

# ROAD DIET CAPACITY ANALYSIS REPORT

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(Draft Report)

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# Section 1 - Executive Summary

The City of Ypsilanti selected Hubbell, Roth & Clark, Inc. (HRC) to analyze the feasibility of a road diet on the major roadways through the downtown area. The major roadways analyzed within the study area include the Washtenaw Avenue, Hamilton Street, Huron Street, and Michigan Avenue corridors. All the routes to be studied for the road diet are under the jurisdiction of the Michigan Department of Transportation (MDOT) Brighton Transportation Service Center (TSC).

The goal of this study is to provide enough detail about traffic safety and operations for stakeholders to make an informed decision about converting road segments using a road diet. The focus of this project will be the Synchro analysis of the roadway network to determine if the road diet will maintain an acceptable delay and level of service (LOS) with future traffic on the network. This study will contain all information required to meet the MDOT Road Diet Checklist (Form 1629, dated 4/18) for the MDOT Brighton TSC to present to the MDOT Engineering Operations Committee for approval.

The study analyzed 16 different intersections along the following four corridors in Downtown Ypsilanti:

1. Washtenaw Avenue between Summit Street and Hamilton Street
2. Hamilton Street between Washtenaw Avenue and Harriet Street
3. Huron Street between Cross Street and Harriet/Spring Streets
4. Michigan Avenue between Congress Street/Ballard Street and Huron Street

Figure 1 shows the study area that contains the road segments and intersections that were analyzed.

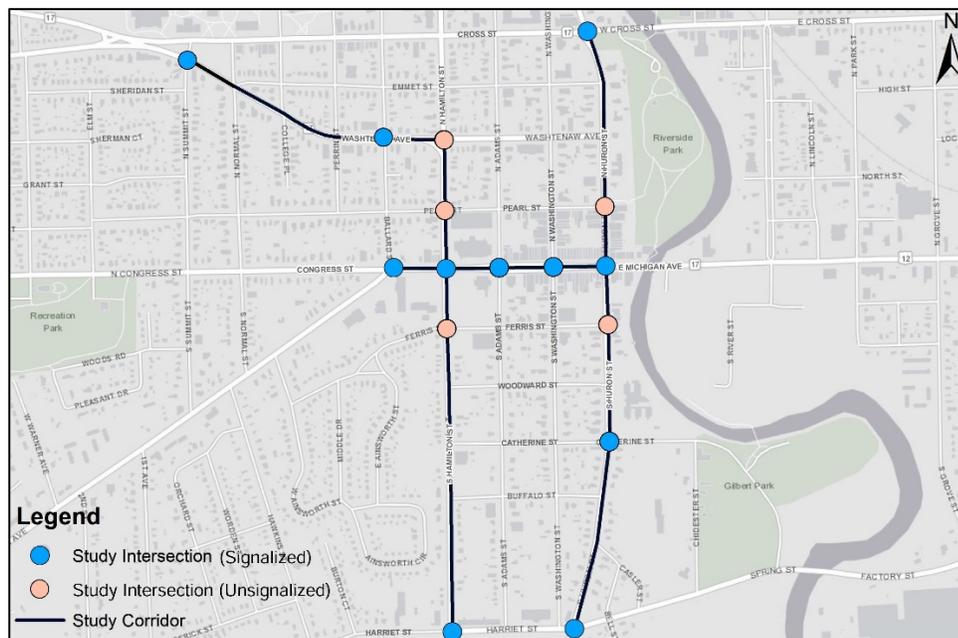


Figure 1: Study Area

The purpose of this study is to perform a feasibility analysis for implementing a road diet concept on the study corridors of Washtenaw Avenue, Hamilton Street, and Huron Street. The City has desired to investigate reducing these roadways from three travel lanes to two by replacing a travel lane with either a six-foot wide bike lane with a buffer or on-street parking. The City indicated there is no need for a road diet concept on Michigan Avenue since on-street parking already exists on both sides of the boulevard. Figure 2 shows a high-level overview of the road diet concept.

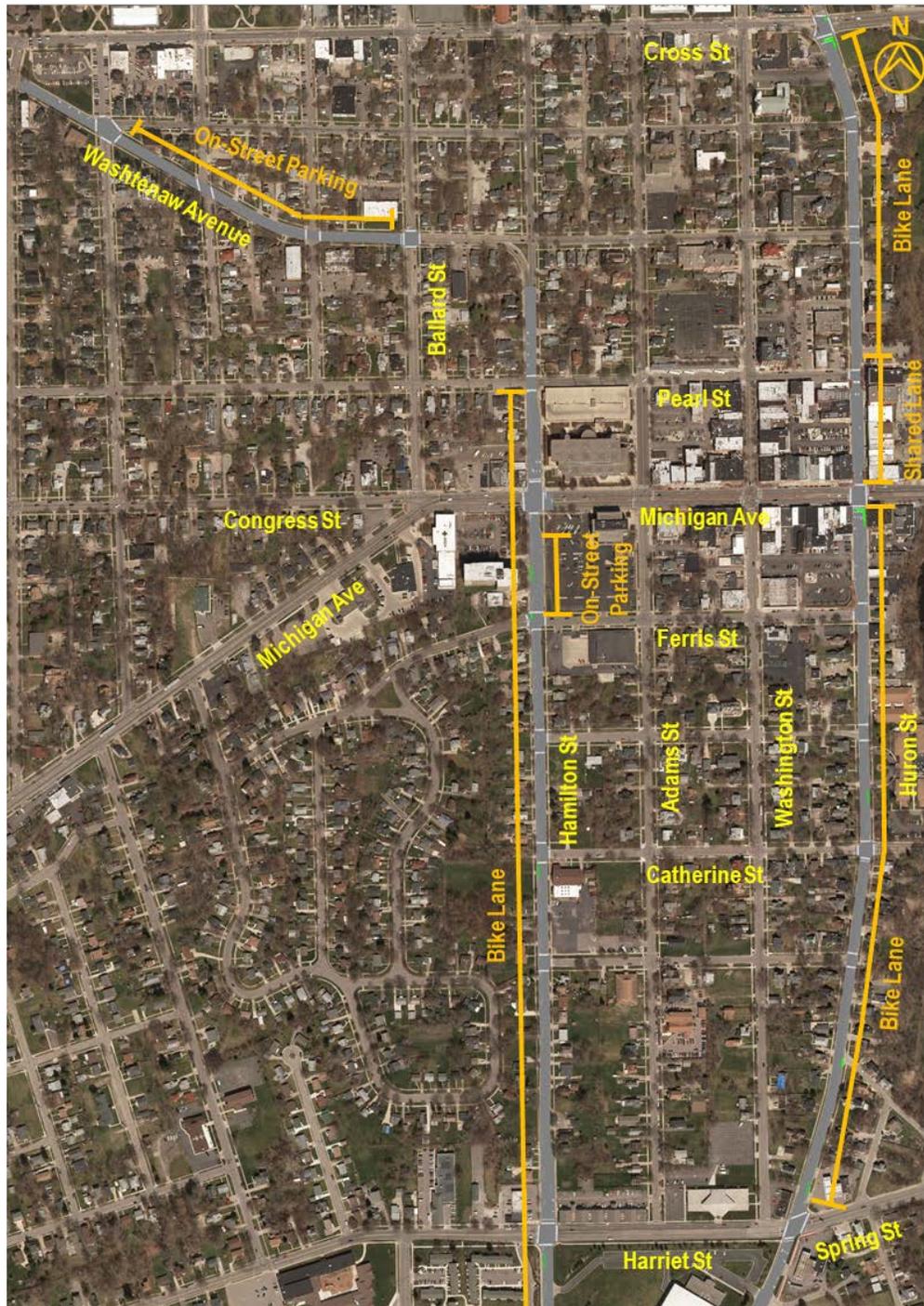


Figure 2: Overview of Road Diet Concept

A capacity analysis was conducted on the roadway network during the AM, Midday, and PM peak hours for the existing, background, and road diet conditions to determine if the road diet has any adverse impacts on the roadway network. Through signal optimization and adding detection at various intersections, it was determined the road diet will not have any significant negative impacts on the roadway network.

The study also reviewed if the road diet had any adverse impacts on access management and sight distances, but none of the added design features associated with the road diet are anticipated to cause any issues. A Highway Safety Manual (HSM) analysis was also conducted to assess the safety implications for the conversion of the Washtenaw Avenue, Hamilton Street, and Huron Street corridors from a three-lane, one-way cross section to a two-lane, one-way cross section. These modifications include the introduction of a bike lane on Hamilton Street and Huron Street and parallel parking on Washtenaw Avenue with a small segment on Hamilton Street between Michigan Avenue and Ferris Street. The results from the HSM analysis predicts a reduction in total crash rate along all study segments by at least two crashes per mile per year. Fatal and injury crash rates are predicted to be reduced by at least one half.

The findings from this study show it will be feasible to convert these roadway segments using a road diet if the following recommendations are met:

1. Optimize the signal timings (adjust splits and offsets) and add detection to change the signal operation to fully actuated for the impacted intersections.
2. Add all signage and pavement markings associated with the road diet as indicated on the complete set of conceptual plans (**Appendix F**). Green MMA should be used at all conflict areas including bus stops and right-turns at unsignalized intersections.
3. Add bike boxes along Huron Street approaching Michigan Avenue and Cross Street. A two-stage bicycle turn-box should also be added on Huron Street to turn left onto Cross Street.
4. Along eastbound Washtenaw Avenue approaching Normal Street, change the shared left-through lane to a left-turn lane drop. The northernmost travel lane downstream of the intersection will then be converted into on-street parking.
5. Along southbound Hamilton Street approaching Pearl Street, change the shared right-through lane to a right-turn lane drop. The westernmost travel lane downstream of the intersection will then be converted into a bike lane with a buffer.
6. Along northbound Huron Street approaching Harriet/Spring Street, remove the dedicated right-turn lane and change the easternmost through lane to a right-turn lane drop. The easternmost travel lane downstream of the intersection will then be converted into a bike lane with a buffer.

*It should be noted, however, the concept and analysis south of Harriet Street is indicated in WATS's Huron I-94 Non-Motorized Crossing Report dated December 2014 though and is not part of the scope in this study. Anything included in that area in this study is for reference purposes only.*

The goal of this study has been achieved by providing thorough details about traffic safety and operations to show the existing roadway network with future traffic will accommodate the proposed road diet. The road diet also provides several advantages that include the following benefits:

- Improve mobility for bicyclists on Hamilton and Huron Streets by adding bike lanes
- Promote better land use by adding 24 on-street parking spaces on Washtenaw Avenue and five on Hamilton Street between Ferris Street and Michigan Avenue
- Improve pedestrian safety by removing at least 12 feet of travel lane width at every impacted intersection
- Encourage lower vehicle speeds by replacing a travel lane with either a bike lane with a buffer or on-street parking
- Reduce the predicted crashes per mile per year by reducing the number of travel lanes from three to two

With the added benefits and the road diet not having any significant negative impacts on the existing roadway network, HRC recommends the road diet to be applied to the 2022 MDOT Rehabilitation Project.

## Section 2 - Introduction

The City of Ypsilanti selected Hubbell, Roth & Clark, Inc. (HRC) to analyze the feasibility of a road diet on the major roadways through the downtown area. The major roadways analyzed within the study area include the Washtenaw Avenue, Hamilton Street, Huron Street, and Michigan Avenue corridors. All the routes to be studied for the road diet are under the jurisdiction of the Michigan Department of Transportation (MDOT) Brighton Transportation Service Center (TSC).

The goal of this study is to provide enough detail about traffic safety and operations for stakeholders, especially the City and MDOT, to make an informed decision about converting road segments using a road diet. The intent for the road diet is to provide the City bike lanes and on-street parking along various segments in the study area. **Figure 3** shows the study area that contains the road segments and intersections that were analyzed.

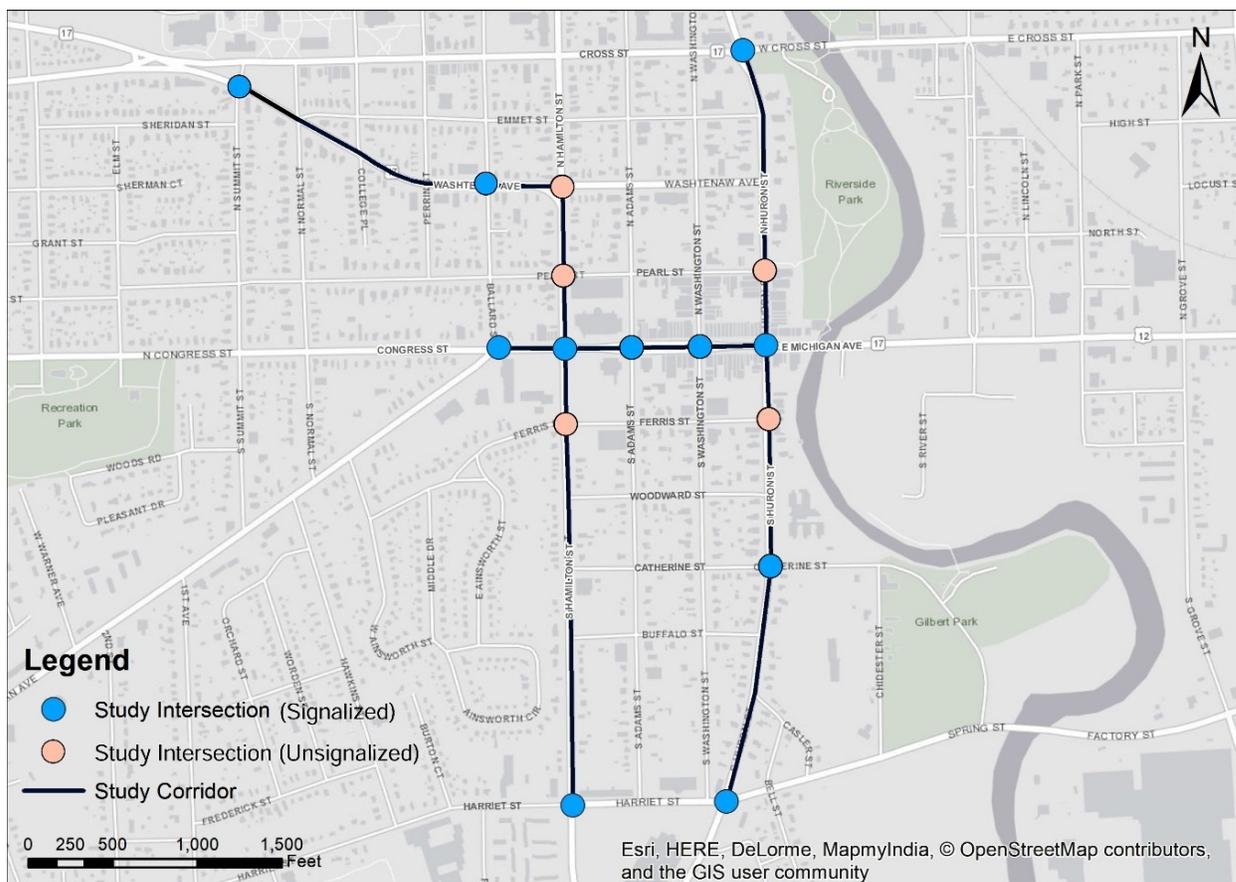


Figure 3: Study Area

The focus of this project will be the Synchro analysis of the roadway network to determine if the road diet will maintain an acceptable delay and level of service (LOS) with future traffic on the network. This study will contain all information required to meet the MDOT Road Diet Checklist (Form 1629, dated 4/18) for the MDOT Brighton TSC to present to the MDOT Engineering Operations Committee for approval.

## Section 3 - Existing Roadway System

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The study analyzed 16 different intersections along the following four corridors in Downtown Ypsilanti:

1. Washtenaw Avenue between Summit Street and Hamilton Street
  - a. Runs eastbound (one-way) and is a three-lane roadway with curb and gutter
  - b. Classified as a principal arterial with a posted speed of 35 miles per hour (MPH)
  - c. On-street parking is not permitted
  - d. **Figure 4** shows typical street view of Washtenaw Avenue



**Figure 4: Eastbound Washtenaw Avenue Approaching Ballard Street**

2. Hamilton Street between Washtenaw Avenue and Harriet Street
  - a. Runs southbound (one-way) and is a three-lane roadway with curb and gutter
  - b. Classified as a principal arterial with a posted speed limit of 25 MPH between Washtenaw Avenue and Michigan Avenue and 40 MPH south of Michigan Avenue
  - c. On-street parking is not permitted
  - d. **Figure 5** shows typical street view of Hamilton Street



**Figure 5: Southbound Hamilton Street Approaching Pearl Street**

3. Huron Street between Cross Street and Harriet/Spring Streets
  - a. Runs northbound (one-way) and is a three-lane roadway with curb and gutter
  - b. Classified as a principal arterial with a posted speed of 40 MPH between Harriet Street and Ferris Street, 30 MPH between Ferris Street and Pearl Street, and 35 MPH north of Pearl Street
  - c. On-street parking is not permitted except between Michigan Avenue and Pearl Street
  - d. **Figure 6** shows typical street view of Huron Street



**Figure 6: Northbound Huron Street Approaching Washtenaw Avenue**

4. Michigan Avenue between Congress Street/Ballard Street and Huron Street
  - a. Runs eastbound and westbound and is a four-lane boulevard with and curb and gutter
  - b. Classified as a principal arterial with a posted speed limit of 30 MPH
  - c. On-street parking is permitted in both directions
  - d. **Figure 7** shows typical street view of Michigan Avenue



**Figure 7: Eastbound Michigan Avenue Approaching Adams Street**

## Section 4 - Existing Traffic Volumes

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The study required data collection and field work included collecting eight-hour turning movement counts during the following times periods:

1. AM Peak: 7:00 AM – 9:00 AM
2. Midday Peak: 11:00 AM – 1:00 PM
3. PM Peak: 2:00 PM – 6:00 PM

It should be noted the actual peak hour chosen during each peak may vary from intersection to intersection though as the hour with the highest volume was selected to be analyzed.

Turning movement counts for 13 out of the 16 study intersections were taken via video camera by HRC in either October or November 2018 at the following intersections:

1. Washtenaw Avenue and Summit Street – Signalized
2. Washtenaw Avenue and Ballard Street – Signalized
3. Hamilton Street and Washtenaw Avenue – Unsignalized
4. Hamilton Street and Pearl Street – Unsignalized
5. Hamilton Street and Michigan Avenue – Signalized
6. Hamilton Street and Harriet Street – Signalized
7. Huron Street and Harriet/Spring Streets – Signalized
8. Huron Street and Catherine Street – Signalized
9. Huron Street and Michigan Avenue – Signalized
10. Huron Street and Pearl Street – Unsignalized
11. Huron Street and Cross Street – Signalized
12. Michigan Avenue and Adams Street – Signalized
13. Michigan Avenue and Washington Street – Signalized

Turning movement counts for the other three intersections were obtained from MDOT dated October 2016.

14. Hamilton Street and Ferris Street – Unsignalized
15. Huron Street and Ferris Street – Unsignalized
16. Michigan Avenue and Ballard/Congress Streets – Signalized

The complete turning movement count reports and existing volume diagrams can be found in **Appendix A** and **Appendix B**, respectively.

## Section 5 - Multi-Modal Traffic Conditions

### Transit

With the Ypsilanti Transit Center located in Downtown Ypsilanti, there are several transit routes within the study area. The Ypsilanti Transit Center is operated by the Ann Arbor Area Transportation Authority (TheRide) and is located on Pearl Street between Adams Street and Washington Street. There is a public parking lot just north of the transit center and six dedicated bus pull-ins on the north side of Pearl Street. Most of the routes have a 30-minute headway, but a few of the more popular ones operate more frequently. Figure 8 shows a complete system map of the 11 routes in the downtown area.

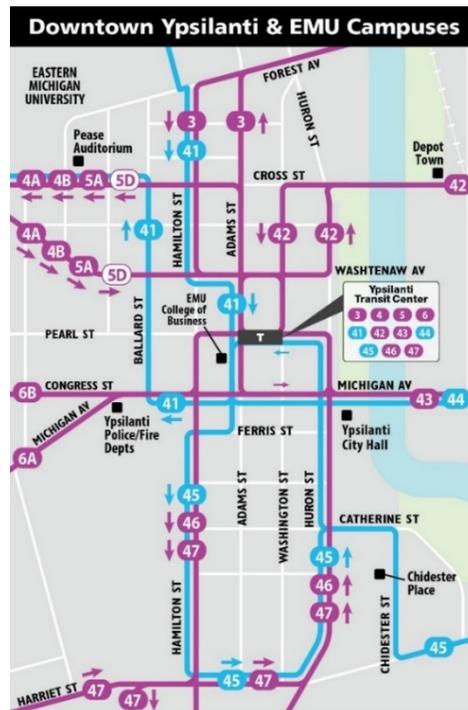


Figure 8: Downtown Ypsilanti Route Map

Out of the 11 routes, 10 of them travel on one of the study corridors and there are seven stops located within the study area. Table 1 shows the approximate location of each stop within the study area along with the associated routes.

Table 1: Routes Traveling within Study Area

Study Corridor	Stop Locations within Study Area (Route #)
Washtenaw Avenue	Between Summit and Normal Streets (4, 5)
	Between Perrin and Ballard Streets (4, 5)
Hamilton Street	Between Buffalo and Catherine Streets (45, 46, 47)
	Between Ferris Street and Michigan Avenue (46, 47)
Michigan Avenue	Between Ballard and Hamilton Streets (6)
Huron Street	Between Spring and Casler Streets (45, 46, 47)
	Between Catherine and Woodward Streets (45, 46, 47)

## Pedestrian and Bicycle

Each of the study corridors also contain a sidewalk on both sides to allow for pedestrian travel. Every signalized intersection contains a crosswalk and pedestrian signal, but the unsignalized intersections typically do not have any pedestrian treatments. There are also no bike lanes on any of the study corridors. The pedestrian and bicycle activity during the AM, Midday, and PM peak hours are shown in Table 2.

**Table 2: Pedestrian and Bicyclist Volumes at Study Intersections**

Intersection	Crossing Pedestrians			Bicyclists on Roadway		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Washtenaw Avenue and Summit Street	33	75	53	1	3	0
Washtenaw Avenue and Ballard Street	15	34	39	3	5	0
Hamilton Street and Michigan Avenue	23	109	49	0	3	2
Huron Street and Cross Street	16	17	43	4	1	1
Huron Street and Michigan Avenue	25	98	88	1	1	2
Michigan Avenue/Congress Street and Ballard Street	5	53	25	-	-	-
Michigan Avenue and Adams Street	29	107	89	0	1	0
Michigan Avenue and Washington Street	44	151	170	1	2	3
Huron Street and Harriet/Spring Street	6	11	10	0	1	0
Hamilton Street and Harriet Street	4	29	29	0	0	2
Huron Street and Catherine Street	4	9	7	0	2	0
Hamilton Street and Washtenaw Avenue	8	32	36	1	1	1
Hamilton Street and Pearl Street	15	41	30	1	5	2
Hamilton Street and Ferris Street	7	22	20	-	-	-
Huron Street and Ferris Street	5	13	11	-	-	-
Huron Street and Pearl Street	20	19	60	0	2	2

## Section 6 - Background Traffic Growth

MDOT currently has a rehabilitation project scheduled on the study corridors that includes milling and resurfacing, concrete patching, and upgrading the ramps to meet the Americans with Disabilities Act (ADA) regulations in 2022, which is approximately four years from the data collection for this traffic study. Since the project is in Washtenaw County, personnel from the Washtenaw Area Transportation Study (WATS) were contacted for an annual growth rate to determine the background traffic on the study corridors. WATS provided an annual growth rate of 0.6% for Washtenaw Avenue, Hamilton Street, and Huron Street and 0.7% for Michigan Avenue. WATS's full correspondence is provided in **Appendix C**.

To determine the background traffic for the construction year of 2022, a future four-year traffic growth factor was applied to the existing traffic volumes. The growth factor was determined by the following formula:

$$\text{Future Traffic Growth Factor} = (1 + r)^y$$

Whereas:            r = Annual Growth Rate  
                           y = Number of Years

Using the formula above, a future four-year traffic growth factor of 1.024 was used for Washtenaw Avenue and Hamilton Street, and Huron Street and 1.028 for Michigan Avenue to determine the future traffic for the construction year of 2022. It was also requested to provide a 20-year forecast to determine the future traffic volume in 2038. Using the same formula, a future 20-year traffic growth factor of 1.127 was used for Washtenaw Avenue, Hamilton Street, and Huron Street and 1.150 for Michigan Avenue to determine the future forecasted traffic in 2038. **Table 3** shows the growth rates and factors for the study corridors.

**Table 3: Growth Rates and Factors for Study Corridors**

Study Corridor	WATS's Annual Growth Rate	4-Year Growth Factor	20-Year Growth Factor
Washtenaw Avenue	0.6%	1.024	1.127
Hamilton Street			
Huron Street			
Michigan Avenue	0.7%	1.028	1.150

The background volume diagrams for 2022 and 2038 are provided in **Appendix D**.

## Section 7 - Road Diet Concept and Design

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The purpose of this study is to perform a feasibility analysis for implementing a road diet concept on the study corridors of Washtenaw Avenue, Hamilton Street, and Huron Street. The City has desired to investigate reducing these roadways from three travel lanes to two by replacing a travel lane with either a six-foot wide bike lane with a buffer or on-street parking. The road diet concept would provide the following benefits:

- Improving mobility for non-vehicular transportation modes by adding bike lanes
- Promoting better land use by adding on-street parking
- Improving pedestrian safety by reducing the number of travel lanes needing to cross
- Promoting lower vehicle speeds by reducing the number of travel lanes
- Improving traffic safety by reducing the number of predicted crashes per year

The City indicated there is no need for a road diet concept on Michigan Avenue since on-street parking already exists on both sides of the boulevard.

The road diet concept applies to over one and a half miles of roadway within the study limits and expands further south outside the study limits along Hamilton Street over the I-94 underpass. *The concept and analysis south of Harriet Street though is indicated in WATS's Huron I-94 Non-Motorized Crossing Report dated December 2014 and is not part of the scope in this study.*

An understanding of the City's desire on where to implement on-street parking and bike lanes within the road diet was determined at the Kick-Off Meeting held on January 24, 2019. A diagram from the meeting showing the field-measured roadway widths and on-street parking and bike lane locations is provided in **Appendix E**.

