	181	53
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		4		0	1			
Queuing Penalty (veh)		0		0	1			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	121	38	80
Average Queue (ft)	54	24	45
95th Queue (ft)	99	47	73
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	82
Average Queue (ft)	52
95th Queue (ft)	77
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

### Zone Summary

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Zone wide Queuing Penalty: 40

**1001: Platt Road & Lorraine Street Performance by movement**

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.7	0.7	1.8	0.4	0.6
Total Del/Veh (s)	29.1	0.9	21.6	12.8	11.7	35.5	5.5	13.6
Vehicles Exited	60	21	39	294	114	30	144	702
Hourly Exit Rate	120	42	78	588	228	60	288	1404
Input Volume	113	47	84	598	227	64	284	1417
% of Volume	106	89	93	98	100	94	101	99

**1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.3	0.5	0.0	0.1	0.0	0.1
Total Del/Veh (s)	12.5	9.1	10.6	7.0	4.2	4.3	5.9	6.1	4.4	9.2	11.6	9.3	8.8
Vehicles Exited	5	14	183	30	9	10	95	81	8	2	108	16	561
Hourly Exit Rate	10	28	366	60	18	20	190	162	16	4	216	32	1122
Input Volume	12	25	374	54	25	17	189	173	18	5	228	31	1151
% of Volume	83	112	98	111	72	118	101	94	89	80	95	103	97

**1004: Mitchell & Lorraine Street Performance by movement**

Movement	EBT	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.0
Total Del/Veh (s)	1.1	0.2	4.4	3.0	1.8
Vehicles Exited	21	29	23	1	74
Hourly Exit Rate	42	58	46	2	148
Input Volume	43	60	41	2	146
% of Volume	98	97	112	100	101

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	WBT	NBT	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	1.3	0.0	0.1	3.2	2.6	4.7	2.9	1.8
Vehicles Exited	7	11	10	3	1	4	19	55
Hourly Exit Rate	14	22	20	6	2	8	38	110
Input Volume	13	27	20	4	2	7	40	113
% of Volume	108	81	100	150	100	114	95	97

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.4	0.1	0.2	1.9	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.2	0.3
Total Del/Veh (s)	12.8	5.5	2.5	14.2	6.7	1.7	25.0	25.6	11.4	18.6	26.2	8.9	8.1
Vehicles Exited	2	288	13	85	442	3	18	10	73	8	6	4	952
Hourly Exit Rate	4	576	26	170	884	6	36	20	146	16	12	8	1904
Input Volume	5	596	25	179	894	7	41	18	158	19	15	10	1967
% of Volume	80	97	104	95	99	86	88	111	92	84	80	80	97

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.9	5.4	5.0	5.8
Vehicles Exited	175	134	185	494
Hourly Exit Rate	350	268	370	988
Input Volume	362	273	388	1023
% of Volume	97	98	95	97

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.4	0.0	0.2
Total Del/Veh (s)	4.2	1.7	3.0
Vehicles Exited	174	162	336
Hourly Exit Rate	348	324	672
Input Volume	355	336	691
% of Volume	98	96	97

Total Zone Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	196.9
Vehicles Exited	76
Hourly Exit Rate	152
Input Volume	6508
% of Volume	2

## Queuing and Blocking Report

03/30/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	190	347	106	154
Average Queue (ft)	102	176	46	64
95th Queue (ft)	179	335	92	130
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)			2	2
Queuing Penalty (veh)			5	1

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	B3	SB
Directions Served	LTR	LTR	LTR	T	LTR
Maximum Queue (ft)	178	59	105	9	154
Average Queue (ft)	90	35	58	1	74
95th Queue (ft)	152	55	94	6	130
Link Distance (ft)	1447	226	47	252	1699
Upstream Blk Time (%)			13		
Queuing Penalty (veh)			47		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1004: Mitchell & Lorraine Street