**Figure 9** shows a high-level overview of the road diet concept with subsequent figures showing the details.



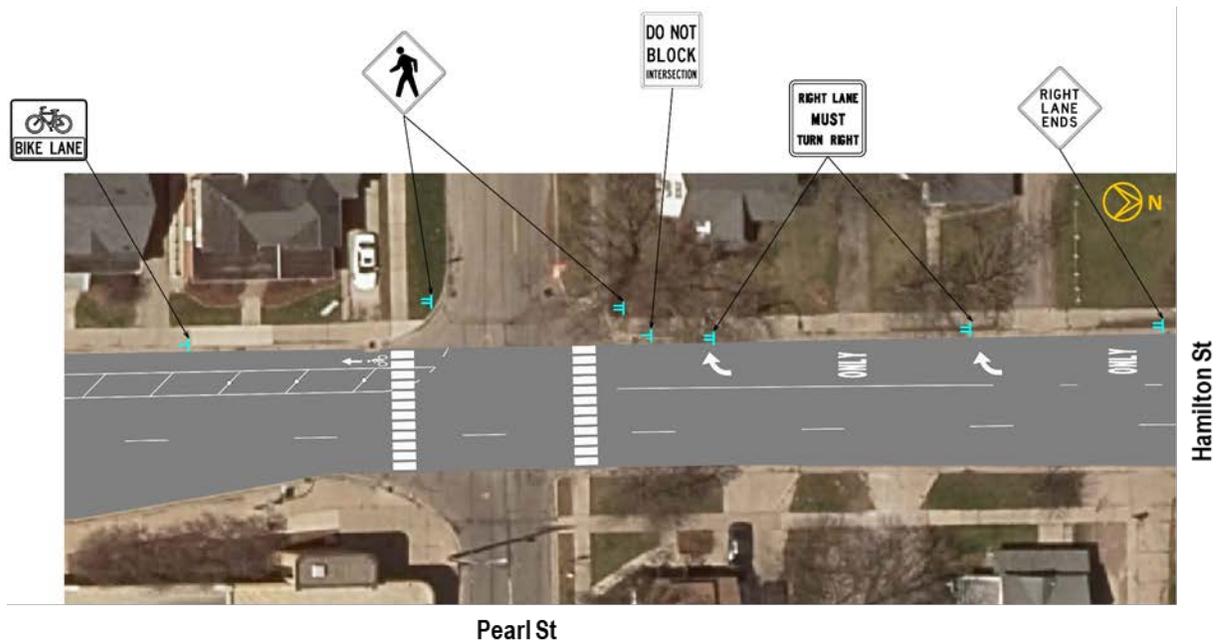
Figure 9: Overview of Road Diet Concept

Along eastbound Washtenaw Avenue, the proposed road diet will impact nearly a quarter mile of roadway. The road diet will begin just east of Normal Street and continue up to Ballard Street. The shared-left through lane approaching Normal Street will be changed to a left-turn lane drop and the transition from three travel lanes to two will start downstream of the intersection. This segment will contain two travel lanes and on-street parking on the north side. The segment between Ballard Street and Hamilton Street with the eastbound channelized right-turn lane will remain intact. **Figure 10** shows the proposed condition along Washtenaw Avenue at Perrin Street.



**Figure 10: Proposed Condition along Washtenaw Avenue at Perrin Street**

Along southbound Hamilton Street, the proposed road diet will impact over a half mile of roadway. The road diet will begin just south of Pearl Street and continue through Harriet Street. The shared right-through lane approaching Pearl Street will be changed to a right-turn lane drop and converted into a bike lane with a buffer downstream of the intersection. **Figure 11** shows the proposed condition along Hamilton Street at Pearl Street.



**Figure 11: Proposed Condition along Hamilton Street at Pearl Street**

On-street parking will also be added along Hamilton Street between Ferris Street and Michigan Avenue. The dedicated left-turn lane will be replaced with five on-street parking spaces. **Figure 12** shows the proposed condition along Hamilton Street at Ferris Street.



**Figure 12: Proposed Condition along Hamilton Street at Ferris Street**

Along northbound Huron Street, the proposed road diet will also impact over a half mile of roadway. The road diet will begin just north of Harriet/Spring Street and continue up to Ferris Street. The dedicated right-turn lane approaching Harriet/Spring Street will be removed and the easternmost through lane will be changed to a right-turn lane drop. The easternmost travel lane downstream of the intersection will be converted into a bike lane with a buffer up to Ferris Street. **Figure 13** shows the proposed condition along Huron Street at Harriet/Spring Street.



**Figure 13: Proposed Condition along Huron Street at Harriet/Spring Street**

If the City decides to extend the bike lane along Huron Street south of Harriet Street in the future, the bike lane could alternatively start just north of the I-94 westbound exit ramp and the easternmost through lane could be converted into a bike lane with a buffer. The dedicated right-turn lane approaching Harriet/Spring Street would remain intact, but further analysis would need to be done at the I-94 westbound exit ramp.

The segment of Huron Street between Ferris Street and Michigan Avenue already has a travel lane removed, but it will need to be restriped to include the bike lane. That space is currently being used as a loading zone, so the bike lane will share the space with the eight-foot wide loading zone. The bike lane will then end at Michigan Avenue with a bike box to allow bicyclists to position themselves ahead of vehicle traffic as they share the road up to Pearl Street. Figure 14 show the proposed condition along Huron Street at Michigan Avenue and Figure 15 shows the shared segment between Michigan Avenue and Pearl Street.

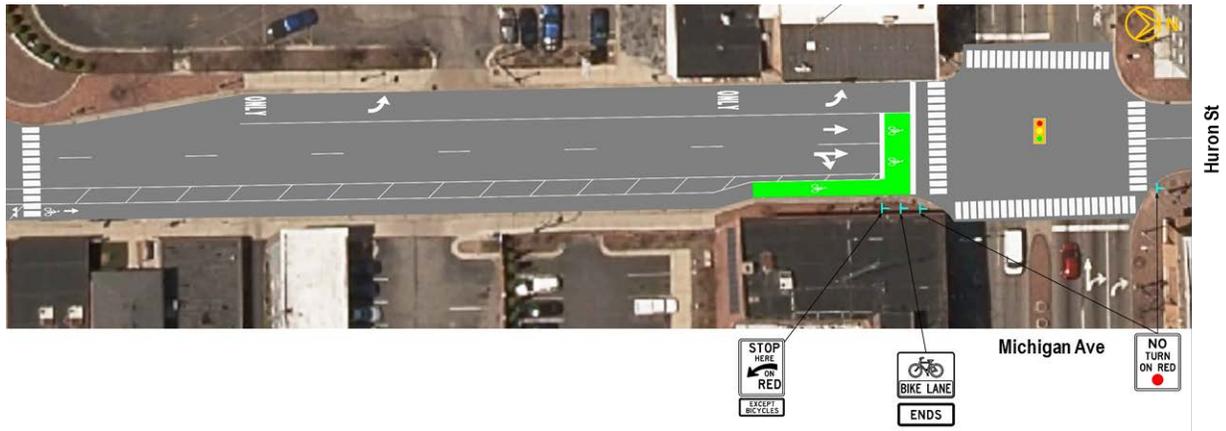


Figure 14: Proposed Condition along Huron Street at Michigan Avenue



Figure 15: Proposed Condition along Huron Street between Michigan Avenue and Pearl Street

The bike lane and buffer along Huron Street will then begin again downstream of Pearl Street and continue up to Cross Street. Rather than diverging from two travel lanes to three though, the easternmost through lane will be converted into a bike lane with a buffer. As the bike lane approaches Cross Street, the bike lane will overtake the dedicated right-turn lane and end. A bike box with a two-stage bicycle turn-box is being proposed though to allow bicyclists to get ahead of vehicle traffic and turn left onto Cross Street, where a bike lane already exists. Figures 16 and 17 show the proposed conditions along Huron Street at Pearl Street and Cross Street, respectively.



Figure 16: Proposed Condition along Huron Street at Pearl Street

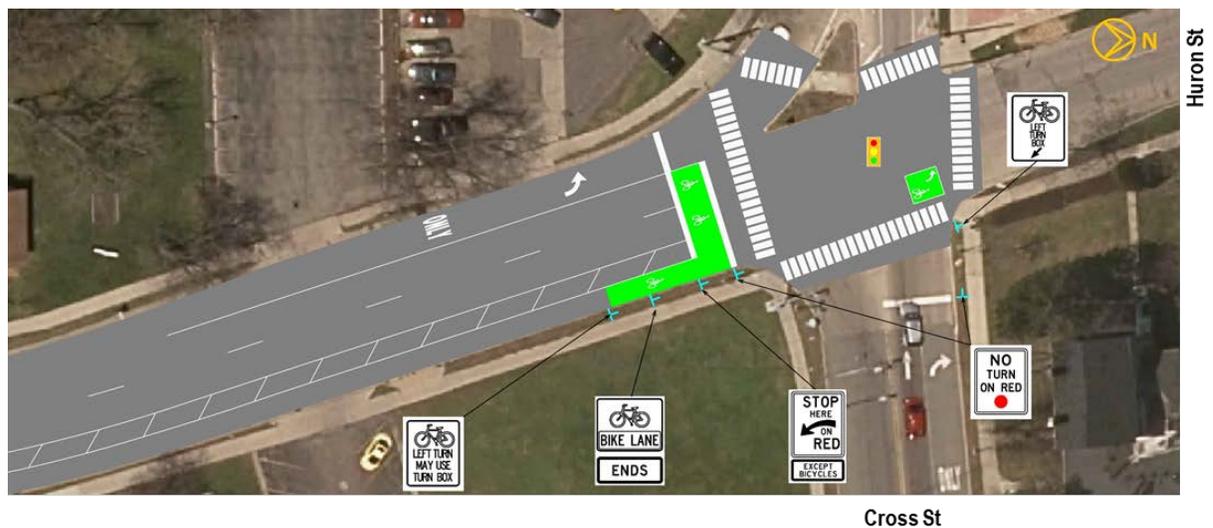


Figure 17: Proposed Condition along Huron Street at Cross Street

The complete set of conceptual plans are provided in Appendix F.

## Section 8 - Intersection Capacity Analysis

Synchro 10 Software was used to analyze the roadway network for 11 signalized and 5 unsignalized intersections. The MDOT Brighton TSC provided recent models of the Ypsilanti area that were adapted to help create the study area. WATS also provided their model analyzing Hamilton Street south of Harriet Street that was merged with the background (2038) and road diet conditions of this study for reference purposes only. The capacity analysis for this segment though can be found in WATS's Huron I-94 Non-Motorized Crossing Report dated December 2014 and is not included in this report. The signalized and unsignalized intersections that were analyzed in this report are listed in Table 4 with their location shown in Figure 18 by Synchro node.

Table 4: Signalized and Unsignalized Intersections Analyzed in Study Area

Signalized		Unsignalized	
Synchro Node	Intersection	Synchro Node	Intersection
1002	Washtenaw Avenue and Summit Street	9000	Hamilton Street and Washtenaw Avenue
1004	Washtenaw Avenue and Ballard Street	9001	Hamilton Street and Pearl Street
1013	Hamilton Street and Michigan Avenue	9002	Hamilton Street and Ferris Street
1016	Huron Street and Cross Street	9003	Huron Street and Ferris Street
1023	Huron Street and Michigan Avenue	9004	Huron Street and Pearl Street
2000	Michigan Avenue/Congress Street and Ballard Street		
2004	Michigan Avenue and Adams Street		
2005	Michigan Avenue and Washington Street		
3001	Huron Street and Harriet/Spring Street		
3003	Hamilton Street and Harriet Street		
3004	Huron Street and Catherine Street		

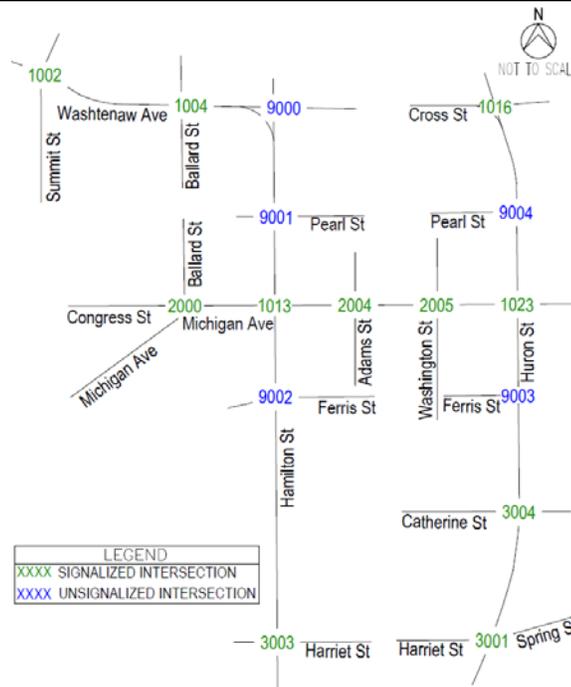


Figure 18: Analyzed Study Area

The capacity analysis was conducted on the roadway network during the AM, Midday, and PM peak hours for the existing, background, and road diet conditions. The existing roadway geometry was used for the existing and background conditions and the proposed geometry (see Section 7) was used for the road diet conditions. A detailed capacity analysis table broken down by condition, approach, and movement is provided in **Appendix G** and the Synchro reports are provided in **Appendices H – L**.

## Signalized Intersection Capacity Analysis

The Highway Capacity Manual (HCM) definitions of signalized intersections was used. For signalized intersections, the HCM defines level of service (LOS) in terms of control delay. Delay may be measured in the field or it may be estimated. Delay is a complex measure and is dependent on several variables, including the quality of progression, the cycle length, the green ratio, and the volume-to-capacity ratio for the lane group or approach in question. **Table 5** indicates the control delay criteria used for determining LOS for signalized intersections.

**Table 5: LOS Criteria for Signalized Intersections**

LOS	Control Delay per Vehicle (seconds)
A	< 10
B	> 10 to ≤ 20
C	> 20 to ≤ 35
D	> 35 to ≤ 55
E	> 55 to ≤ 80
F	> 80

LOS A describes operations with very low control delay up to 10.0 seconds per vehicle. This occurs when progression is exceptionally favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with control delay in the range of 10.1 to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.

LOS C describes operations with control delay in the range of 20.1 to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

LOS D describes operations with control delay in the range of 35.1 to 55.0 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with control delay in the range of 55.1 to 80.0 seconds per vehicle. This is considered to be above the limit of acceptable delay for an urban roadway in the study area. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with control delay greater than 80.1 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over saturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high volume-to-capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

The following subsections provide the AM, Midday, and PM peak hour results of the capacity analysis for the signalized intersections. The signal timing plans were not altered or optimized for the Existing, Background, or Road Diet (without mitigation) Models. The signal timings and phasing settings were inputted in these Synchro models per the signal timing permits provided by MDOT and the Washtenaw County Road Commission shown in **Appendix M**. For the Road Diet with Mitigation Model though, the signal timing and phasing settings were optimized to verify if the delay and LOS could be improved or better balanced. **Table 6** shows the five conditions that were modeled along with their characteristics.

**Table 6: Modeled Conditions and Characteristics**

Condition	Roadway Geometrics	Signal Timing Plans
Existing	Existing Road Geometry	Signal Timing Permit
Background 2022	Existing Road Geometry	Signal Timing Permit
Background 2038	Existing Road Geometry	Signal Timing Permit
Road Diet 2038 (without Mitigation)	Proposed Road Geometry	Signal Timing Permit
Road Diet 2038 with Mitigation	Proposed Road Geometry	Optimized

## Washtenaw Avenue and Summit Street Capacity Analysis (Node 1002)

The intersection of Washtenaw Avenue and Summit Street has an acceptable delay and LOS for all conditions. No lane configuration changes by the road diet are being proposed and no changes to the signal are required. Table 7 shows the capacity analysis for Washtenaw Avenue and Summit Street.

**Table 7: Washtenaw Avenue and Summit Street Capacity Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Washtenaw Ave & Summit St	1002	AM Peak Hour											
		EB	LT/TH/RT	8.4	A	8.4	A	8.6	A	8.6	A	8.6	A
			Approach	8.4	A	8.4	A	8.6	A	8.6	A	8.6	A
		NB	TH/RT	32.3	C	32.7	C	34.1	C	34.1	C	34.1	C
			Approach	32.3	C	32.7	C	34.1	C	34.1	C	34.1	C
		SB	LT/TH	34.2	C	34.5	C	33.9	C	33.9	C	33.9	C
			Approach	34.2	C	34.5	C	33.9	C	33.9	C	33.9	C
		Intersection		13.5	B	13.5	B	13.9	B	13.9	B	13.9	B
		Midday Peak Hour											
		EB	LT/TH/RT	9.0	A	9.0	A	9.3	A	9.3	A	9.3	A
			Approach	9.0	A	9.0	A	9.3	A	9.3	A	9.3	A
		NB	TH/RT	29.7	C	29.9	C	30.7	C	30.7	C	30.7	C
			Approach	29.7	C	29.9	C	30.7	C	30.7	C	30.7	C
		SB	LT/TH	36.5	D	36.4	D	37.1	D	37.1	D	37.1	D
			Approach	36.5	D	36.4	D	37.1	D	37.1	D	37.1	D
		Intersection		12.7	B	12.8	B	13.1	B	13.1	B	13.1	B
		PM Peak Hour											
		EB	LT/TH/RT	12.2	B	12.5	B	13.7	B	13.7	B	13.7	B
			Approach	12.2	B	12.5	B	13.7	B	13.7	B	13.7	B
		NB	TH/RT	28.3	C	28.5	C	29.2	C	29.2	C	29.2	C
			Approach	28.3	C	28.5	C	29.2	C	29.2	C	29.2	C
		SB	LT/TH	37.3	D	37.4	D	38.1	D	38.1	D	38.1	D
			Approach	37.3	D	37.4	D	38.1	D	38.1	D	38.1	D
		Intersection		14.2	B	14.5	B	15.6	B	15.6	B	15.6	B

## Washtenaw Avenue and Ballard Street Capacity Analysis (Node 1004)

The intersection of Washtenaw Avenue and Ballard Street has an acceptable delay and LOS for all conditions. The eastbound lane configuration will be impacted by the road diet, but no changes to the signal are required. Table 8 shows the capacity analysis for Washtenaw Avenue and Ballard Street.

**Table 8: Washtenaw Avenue and Ballard Street Capacity Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Washtenaw Ave & Ballard St	1004	<b>AM Peak Hour</b>											
		EB	LT/TH/RT	1.3	A	1.4	A	1.4	A	2.1	A	2.1	A
			Approach	1.3	A	1.4	A	1.4	A	2.1	A	2.1	A
		NB	TH/RT	34.7	C	34.6	C	34.7	C	34.7	C	34.7	C
			Approach	34.7	C	34.6	C	34.7	C	34.7	C	34.7	C
		SB	LT	33.4	C	33.3	C	33.3	C	33.3	C	33.3	C
			TH	33.6	C	33.5	C	33.5	C	33.5	C	33.5	C
			Approach	33.5	C	33.4	C	33.4	C	33.4	C	33.4	C
		Intersection		5.7	A	5.7	A	5.8	A	6.4	A	6.4	A
		<b>Midday Peak Hour</b>											
		EB	LT/TH/RT	0.8	A	0.8	A	0.9	A	1.8	A	1.8	A
			Approach	0.8	A	0.8	A	0.9	A	1.8	A	1.8	A
		NB	TH/RT	33.8	C	33.7	C	34.2	C	34.2	C	34.2	C
			Approach	33.8	C	33.7	C	34.2	C	34.2	C	34.2	C
		SB	LT	31.1	C	31.0	C	30.9	C	30.9	C	30.9	C
			TH	31.1	C	31.1	C	30.8	C	30.8	C	30.8	C
			Approach	31.1	C	31.0	C	30.9	C	30.9	C	30.9	C
		Intersection		6.5	A	6.5	A	6.6	A	7.3	A	7.3	A
		<b>PM Peak Hour</b>											
		EB	LT/TH/RT	0.5	A	0.5	A	0.5	A	1.6	A	1.6	A
			Approach	0.5	A	0.5	A	0.5	A	1.6	A	1.6	A
		NB	TH/RT	34.8	C	34.9	C	35.2	D	35.2	D	35.2	D
			Approach	34.8	C	34.9	C	35.2	D	35.2	D	35.2	D
		SB	LT	33.8	C	33.8	C	33.8	C	33.8	C	33.8	C
			TH	34.4	C	34.5	C	34.5	C	34.5	C	34.5	C
			Approach	34.2	C	34.3	C	34.3	C	34.3	C	34.3	C
		Intersection		3.6	A	3.6	A	3.6	A	4.6	A	4.6	A

## Hamilton Street and Michigan Avenue Capacity Analysis (Node 1013)

The intersection of Hamilton Street and Michigan Avenue has an acceptable delay and LOS for all conditions during the AM and Midday peak hours, but they are unacceptable for various movements and conditions during the PM peak hour. The southbound lane configuration will be impacted by the road diet and changes to the signal timings and operation are being proposed. The Road Diet Mitigation 2038 condition mitigates the impact through signal optimization (adjusting splits and offsets) and adding detection to change the signal operation from pretimed to fully actuated. The simulation does not show there to be any queuing issues. **Table 9** shows the capacity analysis for Hamilton Street and Michigan Avenue (movements with LOS E or F are in yellow).

**Table 9: Hamilton Street and Michigan Avenue Capacity Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Hamilton St & Michigan Ave	1013	AM Peak Hour											
		EB	TH/RT	19.1	B	19.2	B	19.6	B	19.6	B	20.8	C
			Approach	19.1	B	19.2	B	19.6	B	19.6	B	20.8	C
		WB	LT	13.0	B	13.5	B	15.2	B	15.2	B	16.7	B
			TH	8.5	A	8.8	A	9.8	A	9.8	A	12.2	B
			Approach	9.3	A	9.6	A	10.7	B	10.7	B	13.0	B
		SB	LT	23.0	C	23.2	C	23.8	C	23.4	C	21.2	C
			LT/TH/RT	21.7	C	21.7	C	22.1	C	N/A			
			TH/RT	N/A						23.9	C	21.7	C
			Approach	22.0	C	22.1	C	22.5	C	23.7	C	21.6	C
		Intersection		15.6	B	15.8	B	16.6	B	17.0	B	17.5	B
		Midday Peak Hour											
		EB	TH/RT	18.8	B	18.9	B	19.5	B	19.5	B	23.4	C
			Approach	18.8	B	18.9	B	19.5	B	19.5	B	23.4	C
		WB	LT	13.3	B	14.1	B	17.2	B	17.2	B	28.2	C
			TH	6.7	A	6.9	A	7.9	A	7.9	A	18.2	B
			Approach	8.6	A	9.0	A	10.6	B	10.6	B	21.1	C
		SB	LT	27.9	C	28.3	C	30.3	C	32.5	C	22.0	C
			LT/TH/RT	24.5	C	24.7	C	25.7	C	N/A			
			TH/RT	N/A						30.8	C	21.3	C
			Approach	25.3	C	25.6	C	26.8	C	31.3	C	21.5	C
		Intersection		19.3	B	19.6	B	20.7	C	23.0	C	21.8	C
		PM Peak Hour											
		EB	TH/RT	22.1	C	22.3	C	23.3	C	23.3	C	30.3	C
			Approach	22.1	C	22.3	C	23.3	C	23.3	C	30.3	C
		WB	LT	20.4	C	22.4	C	38.7	D	38.7	D	53.9	D
			TH	6.3	A	6.6	A	7.5	A	7.5	A	5.3	A
			Approach	11.3	B	12.1	B	18.5	B	18.5	B	22.4	C
		SB	LT	43.0	D	45.5	D	61.7	E	74.8	E	38.9	D
			LT/TH/RT	31.4	C	32.7	C	43.1	D	N/A			
			TH/RT	N/A						132.8	F	60.4	E
			Approach	34.2	C	35.8	D	47.6	D	115.3	F	53.9	D
		Intersection		26.2	C	27.4	C	35.7	D	73.5	E	41.5	D

## Huron Street and Cross Street Capacity Analysis (Node 1016)

The intersection of Huron Street and Cross Street has an acceptable delay and LOS for all conditions. The northbound lane configuration will be impacted by the road diet, but no changes to the signal are required. Table 10 shows the capacity analysis for Huron Street and Cross Street.

**Table 10: Huron Street and Cross Street Capacity Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Huron St & Cross St	1016	<b>AM Peak Hour</b>											
		WB	TH	16.5	B	16.8	B	17.8	B	17.8	B	17.8	B
			RT	10.9	B	10.9	B	10.9	B	10.9	B	10.9	B
			Approach	16.2	B	16.4	B	17.4	B	17.4	B	17.4	B
		NB	LT	Free Flow									
			TH	28.6	C	28.6	C	28.4	C	N/A			
			RT	26.1	C	26.1	C	25.7	C	N/A			
			TH/RT	N/A						30.4	C	30.4	C
			Approach	28.1	C	28.1	C	27.9	C	30.4	C	30.4	C
		Intersection		22.9	C	23.0	C	23.3	C	24.7	C	24.7	C
		<b>Midday Peak Hour</b>											
		WB	TH	14.9	B	14.9	B	15.3	B	15.3	B	15.3	B
			RT	12.4	B	12.4	B	12.5	B	12.5	B	12.5	B
			Approach	14.7	B	14.8	B	15.1	B	15.1	B	15.1	B
		NB	LT	Free Flow									
			TH	22.2	C	22.1	C	21.8	C	N/A			
			RT	23.9	C	23.9	C	23.7	C	N/A			
			TH/RT	N/A						24.7	C	24.7	C
			Approach	22.9	C	22.8	C	22.5	C	24.7	C	24.7	C
		Intersection		20.4	C	20.4	C	20.2	C	21.8	C	21.8	C
		<b>PM Peak Hour</b>											
		WB	TH	14.8	B	14.9	B	15.3	B	15.3	B	15.3	B
			RT	11.9	B	11.9	B	11.9	B	11.9	B	11.9	B
			Approach	14.6	B	14.7	B	15.1	B	15.1	B	15.1	B
		NB	LT	Free Flow									
			TH	21.4	C	21.4	C	21.5	C	N/A			
			RT	26.5	C	26.7	C	27.5	C	N/A			
			TH/RT	N/A						26.1	C	25.8	C
			Approach	23.9	C	24.0	C	24.4	C	26.1	C	25.8	C
		Intersection		21.3	C	21.4	C	21.8	C	23.0	C	22.8	C

## Huron Street and Michigan Avenue Capacity Analysis (Node 1023)

The intersection of Huron Street and Michigan Avenue has an acceptable delay and LOS for all conditions during the Midday and PM peak hours, but they are unacceptable for various movements and conditions during the AM peak hour. These movements are not impacted by the road diet though as there are no lane configuration changes being proposed. The signal was also optimized recently in November 2018, so no changes to the signal are being proposed. Table 11 shows the capacity analysis for Huron Street and Michigan Avenue (movements with LOS E or F are in yellow).

Table 11: Huron Street and Michigan Avenue Capacity Analysis

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038			
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS								
<b>AM Peak Hour</b>															
Huron St & Michigan Ave	1023	EB	LT	15.7	B	16.1	B	18.5	B	18.5	B	17.4	B		
			TH	5.8	A	5.8	A	6.2	A	6.2	A	5.4	A		
			Approach	7.3	A	7.3	A	8.0	A	8.0	A	7.2	A		
		WB	TH/RT	37.9	D	40.9	D	64.4	E	64.4	E	64.4	E		
			RT	73.7	E	81.0	F	123.6	F	123.6	F	123.6	F		
			Approach	48.9	D	53.2	D	82.6	F	82.6	F	82.6	F		
		NB	LT	4.6	A	2.7	A	2.8	A	9.7	A	9.7	A		
			TH/RT	16.2	B	15.1	B	23.7	C	27.1	C	27.0	C		
			Approach	15.4	B	14.2	B	22.3	C	25.9	C	25.9	C		
		Intersection			28.3	C	29.6	C	45.7	D	47.1	D	47.0	D	
		<b>Midday Peak Hour</b>													
		EB	LT	9.3	A	9.7	A	12.0	B	12.1	B	11.2	B		
			TH	4.7	A	4.7	A	5.0	A	5.0	A	4.3	A		
			Approach	5.4	A	5.4	A	6.0	A	6.0	A	5.3	A		
		WB	TH/RT	23.7	C	24.0	C	25.3	C	25.3	C	25.3	C		
			RT	29.9	C	30.7	C	34.7	C	34.7	C	34.7	C		
			Approach	25.6	C	26.0	C	28.2	C	28.2	C	28.2	C		
		NB	LT	7.3	A	6.7	A	6.7	A	7.4	A	7.5	A		
			TH/RT	12.0	B	11.8	B	13.3	B	13.0	B	13.1	B		
			Approach	11.5	B	11.2	B	12.5	B	12.4	B	12.5	B		
Intersection			14.1	B	14.2	B	15.6	B	15.5	B	15.3	B			
<b>PM Peak Hour</b>															
EB	LT	18.6	B	19.5	B	26.5	C	26.5	C	28.6	C				
	TH	7.7	A	7.9	A	9.5	A	9.5	A	11.4	B				
	Approach	9.1	A	9.4	A	11.8	B	11.8	B	13.6	B				
WB	TH/RT	26.1	C	26.5	C	29.2	C	29.2	C	29.2	C				
	RT	36.7	D	38.6	D	48.7	D	48.7	D	48.7	D				
	Approach	29.3	C	30.1	C	35.0	C	35.0	C	35.0	C				
NB	LT	9.4	A	9.2	A	9.1	A	11.4	B	21.9	C				
	TH/RT	16.6	B	16.7	B	19.6	B	20.5	C	31.6	C				
	Approach	15.7	B	15.8	B	18.4	B	19.4	B	30.5	C				
Intersection			17.7	B	18.1	B	21.3	C	21.7	C	26.0	C			

## Michigan Avenue and Congress Street and Ballard Street Capacity Analysis (Node 2000)

The intersection of Michigan Avenue and Congress Street and Ballard Street has an acceptable delay and LOS for all conditions. No lane configuration changes by the road diet are being proposed and no changes to the signal are required. **Table 12** shows the capacity analysis for Michigan Avenue and Congress Street and Ballard Street.

**Table 12: Michigan Avenue and Congress Street and Ballard Street Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038			
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS								
<b>AM Peak Hour</b>															
Michigan Ave & Congress St & Ballard St	2000	EB	LT/TH/RT	44.4	D	44.5	D	44.8	D	44.8	D	44.8	D		
			Approach	44.4	D	44.5	D	44.8	D	44.8	D	44.8	D		
		WB	LT	17.7	B	17.9	B	18.4	B	18.4	B	18.4	B		
			LT/TH/RT	18.7	B	18.8	B	19.6	B	19.6	B	19.6	B		
			Approach	18.2	B	18.4	B	19.0	B	19.0	B	19.0	B		
		SB	LT	42.1	D	42.1	D	42.1	D	42.1	D	42.1	D		
			TH/RT	44.3	D	44.4	D	44.7	D	44.7	D	44.7	D		
			Approach	43.9	D	44.0	D	44.3	D	44.3	D	44.3	D		
		NB	RT	15.1	B	15.1	B	15.3	B	15.3	B	15.3	B		
			Approach	15.1	B	15.1	B	15.3	B	15.3	B	15.3	B		
		Intersection			22.0	C	22.1	C	22.5	C	22.5	C	22.5	C	
		<b>Midday Peak Hour</b>													
		EB	LT/TH/RT	24.3	C	24.4	C	24.6	C	24.6	C	24.6	C	24.6	C
			Approach	24.3	C	24.4	C	24.6	C	24.6	C	24.6	C	24.6	C
		WB	LT	30.2	C	30.2	C	30.6	C	30.5	C	23.3	C		
			LT/TH/RT	33.6	C	33.9	C	35.8	D	35.6	D	28.0	C		
			Approach	31.9	C	32.1	C	33.2	C	33.1	C	25.6	C		
		SB	LT	22.8	C	22.8	C	22.9	C	22.9	C	22.9	C		
			TH/RT	22.7	C	22.7	C	22.7	C	22.7	C	22.7	C		
			Approach	22.7	C	22.7	C	22.8	C	22.8	C	22.8	C		
NB	RT	22.5	C	22.5	C	22.7	C	22.7	C	22.7	C				
	Approach	22.5	C	22.5	C	22.7	C	22.7	C	22.7	C				
Intersection			27.0	C	27.1	C	27.7	C	27.6	C	24.3	C			
<b>PM Peak Hour</b>															
EB	LT/TH/RT	46.4	D	46.5	D	47.9	D	47.9	D	47.9	D				
	Approach	46.4	D	46.5	D	47.9	D	47.9	D	47.9	D				
WB	LT	20.7	C	21.0	C	22.3	C	22.3	C	22.3	C				
	TH	23.1	C	23.6	C	25.7	C	25.7	C	25.7	C				
	Approach	21.9	C	22.3	C	24.0	C	24.0	C	24.0	C				
SB	LT	43.1	D	43.2	D	43.4	D	43.4	D	43.4	D				
	TH/RT	41.9	D	42.0	D	42.0	D	42.0	D	42.0	D				
	Approach	42.5	D	42.5	D	42.7	D	42.7	D	42.7	D				
NB	RT	16.1	B	16.2	B	16.4	B	16.4	B	16.4	B				
	Approach	16.1	B	16.2	B	16.4	B	16.4	B	16.4	B				
Intersection			23.4	C	23.6	C	24.8	C	24.8	C	24.8	C			

## Michigan Avenue and Adams Street Capacity Analysis (Node 2004)

The intersection of Michigan Avenue and Adams Street has an acceptable delay and LOS for all conditions. No lane configuration changes by the road diet are being proposed and no changes to the signal are required. **Table 13** shows the capacity analysis for Michigan Avenue and Adams Street.

**Table 13: Michigan Avenue and Adams Street Capacity Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Michigan Ave & Adams St	2004	AM Peak Hour											
		EB	LT/TH/RT	2.3	A	2.3	A	2.3	A	2.3	A	2.7	A
			Approach	2.3	A	2.3	A	2.3	A	2.3	A	2.7	A
		WB	LT/TH/RT	2.2	A	2.2	A	2.6	A	2.6	A	2.8	A
			Approach	2.2	A	2.2	A	2.6	A	2.6	A	3.6	A
		NB	LT	31.4	C	31.5	C	32.2	C	32.2	C	32.2	C
			TH/RT	30.5	C	30.6	C	31.3	C	31.3	C	31.3	C
			Approach	30.9	C	31.0	C	31.7	C	31.7	C	31.7	C
		SB	LT	28.7	C	28.8	C	29.0	C	29.0	C	29.0	C
			TH/RT	28.0	C	28.0	C	28.1	C	28.1	C	28.1	C
			Approach	28.3	C	28.3	C	28.5	C	28.5	C	28.5	C
		Intersection		5.9	A	5.9	A	6.2	A	6.2	A	6.5	A
		Midday Peak Hour											
		EB	LT/TH/RT	4.1	A	4.1	A	4.1	A	3.8	A	5.5	A
			Approach	4.1	A	4.1	A	4.1	A	3.8	A	5.5	A
		WB	LT/TH/RT	1.5	A	1.5	A	1.6	A	1.6	A	1.6	A
			Approach	1.5	A	1.5	A	1.6	A	1.6	A	1.6	A
		NB	LT	30.1	C	30.2	C	30.7	C	30.7	C	30.7	C
			TH/RT	30.2	C	30.3	C	30.7	C	30.7	C	30.7	C
			Approach	30.1	C	30.3	C	30.7	C	30.7	C	30.7	C
		SB	LT	29.5	C	29.6	C	30.1	C	30.1	C	30.1	C
			TH/RT	28.7	C	28.8	C	29.0	C	29.0	C	29.0	C
			Approach	29.0	C	29.1	C	29.4	C	29.4	C	29.4	C
		Intersection		6.9	A	7.0	A	7.1	A	6.9	A	7.7	A
		PM Peak Hour											
		EB	LT/TH/RT	3.1	A	3.4	A	3.3	A	3.2	A	4.6	A
			Approach	3.1	A	3.4	A	3.3	A	3.2	A	4.6	A
		WB	LT/TH/RT	1.2	A	1.2	A	1.6	A	1.6	A	1.2	A
			Approach	1.2	A	1.2	A	1.6	A	1.6	A	1.2	A
		NB	LT	28.5	C	28.5	C	28.8	C	28.8	C	28.8	C
			TH/RT	30.0	C	30.0	C	30.4	C	30.4	C	30.4	C
			Approach	29.7	C	29.7	C	30.1	C	30.1	C	30.1	C
		SB	LT	31.7	C	31.8	C	32.8	C	32.8	C	32.8	C
			TH/RT	29.4	C	29.5	C	29.8	C	29.8	C	29.8	C
			Approach	30.4	C	30.5	C	31.1	C	31.1	C	31.1	C
		Intersection		5.8	A	5.9	A	6.1	A	6.0	A	6.6	A

## Michigan Avenue and Washington Street Capacity Analysis (Node 2005)

The intersection of Michigan Avenue and Washington Street has an acceptable delay and LOS for all conditions during the Midday and PM peak hours, but they are unacceptable for the northbound movements in various conditions during the AM peak hour. No lane configuration changes by the road diet are being proposed, but changes to the signal timing were made to mitigate background traffic growth. The Road Diet Mitigation 2038 condition improves the northbound traffic during the AM peak hour through signal optimization (adjusting splits). Table 14 shows the capacity analysis for Michigan Avenue and Washington Street (movements with LOS E or F are in yellow).

Table 14: Michigan Avenue and Washington Street Capacity Analysis

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Michigan Ave & Washington St	2005	AM Peak Hour											
		EB	LT/TH/RT	1.8	A	1.8	A	1.8	A	1.8	A	2.6	A
			Approach	1.8	A	1.8	A	1.8	A	1.8	A	2.6	A
		WB	LT/TH/RT	1.4	A	1.4	A	1.2	A	1.1	A	1.2	A
			Approach	1.4	A	1.4	A	1.2	A	1.1	A	1.2	A
		NB	LT/TH/RT	75.1	E	78.5	E	111.7	F	111.7	F	51.2	D
			Approach	75.1	E	78.5	E	111.7	F	111.7	F	51.2	D
		SB	LT/TH/RT	28.6	C	28.6	C	29.1	C	29.1	C	25.0	C
			Approach	28.6	C	28.6	C	29.1	C	29.1	C	25.0	C
		Intersection		13.1	B	13.6	B	18.6	B	18.5	B	9.7	A
		Midday Peak Hour											
		EB	LT/TH/RT	1.9	A	1.9	A	2.0	A	2.0	A	2.2	A
			Approach	1.9	A	1.9	A	2.0	A	2.0	A	2.2	A
		WB	LT/TH/RT	2.4	A	2.5	A	2.5	A	2.2	A	2.2	A
			Approach	2.4	A	2.5	A	2.5	A	2.2	A	2.2	A
		NB	LT/TH/RT	31.3	C	31.6	C	32.4	C	32.4	C	32.4	C
			Approach	31.3	C	31.6	C	32.4	C	32.4	C	32.4	C
		SB	LT/TH/RT	31.8	C	32.1	C	33.2	C	33.2	C	33.2	C
			Approach	31.8	C	32.1	C	33.2	C	33.2	C	33.2	C
		Intersection		5.5	A	5.6	A	5.8	A	5.7	A	5.8	A
		PM Peak Hour											
		EB	LT/TH/RT	1.8	A	1.8	A	2.2	A	2.2	A	5.0	A
			Approach	1.8	A	1.8	A	2.2	A	2.2	A	5.0	A
		WB	LT/TH/RT	2.4	A	2.5	A	2.4	A	2.3	A	2.3	A
			Approach	2.4	A	2.5	A	2.4	A	2.3	A	2.3	A
		NB	LT/TH/RT	33.2	C	33.4	C	35.2	D	35.2	D	35.2	D
			Approach	33.2	C	33.4	C	35.2	D	35.2	D	35.2	D
		SB	LT/TH/RT	40.6	D	41.7	D	49.0	D	49.0	D	49.0	D
			Approach	40.6	D	41.7	D	49.0	D	49.0	D	49.0	D
		Intersection		6.6	A	6.7	A	7.5	A	7.5	A	8.9	A

## Huron Street and Harriet/Spring Street Capacity Analysis (Node 3001)

The intersection of Huron Street and Harriet/Spring Street has an acceptable delay and LOS for all conditions. The northbound lane configuration will be impacted by the road diet, but no major changes to the signal are required. Only minor split and offset changes were made to the Road Diet Mitigation 2038 condition during the PM peak hour to improve progression along Huron Street. Table 15 shows the capacity analysis for Huron Street and Harriet/Spring Street.

Table 15: Huron Street and Harriet/Spring Capacity Analysis

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Huron St & Harriet/Spring St	3001	AM Peak Hour											
		EB	LT	22.8	C	22.9	C	23.5	C	23.5	C	23.9	C
			TH	22.3	C	22.3	C	22.3	C	22.3	C	22.8	C
			Approach	22.3	C	22.4	C	22.4	C	22.4	C	23.0	C
		WB	TH/RT	25.7	C	25.9	C	26.6	C	26.6	C	26.6	C
			Approach	25.7	C	25.9	C	26.6	C	26.6	C	26.6	C
		NB	LT/TH	13.1	B	11.9	B	12.1	B	35.3	D	35.3	D
			RT	9.3	A	13.9	B	14.0	B	13.4	B	13.4	B
			Approach	12.5	B	12.2	B	12.4	B	31.8	C	31.8	C
		Intersection		15.4	B	15.2	B	15.5	B	30.3	C	30.3	C
		Midday Peak Hour											
		EB	LT	19.9	B	19.7	B	20.1	C	20.0	B	20.9	C
			TH	19.2	B	19.1	B	19.3	B	19.3	B	20.6	C
			Approach	19.3	B	19.2	B	19.5	B	19.4	B	20.7	C
		WB	TH/RT	21.0	C	21.0	C	21.3	C	21.3	C	21.3	C
			Approach	21.0	C	21.0	C	21.3	C	21.3	C	21.3	C
		NB	LT/TH	8.4	A	9.0	A	9.8	A	11.8	B	11.8	B
			RT	7.8	A	9.3	A	10.7	B	10.7	B	10.7	B
			Approach	8.3	A	9.1	A	10.0	A	11.6	B	11.6	B
		Intersection		12.0	B	12.5	B	13.3	B	14.4	B	14.5	B
		PM Peak Hour											
		EB	LT	17.9	B	18.1	B	19.2	B	19.2	B	27.5	C
			TH	18.2	B	18.2	B	18.9	B	18.9	B	28.0	C
			Approach	18.1	B	18.2	B	18.9	B	18.9	B	28.0	C
		WB	TH/RT	20.4	C	20.6	C	21.1	C	21.1	C	22.0	C
			Approach	20.4	C	20.6	C	21.1	C	21.1	C	22.0	C
		NB	LT/TH	10.4	B	8.9	A	9.2	A	13.1	B	18.2	B
			RT	4.9	A	4.7	A	5.5	A	5.5	A	17.9	B
			Approach	9.1	A	7.9	A	8.3	A	11.4	B	18.1	B
		Intersection		13.1	B	12.4	B	12.8	B	14.7	B	20.5	C

## Hamilton Street and Harriet Street Capacity Analysis (Node 3003)

The intersection of Hamilton Street and Harriet Street has an acceptable delay and LOS for all conditions during the AM and Midday peak hours, but they are unacceptable for various movements and conditions during the PM peak hour. The southbound lane configuration will be impacted by the road diet and changes to the signal timings and operation are being proposed. The Road Diet Mitigation 2038 condition improves the southbound traffic through signal optimization (adjusting splits and offsets) and adding detection to change the signal operation from semi-actuated to fully actuated, but it worsens the westbound traffic. The simulation does show some queuing for the westbound left-turning movement, but it passes validation and seems acceptable. **Table 16** shows the capacity analysis for Hamilton Street and Harriet Street (movements with LOS E or F are in yellow).

**Table 16: Hamilton Street and Harriet Street Capacity Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038			
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
<b>AM Peak Hour</b>															
Hamilton St & Harriet St	3003	EB	TH/RT	22.4	C	22.4	C	22.6	C	22.6	C	32.7	C		
			Approach	22.4	C	22.4	C	22.6	C	22.6	C	32.7	C		
		WB	LT	9.5	A	9.6	A	10.9	B	13.2	B	24.0	C		
			TH	7.9	A	7.8	A	8.7	A	10.8	B	19.4	B		
			Approach	8.4	A	8.4	A	9.4	A	11.6	B	20.9	C		
		SB	LT	13.3	B	13.3	B	13.7	B	13.1	B	5.1	A		
			TH/RT	15.5	B	15.5	B	16.0	B	17.9	B	6.9	A		
			Approach	15.3	B	15.4	B	15.9	B	17.6	B	6.8	A		
		Intersection			13.4	B	13.4	B	14.1	B	15.7	B	17.4	B	
		<b>Midday Peak Hour</b>													
		EB	TH/RT	22.5	C	22.5	C	22.8	C	22.8	C	32.5	C		
			Approach	22.5	C	22.5	C	22.8	C	22.8	C	32.5	C		
		WB	LT	11.4	B	10.9	B	11.2	B	12.2	B	26.1	C		
			TH	7.0	A	6.6	A	6.2	A	7.0	A	15.3	B		
			Approach	9.4	A	9.0	A	9.1	A	9.9	A	21.4	C		
SB	LT	12.8	B	12.9	B	13.2	B	12.2	B	6.1	A				
	TH/RT	17.3	B	17.5	B	18.6	B	29.0	C	11.5	B				
	Approach	17.0	B	17.1	B	18.2	B	27.6	C	11.1	B				
Intersection			15.7	B	15.7	B	16.3	B	22.0	C	17.1	B			
<b>PM Peak Hour</b>															
EB	TH/RT	24.2	C	24.4	C	25.1	C	25.1	C	30.0	C				
	Approach	24.2	C	24.4	C	25.1	C	25.1	C	30.0	C				
WB	LT	15.9	B	16.5	B	19.3	B	21.0	C	120.5	F				
	TH	5.6	A	5.7	A	5.7	A	6.9	A	9.3	A				
	Approach	11.3	B	11.7	B	13.3	B	14.8	B	71.0	E				
SB	LT	15.7	B	15.7	B	16.0	B	15.5	B	6.5	A				
	TH/RT	30.0	C	32.5	C	55.7	E	253.1	F	23.2	C				
	Approach	28.6	C	30.9	C	51.9	D	230.5	F	21.6	C				
Intersection			23.3	C	24.8	C	37.6	D	142.5	F	36.2	D			

## Huron Street and Catherine Street Capacity Analysis (Node 3004)

The intersection of Huron Street and Catherine Street has an acceptable delay and LOS for all conditions. The northbound lane configuration will be impacted by the road diet, but no changes to the signal are required. Table 17 shows the capacity analysis for Huron Street and Catherine Street.

**Table 17: Huron Street and Catherine Street Capacity Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Huron St & Catherine St	3004	<b>AM Peak Hour</b>											
		EB	LT/TH	34.8	C	34.8	C	34.5	C	34.5	C	34.5	C
			Approach	34.8	C	34.8	C	34.5	C	34.5	C	34.5	C
		WB	TH/RT	35.3	D	35.4	D	35.7	D	35.7	D	35.7	D
			Approach	35.3	D	35.4	D	35.7	D	35.7	D	35.7	D
		NB	LT/TH/RT	3.4	A	3.5	A	3.8	A	4.2	A	4.2	A
			Approach	3.4	A	3.5	A	3.8	A	4.2	A	4.2	A
		Intersection		5.6	A	5.7	A	5.9	A	6.3	A	6.3	A
		<b>Midday Peak Hour</b>											
		EB	LT/TH	34.6	C	34.6	C	34.8	C	34.8	C	34.8	C
			Approach	34.6	C	34.6	C	34.8	C	34.8	C	34.8	C
		WB	TH/RT	32.8	C	32.8	C	32.7	C	32.7	C	32.7	C
			Approach	32.8	C	32.8	C	32.7	C	32.7	C	32.7	C
		NB	LT/TH/RT	3.6	A	4.0	A	4.3	A	4.7	A	4.7	A
			Approach	3.6	A	4.0	A	4.3	A	4.7	A	4.7	A
		Intersection		6.6	A	6.9	A	7.2	A	7.6	A	7.6	A
		<b>PM Peak Hour</b>											
		EB	LT/TH	34.7	C	34.7	C	34.8	C	34.8	C	34.8	C
			Approach	34.7	C	34.7	C	34.8	C	34.8	C	34.8	C
		WB	TH/RT	33.1	C	33.1	C	33.0	C	33.0	C	33.0	C
			Approach	33.1	C	33.1	C	33.0	C	33.0	C	33.0	C
		NB	LT/TH/RT	4.0	A	3.9	A	4.1	A	4.4	A	1.1	A
			Approach	4.0	A	3.9	A	4.1	A	4.4	A	1.1	A
		Intersection		6.8	A	6.8	A	7.0	A	7.2	A	4.2	A

## Unsignalized Intersection Capacity Analysis

The Highway Capacity Manual (HCM) definitions of unsignalized intersections were also used. At an unsignalized intersection with stop control on the minor approach, LOS F occurs when there are not enough gaps of suitable size to allow a minor-street demand to safely cross through traffic on the major street. This is typically evident from extremely long control delays experienced by minor street traffic and by queuing on the minor approaches. LOS F may also appear in the form of drivers on the minor street selecting smaller than usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. Note that LOS F may not always result in long queues, but in adjustments to normal gap acceptance behavior. For example, this may occur when a left-turning vehicle uses a shorter than normal gap in traffic to complete a left-turn. **Table 18** indicates the control delay criteria used for determining the LOS for unsignalized intersections.

**Table 18: LOS Criteria for Unsignalized Intersections**

LOS	Control Delay per Vehicle (seconds)
A	< 10
B	> 10 to $\leq$ 15
C	> 15 to $\leq$ 25
D	> 25 to $\leq$ 35
E	> 35 to $\leq$ 50
F	> 50

The following subsections provide the AM, Midday, and PM peak hour results of the capacity analysis for the unsignalized intersections.

## Hamilton Street and Washtenaw Avenue Capacity Analysis (Node 9000)

The intersection of Hamilton Street and Washtenaw Avenue has an acceptable delay and LOS for all conditions during the AM and Midday peak hours, but they are unacceptable for the eastbound right-turning movement in all conditions during the PM peak hour. No lane configuration changes by the road diet are being proposed and it is an unsignalized intersection. The Road Diet Mitigation 2038 condition maintains the eastbound traffic from the Background 2038 condition. It should also be noted the eastbound right-turning movement is free flow (channelized right-turn), so the delay and LOS for the actual condition is much better than what is shown in the capacity analysis. **Table 19** shows the capacity analysis for Hamilton Street and Washtenaw Avenue (movements with LOS E or F are in yellow).

**Table 19: Hamilton Street and Washtenaw Avenue Capacity Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Hamilton St & Washtenaw Ave	9000	<b>AM Peak Hour</b>											
		EB	TH	7.5	A	7.5	A	7.7	A	7.7	A	7.7	A
			RT	7.8	A	7.9	A	8.5	A	8.5	A	8.5	A
			Approach	7.7	A	7.8	A	8.4	A	8.4	A	8.4	A
		SB	LT/TH	8.0	A	8.0	A	8.3	A	8.3	A	8.3	A
			Approach	8.0	A	8.0	A	8.3	A	8.3	A	8.3	A
		Intersection		7.8	A	7.9	A	8.3	A	8.3	A	8.3	A
		<b>Midday Peak Hour</b>											
		EB	TH	8.5	A	8.5	A	8.8	A	8.8	A	8.8	A
			RT	10.7	B	11.1	B	13.1	B	13.1	B	13.1	B
			Approach	10.2	B	10.5	B	12.2	B	12.2	B	12.2	B
		SB	LT/TH	9.8	A	9.9	A	10.6	B	10.6	B	10.6	B
			Approach	9.8	A	9.9	A	10.6	B	10.6	B	10.6	B
		Intersection		10.1	B	10.3	B	11.7	B	11.7	B	11.7	B
		<b>PM Peak Hour</b>											
		EB	TH	11.3	B	11.5	B	12.4	B	12.4	B	12.4	B
			RT	41.0	E	47.0	E	79.7	F	79.7	F	79.7	F
			Approach	33.8	D	38.4	E	63.4	F	63.4	F	63.4	F
		SB	LT/TH	20.0	C	21.4	C	30.0	D	30.0	D	30.0	D
			Approach	20.0	C	21.4	C	30.0	D	30.0	D	30.0	D
		Intersection		29.0	D	32.5	D	51.7	F	51.7	F	51.7	F

## Hamilton Street and Pearl Street Capacity Analysis (Node 9001)

The intersection of Hamilton Street and Pearl Street has an acceptable delay and LOS for all conditions during the AM peak hour, but they are unacceptable for the westbound movements in all conditions during the Midday and PM peak hours. The southbound lane configuration will be impacted by the road diet and it is an unsignalized intersection. The Road Diet Mitigation 2038 condition shows the exacerbation of westbound traffic from the Background 2038 condition. It should be noted Pearl Street does have low volume and modeling sometimes does not accurately reflect the actual condition for unsignalized intersections. A Do Not Block Intersection sign (R10-7) on Hamilton Street is also being proposed to mitigate queuing on Pearl Street. **Table 20** shows the capacity analysis for Hamilton Street and Pearl Street (movements with LOS E or F are in yellow).

**Table 20: Hamilton Street and Pearl Street Capacity Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Hamilton St & Pearl St	9001	AM Peak Hour											
		EB	RT	10.2	B	10.2	B	10.5	B	11.9	B	11.9	B
			Approach	10.2	B	10.2	B	10.5	B	11.9	B	11.9	B
		WB	LT	11.0	B	11.1	B	11.4	B	13.3	B	13.3	B
			LT/TH	14.7	B	14.9	B	16.3	C	17.0	C	17.0	C
			Approach	13.2	B	13.4	B	14.4	B	15.5	C	15.5	C
		SB	TH/RT	Free Flow						N/A			
			TH	N/A						Free Flow			
			RT										
			Approach										
		Intersection		0.9	A	0.9	A	1.0	A	1.1	A	1.1	A
		Midday Peak Hour											
		EB	RT	11.2	B	11.4	B	11.8	B	14.5	B	14.5	B
			Approach	11.2	B	11.4	B	11.8	B	14.5	B	14.5	B
		WB	LT	13.8	B	14.1	B	15.3	C	22.0	C	22.0	C
			LT/TH	44.7	E	49.4	E	86.3	F	100.4	F	100.4	F
			Approach	33.8	D	36.9	E	61.3	F	72.9	F	72.9	F
		SB	TH/RT	Free Flow						N/A			
			TH	N/A						Free Flow			
			RT										
			Approach										
		Intersection		6.1	A	6.6	A	10.8	B	12.8	B	12.8	B
		PM Peak Hour											
		EB	RT	14.4	B	14.7	B	15.9	C	25.1	D	25.1	D
			Approach	14.4	B	14.7	B	15.9	C	25.1	D	25.1	D
		WB	LT	18.1	C	18.7	C	21.2	C	44.8	E	44.8	E
			LT/TH	189.8	F	228.7	F	449.7	F	491.9	F	491.9	F
			Approach	134.8	F	161.3	F	312.6	F	348.9	F	348.9	F
		SB	TH/RT	Free Flow						N/A			
			TH	N/A						Free Flow			
RT													
Approach													
Intersection		8.9	A	10.6	B	20.3	C	22.8	C	22.8	C		

## Hamilton Street and Ferris Street Capacity Analysis (Node 9002)

The intersection of Hamilton Street and Ferris Street has an acceptable delay and LOS for all conditions during the AM and Midday peak hours, but they are unacceptable for various movements in the road diet conditions during the PM peak hour. The southbound lane configuration will be impacted by the road diet and it is an unsignalized intersection. The Road Diet Mitigation 2038 condition shows eastbound and westbound traffic worsening from the Background 2038 condition, but the simulation does not show there to be any queuing issues. The volume is small from those approaches as well. **Table 21** shows the capacity analysis for Hamilton Street and Ferris Street (movements with LOS E and F are in yellow).