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Movement	NB
Directions Served	LR
Maximum Queue (ft)	48
Average Queue (ft)	25
95th Queue (ft)	45
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	29	31
Average Queue (ft)	5	24
95th Queue (ft)	22	44
Link Distance (ft)	69	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

## Queuing and Blocking Report

03/30/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	22	134	73	113	139	129	169	61
Average Queue (ft)	2	67	33	59	77	67	77	21
95th Queue (ft)	15	116	77	107	128	119	149	54
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		1		1	2			
Queuing Penalty (veh)		0		7	4			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	95	83	85
Average Queue (ft)	56	46	46
95th Queue (ft)	90	73	74
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	99
Average Queue (ft)	54
95th Queue (ft)	89
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

### Zone Summary

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Zone wide Queuing Penalty: 63

1001: Platt Road & Lorraine Street Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.7	0.8	2.1	0.4	0.6
Total Del/Veh (s)	31.4	0.9	24.4	13.1	11.2	36.0	4.5	13.6
Vehicles Exited	55	27	36	288	115	30	144	695
Hourly Exit Rate	110	54	72	576	230	60	288	1390
Input Volume	113	47	84	598	227	64	284	1417
% of Volume	97	115	86	96	101	94	101	98

1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.2	0.0	0.0	0.0	1.9	1.3	1.4	0.2	0.1	0.1	0.6
Total Del/Veh (s)	4.4	2.8	2.2	6.9	1.0	1.5	13.6	11.9	9.9	25.0	25.4	19.7	10.8
Vehicles Exited	4	15	187	29	9	10	90	81	8	2	105	18	558
Hourly Exit Rate	8	30	374	58	18	20	180	162	16	4	210	36	1116
Input Volume	12	25	374	54	25	17	189	173	18	5	228	31	1151
% of Volume	67	120	100	107	72	118	95	94	89	80	92	116	97

1004: Mitchell & Lorraine Street Performance by movement

Movement	EBT	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.0
Total Del/Veh (s)	0.5	0.2	4.2	2.3	1.4
Vehicles Exited	21	31	20	1	73
Hourly Exit Rate	42	62	40	2	146
Input Volume	43	60	41	2	146
% of Volume	98	103	98	100	100

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	WBT	NBT	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1		0.1	0.1	0.1
Total Del/Veh (s)	1.2	0.0	0.0	2.9		4.5	2.9	1.4
Vehicles Exited	5	14	13	2	0	3	18	55
Hourly Exit Rate	10	28	26	4	0	6	36	110
Input Volume	13	27	20	4	2	7	40	113
% of Volume	77	104	130	100	0	86	90	97

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.3	0.1	0.2	2.0	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.3
Total Del/Veh (s)	18.3	5.9	1.7	15.2	7.0	3.7	27.3	21.9	11.6	22.9	25.8	6.3	8.4
Vehicles Exited	2	296	13	85	443	2	17	9	74	9	5	5	960
Hourly Exit Rate	4	592	26	170	886	4	34	18	148	18	10	10	1920
Input Volume	5	596	25	179	894	7	41	18	158	19	15	10	1967
% of Volume	80	99	104	95	99	57	83	100	94	95	67	100	98

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.8	5.3	5.0	5.7
Vehicles Exited	175	130	190	495
Hourly Exit Rate	350	260	380	990
Input Volume	362	273	388	1023
% of Volume	97	95	98	97

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.4	0.0	0.2
Total Del/Veh (s)	4.2	1.7	2.9
Vehicles Exited	171	166	337
Hourly Exit Rate	342	332	674
Input Volume	355	336	691
% of Volume	96	99	98

Total Zone Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	188.1
Vehicles Exited	85
Hourly Exit Rate	170
Input Volume	6508
% of Volume	3

## Queuing and Blocking Report

03/30/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	193	371	94	122
Average Queue (ft)	103	184	44	49
95th Queue (ft)	180	324	86	107
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)			2	1
Queuing Penalty (veh)			4	1