**Table 21: Hamilton Street and Ferris Street Capacity Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038			
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
<b>AM Peak Hour</b>															
Hamilton St & Ferris St	9002	EB	TH/RT	11.2	B	11.2	B	11.6	B	11.2	B	11.3	B		
			Approach	11.2	B	11.2	B	11.6	B	11.2	B	11.3	B		
		WB	LT/TH	13.1	B	13.2	B	13.7	B	13.2	B	13.4	B		
			Approach	13.1	B	13.2	B	13.7	B	13.2	B	13.4	B		
		SB	LT	Free Flow						N/A					
			TH/RT	Free Flow						N/A					
			LT/TH/RT	N/A						Free Flow					
			Approach	Free Flow						Free Flow					
		Intersection				2.2	A	2.2	A	2.3	A	2.4	A	2.4	A
		<b>Midday Peak Hour</b>													
		EB	TH/RT	13.4	B	13.6	B	14.6	B	16.2	C	16.8	C		
			Approach	13.4	B	13.6	B	14.6	B	16.2	C	16.8	C		
		WB	LT/TH	13.2	B	13.2	B	14.1	B	17.5	C	19.2	C		
			Approach	13.2	B	13.2	B	14.1	B	17.5	C	19.2	C		
		SB	LT	Free Flow						N/A					
			TH/RT	Free Flow						N/A					
LT/TH/RT	N/A						Free Flow								
Approach	Free Flow						Free Flow								
Intersection				1.8	A	1.8	A	1.9	A	2.4	A	2.5	A		
<b>PM Peak Hour</b>															
EB	TH/RT	17.7	C	18.3	C	20.6	C	46.8	E	40.7	E				
	Approach	17.7	C	18.3	C	20.6	C	46.8	E	40.7	E				
WB	LT/TH	18.5	C	19.2	C	22.4	C	78.1	F	50.5	F				
	Approach	18.5	C	19.2	C	22.4	C	78.1	F	50.5	F				
SB	LT	Free Flow						N/A							
	TH/RT	Free Flow						N/A							
	LT/TH/RT	N/A						Free Flow							
	Approach	Free Flow						Free Flow							
Intersection				2.2	A	2.2	A	2.5	A	7.0	A	5.3	A		

## Huron Street and Ferris Street Capacity Analysis (Node 9003)

The intersection of Huron Street and Ferris Street has an acceptable delay and LOS for all conditions. The northbound lane configuration will be impacted by the road diet and it is an unsignalized intersection. Table 22 shows the capacity analysis for Huron Street and Ferris Street.

**Table 22: Huron Street and Ferris Street Capacity Analysis**

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Huron St & Ferris St	9003	AM Peak Hour											
		EB	LT	11.6	B	11.6	B	11.4	B	13.0	B	13.0	B
			Approach	11.6	B	11.6	B	11.4	B	13.0	B	13.0	B
		NB	LT/TH	Free Flow									
			Approach	Free Flow									
		Intersection		0.5	A	0.5	A	0.6	A	0.6	A	0.6	A
		Midday Peak Hour											
		EB	LT	11.8	B	11.8	B	11.9	B	12.9	B	12.9	B
			Approach	11.8	B	11.8	B	11.9	B	12.9	B	12.9	B
		NB	LT/TH	Free Flow									
			Approach	Free Flow									
		Intersection		0.9	A	0.9	A	0.9	A	1.0	A	1.0	A
		PM Peak Hour											
		EB	LT	12.5	B	12.6	B	12.7	B	15.4	C	15.4	C
			Approach	12.5	B	12.6	B	12.7	B	15.4	C	15.4	C
		NB	LT/TH	Free Flow									
			Approach	Free Flow									
		Intersection		0.6	A	0.6	A	0.6	A	0.8	A	0.8	A

## Huron Street and Pearl Street Capacity Analysis (Node 9004)

The intersection of Huron Street and Pearl Street has all free flow traffic. No lane configuration changes by the road diet are being proposed and it is an unsignalized intersection.

## Section 9 - Access Management and Sight Distance Review

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The access management standards for MDOT, including their Geometric Design Guidance Document, GEO-650-D, PAVE-955-B, PAVE-961-B, PAVE-962-A, and Sight Distance Guidelines, were reviewed. The following design guidelines have been followed regarding the access management and sight distance of the proposed road diet:

- Added on-street parking zone markings with at least a 20-foot minimum clearance from the parking stall to any adjacent intersection or driveway
- No curbs are being moved except for the curb in the southeast quadrant at the intersection of Hamilton Street and Harriet/Spring Street
- Added bike lanes include a buffer, green Methyl Methacrylate (MMA) in conflict areas, signage (R3-17), and yield lines approaching crosswalks
- Special emphasis crosswalks will replace all typical crosswalks at signalized intersections and added at unsignalized intersections subject to further analysis being performed to determine if additional pedestrian treatments are required
- Bike lane will share loading zone along east side of Huron Street between Ferris Street and Michigan Avenue
- Huron Street approaching Michigan Avenue will include a bike box to allow bicyclists to position themselves ahead of vehicle traffic as they share road up to Pearl Street
- Huron Street between Michigan Avenue and Pearl Street will include sharrow markings where segment is being shared by vehicles and bicyclists
- Huron Street approaching Cross Street will include a bike box with a two-stage bicycle turn-box to allow bicyclists to get ahead of vehicle traffic and turn left onto Cross Street, where a bike lane already exists

None of the added design features associated with the road diet are anticipated to cause any access management or sight distance issues.

## Section 10 - Safety Analysis

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A traffic safety analysis was prepared for applicable roadway segments within the study area which were identified based on proposed modifications per this traffic study. The limits of each segment were based on geographic and operational characteristics unique to each segment. The roadway segments analyzed include the following:

- ≡ Washtenaw Avenue – Normal Street to Ballard Street
- ≡ Hamilton Street – Pearl Street to Michigan Avenue
- ≡ Hamilton Street – Michigan Avenue to Ferris Street
- ≡ Hamilton Street – Ferris Street to Harriet Street
- ≡ Huron Street – Harriet Street to Ferris Street
- ≡ Huron Street – Pearl Street to Cross Street

Three years of traffic crash data between 2016 and 2018 was obtained from the Traffic Improvement Association's Traffic Crash Analysis Tool (TCAT). TCAT is an online search tool for traffic crashes in Michigan. Obtained crashes were reviewed for roadway segments. Deer related crashes were omitted from the analysis due to the element of randomness associated with these types of crashes.

Traffic crashes were analyzed for crash type and severity. Severity classifications of crashes include fatal, injury type A, injury type B, injury type C, or property damage only (PDO). The severity of a crash is determined by the most severe injury present in the crash. Injury type A refers to an incapacitating injury that prevents a person from walking, driving, or continuing normal activities which he or she could perform prior to the crash. Injury type B is described as any injury that is evident at the scene of the crash, but the injury is not fatal or incapacitating. Injury type C refers to an injury reported by an occupant, but not visible to the officer completing the crash report. In a PDO crash, no injuries result from the crash.

### Overall Conditions

A summary of the crash severity and crash types for 2016 to 2018 study crashes is presented in **Table 23** and **Table 24**, respectively.

**Table 23: Study Segment Crashes by Crash Severity 2016 – 2018**

Crash Severity	2016	2017	2018	Total	Percent
Fatal	0	1	0	1	1%
A-Injury	2	0	0	2	1%
B-Injury	2	2	1	5	4%
C-Injury	9	3	3	15	10%
PDO	46	36	36	118	84%
<b>Total</b>	<b>59</b>	<b>42</b>	<b>40</b>	<b>141</b>	<b>100%</b>

Table 24: Study Segment Crashes by Crash Type 2016 – 2018

Crash Type	2016	2017	2018	Total	Percent
Single Motor Vehicle	5	2	4	11	8%
Head-On	1	0	0	1	1%
Angle	12	4	6	22	16%
Rear-End	24	21	20	65	46%
Sideswipe-Same	13	15	10	38	27%
Backing	1	0	0	1	1%
Other	3	0	0	3	1%
<b>Total</b>	<b>59</b>	<b>42</b>	<b>40</b>	<b>141</b>	<b>100%</b>

The data illustrates that 141 total crashes occurred in the study segments between 2016 to 2018 in which 84% were PDO crashes. One fatal and two injury type A crashes were reported during this time period. In terms of crash types, rear-end crashes comprised the predominant number of crashes with 46% of all crashes, followed by sideswipe-same crashes with 27%.

### Highway Safety Manual Analysis

The Highway Safety Manual (HSM) is a resource manual that provides safety knowledge and tools in a useful form to facilitate improved decision making based on safety performance. The HSM provides a predictive method for estimating expected average crash frequency, crash severity, and crash types of a network, facility, or individual site. Chapter 12 specifically describes the predictive method for urban and suburban arterials. These methods have been adapted by MDOT to develop a set of HSM spreadsheets calibrated to local conditions to facilitate the implementation of the predictive method.

An HSM analysis was conducted to assess the safety implications for the conversion of the Washtenaw Avenue, Hamilton Street, and Huron Street corridors from a three-lane, one-way cross section to a two-lane, one-way cross section. These modifications include the introduction of a bike lane on Hamilton and Huron Streets and parallel parking on Washtenaw Avenue with a small segment on Hamilton Street between Michigan Avenue and Ferris Street. Special emphasis crosswalks have also been added at all intersections along the study segments subject to further analysis being performed at unsignalized intersections to determine if additional pedestrian treatments are required.

It should be noted given the lack of any observed non-motorized user (pedestrian and bicycle) crashes, crash modification factors (CMF) for bike lanes and special emphasis crosswalks were not used in the HSM analysis. This avoids significantly optimistic and possibly unreliable results in the total number of crashes as these types of treatments are only associated with non-motorized crashes. Despite this omission, safety benefits are expected for non-motorized users along the study segments due to the addition of a bike lane and special emphasis crosswalks.

The results of the HSM analysis indicate probable safety improvements along the study segments resulting from an existing three-lane, one-way cross section to a modified two-lane, one-way cross section. The total crash rates along all the study segments are predicted to be reduced by at least two crashes per mile per year and the fatal and injury crash rates are predicted to be reduced by at least half. The results of the HSM analysis are shown in **Table 25** and additional information is provided in **Appendix N**.

**Table 25: HSM Analysis Summary**

Study Segments	Primary Treatment	Predicted Total Crash Rate (crashes/mile/year)		Predicted Fatal & Injury Crash Rate (crashes/mile/year)	
		Existing	Modified	Existing	Modified
Washtenaw - Normal to Ballard	3-Lane to 2-Lane	4.04	1.56	0.86	0.36
Hamilton - Pearl to Michigan		6.10	2.35	1.30	0.55
Hamilton - Michigan to Ferris		5.58	2.18	1.15	0.48
Hamilton - Ferris to Harriet		3.99	1.56	0.83	0.34
Huron - Harriet to Ferris		4.62	1.80	0.96	0.40
Huron - Pearl to Cross		6.33	2.47	1.32	0.55

## Section 11 - Conclusions and Recommendations

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HRC has analyzed the feasibility of a road diet in the City of Ypsilanti on the major roadways through the downtown area. The major roadway segments analyzed within the study area include Washtenaw Avenue, Hamilton Street, Huron Street, and Michigan Avenue. Except for Michigan Avenue, the City has desired to reduce these roadways from three travel lanes to two by replacing a travel lane with either a six-foot bike lane with a buffer or on-street parking. The City indicated there is no need for a road diet concept on Michigan Avenue since on-street parking already exists on both sides of the boulevard.

The focus of this study was the capacity analysis of the roadway segments. The study reviewed the existing and various background and road diet conditions to determine if the road diet has any adverse impacts on the roadway network. Through signal optimization and adding detection at various intersections as indicated in the models though, it was determined the road diet will not have any significant negative impacts on the roadway network.

The study also reviewed if the road diet had any adverse impacts on access management and sight distances and performed an HSM analysis. None of the added design features associated with the road diet are anticipated to cause any issues and the results from the HSM analysis predicts a reduction in total crash rate along all study segments by at least two crashes per mile per year. Fatal and injury crash rates are also predicted to be reduced by at least one half.

The findings from this study show it will be feasible to convert these roadway segments using a road diet if the following recommendations are met:

1. Optimize the signal timings (adjust splits and/or offsets) and/or add detection to change the signal operation to fully actuated for the following impacted intersections:
  - a. Optimize signal timings
    - i. Hamilton Street and Michigan Avenue
    - ii. Michigan Avenue and Washington Street
    - iii. Huron Street and Harriet/Spring Street
    - iv. Hamilton Street and Harriet Street
  - b. Add detection for fully actuated signal
    - i. Hamilton Street and Michigan Avenue
    - ii. Hamilton Street and Harriet Street
2. Add all signage and pavement markings associated with the road diet as indicated on the complete set of conceptual plans (**Appendix F**). Green MMA should be used at all conflict areas including bus stops and right-turns at unsignalized intersections.
3. Add bike boxes along Huron Street approaching Michigan Avenue and Cross Street. A two-stage bicycle turn-box should also be added on Huron Street to turn left onto Cross Street.
4. Along eastbound Washtenaw Avenue approaching Normal Street, change the shared left-through lane to a left-turn lane drop. The northernmost travel lane downstream of the intersection will then be converted into on-street parking.

5. Along southbound Hamilton Street approaching Pearl Street, change the shared right-through lane to a right-turn lane drop. The westernmost travel lane downstream of the intersection will then be converted into a bike lane with a buffer.
6. Along northbound Huron Street approaching Harriet/Spring Street, remove the dedicated right-turn lane and change the easternmost through lane to a right-turn lane drop. The easternmost travel lane downstream of the intersection will then be converted into a bike lane with a buffer.

*It should be noted again, however, the concept and analysis south of Harriet Street is indicated in WATS's Huron I-94 Non-Motorized Crossing Report dated December 2014 though and is not part of the scope in this study. Anything included in that area in this study is for reference purposes only.*

The goal of this study has been achieved by providing thorough details about traffic safety and operations to show the existing roadway network with future traffic will accommodate the proposed road diet. The road diet also provides several advantages that include the following benefits:

- Improve mobility for bicyclists on Hamilton and Huron Streets by adding bike lanes
- Promote better land use by adding 24 on-street parking spaces on Washtenaw Avenue and five on Hamilton Street between Ferris Street and Michigan Avenue
- Improve pedestrian safety by removing at least 12 feet of travel lane width at every impacted intersection
- Encourage lower vehicle speeds by replacing a travel lane with either a bike lane with a buffer or on-street parking
- Reduce the predicted crashes per mile per year by reducing the number of travel lanes from three to two

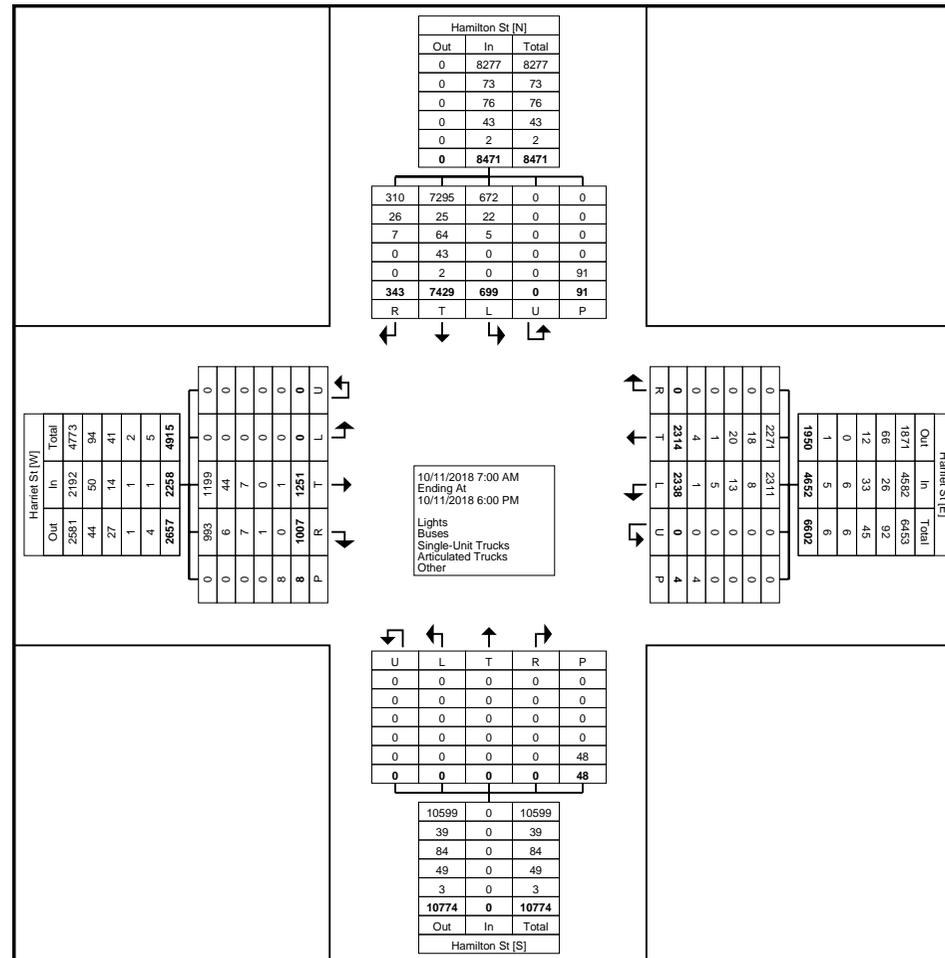
With the added benefits and the road diet not having any significant negative impacts on the existing roadway network, HRC recommends the road diet to be applied to the 2022 MDOT Rehabilitation Project.

*Appendix A*  
*Turning Movement Count Sheets*

### Turning Movement Data

Start Time	Harriet St Westbound						Harriet St Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	87	31	0	0	0	118	0	10	28	0	0	38	14	117	3	0	0	134	0	0	0	0	0	0	290
7:15 AM	89	87	0	0	0	176	0	17	23	0	0	40	7	151	3	0	0	161	0	0	0	0	0	0	377
7:30 AM	67	116	0	0	0	183	0	21	16	0	0	37	5	127	4	0	0	136	0	0	0	0	0	0	356
7:45 AM	55	121	0	0	0	176	0	18	26	0	0	44	8	144	7	0	0	159	0	0	0	0	1	0	379
Hourly Total	298	355	0	0	0	653	0	66	93	0	0	159	34	539	17	0	0	590	0	0	0	0	1	0	1402
8:00 AM	57	122	0	0	0	179	0	27	25	0	0	52	21	123	11	0	1	155	0	0	0	0	0	0	386
8:15 AM	56	121	0	0	0	177	0	36	32	0	0	68	8	113	22	0	1	143	0	0	0	0	1	0	388
8:30 AM	48	90	0	0	1	138	0	38	22	0	0	60	6	123	14	0	0	143	0	0	0	0	0	0	341
8:45 AM	53	75	0	0	0	128	0	44	25	0	0	69	13	106	13	0	1	132	0	0	0	0	2	0	329
Hourly Total	214	408	0	0	1	622	0	145	104	0	0	249	48	465	60	0	3	573	0	0	0	0	3	0	1444
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	42	45	0	0	0	87	0	20	19	0	0	39	14	167	10	0	4	191	0	0	0	0	0	0	317
11:15 AM	48	56	0	0	1	104	0	44	19	0	0	63	19	163	13	0	4	195	0	0	0	0	2	0	362
11:30 AM	72	39	0	0	0	111	0	25	22	0	0	47	20	169	10	0	5	199	0	0	0	0	0	0	357
11:45 AM	56	41	0	0	0	97	0	45	25	0	1	70	18	181	12	0	5	211	0	0	0	0	0	0	378
Hourly Total	218	181	0	0	1	399	0	134	85	0	1	219	71	680	45	0	18	796	0	0	0	0	2	0	1414
12:00 PM	53	51	0	0	0	104	0	30	37	0	0	67	15	188	6	0	4	209	0	0	0	0	1	0	380
12:15 PM	81	49	0	0	0	130	0	33	29	0	4	62	20	223	15	0	8	258	0	0	0	0	0	0	450
12:30 PM	66	56	0	0	0	122	0	28	18	0	0	46	23	242	7	0	2	272	0	0	0	0	4	0	440
12:45 PM	55	59	0	0	0	114	0	28	23	0	0	51	16	188	8	0	4	212	0	0	0	0	1	0	377
Hourly Total	255	215	0	0	0	470	0	119	107	0	4	226	74	841	36	0	18	951	0	0	0	0	6	0	1647
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	64	67	0	0	0	131	0	37	39	0	0	76	26	286	12	0	1	324	0	0	0	0	2	0	531
2:15 PM	81	65	0	0	0	146	0	42	32	0	0	74	22	253	8	0	1	283	0	0	0	0	0	0	503
2:30 PM	84	70	0	0	1	154	0	38	29	0	1	67	19	232	11	0	2	262	0	0	0	0	1	0	483
2:45 PM	79	67	0	0	0	146	0	40	44	0	0	84	21	251	9	0	1	281	0	0	0	0	6	0	511
Hourly Total	308	269	0	0	1	577	0	157	144	0	1	301	88	1022	40	0	5	1150	0	0	0	0	9	0	2028
3:00 PM	82	84	0	0	0	166	0	47	33	0	0	80	20	252	12	0	0	284	0	0	0	0	1	0	530
3:15 PM	90	75	0	0	0	165	0	58	51	0	0	109	31	335	15	0	0	381	0	0	0	0	0	0	655
3:30 PM	101	90	0	0	0	191	0	49	39	0	0	88	35	355	17	0	7	407	0	0	0	0	0	0	686
3:45 PM	77	76	0	0	0	153	0	62	41	0	0	103	22	310	9	0	7	341	0	0	0	0	1	0	597
Hourly Total	350	325	0	0	0	675	0	216	164	0	0	380	108	1252	53	0	14	1413	0	0	0	0	2	0	2468
4:00 PM	97	69	0	0	0	166	0	57	47	0	0	104	30	334	13	0	2	377	0	0	0	0	3	0	647
4:15 PM	76	72	0	0	0	148	0	49	43	0	0	92	38	285	16	0	4	339	0	0	0	0	1	0	579
4:30 PM	97	60	0	0	0	157	0	38	38	0	0	76	24	326	12	0	10	362	0	0	0	0	4	0	595
4:45 PM	74	74	0	0	0	148	0	66	33	0	1	99	46	364	14	0	5	424	0	0	0	0	13	0	671
Hourly Total	344	275	0	0	0	619	0	210	161	0	1	371	138	1309	55	0	21	1502	0	0	0	0	21	0	2492

5:00 PM	120	79	0	0	0	199	0	54	51	0	1	105	29	366	3	0	6	398	0	0	0	0	1	0	702
5:15 PM	84	72	0	0	1	156	0	47	40	0	0	87	48	366	8	0	1	422	0	0	0	0	0	0	665
5:30 PM	83	64	0	0	0	147	0	50	32	0	0	82	31	336	13	0	0	380	0	0	0	0	0	0	609
5:45 PM	64	71	0	0	0	135	0	53	26	0	0	79	30	253	13	0	5	296	0	0	0	0	3	0	510
Hourly Total	351	286	0	0	1	637	0	204	149	0	1	353	138	1321	37	0	12	1496	0	0	0	0	4	0	2486
Grand Total	2338	2314	0	0	4	4652	0	1251	1007	0	8	2258	699	7429	343	0	91	8471	0	0	0	0	48	0	15381
Approach %	50.3	49.7	0.0	0.0	-	-	0.0	55.4	44.6	0.0	-	-	8.3	87.7	4.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	15.2	15.0	0.0	0.0	-	30.2	0.0	8.1	6.5	0.0	-	14.7	4.5	48.3	2.2	0.0	-	55.1	0.0	0.0	0.0	0.0	-	0.0	-
Lights	2311	2271	0	0	-	4582	0	1199	993	0	-	2192	672	7295	310	0	-	8277	0	0	0	0	-	0	15051
% Lights	98.8	98.1	-	-	-	98.5	-	95.8	98.6	-	-	97.1	96.1	98.2	90.4	-	-	97.7	-	-	-	-	-	-	97.9
Buses	8	18	0	0	-	26	0	44	6	0	-	50	22	25	26	0	-	73	0	0	0	0	-	0	149
% Buses	0.3	0.8	-	-	-	0.6	-	3.5	0.6	-	-	2.2	3.1	0.3	7.6	-	-	0.9	-	-	-	-	-	-	1.0
Single-Unit Trucks	13	20	0	0	-	33	0	7	7	0	-	14	5	64	7	0	-	76	0	0	0	0	-	0	123
% Single-Unit Trucks	0.6	0.9	-	-	-	0.7	-	0.6	0.7	-	-	0.6	0.7	0.9	2.0	-	-	0.9	-	-	-	-	-	-	0.8
Articulated Trucks	5	1	0	0	-	6	0	0	1	0	-	1	0	43	0	0	-	43	0	0	0	0	-	0	50
% Articulated Trucks	0.2	0.0	-	-	-	0.1	-	0.0	0.1	-	-	0.0	0.0	0.6	0.0	-	-	0.5	-	-	-	-	-	-	0.3
Bicycles on Road	1	4	0	0	-	5	0	1	0	0	-	1	0	2	0	0	-	2	0	0	0	0	-	0	8
% Bicycles on Road	0.0	0.2	-	-	-	0.1	-	0.1	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.1
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	16	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	25.0	-	-	-	-	-	0.0	-	-	-	-	-	17.6	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	8	-	-	-	-	-	75	-	-	-	-	-	48	-	-
% Pedestrians	-	-	-	-	75.0	-	-	-	-	-	100.0	-	-	-	-	-	82.4	-	-	-	-	-	100.0	-	-



Turning Movement Data Plot

### Turning Movement Peak Hour Data (7:30 AM)

Start Time	Harriet St Westbound						Harriet St Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:30 AM	67	116	0	0	0	183	0	21	16	0	0	37	5	127	4	0	0	136	0	0	0	0	0	0	356
7:45 AM	55	121	0	0	0	176	0	18	26	0	0	44	8	144	7	0	0	159	0	0	0	0	1	0	379
8:00 AM	57	122	0	0	0	179	0	27	25	0	0	52	21	123	11	0	1	155	0	0	0	0	0	0	386
8:15 AM	56	121	0	0	0	177	0	36	32	0	0	68	8	113	22	0	1	143	0	0	0	0	1	0	388
<b>Total</b>	<b>235</b>	<b>480</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>715</b>	<b>0</b>	<b>102</b>	<b>99</b>	<b>0</b>	<b>0</b>	<b>201</b>	<b>42</b>	<b>507</b>	<b>44</b>	<b>0</b>	<b>2</b>	<b>593</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1509</b>
Approach %	32.9	67.1	0.0	0.0	-	-	0.0	50.7	49.3	0.0	-	-	7.1	85.5	7.4	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	15.6	31.8	0.0	0.0	-	47.4	0.0	6.8	6.6	0.0	-	13.3	2.8	33.6	2.9	0.0	-	39.3	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.877	0.984	0.000	0.000	-	0.977	0.000	0.708	0.773	0.000	-	0.739	0.500	0.880	0.500	0.000	-	0.932	0.000	0.000	0.000	0.000	-	0.000	0.972
Lights	232	474	0	0	-	706	0	95	98	0	-	193	40	489	40	0	-	569	0	0	0	0	-	0	1468
% Lights	98.7	98.8	-	-	-	98.7	-	93.1	99.0	-	-	96.0	95.2	96.4	90.9	-	-	96.0	-	-	-	-	-	-	97.3
Buses	1	6	0	0	-	7	0	6	1	0	-	7	2	5	4	0	-	11	0	0	0	0	-	0	25
% Buses	0.4	1.3	-	-	-	1.0	-	5.9	1.0	-	-	3.5	4.8	1.0	9.1	-	-	1.9	-	-	-	-	-	-	1.7
Single-Unit Trucks	2	0	0	0	-	2	0	1	0	0	-	1	0	5	0	0	-	5	0	0	0	0	-	0	8
% Single-Unit Trucks	0.9	0.0	-	-	-	0.3	-	1.0	0.0	-	-	0.5	0.0	1.0	0.0	-	-	0.8	-	-	-	-	-	-	0.5
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	8	0	0	-	8	0	0	0	0	-	0	8
% Articulated Trucks	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	1.6	0.0	-	-	1.3	-	-	-	-	-	-	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	0	-	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	0.0	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-



### Turning Movement Peak Hour Data (11:45 AM)

Start Time	Harriet St Westbound						Harriet St Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
11:45 AM	56	41	0	0	0	97	0	45	25	0	1	70	18	181	12	0	5	211	0	0	0	0	0	0	378
12:00 PM	53	51	0	0	0	104	0	30	37	0	0	67	15	188	6	0	4	209	0	0	0	0	1	0	380
12:15 PM	81	49	0	0	0	130	0	33	29	0	4	62	20	223	15	0	8	258	0	0	0	0	0	0	450
12:30 PM	66	56	0	0	0	122	0	28	18	0	0	46	23	242	7	0	2	272	0	0	0	0	4	0	440
<b>Total</b>	<b>256</b>	<b>197</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>453</b>	<b>0</b>	<b>136</b>	<b>109</b>	<b>0</b>	<b>5</b>	<b>245</b>	<b>76</b>	<b>834</b>	<b>40</b>	<b>0</b>	<b>19</b>	<b>950</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>1648</b>
Approach %	56.5	43.5	0.0	0.0	-	-	0.0	55.5	44.5	0.0	-	-	8.0	87.8	4.2	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	15.5	12.0	0.0	0.0	-	27.5	0.0	8.3	6.6	0.0	-	14.9	4.6	50.6	2.4	0.0	-	57.6	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.790	0.879	0.000	0.000	-	0.871	0.000	0.756	0.736	0.000	-	0.875	0.826	0.862	0.667	0.000	-	0.873	0.000	0.000	0.000	0.000	-	0.000	0.916
Lights	253	194	0	0	-	447	0	132	108	0	-	240	71	815	37	0	-	923	0	0	0	0	-	0	1610
% Lights	98.8	98.5	-	-	-	98.7	-	97.1	99.1	-	-	98.0	93.4	97.7	92.5	-	-	97.2	-	-	-	-	-	-	97.7
Buses	1	1	0	0	-	2	0	4	1	0	-	5	3	2	2	0	-	7	0	0	0	0	-	0	14
% Buses	0.4	0.5	-	-	-	0.4	-	2.9	0.9	-	-	2.0	3.9	0.2	5.0	-	-	0.7	-	-	-	-	-	-	0.8
Single-Unit Trucks	1	2	0	0	-	3	0	0	0	0	-	0	2	10	1	0	-	13	0	0	0	0	-	0	16
% Single-Unit Trucks	0.4	1.0	-	-	-	0.7	-	0.0	0.0	-	-	0.0	2.6	1.2	2.5	-	-	1.4	-	-	-	-	-	-	1.0
Articulated Trucks	1	0	0	0	-	1	0	0	0	0	-	0	0	7	0	0	-	7	0	0	0	0	-	0	8
% Articulated Trucks	0.4	0.0	-	-	-	0.2	-	0.0	0.0	-	-	0.0	0.0	0.8	0.0	-	-	0.7	-	-	-	-	-	-	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	5.3	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	18	-	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	94.7	-	-	-	-	-	100.0	-	-



### Turning Movement Peak Hour Data (4:45 PM)

Start Time	Harriet St Westbound						Harriet St Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:45 PM	74	74	0	0	0	148	0	66	33	0	1	99	46	364	14	0	5	424	0	0	0	0	13	0	671
5:00 PM	120	79	0	0	0	199	0	54	51	0	1	105	29	366	3	0	6	398	0	0	0	0	1	0	702
5:15 PM	84	72	0	0	1	156	0	47	40	0	0	87	48	366	8	0	1	422	0	0	0	0	0	0	665
5:30 PM	83	64	0	0	0	147	0	50	32	0	0	82	31	336	13	0	0	380	0	0	0	0	0	0	609
<b>Total</b>	<b>361</b>	<b>289</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>650</b>	<b>0</b>	<b>217</b>	<b>156</b>	<b>0</b>	<b>2</b>	<b>373</b>	<b>154</b>	<b>1432</b>	<b>38</b>	<b>0</b>	<b>12</b>	<b>1624</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>2647</b>
Approach %	55.5	44.5	0.0	0.0	-	-	0.0	58.2	41.8	0.0	-	-	9.5	88.2	2.3	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	13.6	10.9	0.0	0.0	-	24.6	0.0	8.2	5.9	0.0	-	14.1	5.8	54.1	1.4	0.0	-	61.4	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.752	0.915	0.000	0.000	-	0.817	0.000	0.822	0.765	0.000	-	0.888	0.802	0.978	0.679	0.000	-	0.958	0.000	0.000	0.000	0.000	-	0.000	0.943
Lights	361	282	0	0	-	643	0	212	153	0	-	365	151	1416	32	0	-	1599	0	0	0	0	-	0	2607
% Lights	100.0	97.6	-	-	-	98.9	-	97.7	98.1	-	-	97.9	98.1	98.9	84.2	-	-	98.5	-	-	-	-	-	-	98.5
Buses	0	0	0	0	0	0	0	3	1	0	-	4	3	2	2	0	-	7	0	0	0	0	0	0	11
% Buses	0.0	0.0	-	-	-	0.0	-	1.4	0.6	-	-	1.1	1.9	0.1	5.3	-	-	0.4	-	-	-	-	-	-	0.4
Single-Unit Trucks	0	6	0	0	-	6	0	2	2	0	-	4	0	6	4	0	-	10	0	0	0	0	-	0	20
% Single-Unit Trucks	0.0	2.1	-	-	-	0.9	-	0.9	1.3	-	-	1.1	0.0	0.4	10.5	-	-	0.6	-	-	-	-	-	-	0.8
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	7	0	0	-	7	0	0	0	0	-	0	7
% Articulated Trucks	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.5	0.0	-	-	0.4	-	-	-	-	-	-	0.3
Bicycles on Road	0	1	0	0	-	1	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	2
% Bicycles on Road	0.0	0.3	-	-	-	0.2	-	0.0	0.0	-	-	0.0	0.0	0.1	0.0	-	-	0.1	-	-	-	-	-	-	0.1
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	100.0	-	-	-	-	-	0.0	-	-	-	-	-	8.3	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	11	-	-	-	-	-	14	-	-
% Pedestrians	-	-	-	-	0.0	-	-	-	-	-	100.0	-	-	-	-	-	91.7	-	-	-	-	-	100.0	-	-



### Turning Movement Data

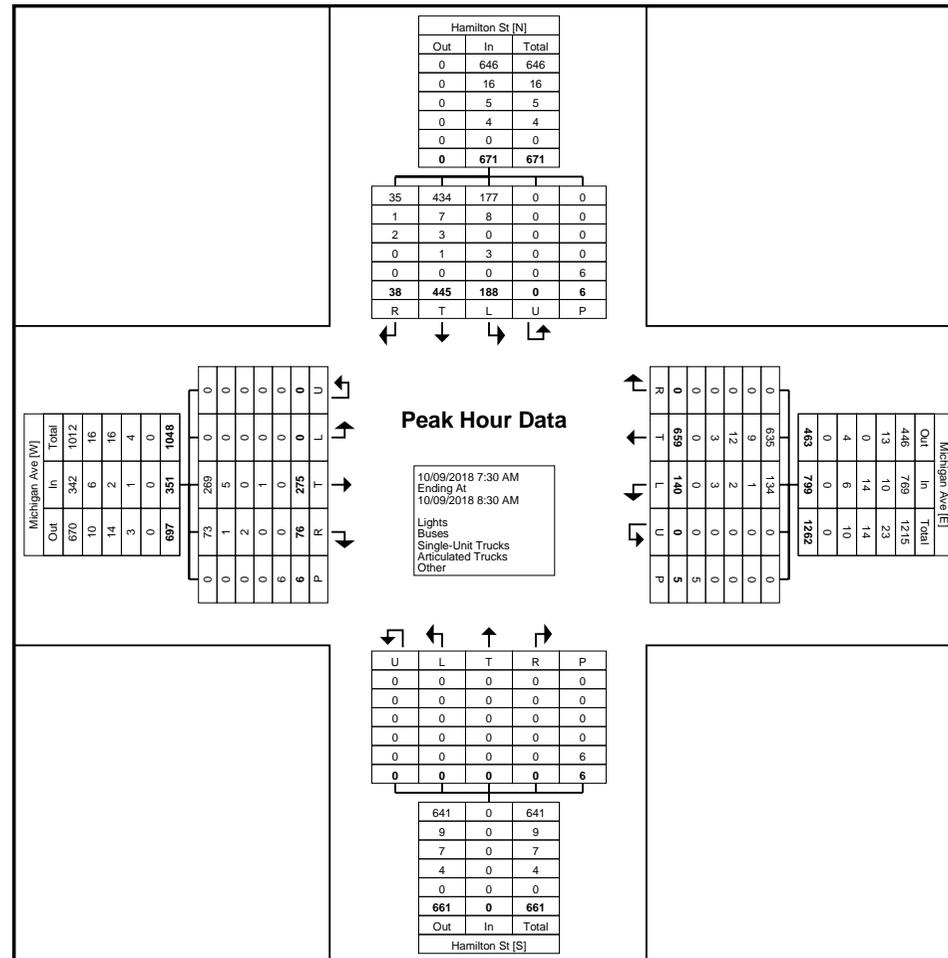
Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total	
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total		
7:00 AM	22	90	0	0	1	112	0	43	12	0	2	55	35	102	2	0	0	139	0	0	0	0	0	0	0	306
7:15 AM	42	149	0	0	1	191	0	46	12	0	0	58	27	103	5	0	1	135	0	0	0	0	0	0	0	384
7:30 AM	28	212	0	0	0	240	0	67	19	0	1	86	41	100	8	0	2	149	0	0	0	0	3	0	0	475
7:45 AM	37	180	0	0	2	217	0	79	25	0	2	104	36	120	8	0	1	164	0	0	0	0	1	0	0	485
Hourly Total	129	631	0	0	4	760	0	235	68	0	5	303	139	425	23	0	4	587	0	0	0	0	4	0	0	1650
8:00 AM	25	141	0	0	2	166	0	59	15	0	1	74	58	113	14	0	0	185	0	0	0	0	2	0	0	425
8:15 AM	50	126	0	0	1	176	0	70	17	0	2	87	53	112	8	0	3	173	0	0	0	0	0	0	0	436
8:30 AM	35	142	0	0	0	177	0	79	22	0	3	101	69	113	10	0	1	192	0	0	0	0	4	0	0	470
8:45 AM	36	141	0	0	3	177	0	70	21	0	3	91	63	129	6	0	1	198	0	0	0	0	6	0	0	466
Hourly Total	146	550	0	0	6	696	0	278	75	0	9	353	243	467	38	0	5	748	0	0	0	0	12	0	0	1797
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	47	87	0	0	14	134	0	78	26	0	2	104	93	171	14	0	12	278	0	0	0	0	2	0	0	516
11:15 AM	47	104	0	0	9	151	0	91	32	0	5	123	97	132	10	0	23	239	0	0	0	0	4	0	0	513
11:30 AM	55	111	0	0	6	166	0	88	17	0	2	105	56	120	7	0	11	183	0	0	0	0	4	0	0	454
11:45 AM	48	117	0	0	3	165	0	84	24	0	0	108	66	119	10	0	1	195	0	0	0	0	5	0	0	468
Hourly Total	197	419	0	0	32	616	0	341	99	0	9	440	312	542	41	0	47	895	0	0	0	0	15	0	0	1951
12:00 PM	42	109	0	0	3	151	0	93	23	0	4	116	85	185	2	0	6	272	0	0	0	0	9	0	0	539
12:15 PM	47	118	0	0	10	165	0	89	29	0	5	118	93	195	9	0	23	297	0	0	0	0	7	0	0	580
12:30 PM	46	108	1	0	6	155	0	100	23	0	3	123	95	194	18	0	8	307	0	0	0	0	8	0	0	585
12:45 PM	47	112	0	0	5	159	0	97	27	0	1	124	87	163	11	0	8	261	0	0	0	0	3	0	0	544
Hourly Total	182	447	1	0	24	630	0	379	102	0	13	481	360	737	40	0	45	1137	0	0	0	0	27	0	0	2248
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	51	115	0	0	8	166	0	93	28	0	1	121	108	265	16	0	5	389	0	0	0	0	0	0	0	676
2:15 PM	60	134	0	0	11	194	0	93	34	0	0	127	116	217	10	0	12	343	0	0	0	0	2	0	0	664
2:30 PM	50	151	0	0	2	201	0	107	42	0	1	149	70	207	14	0	3	291	0	0	0	0	3	0	0	641
2:45 PM	56	113	0	0	6	169	0	109	35	0	0	144	105	185	6	0	3	296	0	0	0	0	7	0	0	609
Hourly Total	217	513	0	0	27	730	0	402	139	0	2	541	399	874	46	0	23	1319	0	0	0	0	12	0	0	2590
3:00 PM	54	134	0	0	3	188	0	87	27	0	3	114	100	259	13	0	8	372	0	0	0	0	4	0	0	674
3:15 PM	63	130	0	0	6	193	0	117	32	0	3	149	125	279	9	0	2	413	0	0	1	0	4	1	0	756
3:30 PM	75	128	0	0	4	203	0	140	43	0	4	183	132	314	10	0	5	456	0	0	0	0	4	0	0	842
3:45 PM	66	142	0	0	1	208	0	134	48	0	0	182	128	234	8	0	6	370	0	0	0	0	2	0	0	760
Hourly Total	258	534	0	0	14	792	0	478	150	0	10	628	485	1086	40	0	21	1611	0	0	1	0	14	1	0	3032
4:00 PM	64	116	0	0	1	180	0	111	28	0	1	139	112	256	16	0	5	384	0	0	0	0	5	0	0	703
4:15 PM	49	110	0	0	1	159	0	111	46	0	6	157	99	255	8	0	6	362	0	0	0	0	2	0	0	678
4:30 PM	70	125	0	0	0	195	0	138	31	0	1	169	107	248	8	0	2	363	0	0	0	0	4	0	0	727
4:45 PM	74	108	0	0	5	182	0	93	30	0	1	123	130	267	8	0	6	405	0	0	0	0	2	0	0	710
Hourly Total	257	459	0	0	7	716	0	453	135	0	9	588	448	1026	40	0	19	1514	0	0	0	0	13	0	0	2818

5:00 PM	65	146	0	0	3	211	0	109	33	0	4	142	122	341	14	0	4	477	0	0	0	0	3	0	830
5:15 PM	74	133	0	0	0	207	0	126	34	0	0	160	129	320	8	0	5	457	0	0	0	0	4	0	824
5:30 PM	65	127	0	0	2	192	0	129	33	0	4	162	137	240	8	0	3	385	0	0	0	0	3	0	739
5:45 PM	63	121	0	0	1	184	0	110	46	0	3	156	118	232	13	0	2	363	0	0	0	0	1	0	703
Hourly Total	267	527	0	0	6	794	0	474	146	0	11	620	506	1133	43	0	14	1682	0	0	0	0	11	0	3096
Grand Total	1653	4080	1	0	120	5734	0	3040	914	0	68	3954	2892	6290	311	0	178	9493	0	0	1	0	108	1	19182
Approach %	28.8	71.2	0.0	0.0	-	-	0.0	76.9	23.1	0.0	-	-	30.5	66.3	3.3	0.0	-	-	0.0	0.0	100.0	0.0	-	-	-
Total %	8.6	21.3	0.0	0.0	-	29.9	0.0	15.8	4.8	0.0	-	20.6	15.1	32.8	1.6	0.0	-	49.5	0.0	0.0	0.0	0.0	-	0.0	-
Lights	1585	3943	0	0	-	5528	0	2933	901	0	-	3834	2829	6185	295	0	-	9309	0	0	1	0	-	1	18672
% Lights	95.9	96.6	0.0	-	-	96.4	-	96.5	98.6	-	-	97.0	97.8	98.3	94.9	-	-	98.1	-	-	100.0	-	-	100.0	97.3
Buses	8	62	0	0	-	70	0	48	4	0	-	52	21	46	1	0	-	68	0	0	0	0	-	0	190
% Buses	0.5	1.5	0.0	-	-	1.2	-	1.6	0.4	-	-	1.3	0.7	0.7	0.3	-	-	0.7	-	-	0.0	-	-	0.0	1.0
Single-Unit Trucks	25	63	0	0	-	88	0	46	7	0	-	53	30	39	8	0	-	77	0	0	0	0	-	0	218
% Single-Unit Trucks	1.5	1.5	0.0	-	-	1.5	-	1.5	0.8	-	-	1.3	1.0	0.6	2.6	-	-	0.8	-	-	0.0	-	-	0.0	1.1
Articulated Trucks	35	11	0	0	-	46	0	10	2	0	-	12	12	18	7	0	-	37	0	0	0	0	-	0	95
% Articulated Trucks	2.1	0.3	0.0	-	-	0.8	-	0.3	0.2	-	-	0.3	0.4	0.3	2.3	-	-	0.4	-	-	0.0	-	-	0.0	0.5
Bicycles on Road	0	1	1	0	-	2	0	3	0	0	-	3	0	2	0	0	-	2	0	0	0	0	-	0	7
% Bicycles on Road	0.0	0.0	100.0	-	-	0.0	-	0.1	0.0	-	-	0.1	0.0	0.0	0.0	-	-	0.0	-	-	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	5	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	8	-	-
% Bicycles on Crosswalk	-	-	-	-	4.2	-	-	-	-	-	4.4	-	-	-	-	-	0.6	-	-	-	-	-	7.4	-	-
Pedestrians	-	-	-	-	115	-	-	-	-	-	65	-	-	-	-	-	177	-	-	-	-	-	100	-	-
% Pedestrians	-	-	-	-	95.8	-	-	-	-	-	95.6	-	-	-	-	-	99.4	-	-	-	-	-	92.6	-	-



### Turning Movement Peak Hour Data (7:30 AM)

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:30 AM	28	212	0	0	0	240	0	67	19	0	1	86	41	100	8	0	2	149	0	0	0	0	3	0	475
7:45 AM	37	180	0	0	2	217	0	79	25	0	2	104	36	120	8	0	1	164	0	0	0	0	1	0	485
8:00 AM	25	141	0	0	2	166	0	59	15	0	1	74	58	113	14	0	0	185	0	0	0	0	2	0	425
8:15 AM	50	126	0	0	1	176	0	70	17	0	2	87	53	112	8	0	3	173	0	0	0	0	0	0	436
<b>Total</b>	<b>140</b>	<b>659</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>799</b>	<b>0</b>	<b>275</b>	<b>76</b>	<b>0</b>	<b>6</b>	<b>351</b>	<b>188</b>	<b>445</b>	<b>38</b>	<b>0</b>	<b>6</b>	<b>671</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>1821</b>
Approach %	17.5	82.5	0.0	0.0	-	-	0.0	78.3	21.7	0.0	-	-	28.0	66.3	5.7	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	7.7	36.2	0.0	0.0	-	43.9	0.0	15.1	4.2	0.0	-	19.3	10.3	24.4	2.1	0.0	-	36.8	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.700	0.777	0.000	0.000	-	0.832	0.000	0.870	0.760	0.000	-	0.844	0.810	0.927	0.679	0.000	-	0.907	0.000	0.000	0.000	0.000	-	0.000	0.939
Lights	134	635	0	0	-	769	0	269	73	0	-	342	177	434	35	0	-	646	0	0	0	0	-	0	1757
% Lights	95.7	96.4	-	-	-	96.2	-	97.8	96.1	-	-	97.4	94.1	97.5	92.1	-	-	96.3	-	-	-	-	-	-	96.5
Buses	1	9	0	0	-	10	0	5	1	0	-	6	8	7	1	0	-	16	0	0	0	0	-	0	32
% Buses	0.7	1.4	-	-	-	1.3	-	1.8	1.3	-	-	1.7	4.3	1.6	2.6	-	-	2.4	-	-	-	-	-	-	1.8
Single-Unit Trucks	2	12	0	0	-	14	0	0	2	0	-	2	0	3	2	0	-	5	0	0	0	0	-	0	21
% Single-Unit Trucks	1.4	1.8	-	-	-	1.8	-	0.0	2.6	-	-	0.6	0.0	0.7	5.3	-	-	0.7	-	-	-	-	-	-	1.2
Articulated Trucks	3	3	0	0	-	6	0	1	0	0	-	1	3	1	0	0	-	4	0	0	0	0	-	0	11
% Articulated Trucks	2.1	0.5	-	-	-	0.8	-	0.4	0.0	-	-	0.3	1.6	0.2	0.0	-	-	0.6	-	-	-	-	-	-	0.6
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	20.0	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	6	-	-	-	-	-	-	6	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	80.0	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (7:30 AM)

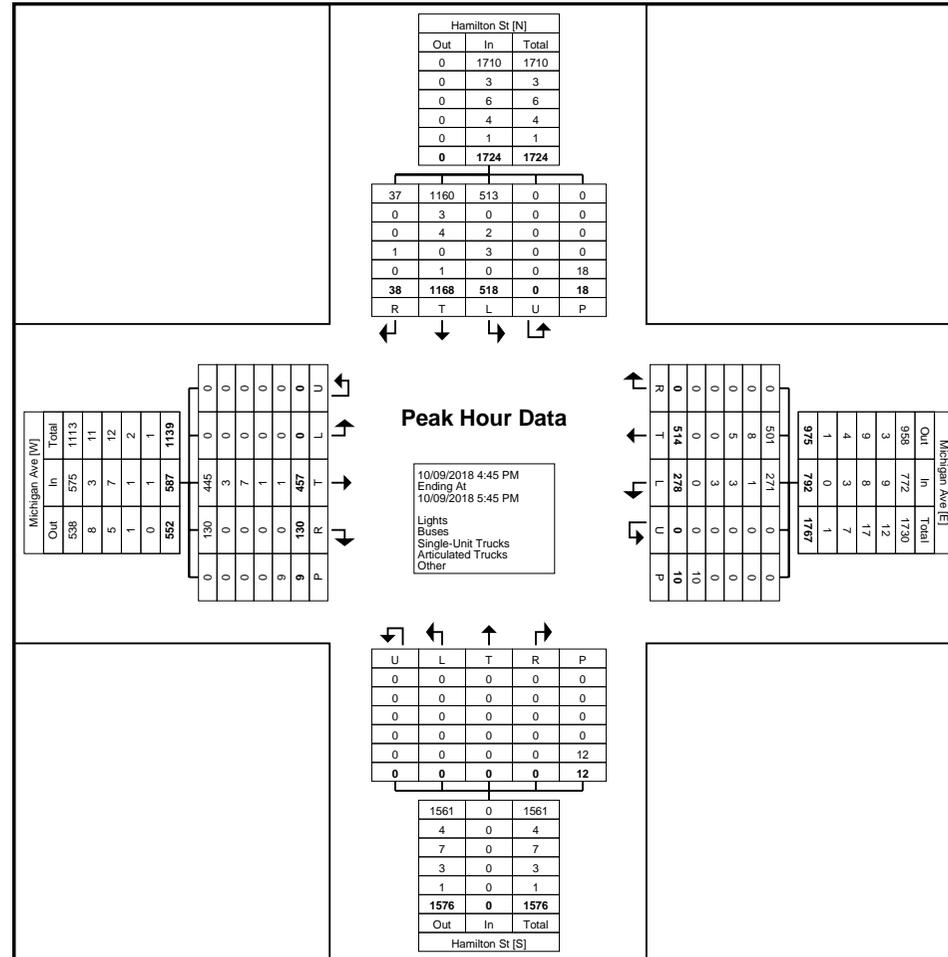
### Turning Movement Peak Hour Data (12:00 PM)

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
12:00 PM	42	109	0	0	3	151	0	93	23	0	4	116	85	185	2	0	6	272	0	0	0	0	9	0	539
12:15 PM	47	118	0	0	10	165	0	89	29	0	5	118	93	195	9	0	23	297	0	0	0	0	7	0	580
12:30 PM	46	108	1	0	6	155	0	100	23	0	3	123	95	194	18	0	8	307	0	0	0	0	8	0	585
12:45 PM	47	112	0	0	5	159	0	97	27	0	1	124	87	163	11	0	8	261	0	0	0	0	3	0	544
<b>Total</b>	<b>182</b>	<b>447</b>	<b>1</b>	<b>0</b>	<b>24</b>	<b>630</b>	<b>0</b>	<b>379</b>	<b>102</b>	<b>0</b>	<b>13</b>	<b>481</b>	<b>360</b>	<b>737</b>	<b>40</b>	<b>0</b>	<b>45</b>	<b>1137</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>27</b>	<b>0</b>	<b>2248</b>
Approach %	28.9	71.0	0.2	0.0	-	-	0.0	78.8	21.2	0.0	-	-	31.7	64.8	3.5	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	8.1	19.9	0.0	0.0	-	28.0	0.0	16.9	4.5	0.0	-	21.4	16.0	32.8	1.8	0.0	-	50.6	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.968	0.947	0.250	0.000	-	0.955	0.000	0.948	0.879	0.000	-	0.970	0.947	0.945	0.556	0.000	-	0.926	0.000	0.000	0.000	0.000	-	0.000	0.961
Lights	174	428	0	0	-	602	0	365	102	0	-	467	353	716	38	0	-	1107	0	0	0	0	-	0	2176
% Lights	95.6	95.7	0.0	-	-	95.6	-	96.3	100.0	-	-	97.1	98.1	97.2	95.0	-	-	97.4	-	-	-	-	-	-	96.8
Buses	0	6	0	0	-	6	0	4	0	0	-	4	1	5	0	0	-	6	0	0	0	0	-	0	16
% Buses	0.0	1.3	0.0	-	-	1.0	-	1.1	0.0	-	-	0.8	0.3	0.7	0.0	-	-	0.5	-	-	-	-	-	-	0.7
Single-Unit Trucks	3	10	0	0	-	13	0	10	0	0	-	10	5	6	1	0	-	12	0	0	0	0	-	0	35
% Single-Unit Trucks	1.6	2.2	0.0	-	-	2.1	-	2.6	0.0	-	-	2.1	1.4	0.8	2.5	-	-	1.1	-	-	-	-	-	-	1.6
Articulated Trucks	5	2	0	0	-	7	0	0	0	0	-	0	1	9	1	0	-	11	0	0	0	0	-	0	18
% Articulated Trucks	2.7	0.4	0.0	-	-	1.1	-	0.0	0.0	-	-	0.0	0.3	1.2	2.5	-	-	1.0	-	-	-	-	-	-	0.8
Bicycles on Road	0	1	1	0	-	2	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	3
% Bicycles on Road	0.0	0.2	100.0	-	-	0.3	-	0.0	0.0	-	-	0.0	0.0	0.1	0.0	-	-	0.1	-	-	-	-	-	-	0.1
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	4.2	-	-	-	-	-	7.7	-	-	-	-	-	0.0	-	-	-	-	-	7.4	-	-
Pedestrians	-	-	-	-	23	-	-	-	-	-	12	-	-	-	-	-	45	-	-	-	-	-	25	-	-
% Pedestrians	-	-	-	-	95.8	-	-	-	-	-	92.3	-	-	-	-	-	100.0	-	-	-	-	-	92.6	-	-