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	B3	SB
Directions Served	LTR	LTR	LTR	T	LTR
Maximum Queue (ft)	66	59	123	98	204
Average Queue (ft)	21	25	83	21	109
95th Queue (ft)	57	59	128	83	190
Link Distance (ft)	1447	226	47	252	1699
Upstream Blk Time (%)			34		
Queuing Penalty (veh)			124		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1004: Mitchell & Lorraine Street

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Movement	NB
Directions Served	LR
Maximum Queue (ft)	39
Average Queue (ft)	23
95th Queue (ft)	45
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	12	41
Average Queue (ft)	2	25
95th Queue (ft)	15	47
Link Distance (ft)	69	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

## Queuing and Blocking Report

03/30/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	29	124	98	120	150	130	155	61
Average Queue (ft)	4	69	40	64	83	72	74	25
95th Queue (ft)	20	117	88	113	140	130	138	56
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		2		2	2			
Queuing Penalty (veh)		0		7	4			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	96	77	90
Average Queue (ft)	54	45	51
95th Queue (ft)	89	69	80
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	85
Average Queue (ft)	51
95th Queue (ft)	80
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Zone Summary

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Zone wide Queuing Penalty: 140

1001: Platt Road & Lorraine Street Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.5	0.5	1.5	0.5	0.4
Total Del/Veh (s)	29.8	25.6	16.3	12.8	28.0	13.9	19.1
Vehicles Exited	154	65	204	65	19	260	767
Hourly Exit Rate	308	130	408	130	38	520	1534
Input Volume	314	133	426	133	40	542	1588
% of Volume	98	98	96	98	95	96	97

1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	11.6	11.1	10.6	8.4	8.3	5.2	8.7	6.5	8.3	6.5	7.5	5.7	8.5
Vehicles Exited	33	68	82	8	50	41	110	116	11	9	39	16	583
Hourly Exit Rate	66	136	164	16	100	82	220	232	22	18	78	32	1166
Input Volume	72	139	165	17	100	83	210	238	25	24	74	29	1176
% of Volume	92	98	99	94	100	99	105	97	88	75	105	110	99

1004: Mitchell & Lorraine Street Performance by movement

Movement	EBT	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.2	0.2	0.1
Total Del/Veh (s)	1.7	0.3	5.0	4.2	2.5
Vehicles Exited	87	27	52	4	170
Hourly Exit Rate	174	54	104	8	340
Input Volume	186	53	100	8	347
% of Volume	94	102	104	100	98

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	1.4	0.1	0.0	0.0	3.1	4.4	1.9	6.1	2.6	1.2
Vehicles Exited	20	25	2	3	2	1	2	1	10	66
Hourly Exit Rate	40	50	4	6	4	2	4	2	20	132
Input Volume	41	50	7	5	6	2	2	9	18	141
% of Volume	98	100	57	120	67	100	200	22	111	94

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.0	0.2	0.2	2.0	0.2	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.2
Total Del/Veh (s)	22.8	8.0	4.6	17.8	7.8	4.8	33.3	30.8	23.9	19.3	19.3	5.6	11.4
Vehicles Exited	3	419	18	39	384	5	35	14	128	3	9	6	1063
Hourly Exit Rate	6	838	36	78	768	10	70	28	256	6	18	12	2126
Input Volume	9	860	31	78	790	9	76	31	257	8	18	14	2181
% of Volume	67	97	116	100	97	111	92	90	100	75	100	86	97

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	7.7	4.6	4.3	6.6
Vehicles Exited	240	37	89	366
Hourly Exit Rate	480	74	178	732
Input Volume	473	81	175	729
% of Volume	101	91	102	100

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.5	0.1	0.3
Total Del/Veh (s)	4.9	1.3	3.9
Vehicles Exited	218	92	310
Hourly Exit Rate	436	184	620
Input Volume	422	180	602
% of Volume	103	102	103

Total Zone Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	191.8
Vehicles Exited	122
Hourly Exit Rate	244
Input Volume	6764
% of Volume	4

## Queuing and Blocking Report

03/30/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	333	354	109	297
Average Queue (ft)	208	162	34	167
95th Queue (ft)	333	310	95	293
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)			0	18
Queuing Penalty (veh)			1	7

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	B3	SB
Directions Served	LTR	LTR	LTR	T	LTR
Maximum Queue (ft)	173	82	108	74	72
Average Queue (ft)	80	49	69	8	46
95th Queue (ft)	145	78	108	65	72
Link Distance (ft)	1447	226	47	252	1699
Upstream Blk Time (%)			22		
Queuing Penalty (veh)			102		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1004: Mitchell & Lorraine Street

---

Movement	NB
Directions Served	LR
Maximum Queue (ft)	65
Average Queue (ft)	33
95th Queue (ft)	56
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	29	31
Average Queue (ft)	8	17
95th Queue (ft)	30	42
Link Distance (ft)	69	625
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

## Queuing and Blocking Report

03/30/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	24	162	156	73	131	126	296	48
Average Queue (ft)	5	103	72	39	84	67	159	22
95th Queue (ft)	22	155	127	73	127	122	290	50
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		6			3			
Queuing Penalty (veh)		1			2			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	137	55	76
Average Queue (ft)	71	28	37
95th Queue (ft)	122	52	60
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	116
Average Queue (ft)	60
95th Queue (ft)	99
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Zone Summary

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Zone wide Queuing Penalty: 113

**1001: Platt Road & Lorraine Street Performance by movement**

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.5	0.4	2.0	0.5	0.4
Total Del/Veh (s)	25.8	23.2	15.6	11.2	28.1	14.0	17.7
Vehicles Exited	153	63	198	63	18	262	757
Hourly Exit Rate	306	126	396	126	36	524	1514
Input Volume	314	133	426	133	40	542	1588
% of Volume	97	95	93	95	90	97	95

**1003: Scarlett Driveway/Fernwood & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	3.8	1.6	1.7	4.3	1.0	0.7	14.2	10.8	11.9	13.0	11.1	8.5	7.1
Vehicles Exited	34	62	74	7	52	42	102	109	12	11	40	12	557
Hourly Exit Rate	68	124	148	14	104	84	204	218	24	22	80	24	1114
Input Volume	72	139	165	17	100	83	210	238	25	24	74	29	1176
% of Volume	94	89	90	82	104	101	97	92	96	92	108	83	95

**1004: Mitchell & Lorraine Street Performance by movement**

Movement	EBT	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.2	0.2	0.1
Total Del/Veh (s)	0.5	0.3	4.9	3.8	1.9
Vehicles Exited	85	27	54	4	170
Hourly Exit Rate	170	54	108	8	340
Input Volume	186	53	100	8	347
% of Volume	91	102	108	100	98

**1005: Pittsview Drive & Lorraine Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0		0.1	0.1	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	1.5	0.1	0.0		0.0	3.3	6.0	3.0	5.6	2.8	1.5
Vehicles Exited	19	23	2	0	3	2	1	1	4	9	64
Hourly Exit Rate	38	46	4	0	6	4	2	2	8	18	128
Input Volume	41	50	7	1	5	6	2	2	9	18	141
% of Volume	93	92	57	0	120	67	100	100	89	100	91

**1006: Fernwood & Packard Street Performance by movement**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.5	0.2	0.2	1.9	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.2
Total Del/Veh (s)	18.1	7.8	4.4	19.4	7.5	2.4	34.1	35.9	25.1	23.5	15.1	8.6	11.3
Vehicles Exited	3	431	18	36	401	4	34	13	120	5	10	7	1082
Hourly Exit Rate	6	862	36	72	802	8	68	26	240	10	20	14	2164
Input Volume	9	860	31	78	790	9	76	31	257	8	18	14	2181
% of Volume	67	100	116	92	102	89	89	84	93	125	111	100	99