### Turning Movement Peak Hour Data (4:45 PM)

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:45 PM	74	108	0	0	5	182	0	93	30	0	1	123	130	267	8	0	6	405	0	0	0	0	2	0	710
5:00 PM	65	146	0	0	3	211	0	109	33	0	4	142	122	341	14	0	4	477	0	0	0	0	3	0	830
5:15 PM	74	133	0	0	0	207	0	126	34	0	0	160	129	320	8	0	5	457	0	0	0	0	4	0	824
5:30 PM	65	127	0	0	2	192	0	129	33	0	4	162	137	240	8	0	3	385	0	0	0	0	3	0	739
<b>Total</b>	<b>278</b>	<b>514</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>792</b>	<b>0</b>	<b>457</b>	<b>130</b>	<b>0</b>	<b>9</b>	<b>587</b>	<b>518</b>	<b>1168</b>	<b>38</b>	<b>0</b>	<b>18</b>	<b>1724</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>3103</b>
Approach %	35.1	64.9	0.0	0.0	-	-	0.0	77.9	22.1	0.0	-	-	30.0	67.7	2.2	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	9.0	16.6	0.0	0.0	-	25.5	0.0	14.7	4.2	0.0	-	18.9	16.7	37.6	1.2	0.0	-	55.6	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.939	0.880	0.000	0.000	-	0.938	0.000	0.886	0.956	0.000	-	0.906	0.945	0.856	0.679	0.000	-	0.904	0.000	0.000	0.000	0.000	-	0.000	0.935
Lights	271	501	0	0	-	772	0	445	130	0	-	575	513	1160	37	0	-	1710	0	0	0	0	-	0	3057
% Lights	97.5	97.5	-	-	-	97.5	-	97.4	100.0	-	-	98.0	99.0	99.3	97.4	-	-	99.2	-	-	-	-	-	-	98.5
Buses	1	8	0	0	-	9	0	3	0	0	-	3	0	3	0	0	-	3	0	0	0	0	-	0	15
% Buses	0.4	1.6	-	-	-	1.1	-	0.7	0.0	-	-	0.5	0.0	0.3	0.0	-	-	0.2	-	-	-	-	-	-	0.5
Single-Unit Trucks	3	5	0	0	-	8	0	7	0	0	-	7	2	4	0	0	-	6	0	0	0	0	-	0	21
% Single-Unit Trucks	1.1	1.0	-	-	-	1.0	-	1.5	0.0	-	-	1.2	0.4	0.3	0.0	-	-	0.3	-	-	-	-	-	-	0.7
Articulated Trucks	3	0	0	0	-	3	0	1	0	0	-	1	3	0	1	0	-	4	0	0	0	0	-	0	8
% Articulated Trucks	1.1	0.0	-	-	-	0.4	-	0.2	0.0	-	-	0.2	0.6	0.0	2.6	-	-	0.2	-	-	-	-	-	-	0.3
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	2
% Bicycles on Road	0.0	0.0	-	-	-	0.0	-	0.2	0.0	-	-	0.2	0.0	0.1	0.0	-	-	0.1	-	-	-	-	-	-	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	11.1	-	-	-	-	-	0.0	-	-	-	-	-	8.3	-	-
Pedestrians	-	-	-	-	10	-	-	-	-	-	8	-	-	-	-	-	18	-	-	-	-	-	11	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	88.9	-	-	-	-	-	100.0	-	-	-	-	-	91.7	-	-

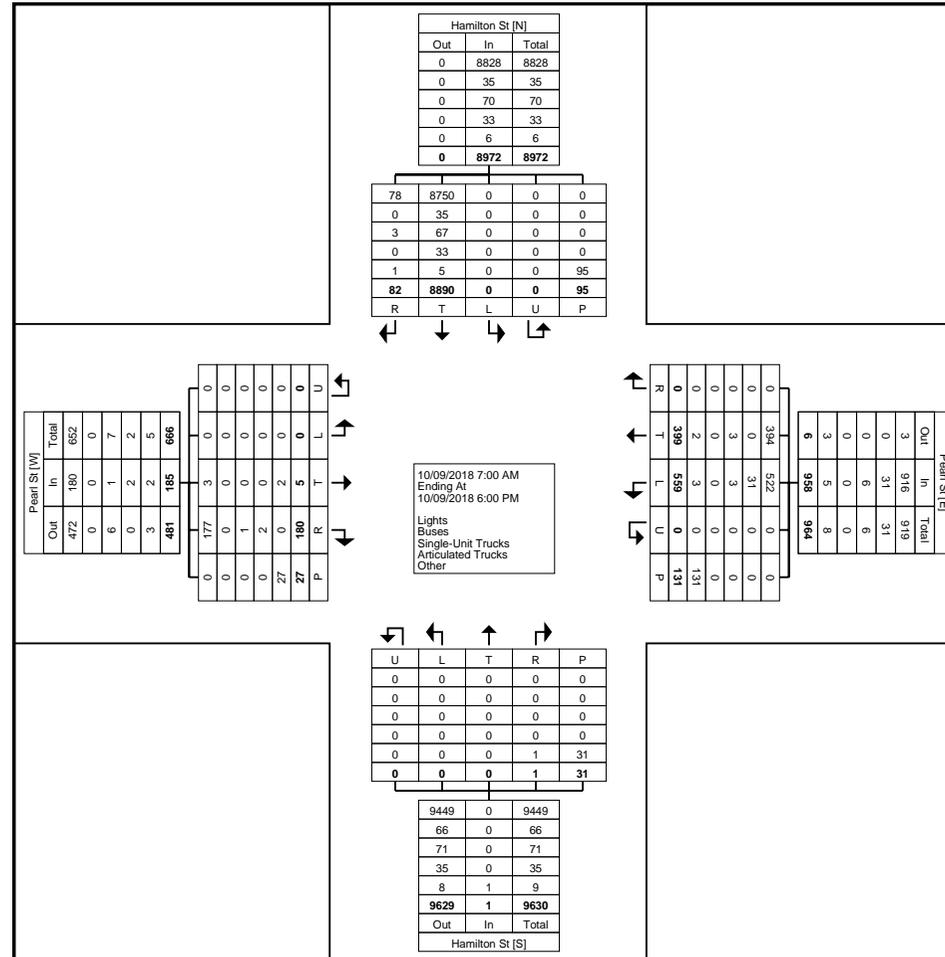


Turning Movement Peak Hour Data Plot (4:45 PM)

### Turning Movement Data

Start Time	Pearl St Westbound						Pearl St Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	3	1	0	0	0	4	0	0	3	0	0	3	0	138	2	0	2	140	0	0	0	0	0	0	147
7:15 AM	6	2	0	0	0	8	0	0	4	0	0	4	0	123	2	0	1	125	0	0	0	0	0	0	137
7:30 AM	3	8	0	0	0	11	0	0	8	0	1	8	0	144	3	0	1	147	0	0	0	0	0	0	166
7:45 AM	6	8	0	0	1	14	0	0	6	0	0	6	0	164	4	0	2	168	0	0	0	0	1	0	188
Hourly Total	18	19	0	0	1	37	0	0	21	0	1	21	0	569	11	0	6	580	0	0	0	0	1	0	638
8:00 AM	3	5	0	0	0	8	0	0	6	0	0	6	0	167	2	0	1	169	0	0	0	0	0	0	183
8:15 AM	4	3	0	0	3	7	0	0	3	0	1	3	0	165	2	0	1	167	0	0	0	0	0	0	177
8:30 AM	5	1	0	0	2	6	0	0	4	0	0	4	0	184	1	0	4	185	0	0	0	0	0	0	195
8:45 AM	6	3	0	0	2	9	0	0	8	0	0	8	0	194	1	0	1	195	0	0	0	0	0	0	212
Hourly Total	18	12	0	0	7	30	0	0	21	0	1	21	0	710	6	0	7	716	0	0	0	0	0	0	767
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	32	9	0	0	11	41	0	1	7	0	0	8	0	233	4	0	4	237	0	0	0	0	0	0	286
11:15 AM	28	33	0	0	18	61	0	1	4	0	2	5	0	193	3	0	8	196	0	0	0	0	3	0	262
11:30 AM	12	4	0	0	4	16	0	0	2	0	2	2	0	165	1	0	1	166	0	0	0	0	2	0	184
11:45 AM	11	13	0	0	5	24	0	1	6	0	1	7	0	183	3	0	1	186	0	0	0	0	0	0	217
Hourly Total	83	59	0	0	38	142	0	3	19	0	5	22	0	774	11	0	14	785	0	0	0	0	5	0	949
12:00 PM	13	7	0	0	4	20	0	0	5	0	0	5	0	236	7	0	0	243	0	0	1	0	3	1	269
12:15 PM	25	19	0	0	5	44	0	0	3	0	0	3	0	282	3	0	1	285	0	0	0	0	1	0	332
12:30 PM	33	28	0	0	8	61	0	0	4	0	0	4	0	265	3	0	4	268	0	0	0	0	2	0	333
12:45 PM	25	32	0	0	5	57	0	0	9	0	0	9	0	230	2	0	5	232	0	0	0	0	3	0	298
Hourly Total	96	86	0	0	22	182	0	0	21	0	0	21	0	1013	15	0	10	1028	0	0	1	0	9	1	1232
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	35	17	0	0	10	52	0	0	5	0	2	5	0	353	5	0	5	358	0	0	0	0	0	0	415
2:15 PM	42	18	0	0	12	60	0	0	8	0	3	8	0	291	3	0	6	294	0	0	0	0	0	0	362
2:30 PM	11	12	0	0	5	23	0	0	8	0	0	8	0	280	0	0	0	280	0	0	0	0	1	0	311
2:45 PM	24	17	0	0	0	41	0	0	10	0	1	10	0	265	0	0	7	265	0	0	0	0	2	0	316
Hourly Total	112	64	0	0	27	176	0	0	31	0	6	31	0	1189	8	0	18	1197	0	0	0	0	3	0	1404
3:00 PM	30	17	0	0	5	47	0	0	3	0	5	3	0	341	6	0	1	347	0	0	0	0	3	0	397
3:15 PM	23	13	0	0	4	36	0	0	5	0	1	5	0	416	0	0	4	416	0	0	0	0	0	0	457
3:30 PM	34	22	0	0	5	56	0	0	6	0	0	6	0	431	1	0	6	432	0	0	0	0	3	0	494
3:45 PM	40	21	0	0	9	61	0	0	6	0	0	6	0	313	2	0	1	315	0	0	0	0	0	0	382
Hourly Total	127	73	0	0	23	200	0	0	20	0	6	20	0	1501	9	0	12	1510	0	0	0	0	6	0	1730
4:00 PM	16	11	0	0	4	27	0	0	5	0	0	5	0	363	3	0	4	366	0	0	0	0	1	0	398
4:15 PM	12	9	0	0	5	21	0	0	6	0	1	6	0	377	3	0	3	380	0	0	0	0	1	0	407
4:30 PM	13	6	0	0	1	19	0	0	7	0	1	7	0	357	1	0	2	358	0	0	0	0	2	0	384
4:45 PM	18	15	0	0	2	33	0	0	9	0	2	9	0	420	4	0	3	424	0	0	0	0	2	0	466
Hourly Total	59	41	0	0	12	100	0	0	27	0	4	27	0	1517	11	0	12	1528	0	0	0	0	6	0	1655

5:00 PM	13	12	0	0	0	25	0	0	5	0	1	5	0	470	2	0	8	472	0	0	0	0	1	0	502
5:15 PM	12	14	0	0	1	26	0	0	2	0	1	2	0	426	3	0	1	429	0	0	0	0	0	0	457
5:30 PM	7	13	0	0	0	20	0	1	9	0	2	10	0	402	3	0	6	405	0	0	0	0	0	0	435
5:45 PM	14	6	0	0	0	20	0	1	4	0	0	5	0	319	3	0	1	322	0	0	0	0	0	0	347
Hourly Total	46	45	0	0	1	91	0	2	20	0	4	22	0	1617	11	0	16	1628	0	0	0	0	1	0	1741
Grand Total	559	399	0	0	131	958	0	5	180	0	27	185	0	8890	82	0	95	8972	0	0	1	0	31	1	10116
Approach %	58.4	41.6	0.0	0.0	-	-	0.0	2.7	97.3	0.0	-	-	0.0	99.1	0.9	0.0	-	-	0.0	0.0	100.0	0.0	-	-	-
Total %	5.5	3.9	0.0	0.0	-	9.5	0.0	0.0	1.8	0.0	-	1.8	0.0	87.9	0.8	0.0	-	88.7	0.0	0.0	0.0	0.0	-	0.0	-
Lights	522	394	0	0	-	916	0	3	177	0	-	180	0	8750	78	0	-	8828	0	0	0	0	-	0	9924
% Lights	93.4	98.7	-	-	-	95.6	-	60.0	98.3	-	-	97.3	-	98.4	95.1	-	-	98.4	-	-	0.0	-	-	0.0	98.1
Buses	31	0	0	0	-	31	0	0	0	0	-	0	0	35	0	0	-	35	0	0	0	0	-	0	66
% Buses	5.5	0.0	-	-	-	3.2	-	0.0	0.0	-	-	0.0	-	0.4	0.0	-	-	0.4	-	-	0.0	-	-	0.0	0.7
Single-Unit Trucks	3	3	0	0	-	6	0	0	1	0	-	1	0	67	3	0	-	70	0	0	0	0	-	0	77
% Single-Unit Trucks	0.5	0.8	-	-	-	0.6	-	0.0	0.6	-	-	0.5	-	0.8	3.7	-	-	0.8	-	-	0.0	-	-	0.0	0.8
Articulated Trucks	0	0	0	0	-	0	0	0	2	0	-	2	0	33	0	0	-	33	0	0	0	0	-	0	35
% Articulated Trucks	0.0	0.0	-	-	-	0.0	-	0.0	1.1	-	-	1.1	-	0.4	0.0	-	-	0.4	-	-	0.0	-	-	0.0	0.3
Bicycles on Road	3	2	0	0	-	5	0	2	0	0	-	2	0	5	1	0	-	6	0	0	1	0	-	1	14
% Bicycles on Road	0.5	0.5	-	-	-	0.5	-	40.0	0.0	-	-	1.1	-	0.1	1.2	-	-	0.1	-	-	100.0	-	-	100.0	0.1
Bicycles on Crosswalk	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	8	-	-	-	-	2	-	-	-
% Bicycles on Crosswalk	-	-	-	-	3.1	-	-	-	-	-	3.7	-	-	-	-	-	8.4	-	-	-	-	6.5	-	-	-
Pedestrians	-	-	-	-	127	-	-	-	-	-	26	-	-	-	-	-	87	-	-	-	-	29	-	-	-
% Pedestrians	-	-	-	-	96.9	-	-	-	-	-	96.3	-	-	-	-	-	91.6	-	-	-	-	93.5	-	-	-



Turning Movement Data Plot





### Turning Movement Peak Hour Data (12:00 PM)

Start Time	Pearl St Westbound						Pearl St Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
12:00 PM	13	7	0	0	4	20	0	0	5	0	0	5	0	236	7	0	0	243	0	0	1	0	3	1	269
12:15 PM	25	19	0	0	5	44	0	0	3	0	0	3	0	282	3	0	1	285	0	0	0	0	1	0	332
12:30 PM	33	28	0	0	8	61	0	0	4	0	0	4	0	265	3	0	4	268	0	0	0	0	2	0	333
12:45 PM	25	32	0	0	5	57	0	0	9	0	0	9	0	230	2	0	5	232	0	0	0	0	3	0	298
<b>Total</b>	<b>96</b>	<b>86</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>182</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>1013</b>	<b>15</b>	<b>0</b>	<b>10</b>	<b>1028</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>9</b>	<b>1</b>	<b>1232</b>
Approach %	52.7	47.3	0.0	0.0	-	-	0.0	0.0	100.0	0.0	-	-	0.0	98.5	1.5	0.0	-	-	0.0	0.0	100.0	0.0	-	-	-
Total %	7.8	7.0	0.0	0.0	-	14.8	0.0	0.0	1.7	0.0	-	1.7	0.0	82.2	1.2	0.0	-	83.4	0.0	0.0	0.1	0.0	-	0.1	-
PHF	0.727	0.672	0.000	0.000	-	0.746	0.000	0.000	0.583	0.000	-	0.583	0.000	0.898	0.536	0.000	-	0.902	0.000	0.000	0.250	0.000	-	0.250	0.925
Lights	89	86	0	0	-	175	0	0	21	0	-	21	0	989	13	0	-	1002	0	0	0	0	-	0	1198
% Lights	92.7	100.0	-	-	-	96.2	-	-	100.0	-	-	100.0	-	97.6	86.7	-	-	97.5	-	-	0.0	-	-	0.0	97.2
Buses	4	0	0	0	-	4	0	0	0	0	-	0	0	3	0	0	-	3	0	0	0	0	-	0	7
% Buses	4.2	0.0	-	-	-	2.2	-	-	0.0	-	-	0.0	-	0.3	0.0	-	-	0.3	-	-	0.0	-	-	0.0	0.6
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	11	2	0	-	13	0	0	0	0	-	0	13
% Single-Unit Trucks	0.0	0.0	-	-	-	0.0	-	-	0.0	-	-	0.0	-	1.1	13.3	-	-	1.3	-	-	0.0	-	-	0.0	1.1
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	9	0	0	-	9	0	0	0	0	-	0	9
% Articulated Trucks	0.0	0.0	-	-	-	0.0	-	-	0.0	-	-	0.0	-	0.9	0.0	-	-	0.9	-	-	0.0	-	-	0.0	0.7
Bicycles on Road	3	0	0	0	-	3	0	0	0	0	-	0	0	1	0	0	-	1	0	0	1	0	-	1	5
% Bicycles on Road	3.1	0.0	-	-	-	1.6	-	-	0.0	-	-	0.0	-	0.1	0.0	-	-	0.1	-	-	100.0	-	-	100.0	0.4
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	4.5	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	11.1	-	-
Pedestrians	-	-	-	-	21	-	-	-	-	0	-	-	-	-	-	-	10	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	95.5	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	88.9	-	-



### Turning Movement Peak Hour Data (4:45 PM)

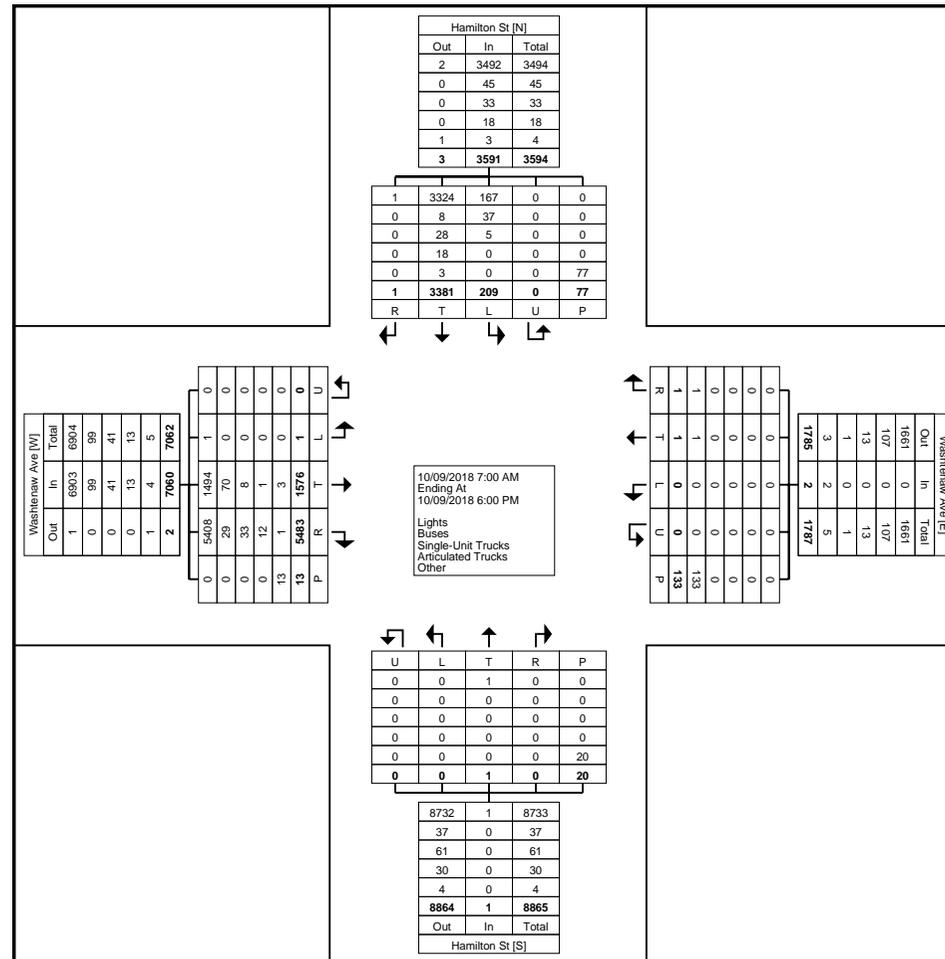
Start Time	Pearl St Westbound						Pearl St Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:45 PM	18	15	0	0	2	33	0	0	9	0	2	9	0	420	4	0	3	424	0	0	0	0	2	0	466
5:00 PM	13	12	0	0	0	25	0	0	5	0	1	5	0	470	2	0	8	472	0	0	0	0	1	0	502
5:15 PM	12	14	0	0	1	26	0	0	2	0	1	2	0	426	3	0	1	429	0	0	0	0	0	0	457
5:30 PM	7	13	0	0	0	20	0	1	9	0	2	10	0	402	3	0	6	405	0	0	0	0	0	0	435
<b>Total</b>	<b>50</b>	<b>54</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>104</b>	<b>0</b>	<b>1</b>	<b>25</b>	<b>0</b>	<b>6</b>	<b>26</b>	<b>0</b>	<b>1718</b>	<b>12</b>	<b>0</b>	<b>18</b>	<b>1730</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>1860</b>
Approach %	48.1	51.9	0.0	0.0	-	-	0.0	3.8	96.2	0.0	-	-	0.0	99.3	0.7	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	2.7	2.9	0.0	0.0	-	5.6	0.0	0.1	1.3	0.0	-	1.4	0.0	92.4	0.6	0.0	-	93.0	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.694	0.900	0.000	0.000	-	0.788	0.000	0.250	0.694	0.000	-	0.650	0.000	0.914	0.750	0.000	-	0.916	0.000	0.000	0.000	0.000	-	0.000	0.926
Lights	46	52	0	0	-	98	0	1	25	0	-	26	0	1708	12	0	-	1720	0	0	0	0	-	0	1844
% Lights	92.0	96.3	-	-	-	94.2	-	100.0	100.0	-	-	100.0	-	99.4	100.0	-	-	99.4	-	-	-	-	-	-	99.1
Buses	3	0	0	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	3
% Buses	6.0	0.0	-	-	-	2.9	-	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.2
Single-Unit Trucks	1	0	0	0	-	1	0	0	0	0	-	0	0	6	0	0	-	6	0	0	0	0	-	0	7
% Single-Unit Trucks	2.0	0.0	-	-	-	1.0	-	0.0	0.0	-	-	0.0	-	0.3	0.0	-	-	0.3	-	-	-	-	-	-	0.4
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	4	0	0	-	4	0	0	0	0	-	0	4
% Articulated Trucks	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	-	0.2	0.0	-	-	0.2	-	-	-	-	-	-	0.2
Bicycles on Road	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2
% Bicycles on Road	0.0	3.7	-	-	-	1.9	-	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	5.6	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	6	-	-	-	-	-	17	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	94.4	-	-	-	-	-	100.0	-	-



### Turning Movement Data

Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	0	0	0	0	0	0	10	86	0	0	96	3	57	0	0	0	60	0	0	0	0	0	0	156
7:15 AM	0	0	0	0	0	0	0	22	59	0	0	81	1	64	0	0	1	65	0	0	0	0	0	0	146
7:30 AM	0	0	0	0	2	0	0	18	85	0	0	103	2	61	0	0	3	63	0	0	0	0	0	0	166
7:45 AM	0	0	0	0	0	0	0	28	100	0	1	128	4	73	0	0	0	77	0	0	0	0	1	0	205
Hourly Total	0	0	0	0	2	0	0	78	330	0	1	408	10	255	0	0	4	265	0	0	0	0	1	0	673
8:00 AM	0	0	0	0	0	0	0	27	104	0	0	131	10	60	0	0	1	70	0	0	0	0	0	0	201
8:15 AM	0	0	0	0	1	0	0	35	113	0	0	148	6	50	0	0	1	56	0	0	0	0	1	0	204
8:30 AM	0	0	0	0	1	0	0	17	118	0	0	135	7	67	0	0	0	74	0	0	0	0	0	0	209
8:45 AM	0	0	0	0	1	0	0	27	135	0	0	162	3	66	0	0	1	69	0	0	0	0	1	0	231
Hourly Total	0	0	0	0	3	0	0	106	470	0	0	576	26	243	0	0	3	269	0	0	0	0	2	0	845
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	0	0	0	9	0	0	45	144	0	1	189	9	92	0	0	1	101	0	0	0	0	1	0	290
11:15 AM	0	1	0	0	14	1	0	49	131	0	0	180	10	62	0	0	4	72	0	0	0	0	2	0	253
11:30 AM	0	0	0	0	6	0	0	42	113	0	1	155	5	57	0	0	3	62	0	0	0	0	1	0	217
11:45 AM	0	0	0	0	5	0	0	38	127	0	2	165	5	62	0	0	1	67	0	0	0	0	1	0	232
Hourly Total	0	1	0	0	34	1	0	174	515	0	4	689	29	273	0	0	9	302	0	0	0	0	5	0	992
12:00 PM	0	0	0	0	2	0	0	37	142	0	0	179	7	96	0	0	4	103	0	0	0	0	1	0	282
12:15 PM	0	0	0	0	7	0	0	53	180	0	0	233	12	106	0	0	3	118	0	0	0	0	1	0	351
12:30 PM	0	0	0	0	2	0	0	39	161	0	0	200	5	100	0	0	2	105	0	1	0	0	1	1	306
12:45 PM	0	0	0	0	6	0	1	39	136	0	0	176	4	93	1	0	2	98	0	0	0	0	1	0	274
Hourly Total	0	0	0	0	17	0	1	168	619	0	0	788	28	395	1	0	11	424	0	1	0	0	4	1	1213
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	0	0	0	8	0	0	51	209	0	1	260	15	140	0	0	7	155	0	0	0	0	0	0	415
2:15 PM	0	0	0	0	9	0	0	45	183	0	1	228	9	105	0	0	2	114	0	0	0	0	0	0	342
2:30 PM	0	0	0	0	5	0	0	49	153	0	0	202	4	117	0	0	1	121	0	0	0	0	0	0	323
2:45 PM	0	0	1	0	0	1	0	50	167	0	1	217	5	96	0	0	0	101	0	0	0	0	1	0	319
Hourly Total	0	0	1	0	22	1	0	195	712	0	3	907	33	458	0	0	10	491	0	0	0	0	1	0	1399
3:00 PM	0	0	0	0	4	0	0	60	216	0	0	276	8	132	0	0	1	140	0	0	0	0	0	0	416
3:15 PM	0	0	0	0	7	0	0	56	239	0	0	295	10	166	0	0	2	176	0	0	0	0	1	0	471
3:30 PM	0	0	0	0	4	0	0	69	251	0	3	320	4	171	0	0	1	175	0	0	0	0	4	0	495
3:45 PM	0	0	0	0	10	0	0	64	197	0	1	261	5	115	0	0	5	120	0	0	0	0	0	0	381
Hourly Total	0	0	0	0	25	0	0	249	903	0	4	1152	27	584	0	0	9	611	0	0	0	0	5	0	1763
4:00 PM	0	0	0	0	4	0	0	53	212	0	0	265	6	152	0	0	3	158	0	0	0	0	0	0	423
4:15 PM	0	0	0	0	5	0	0	76	226	0	0	302	6	136	0	0	1	142	0	0	0	0	0	0	444
4:30 PM	0	0	0	0	4	0	0	60	223	0	0	283	6	128	0	0	7	134	0	0	0	0	0	0	417
4:45 PM	0	0	0	0	5	0	0	80	267	0	1	347	8	162	0	0	8	170	0	0	0	0	1	0	517
Hourly Total	0	0	0	0	18	0	0	269	928	0	1	1197	26	578	0	0	19	604	0	0	0	0	1	0	1801

5:00 PM	0	0	0	0	7	0	0	82	284	0	0	366	10	187	0	0	5	197	0	0	0	0	0	0	563
5:15 PM	0	0	0	0	3	0	0	94	253	0	0	347	4	154	0	0	3	158	0	0	0	0	0	0	505
5:30 PM	0	0	0	0	0	0	0	86	256	0	0	342	8	138	0	0	2	146	0	0	0	0	1	0	488
5:45 PM	0	0	0	0	2	0	0	75	213	0	0	288	8	116	0	0	2	124	0	0	0	0	0	0	412
Hourly Total	0	0	0	0	12	0	0	337	1006	0	0	1343	30	595	0	0	12	625	0	0	0	0	1	0	1968
Grand Total	0	1	1	0	133	2	1	1576	5483	0	13	7060	209	3381	1	0	77	3591	0	1	0	0	20	1	10654
Approach %	0.0	50.0	50.0	0.0	-	-	0.0	22.3	77.7	0.0	-	-	5.8	94.2	0.0	0.0	-	-	0.0	100.0	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	14.8	51.5	0.0	-	66.3	2.0	31.7	0.0	0.0	-	33.7	0.0	0.0	0.0	0.0	-	0.0	-
Lights	0	0	0	0	-	0	1	1494	5408	0	-	6903	167	3324	1	0	-	3492	0	1	0	0	-	1	10396
% Lights	-	0.0	0.0	-	-	0.0	100.0	94.8	98.6	-	-	97.8	79.9	98.3	100.0	-	-	97.2	-	100.0	-	-	-	100.0	97.6
Buses	0	0	0	0	-	0	0	70	29	0	-	99	37	8	0	0	-	45	0	0	0	0	-	0	144
% Buses	-	0.0	0.0	-	-	0.0	0.0	4.4	0.5	-	-	1.4	17.7	0.2	0.0	-	-	1.3	-	0.0	-	-	-	0.0	1.4
Single-Unit Trucks	0	0	0	0	-	0	0	8	33	0	-	41	5	28	0	0	-	33	0	0	0	0	-	0	74
% Single-Unit Trucks	-	0.0	0.0	-	-	0.0	0.0	0.5	0.6	-	-	0.6	2.4	0.8	0.0	-	-	0.9	-	0.0	-	-	-	0.0	0.7
Articulated Trucks	0	0	0	0	-	0	0	1	12	0	-	13	0	18	0	0	-	18	0	0	0	0	-	0	31
% Articulated Trucks	-	0.0	0.0	-	-	0.0	0.0	0.1	0.2	-	-	0.2	0.0	0.5	0.0	-	-	0.5	-	0.0	-	-	-	0.0	0.3
Bicycles on Road	0	1	1	0	-	2	0	3	1	0	-	4	0	3	0	0	-	3	0	0	0	0	-	0	9
% Bicycles on Road	-	100.0	100.0	-	-	100.0	0.0	0.2	0.0	-	-	0.1	0.0	0.1	0.0	-	-	0.1	-	0.0	-	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	7	-	-	-	-	-	1	-	-	-	-	-	10	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	5.3	-	-	-	-	-	7.7	-	-	-	-	-	13.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	126	-	-	-	-	-	12	-	-	-	-	-	67	-	-	-	-	-	20	-	-
% Pedestrians	-	-	-	-	94.7	-	-	-	-	-	92.3	-	-	-	-	-	87.0	-	-	-	-	-	100.0	-	-



Turning Movement Data Plot

### Turning Movement Peak Hour Data (8:00 AM)

Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
8:00 AM	0	0	0	0	0	0	0	27	104	0	0	131	10	60	0	0	1	70	0	0	0	0	0	0	201
8:15 AM	0	0	0	0	1	0	0	35	113	0	0	148	6	50	0	0	1	56	0	0	0	0	1	0	204
8:30 AM	0	0	0	0	1	0	0	17	118	0	0	135	7	67	0	0	0	74	0	0	0	0	0	0	209
8:45 AM	0	0	0	0	1	0	0	27	135	0	0	162	3	66	0	0	1	69	0	0	0	0	1	0	231
<b>Total</b>	0	0	0	0	3	0	0	106	470	0	0	576	26	243	0	0	3	269	0	0	0	0	2	0	845
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	18.4	81.6	0.0	-	-	9.7	90.3	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	12.5	55.6	0.0	-	68.2	3.1	28.8	0.0	0.0	-	31.8	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.757	0.870	0.000	-	0.889	0.650	0.907	0.000	0.000	-	0.909	0.000	0.000	0.000	0.000	-	0.000	0.915
Lights	0	0	0	0	-	0	0	95	455	0	-	550	18	238	0	0	-	256	0	0	0	0	-	0	806
% Lights	-	-	-	-	-	-	-	89.6	96.8	-	-	95.5	69.2	97.9	-	-	-	95.2	-	-	-	-	-	-	95.4
Buses	0	0	0	0	-	0	0	10	10	0	-	20	5	1	0	0	-	6	0	0	0	0	-	0	26
% Buses	-	-	-	-	-	-	-	9.4	2.1	-	-	3.5	19.2	0.4	-	-	-	2.2	-	-	-	-	-	-	3.1
Single-Unit Trucks	0	0	0	0	-	0	0	1	3	0	-	4	3	1	0	0	-	4	0	0	0	0	-	0	8
% Single-Unit Trucks	-	-	-	-	-	-	-	0.9	0.6	-	-	0.7	11.5	0.4	-	-	-	1.5	-	-	-	-	-	-	0.9
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	3	0	0	-	3	0	0	0	0	-	0	4
% Articulated Trucks	-	-	-	-	-	-	-	0.0	0.2	-	-	0.2	0.0	1.2	-	-	-	1.1	-	-	-	-	-	-	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	-	-	-	-	-	-	-	0.0	0.2	-	-	0.2	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	33.3	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	0	-	-	-	-	-	-	2	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	66.7	-	-	-	-	-	100.0	-	-



### Turning Movement Peak Hour Data (12:00 PM)

Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
12:00 PM	0	0	0	0	2	0	0	37	142	0	0	179	7	96	0	0	4	103	0	0	0	0	1	0	282
12:15 PM	0	0	0	0	7	0	0	53	180	0	0	233	12	106	0	0	3	118	0	0	0	0	1	0	351
12:30 PM	0	0	0	0	2	0	0	39	161	0	0	200	5	100	0	0	2	105	0	1	0	0	1	1	306
12:45 PM	0	0	0	0	6	0	1	39	136	0	0	176	4	93	1	0	2	98	0	0	0	0	1	0	274
<b>Total</b>	0	0	0	0	17	0	1	168	619	0	0	788	28	395	1	0	11	424	0	1	0	0	4	1	1213
Approach %	0.0	0.0	0.0	0.0	-	-	0.1	21.3	78.6	0.0	-	-	6.6	93.2	0.2	0.0	-	-	0.0	100.0	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.1	13.8	51.0	0.0	-	65.0	2.3	32.6	0.1	0.0	-	35.0	0.0	0.1	0.0	0.0	-	0.1	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.250	0.792	0.860	0.000	-	0.845	0.583	0.932	0.250	0.000	-	0.898	0.000	0.250	0.000	0.000	-	0.250	0.864
Lights	0	0	0	0	-	0	1	160	615	0	-	776	21	381	1	0	-	403	0	1	0	0	-	1	1180
% Lights	-	-	-	-	-	-	100.0	95.2	99.4	-	-	98.5	75.0	96.5	100.0	-	-	95.0	-	100.0	-	-	-	100.0	97.3
Buses	0	0	0	0	-	0	0	6	0	0	-	6	5	2	0	0	-	7	0	0	0	0	-	0	13
% Buses	-	-	-	-	-	-	0.0	3.6	0.0	-	-	0.8	17.9	0.5	0.0	-	-	1.7	-	0.0	-	-	-	0.0	1.1
Single-Unit Trucks	0	0	0	0	-	0	0	2	3	0	-	5	2	4	0	0	-	6	0	0	0	0	-	0	11
% Single-Unit Trucks	-	-	-	-	-	-	0.0	1.2	0.5	-	-	0.6	7.1	1.0	0.0	-	-	1.4	-	0.0	-	-	-	0.0	0.9
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	7	0	0	-	7	0	0	0	0	-	0	8
% Articulated Trucks	-	-	-	-	-	-	0.0	0.0	0.2	-	-	0.1	0.0	1.8	0.0	-	-	1.7	-	0.0	-	-	-	0.0	0.7
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	1
% Bicycles on Road	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.3	0.0	-	-	0.2	-	0.0	-	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	11.8	-	-	-	-	-	-	-	-	-	-	-	18.2	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	15	-	-	-	-	-	0	-	-	-	-	-	9	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	88.2	-	-	-	-	-	-	-	-	-	-	-	81.8	-	-	-	-	-	100.0	-	-



### Turning Movement Peak Hour Data (4:45 PM)

Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Hamilton St Southbound						Hamilton St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:45 PM	0	0	0	0	5	0	0	80	267	0	1	347	8	162	0	0	8	170	0	0	0	0	1	0	517
5:00 PM	0	0	0	0	7	0	0	82	284	0	0	366	10	187	0	0	5	197	0	0	0	0	0	0	563
5:15 PM	0	0	0	0	3	0	0	94	253	0	0	347	4	154	0	0	3	158	0	0	0	0	0	0	505
5:30 PM	0	0	0	0	0	0	0	86	256	0	0	342	8	138	0	0	2	146	0	0	0	0	1	0	488
<b>Total</b>	0	0	0	0	15	0	0	342	1060	0	1	1402	30	641	0	0	18	671	0	0	0	0	2	0	2073
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	24.4	75.6	0.0	-	-	4.5	95.5	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	16.5	51.1	0.0	-	67.6	1.4	30.9	0.0	0.0	-	32.4	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.910	0.933	0.000	-	0.958	0.750	0.857	0.000	0.000	-	0.852	0.000	0.000	0.000	0.000	-	0.000	0.921
Lights	0	0	0	0	-	0	0	332	1055	0	-	1387	25	638	0	0	-	663	0	0	0	0	-	0	2050
% Lights	-	-	-	-	-	-	-	97.1	99.5	-	-	98.9	83.3	99.5	-	-	-	98.8	-	-	-	-	-	-	98.9
Buses	0	0	0	0	-	0	0	9	0	0	-	9	5	0	0	0	-	5	0	0	0	0	-	0	14
% Buses	-	-	-	-	-	-	-	2.6	0.0	-	-	0.6	16.7	0.0	-	-	-	0.7	-	-	-	-	-	-	0.7
Single-Unit Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	3	0	0	-	3	0	0	0	0	-	0	4
% Single-Unit Trucks	-	-	-	-	-	-	-	0.0	0.1	-	-	0.1	0.0	0.5	-	-	-	0.4	-	-	-	-	-	-	0.2
Articulated Trucks	0	0	0	0	-	0	0	0	4	0	-	4	0	0	0	0	-	0	0	0	0	0	-	0	4
% Articulated Trucks	-	-	-	-	-	-	-	0.0	0.4	-	-	0.3	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.2
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	-	-	-	-	-	-	-	0.3	0.0	-	-	0.1	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	5.6	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	15	-	-	-	-	-	1	-	-	-	-	-	17	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	94.4	-	-	-	-	-	100.0	-	-



### Turning Movement Data

Start Time	Catherine St Westbound						Catherine St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	1	21	0	1	22	1	2	0	0	1	3	0	0	0	0	0	0	0	182	1	0	2	183	208
7:15 AM	0	0	22	0	0	22	1	0	0	0	0	1	0	0	0	0	0	0	0	332	1	0	0	333	356
7:30 AM	0	6	14	0	1	20	1	0	0	0	0	1	0	0	0	0	0	0	17	357	4	0	0	378	399
7:45 AM	0	10	4	0	1	14	1	3	0	0	0	4	0	0	0	0	0	0	20	319	8	0	0	347	365
Hourly Total	0	17	61	0	3	78	4	5	0	0	1	9	0	0	0	0	0	0	37	1190	14	0	2	1241	1328
8:00 AM	0	6	16	0	0	22	0	6	0	0	1	6	0	0	0	0	1	0	26	313	4	0	0	343	371
8:15 AM	0	4	8	0	0	12	6	0	0	0	0	6	0	0	0	0	0	0	17	332	1	0	0	350	368
8:30 AM	0	0	10	0	1	10	1	1	0	0	0	2	0	0	0	0	1	0	7	336	2	0	0	345	357
8:45 AM	0	2	7	0	2	9	0	1	0	0	0	1	0	0	0	0	0	0	9	329	1	0	1	339	349
Hourly Total	0	12	41	0	3	53	7	8	0	0	1	15	0	0	0	0	2	0	59	1310	8	0	1	1377	1445
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	2	12	0	1	14	5	3	0	0	2	8	0	0	0	0	0	0	2	151	1	0	1	154	176
11:15 AM	0	1	4	0	0	5	2	5	0	0	0	7	0	0	0	0	0	0	2	168	2	0	0	172	184
11:30 AM	0	0	6	0	1	6	1	3	0	0	0	4	0	0	0	0	1	0	2	187	2	0	0	191	201
11:45 AM	0	0	14	0	1	14	7	6	0	0	2	13	0	0	0	0	2	0	7	216	1	0	0	224	251
Hourly Total	0	3	36	0	3	39	15	17	0	0	4	32	0	0	0	0	3	0	13	722	6	0	1	741	812
12:00 PM	0	1	13	0	0	14	3	6	0	0	0	9	0	0	0	0	3	0	2	238	1	0	0	241	264
12:15 PM	0	0	10	0	0	10	2	2	0	0	1	4	0	0	0	0	0	0	0	200	2	0	0	202	216
12:30 PM	0	0	11	0	0	11	0	4	0	0	0	4	0	0	0	0	0	0	0	205	3	0	0	208	223
12:45 PM	0	0	11	0	0	11	7	1	0	0	0	8	0	0	0	0	1	0	1	193	1	0	0	195	214
Hourly Total	0	1	45	0	0	46	12	13	0	0	1	25	0	0	0	0	4	0	3	836	7	0	0	846	917
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	3	11	0	2	14	2	7	0	0	0	9	0	0	0	0	1	0	1	157	2	0	0	160	183
2:15 PM	0	2	11	0	1	13	6	6	0	0	0	12	0	0	0	0	1	0	1	189	1	0	0	191	216
2:30 PM	0	1	12	0	1	13	2	6	0	0	1	8	0	0	0	0	1	0	1	178	3	0	0	182	203
2:45 PM	0	3	8	0	1	11	7	5	0	0	0	12	0	0	0	0	0	0	1	206	1	0	0	208	231
Hourly Total	0	9	42	0	5	51	17	24	0	0	1	41	0	0	0	0	3	0	4	730	7	0	0	741	833
3:00 PM	0	1	8	0	1	9	3	7	0	0	0	10	0	0	0	0	0	0	2	194	4	0	0	200	219
3:15 PM	0	5	7	0	2	12	5	5	0	0	0	10	0	0	0	0	0	0	6	217	1	0	0	224	246
3:30 PM	0	0	12	0	2	12	3	3	0	0	0	6	0	0	0	0	1	0	2	219	2	0	0	223	241
3:45 PM	0	2	7	0	0	9	5	6	0	0	0	11	0	0	0	0	0	0	4	237	1	0	0	242	262
Hourly Total	0	8	34	0	5	42	16	21	0	0	0	37	0	0	0	0	1	0	14	867	8	0	0	889	968
4:00 PM	0	3	10	0	1	13	0	8	0	0	1	8	0	0	0	0	1	0	4	191	2	0	0	197	218
4:15 PM	0	1	7	0	0	8	2	3	0	0	0	5	0	0	0	0	0	0	1	199	2	0	0	202	215
4:30 PM	0	0	8	0	1	8	5	3	0	0	0	8	0	0	0	0	0	0	3	237	1	0	0	241	257
4:45 PM	0	2	11	0	0	13	1	10	0	0	0	11	0	0	0	0	1	0	0	276	0	0	0	276	300
Hourly Total	0	6	36	0	2	42	8	24	0	0	1	32	0	0	0	0	2	0	8	903	5	0	0	916	990

5:00 PM	0	1	9	0	4	10	4	4	0	0	1	8	0	0	0	0	0	0	240	4	0	0	244	262	
5:15 PM	0	5	11	0	0	16	4	9	0	0	0	13	0	0	0	0	0	0	1	218	1	0	0	220	249
5:30 PM	0	1	7	0	0	8	5	9	0	0	0	14	0	0	0	0	1	0	3	229	2	0	0	234	256
5:45 PM	0	1	13	0	1	14	2	6	0	0	1	8	0	0	0	0	0	0	2	274	1	0	1	277	299
Hourly Total	0	8	40	0	5	48	15	28	0	0	2	43	0	0	0	0	1	0	6	961	8	0	1	975	1066
Grand Total	0	64	335	0	26	399	94	140	0	0	11	234	0	0	0	0	16	0	144	7519	63	0	5	7726	8359
Approach %	0.0	16.0	84.0	0.0	-	-	40.2	59.8	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	1.9	97.3	0.8	0.0	-	-	-
Total %	0.0	0.8	4.0	0.0	-	4.8	1.1	1.7	0.0	0.0	-	2.8	0.0	0.0	0.0	0.0	-	0.0	1.7	90.0	0.8	0.0	-	92.4	-
Lights	0	64	313	0	-	377	92	136	0	0	-	228	0	0	0	0	-	0	137	7363	45	0	-	7545	8150
% Lights	-	100.0	93.4	-	-	94.5	97.9	97.1	-	-	-	97.4	-	-	-	-	-	-	95.1	97.9	71.4	-	-	97.7	97.5
Buses	0	0	17	0	-	17	2	3	0	0	-	5	0	0	0	0	-	0	5	50	17	0	-	72	94
% Buses	-	0.0	5.1	-	-	4.3	2.1	2.1	-	-	-	2.1	-	-	-	-	-	-	3.5	0.7	27.0	-	-	0.9	1.1
Single-Unit Trucks	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	1	60	1	0	-	62	63
% Single-Unit Trucks	-	0.0	0.0	-	-	0.0	0.0	0.7	-	-	-	0.4	-	-	-	-	-	-	0.7	0.8	1.6	-	-	0.8	0.8
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	45	0	0	-	46	46
% Articulated Trucks	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.7	0.6	0.0	-	-	0.6	0.6
Bicycles on Road	0	0	5	0	-	5	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	6
% Bicycles on Road	-	0.0	1.5	-	-	1.3	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	15.4	-	-	-	-	-	9.1	-	-	-	-	-	6.3	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	22	-	-	-	-	-	10	-	-	-	-	-	15	-	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	84.6	-	-	-	-	-	90.9	-	-	-	-	-	93.8	-	-	-	-	-	100.0	-	-



### Turning Movement Peak Hour Data (7:30 AM)

Start Time	Catherine St Westbound						Catherine St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:30 AM	0	6	14	0	1	20	1	0	0	0	0	1	0	0	0	0	0	0	17	357	4	0	0	378	399
7:45 AM	0	10	4	0	1	14	1	3	0	0	0	4	0	0	0	0	0	0	20	319	8	0	0	347	365
8:00 AM	0	6	16	0	0	22	0	6	0	0	1	6	0	0	0	0	1	0	26	313	4	0	0	343	371
8:15 AM	0	4	8	0	0	12	6	0	0	0	0	6	0	0	0	0	0	0	17	332	1	0	0	350	368
<b>Total</b>	0	26	42	0	2	68	8	9	0	0	1	17	0	0	0	0	1	0	80	1321	17	0	0	1418	1503
Approach %	0.0	38.2	61.8	0.0	-	-	47.1	52.9	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	5.6	93.2	1.2	0.0	-	-	-
Total %	0.0	1.7	2.8	0.0	-	4.5	0.5	0.6	0.0	0.0	-	1.1	0.0	0.0	0.0	0.0	-	0.0	5.3	87.9	1.1	0.0	-	94.3	-
PHF	0.000	0.650	0.656	0.000	-	0.773	0.333	0.375	0.000	0.000	-	0.708	0.000	0.000	0.000	0.000	-	0.000	0.769	0.925	0.531	0.000	-	0.938	0.942
Lights	0	26	40	0	-	66	8	9	0	0	-	17	0	0	0	0	-	0	77	1295	15	0	-	1387	1470
% Lights	-	100.0	95.2	-	-	97.1	100.0	100.0	-	-	-	100.0	-	-	-	-	-	-	96.3	98.0	88.2	-	-	97.8	97.8
Buses	0	0	2	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	3	6	2	0	-	11	13
% Buses	-	0.0	4.8	-	-	2.9	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	3.8	0.5	11.8	-	-	0.8	0.9
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	9	0	0	-	9	9
% Single-Unit Trucks	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.7	0.0	-	-	0.6	0.6
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	11	0	0	-	11	11
% Articulated Trucks	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.8	0.0	-	-	0.8	0.7
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



### Turning Movement Peak Hour Data (11:45 AM)

Start Time	Catherine St Westbound						Catherine St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
11:45 AM	0	0	14	0	1	14	7	6	0	0	2	13	0	0	0	0	2	0	7	216	1	0	0	224	251
12:00 PM	0	1	13	0	0	14	3	6	0	0	0	9	0	0	0	0	3	0	2	238	1	0	0	241	264
12:15 PM	0	0	10	0	0	10	2	2	0	0	1	4	0	0	0	0	0	0	0	200	2	0	0	202	216
12:30 PM	0	0	11	0	0	11	0	4	0	0	0	4	0	0	0	0	0	0	0	205	3	0	0	208	223
<b>Total</b>	0	1	48	0	1	49	12	18	0	0	3	30	0	0	0	0	5	0	9	859	7	0	0	875	954
Approach %	0.0	2.0	98.0	0.0	-	-	40.0	60.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	1.0	98.2	0.8	0.0	-	-	-
Total %	0.0	0.1	5.0	0.0	-	5.1	1.3	1.9	0.0	0.0	-	3.1	0.0	0.0	0.0	0.0	-	0.0	0.9	90.0	0.7	0.0	-	91.7	-
PHF	0.000	0.250	0.857	0.000	-	0.875	0.429	0.750	0.000	0.000	-	0.577	0.000	0.000	0.000	0.000	-	0.000	0.321	0.902	0.583	0.000	-	0.908	0.903
Lights	0	1	45	0	-	46	12	18	0	0	-	30	0	0	0	0	-	0	9	835	5	0	-	849	925
% Lights	-	100.0	93.8	-	-	93.9	100.0	100.0	-	-	-	100.0	-	-	-	-	-	-	100.0	97.2	71.4	-	-	97.0	97.0
Buses	0	0	2	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	7	2	0	-	9	11
% Buses	-	0.0	4.2	-	-	4.1	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.8	28.6	-	-	1.0	1.2
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	11	0	0	-	11	11
% Single-Unit Trucks	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	1.3	0.0	-	-	1.3	1.2
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	5	0	0	-	5	5
% Articulated Trucks	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.6	0.0	-	-	0.6	0.5
Bicycles on Road	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	2
% Bicycles on Road	-	0.0	2.1	-	-	2.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.1	0.0	-	-	0.1	0.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	20.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	80.0	-	-	-	-	-	-	-	-