**1007: Scarlett Driveway & NW Ped Access Performance by movement**

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.1
Total Del/Veh (s)	8.0	4.5	4.3	6.7
Vehicles Exited	226	40	80	346
Hourly Exit Rate	452	80	160	692
Input Volume	473	81	175	729
% of Volume	96	99	91	95

1008: Scarlett Driveway & Parking Exit Performance by movement

Movement	WBR	SBT	All
Denied Del/Veh (s)	0.4	0.1	0.3
Total Del/Veh (s)	4.7	1.3	3.7
Vehicles Exited	204	87	291
Hourly Exit Rate	408	174	582
Input Volume	422	180	602
% of Volume	97	97	97

Total Zone Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	195.5
Vehicles Exited	116
Hourly Exit Rate	232
Input Volume	6764
% of Volume	3

## Queuing and Blocking Report

03/30/2023

### Intersection: 1001: Platt Road & Lorraine Street

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	299	274	109	375
Average Queue (ft)	195	151	32	166
95th Queue (ft)	291	266	90	310
Link Distance (ft)	1447	1959		1412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)			0	18
Queuing Penalty (veh)			1	7

### Intersection: 1003: Scarlett Driveway/Fernwood & Lorraine Street

Movement	EB	WB	NB	B3	SB
Directions Served	LTR	LTR	LTR	T	LTR
Maximum Queue (ft)	80	42	140	197	112
Average Queue (ft)	22	7	93	39	50
95th Queue (ft)	65	31	143	151	92
Link Distance (ft)	1447	226	47	252	1699
Upstream Blk Time (%)			38	1	
Queuing Penalty (veh)			180	2	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1004: Mitchell & Lorraine Street

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Movement	NB
Directions Served	LR
Maximum Queue (ft)	69
Average Queue (ft)	34
95th Queue (ft)	57
Link Distance (ft)	459
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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### Intersection: 1005: Pittsview Drive & Lorraine Street

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Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	6	29	36
Average Queue (ft)	0	9	18
95th Queue (ft)	6	30	43
Link Distance (ft)	145	69	625
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

### Intersection: 1006: Fernwood & Packard Street

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	28	159	138	96	141	122	286	61
Average Queue (ft)	6	99	68	43	81	68	158	25
95th Queue (ft)	25	153	131	80	132	122	309	59
Link Distance (ft)		1274	1274		1714	1714	708	266
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100			100				
Storage Blk Time (%)		5		0	2			
Queuing Penalty (veh)		0		1	2			

### Intersection: 1007: Scarlett Driveway & NW Ped Access

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	183	58	81
Average Queue (ft)	77	31	38
95th Queue (ft)	154	53	66
Link Distance (ft)	400		252
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Queuing and Blocking Report

03/30/2023

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### Intersection: 1008: Scarlett Driveway & Parking Exit

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Movement	WB
Directions Served	LR
Maximum Queue (ft)	108
Average Queue (ft)	59
95th Queue (ft)	92
Link Distance (ft)	294
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

### Zone Summary

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Zone wide Queuing Penalty: 193

# Re-alignment and Multi-Way Stop Analysis

## Scarlett Driveway / Fernwood Avenue & Lorraine

### Available Data:

1. Existing traffic counts were taken on March 9<sup>th</sup>, 2022 over a 24-hour period at the Scarlett Driveway and Lorraine Street three-way intersection.
2. Existing traffic counts were taken on March 9<sup>th</sup>, 2022 over a 13-hour period at the intersection of Fernwood Avenue & Lorraine Street.
3. Count data is available in the Appendix.

### Assumptions:

1. The Scarlett Driveway is re-aligned to Fernwood at a four-way intersection.
2. Scarlett Middle School start time is shifted ahead by 15 minutes.
3. The New Mitchell Elementary School start time is shifted back by 15 minutes.
4. The Flex School starts in between Scarlett and Mitchell, traffic consists of buses and employees. (No parent drop-off / pick-up)
5. All campus school traffic is assumed to enter at the newly aligned intersection. Scarlett traffic will also exit at this driveway.
6. Flex and Middle School traffic is assumed to depart at the existing Mitchell driveway location to the east, with most traffic returning to this intersection and then either turning north onto Fernwood Avenue or continuing west on Lorraine Street.
7. Pedestrians that crossed Lorraine Street at the existing Scarlett Driveway location will now cross Lorraine at the eastbound approach of the new aligned intersection.
8. Mitchell traffic volumes have been increased by 35% to reflect future potential growth.
9. Numerous and complicated assumptions were made to strip school traffic out of the area in order to estimate neighborhood traffic volumes, and then the revised school traffic was reapplied to the intersection.
10. A large portion of the peak hour traffic that turned right or left from southbound Fernwood is now expected to cross straight into the campus.
11. A large portion of the traffic that turned right out of the existing Scarlett driveway to head toward Fernwood will now cross straight through the re-aligned intersection.
12. Since traffic was only counted from 6:00 AM - 7:00 PM at Fernwood, estimates were made based on the traffic counts at the Scarlett Driveway. At Scarlett, over 96% of the daily intersection traffic occurred in that 13 hour window of time. Therefore, it is logical to assume that traffic volumes on Fernwood were very low after 7:00 pm and before 6:00 AM.
13. Traffic data is consolidated into hourly traffic for use in this warrant.

## Forecasted Traffic volumes

The table below shows the hourly traffic volume summary at the forecasted and realigned intersection of Fernwood/Lorraine/Scarlett Driveway

Time	EB				WB				NB				SB				Total Int	
	Begin	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R		Ped
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3
1:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
5:00 AM	0	0	12	0	0	0	0	0	0	1	0	0	0	1	4	6	0	24
6:00 AM	2	1	10	0	0	2	1	0	0	1	0	0	0	0	4	9	0	30
7:00 AM	2	10	197	7	28	3	9	5	102	92	9	6	1	115	11	0	597	
8:00 AM	4	12	196	24	28	14	10	14	68	61	6	0	1	120	25	0	583	
9:00 AM	6	9	66	4	9	92	79	0	12	9	0	0	0	40	9	0	335	
10:00 AM	12	5	9	2	2	1	2	0	9	9	0	3	1	5	8	0	68	
11:00 AM	15	8	9	0	1	8	2	1	12	9	0	0	1	4	9	0	79	
12:00 PM	8	10	10	3	1	12	3	0	11	9	0	2	1	6	10	2	88	
1:00 PM	17	15	11	5	1	13	7	2	15	13	0	3	2	6	16	5	131	
2:00 PM	11	8	90	7	9	8	5	0	47	41	4	5	2	50	18	0	305	
3:00 PM	15	20	82	64	8	56	41	30	93	82	8	23	3	45	17	8	595	
4:00 PM	18	8	49	10	7	85	61	5	20	17	0	12	0	29	13	3	337	
5:00 PM	20	19	1	3	2	27	13	4	18	9	0	1	0	2	13	6	138	
6:00 PM	11	3	2	2	0	7	4	0	3	1	0	2	0	0	7	0	42	
7:00 PM	0	0	0	1	2	10	0	0	2	2	0	0	11	2	12	0	42	
8:00 PM	0	0	0	0	1	4	0	0	2	0	0	0	6	1	5	0	19	
9:00 PM	0	0	1	0	0	4	0	0	1	0	0	0	7	0	4	0	17	
10:00 PM	0	0	0	0	0	2	0	0	1	1	0	0	4	0	2	0	10	
11:00 PM	0	0	1	0	0	3	0	0	1	3	0	0	4	0	3	0	15	
Totals	141	128	746	132	99	351	237	61	420	358	27	57	47	434	201	24	3463	

Time	Total	Main	Side	Main	Side	Peak
Begin	Int	Street	Street	>300?	>200?	Delay
12:00 AM	3	0	3	No	No	
1:00 AM	2	0	2	No	No	
2:00 AM	0	0	0	No	No	
3:00 AM	1	0	1	No	No	
4:00 AM	2	0	2	No	No	
5:00 AM	24	12	12	No	No	
6:00 AM	30	16	14	No	No	
7:00 AM	597	249	342	No	Yes	217.1
8:00 AM	583	264	319	No	Yes	
9:00 AM	335	261	74	No	No	
10:00 AM	68	31	34	No	No	
11:00 AM	79	43	36	No	No	
12:00 PM	88	44	40	No	No	
1:00 PM	131	64	59	No	No	
2:00 PM	305	131	169	No	No	
3:00 PM	595	222	342	No	Yes	24.1
4:00 PM	337	228	94	No	No	
5:00 PM	138	82	49	No	No	
6:00 PM	42	27	13	No	No	
7:00 PM	42	12	30	No	No	
8:00 PM	19	5	14	No	No	
9:00 PM	17	5	12	No	No	
10:00 PM	10	2	8	No	No	
11:00 PM	15	4	11	No	No	
Totals	3463	1702	1680	0	3	

## Multi-Way Stop Application (Section 2B.07 MMUTCD)

Analysis: Our findings follow each section in red.

Support:

1. Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.
2. The restrictions on the use of STOP signs described in Section 2B.04 also apply to multi-way stop applications.

Guidance:

3. The decision to install multi-way stop control should be based on an engineering study.
4. The following criteria should be considered in the engineering study for multi-way STOP sign installation:
  - a. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.
    - i. **Not applicable.**
  - b. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.
    - i. **This criteria is not met, there were only 11 crashes in the past 10 years on the entire Lorraine segment from Platt to Pittsview. Near the two existing intersections, one crash was a rear end crash caused by an unexpected stop from a child entering the intersection suddenly. Another crash was an angle crash from a vehicle turning onto Lorraine from Fernwood.**
  - c. Minimum Volumes
    - i. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and
      1. **This criteria is not met. (0 of 8 hours)**
    - ii. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but
      1. **This criteria is not met (side street volume met only 3 of 8 hours)**
    - iii. If the 85th percentile approach speed of the major street traffic exceeds 40 mph, the minimum vehicular warrants are 70 percent of the values provided in items i. and ii.
      1. **The 85<sup>th</sup> reduction is not applicable.**
  - d. Where no single criterion is satisfied, but where Criteria b, c.i, and c.ii are all satisfied to 80 percent of the minimum values. Criterion c iii is excluded from this condition.
    - i. **This criteria is not met, as there were not enough crashes on the segment.**

Option:

5. Other criteria that may be considered in an engineering study include:
  - a. The need to control left-turn conflicts;
    - i. This option is not applicable in this situation.
  - b. The need to control vehicular/pedestrian conflicts near locations that generate high pedestrian volumes;
    - i. This option is subjective, but there are significant numbers of pedestrians including school age children that will be crossing both Lorraine approaches, Fernwood, and the realigned Scarlett driveway.
      1. Mitchell AM Peak Hour
        - a. Crossing Lorraine at Scarlett 3
        - b. Crossing Lorraine at Fernwood (West) 22
        - c. Crossing Lorraine at Fernwood (East) 13
        - d. Crossing Scarlett Driveway 37
        - e. Crossing Fernwood 22
      2. Mitchell PM Peak
        - a. Crossing Lorraine at Scarlett 2
        - b. Crossing Lorraine at Fernwood (West) 40
        - c. Crossing Lorraine at Fernwood (East) 30
        - d. Crossing Scarlett Driveway 14
        - e. Crossing Fernwood 7
  - c. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and
    - i. This option is not applicable, as there is acceptable sight distance along Lorraine.
  - d. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operation characteristics of the intersection.
    - i. This option is not really applicable as Lorraine is a collector, but Fernwood is not. Multi-way stop control would help improve traffic flow out of the school during its busy peak hours.