### Turning Movement Peak Hour Data (4:30 PM)

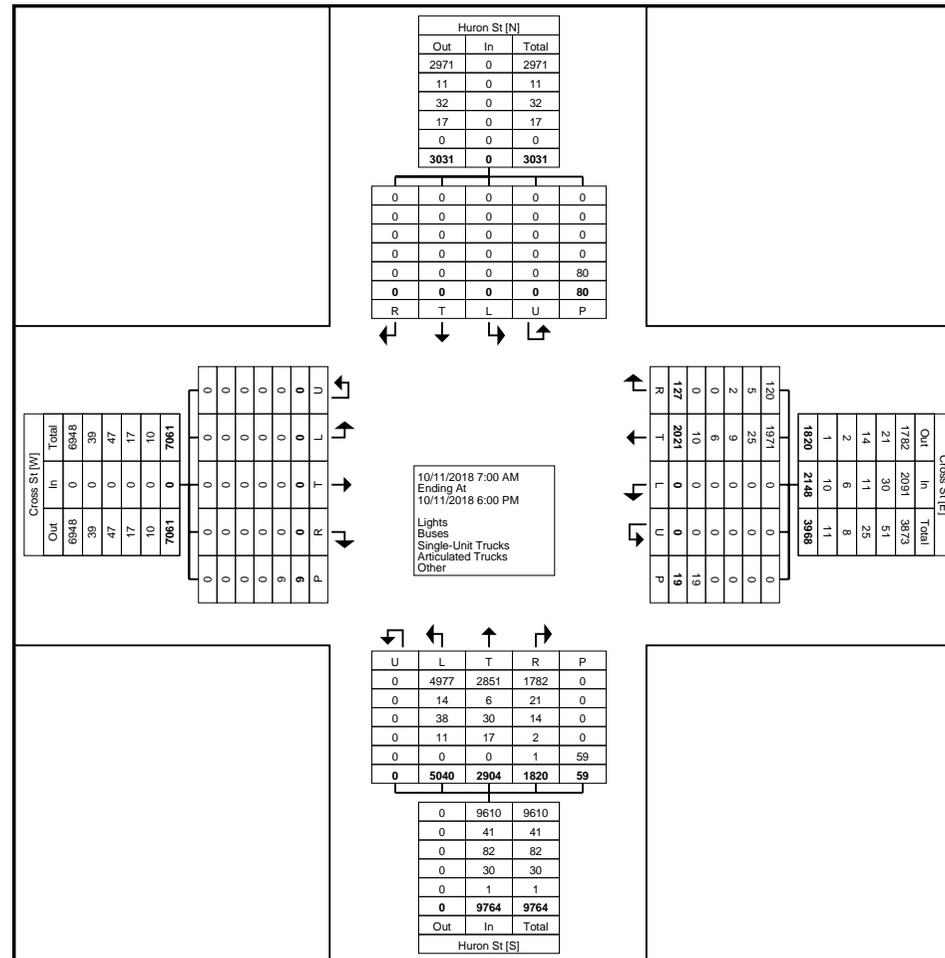
Start Time	Catherine St Westbound						Catherine St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:30 PM	0	0	8	0	1	8	5	3	0	0	0	8	0	0	0	0	0	0	3	237	1	0	0	241	257
4:45 PM	0	2	11	0	0	13	1	10	0	0	0	11	0	0	0	0	1	0	0	276	0	0	0	276	300
5:00 PM	0	1	9	0	4	10	4	4	0	0	1	8	0	0	0	0	0	0	0	240	4	0	0	244	262
5:15 PM	0	5	11	0	0	16	4	9	0	0	0	13	0	0	0	0	0	0	1	218	1	0	0	220	249
<b>Total</b>	<b>0</b>	<b>8</b>	<b>39</b>	<b>0</b>	<b>5</b>	<b>47</b>	<b>14</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>971</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>981</b>	<b>1068</b>
Approach %	0.0	17.0	83.0	0.0	-	-	35.0	65.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.4	99.0	0.6	0.0	-	-	-
Total %	0.0	0.7	3.7	0.0	-	4.4	1.3	2.4	0.0	0.0	-	3.7	0.0	0.0	0.0	0.0	-	0.0	0.4	90.9	0.6	0.0	-	91.9	-
PHF	0.000	0.400	0.886	0.000	-	0.734	0.700	0.650	0.000	0.000	-	0.769	0.000	0.000	0.000	0.000	-	0.000	0.333	0.880	0.375	0.000	-	0.889	0.890
Lights	0	8	37	0	-	45	14	26	0	0	-	40	0	0	0	0	-	0	4	950	4	0	-	958	1043
% Lights	-	100.0	94.9	-	-	95.7	100.0	100.0	-	-	-	100.0	-	-	-	-	-	-	100.0	97.8	66.7	-	-	97.7	97.7
Buses	0	0	2	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	9	2	0	-	11	13
% Buses	-	0.0	5.1	-	-	4.3	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.9	33.3	-	-	1.1	1.2
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	7	0	0	-	7	7
% Single-Unit Trucks	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.7	0.0	-	-	0.7	0.7
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	5	0	0	-	5	5
% Articulated Trucks	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.5	0.0	-	-	0.5	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	5	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



### Turning Movement Data

Start Time	Cross St Westbound						Cross St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	48	3	0	0	51	0	0	0	0	0	0	0	0	0	0	0	0	164	71	14	0	0	249	300
7:15 AM	0	75	3	0	0	78	0	0	0	0	0	0	0	0	0	0	1	0	245	112	24	0	2	381	459
7:30 AM	0	117	11	0	1	128	0	0	0	0	0	0	0	0	0	5	0	292	142	24	0	0	458	586	
7:45 AM	0	131	5	0	0	136	0	0	0	0	0	0	0	0	0	4	0	274	138	37	0	1	449	585	
Hourly Total	0	371	22	0	1	393	0	0	0	0	0	0	0	0	0	10	0	975	463	99	0	3	1537	1930	
8:00 AM	0	85	7	0	0	92	0	0	0	0	0	0	0	0	0	1	0	249	126	32	0	0	407	499	
8:15 AM	0	80	3	0	2	83	0	0	0	0	0	0	0	0	0	1	0	252	116	38	0	1	406	489	
8:30 AM	0	88	9	0	0	97	0	0	0	0	0	0	0	0	0	0	0	260	160	29	0	0	449	546	
8:45 AM	0	74	9	0	0	83	0	0	0	0	0	0	0	0	0	4	0	231	144	34	0	0	409	492	
Hourly Total	0	327	28	0	2	355	0	0	0	0	0	0	0	0	0	6	0	992	546	133	0	1	1671	2026	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	47	3	0	1	50	0	0	0	0	0	0	0	0	0	0	0	91	53	56	0	2	200	250	
11:15 AM	0	44	0	0	0	44	0	0	0	0	0	0	0	0	0	1	0	116	67	43	0	3	226	270	
11:30 AM	0	44	2	0	1	46	0	0	0	0	0	0	0	0	0	2	0	120	74	50	0	2	244	290	
11:45 AM	0	64	1	0	0	65	0	0	0	0	0	0	0	0	0	0	0	126	82	52	0	1	260	325	
Hourly Total	0	199	6	0	2	205	0	0	0	0	0	0	0	0	0	3	0	453	276	201	0	8	930	1135	
12:00 PM	0	51	3	0	1	54	0	0	0	0	0	0	0	0	0	2	0	149	83	58	0	0	290	344	
12:15 PM	0	43	4	0	0	47	0	0	0	0	0	0	0	0	0	7	0	136	97	54	0	2	287	334	
12:30 PM	0	47	4	0	0	51	0	0	0	0	2	0	0	0	0	0	0	129	85	46	0	2	260	311	
12:45 PM	0	52	3	0	0	55	0	0	0	0	0	0	0	0	0	1	0	120	64	45	0	1	229	284	
Hourly Total	0	193	14	0	1	207	0	0	0	0	2	0	0	0	0	10	0	534	329	203	0	5	1066	1273	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	49	4	0	2	53	0	0	0	0	0	0	0	0	0	0	0	105	76	45	0	0	226	279	
2:15 PM	0	58	3	0	0	61	0	0	0	0	1	0	0	0	0	1	0	109	67	52	0	0	228	289	
2:30 PM	0	57	3	0	1	60	0	0	0	0	1	0	0	0	0	0	0	121	57	49	0	3	227	287	
2:45 PM	0	44	2	0	0	46	0	0	0	0	1	0	0	0	0	3	0	124	64	63	0	2	251	297	
Hourly Total	0	208	12	0	3	220	0	0	0	0	3	0	0	0	0	4	0	459	264	209	0	5	932	1152	
3:00 PM	0	56	4	0	1	60	0	0	0	0	0	0	0	0	0	0	0	125	71	68	0	2	264	324	
3:15 PM	0	51	6	0	0	57	0	0	0	0	0	0	0	0	0	1	0	134	103	76	0	2	313	370	
3:30 PM	0	78	4	0	3	82	0	0	0	0	0	0	0	0	0	9	0	129	83	66	0	5	278	360	
3:45 PM	0	56	1	0	1	57	0	0	0	0	0	0	0	0	0	5	0	144	64	82	0	1	290	347	
Hourly Total	0	241	15	0	5	256	0	0	0	0	0	0	0	0	0	15	0	532	321	292	0	10	1145	1401	
4:00 PM	0	33	5	0	0	38	0	0	0	0	0	0	0	0	0	2	0	125	85	87	0	2	297	335	
4:15 PM	0	67	6	0	0	73	0	0	0	0	0	0	0	0	0	4	0	108	77	86	0	5	271	344	
4:30 PM	0	62	1	0	2	63	0	0	0	0	0	0	0	0	0	5	0	145	80	70	0	1	295	358	
4:45 PM	0	71	6	0	0	77	0	0	0	0	2	0	0	0	0	6	0	150	93	84	0	5	327	404	
Hourly Total	0	233	18	0	2	251	0	0	0	0	2	0	0	0	0	17	0	528	335	327	0	13	1190	1441	

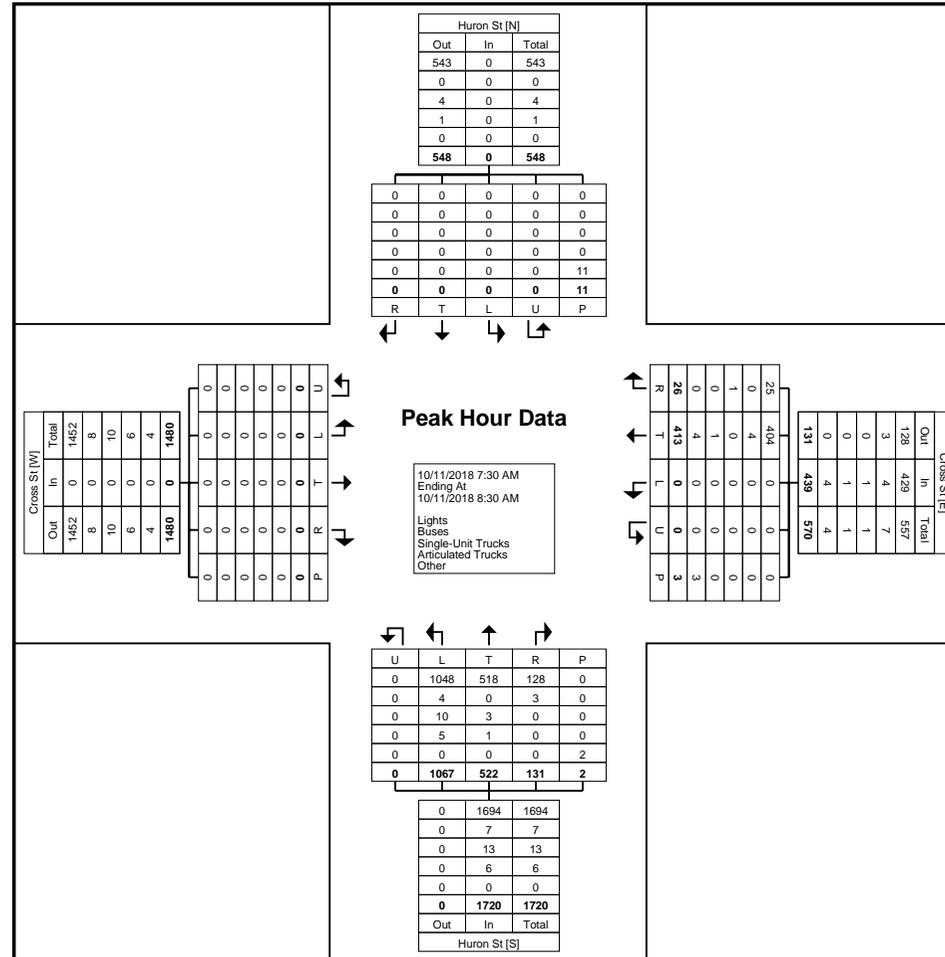
5:00 PM	0	70	1	0	1	71	0	0	0	0	0	0	0	0	0	7	0	138	107	99	0	2	344	415	
5:15 PM	0	62	4	0	0	66	0	0	0	0	1	0	0	0	0	2	0	166	93	87	0	8	346	412	
5:30 PM	0	50	5	0	2	55	0	0	0	0	1	0	0	0	0	4	0	120	94	93	0	2	307	362	
5:45 PM	0	67	2	0	0	69	0	0	0	0	0	0	0	0	0	2	0	143	76	77	0	2	296	365	
Hourly Total	0	249	12	0	3	261	0	0	0	0	2	0	0	0	0	15	0	567	370	356	0	14	1293	1554	
Grand Total	0	2021	127	0	19	2148	0	0	0	0	9	0	0	0	0	80	0	5040	2904	1820	0	59	9764	11912	
Approach %	0.0	94.1	5.9	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	51.6	29.7	18.6	0.0	-	-	-	
Total %	0.0	17.0	1.1	0.0	-	18.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	42.3	24.4	15.3	0.0	-	-	82.0	-
Lights	0	1971	120	0	-	2091	0	0	0	0	-	0	0	0	0	-	0	4977	2851	1782	0	-	-	9610	11701
% Lights	-	97.5	94.5	-	-	97.3	-	-	-	-	-	-	-	-	-	-	-	98.8	98.2	97.9	-	-	-	98.4	98.2
Buses	0	25	5	0	-	30	0	0	0	0	-	0	0	0	0	-	0	14	6	21	0	-	-	41	71
% Buses	-	1.2	3.9	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	0.3	0.2	1.2	-	-	-	0.4	0.6
Single-Unit Trucks	0	9	2	0	-	11	0	0	0	0	-	0	0	0	0	-	0	38	30	14	0	-	-	82	93
% Single-Unit Trucks	-	0.4	1.6	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	0.8	1.0	0.8	-	-	-	0.8	0.8
Articulated Trucks	0	6	0	0	-	6	0	0	0	0	-	0	0	0	0	-	0	11	17	2	0	-	-	30	36
% Articulated Trucks	-	0.3	0.0	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	0.2	0.6	0.1	-	-	-	0.3	0.3
Bicycles on Road	0	10	0	0	-	10	0	0	0	0	-	0	0	0	0	-	0	0	0	1	0	-	-	1	11
% Bicycles on Road	-	0.5	0.0	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.1	-	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-	6	-	-	-	-	-	2	-	-	-
% Bicycles on Crosswalk	-	-	-	-	10.5	-	-	-	-	11.1	-	-	-	-	-	7.5	-	-	-	-	-	3.4	-	-	-
Pedestrians	-	-	-	-	17	-	-	-	-	8	-	-	-	-	-	74	-	-	-	-	-	57	-	-	-
% Pedestrians	-	-	-	-	89.5	-	-	-	-	88.9	-	-	-	-	-	92.5	-	-	-	-	-	96.6	-	-	-



Turning Movement Data Plot

### Turning Movement Peak Hour Data (7:30 AM)

Start Time	Cross St Westbound						Cross St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:30 AM	0	117	11	0	1	128	0	0	0	0	0	0	0	0	0	0	5	0	292	142	24	0	0	458	586
7:45 AM	0	131	5	0	0	136	0	0	0	0	0	0	0	0	0	0	4	0	274	138	37	0	1	449	585
8:00 AM	0	85	7	0	0	92	0	0	0	0	0	0	0	0	0	1	0	249	126	32	0	0	407	499	
8:15 AM	0	80	3	0	2	83	0	0	0	0	0	0	0	0	0	1	0	252	116	38	0	1	406	489	
<b>Total</b>	0	413	26	0	3	439	0	0	0	0	0	0	0	0	0	11	0	1067	522	131	0	2	1720	2159	
Approach %	0.0	94.1	5.9	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	62.0	30.3	7.6	0.0	-	-
Total %	0.0	19.1	1.2	0.0	-	20.3	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	49.4	24.2	6.1	0.0	-	79.7	-
PHF	0.000	0.788	0.591	0.000	-	0.807	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	0.000	0.914	0.919	0.862	0.000	-	0.939	0.921
Lights	0	404	25	0	-	429	0	0	0	0	-	0	0	0	0	0	-	0	1048	518	128	0	-	1694	2123
% Lights	-	97.8	96.2	-	-	97.7	-	-	-	-	-	-	-	-	-	-	-	-	98.2	99.2	97.7	-	-	98.5	98.3
Buses	0	4	0	0	-	4	0	0	0	0	-	0	0	0	0	0	-	0	4	0	3	0	-	7	11
% Buses	-	1.0	0.0	-	-	0.9	-	-	-	-	-	-	-	-	-	-	-	-	0.4	0.0	2.3	-	-	0.4	0.5
Single-Unit Trucks	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	-	0	10	3	0	0	-	13	14	
% Single-Unit Trucks	-	0.0	3.8	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	0.9	0.6	0.0	-	-	0.8	0.6	
Articulated Trucks	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	-	0	5	1	0	0	-	6	7	
% Articulated Trucks	-	0.2	0.0	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	0.5	0.2	0.0	-	-	0.3	0.3	
Bicycles on Road	0	4	0	0	-	4	0	0	0	0	-	0	0	0	0	-	0	0	0	0	0	0	-	0	4
% Bicycles on Road	-	1.0	0.0	-	-	0.9	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	-	0.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	0	-	-	-	-	-	11	-	-	-	-	-	2	-	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-



Turning Movement Peak Hour Data Plot (7:30 AM)

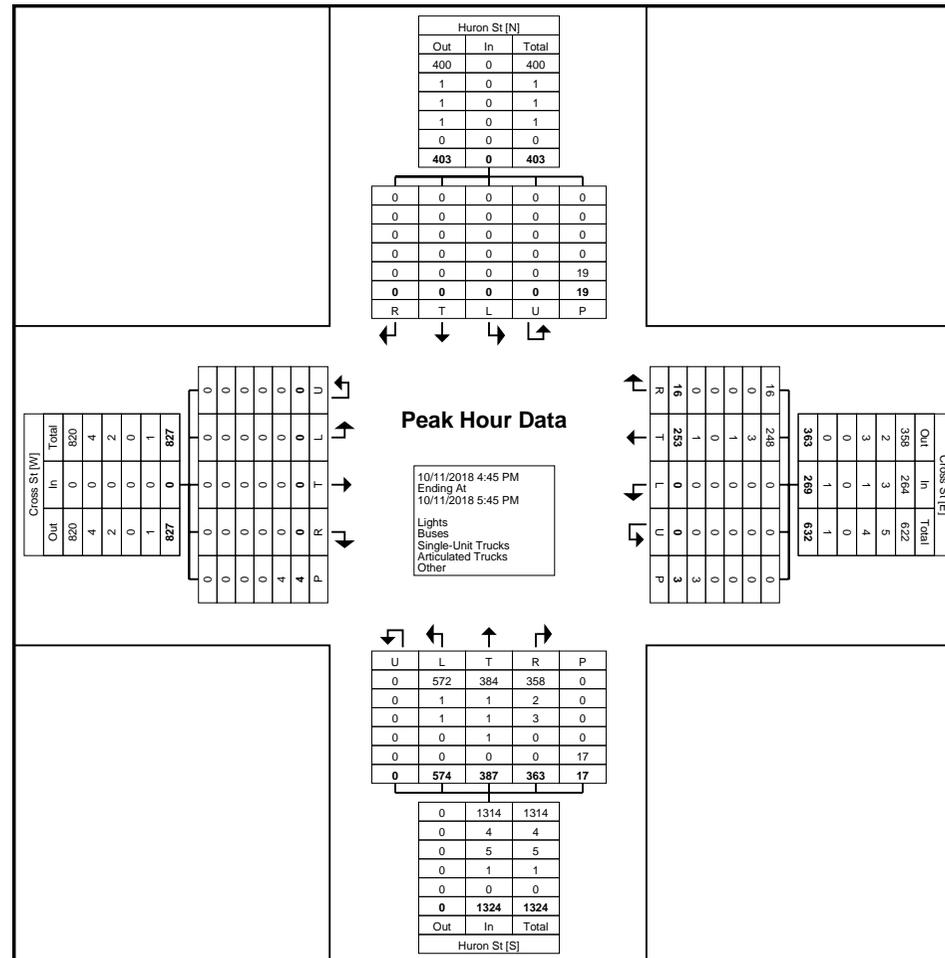
### Turning Movement Peak Hour Data (11:45 AM)

Start Time	Cross St Westbound						Cross St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
11:45 AM	0	64	1	0	0	65	0	0	0	0	0	0	0	0	0	0	0	0	126	82	52	0	1	260	325
12:00 PM	0	51	3	0	1	54	0	0	0	0	0	0	0	0	0	0	2	0	149	83	58	0	0	290	344
12:15 PM	0	43	4	0	0	47	0	0	0	0	0	0	0	0	0	7	0	136	97	54	0	2	287	334	
12:30 PM	0	47	4	0	0	51	0	0	0	0	2	0	0	0	0	0	0	129	85	46	0	2	260	311	
<b>Total</b>	0	205	12	0	1	217	0	0	0	0	2	0	0	0	0	9	0	540	347	210	0	5	1097	1314	
Approach %	0.0	94.5	5.5	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	49.2	31.6	19.1	0.0	-	-	-
Total %	0.0	15.6	0.9	0.0	-	16.5	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	41.1	26.4	16.0	0.0	-	-	83.5	-
PHF	0.000	0.801	0.750	0.000	-	0.835	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	-	0.000	0.906	0.894	0.905	0.000	-	-	0.946	0.955
Lights	0	201	12	0	-	213	0	0	0	0	-	0	0	0	0	-	0	535	335	207	0	-	-	1077	1290
% Lights	-	98.0	100.0	-	-	98.2	-	-	-	-	-	-	-	-	-	-	-	99.1	96.5	98.6	-	-	-	98.2	98.2
Buses	0	3	0	0	-	3	0	0	0	0	-	0	0	0	0	-	0	1	1	2	0	-	-	4	7
% Buses	-	1.5	0.0	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	0.2	0.3	1.0	-	-	-	0.4	0.5
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0	2	6	1	0	-	-	9	9
% Single-Unit Trucks	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.4	1.7	0.5	-	-	-	0.8	0.7
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0	2	5	0	0	-	-	7	7
% Articulated Trucks	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.4	1.4	0.0	-	-	-	0.6	0.5
Bicycles on Road	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	-	0	0	0	0	0	0	-	0	1
% Bicycles on Road	-	0.5	0.0	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.0	-	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	-	11.1	-	-	-	-	-	-	20.0	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	2	-	-	-	-	-	8	-	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	88.9	-	-	-	-	-	-	80.0	-	-



### Turning Movement Peak Hour Data (4:45 PM)

Start Time	Cross St Westbound						Cross St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:45 PM	0	71	6	0	0	77	0	0	0	0	2	0	0	0	0	0	6	0	150	93	84	0	5	327	404
5:00 PM	0	70	1	0	1	71	0	0	0	0	0	0	0	0	0	0	7	0	138	107	99	0	2	344	415
5:15 PM	0	62	4	0	0	66	0	0	0	0	1	0	0	0	0	0	2	0	166	93	87	0	8	346	412
5:30 PM	0	50	5	0	2	55	0	0	0	0	1	0	0	0	0	0	4	0	120	94	93	0	2	307	362
<b>Total</b>	<b>0</b>	<b>253</b>	<b>16</b>	<b>0</b>	<b>3</b>	<b>269</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>574</b>	<b>387</b>	<b>363</b>	<b>0</b>	<b>17</b>	<b>1324</b>	<b>1593</b>
Approach %	0.0	94.1	5.9	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	43.4	29.2	27.4	0.0	-	-	-
Total %	0.0	15.9	1.0	0.0	-	16.9	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	36.0	24.3	22.8	0.0	-	83.1	-
PHF	0.000	0.891	0.667	0.000	-	0.873	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	0.000	0.864	0.904	0.917	0.000	-	0.957	0.960
Lights	0	248	16	0	-	264	0	0	0	0	-	0	0	0	0	0	-	0	572	384	358	0	-	1314	1578
% Lights	-	98.0	100.0	-	-	98.1	-	-	-	-	-	-	-	-	-	-	-	-	99.7	99.2	98.6	-	-	99.2	99.1
Buses	0	3	0	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	1	1	2	0	-	4	7
% Buses	-	1.2	0.0	-	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.3	0.6	-	-	0.3	0.4
Single-Unit Trucks	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1	1	3	0	-	5	6
% Single-Unit Trucks	-	0.4	0.0	-	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.3	0.8	-	-	0.4	0.4
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1
% Articulated Trucks	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.3	0.0	-	-	0.1	0.1
Bicycles on Road	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	-	0	0	0	0	0	0	-	0	1
% Bicycles on Road	-	0.4	0.0	-	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	33.3	-	-	-	-	25.0	-	-	-	-	10.5	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	3	-	-	-	-	17	-	-	-	-	-	-	-	17	-	-
% Pedestrians	-	-	-	-	66.7	-	-	-	-	75.0	-	-	-	-	89.5	-	-	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (4:45 PM)

### Turning Movement Data

Start Time	Spring St Westbound						Harriet St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	103	5	0	0	108	3	22	0	0	0	25	0	0	0	0	1	0	23	174	46	0	0	243	376
7:15 AM	0	125	6	0	0	131	2	20	0	0	0	22	0	0	0	0	1	0	46	334	52	0	1	432	585
7:30 AM	0	117	13	0	2	130	3	23	0	0	0	26	0	0	0	0	0	0	77	419	58	0	0	554	710
7:45 AM	0	115	5	0	2	120	2	18	0	0	0	20	0	0	0	0	0	0	101	363	113	0	1	577	717
Hourly Total	0	460	29	0	4	489	10	83	0	0	0	93	0	0	0	0	2	0	247	1290	269	0	2	1806	2388
8:00 AM	0	106	5	0	0	111	6	44	0	0	0	50	0	0	0	0	1	0	95	312	77	0	0	484	645
8:15 AM	0	85	8	0	0	93	4	36	0	0	0	40	0	0	0	0	0	0	86	331	94	0	0	511	644
8:30 AM	0	86	4	0	0	90	5	37	0	0	0	42	0	0	0	0	1	0	56	336	74	0	0	466	598
8:45 AM	0	78	5	0	0	83	7	47	0	0	2	54	0	0	0	0	1	0	65	319	68	0	4	452	589
Hourly Total	0	355	22	0	0	377	22	164	0	0	2	186	0	0	0	0	3	0	302	1298	313	0	4	1913	2476
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	61	4	0	0	65	7	32	0	0	2	39	0	0	0	0	4	0	23	140	48	0	2	211	315
11:15 AM	0	61	5	0	0	66	12	46	0	0	5	58	0	0	0	0	0	0	36	171	48	0	3	255	379
11:30 AM	0	92	8	0	0	100	7	42	0	0	1	49	0	0	0	0	1	0	20	184	50	0	2	254	403
11:45 AM	0	75	4	0	1	79	10	48	0	0	1	58	0	0	0	0	0	0	35	181	59	0	1	275	412
Hourly Total	0	289	21	0	1	310	36	168	0	0	9	204	0	0	0	0	5	0	114	676	205	0	8	995	1509
12:00 PM	0	70	10	0	0	80	6	39	0	0	1	45	0	0	0	0	0	0	41	217	48	0	2	306	431
12:15 PM	0	71	5	0	0	76	12	46	0	0	0	58	0	0	0	0	0	0	43	206	58	0	0	307	441
12:30 PM	0	74	7	0	0	81	11	37	0	0	0	48	0	0	0	0	5	0	49	197	58	0	0	304	433
12:45 PM	0	78	8	0	0	86	4	37	0	0	0	41	0	0	0	0	1	0	44	171	66	0	0	281	408
Hourly Total	0	293	30	0	0	323	33	159	0	0	1	192	0	0	0	0	6	0	177	791	230	0	2	1198	1713
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	82	6	0	0	88	7	56	0	0	0	63	0	0	0	0	1	0	46	156	60	0	3	262	413
2:15 PM	0	95	6	0	0	101	10	53	0	0	0	63	0	0	0	0	0	0	47	183	77	0	1	307	471
2:30 PM	0	107	2	0	0	109	6	41	0	0	1	47	0	0	0	0	0	0	47	173	62	0	0	282	438
2:45 PM	0	98	3	0	2	101	7	50	0	0	2	57	0	0	0	0	1	0	42	196	71	0	7	309	467
Hourly Total	0	382	17	0	2	399	30	200	0	0	3	230	0	0	0	0	2	0	182	708	270	0	11	1160	1789
3:00 PM	0	114	7	0	0	121	7	51	0	0	0	58	0	0	0	0	0	0	54	190	95	0	1	339	518
3:15 PM	0	118	4	0	0	122	11	76	0	0	1	87	0	0	0	0	2	0	52	218	94	0	1	364	573
3:30 PM	0	118	10	0	0	128	5	73	0	0	0	78	0	0	0	0	0	0	64	216	98	0	0	378	584
3:45 PM	0	107	11	0	0	118	5	79	0	0	1	84	0	0	0	0	3	0	44	215	92	0	1	351	553
Hourly Total	0	457	32	0	0	489	28	279	0	0	2	307	0	0	0	0	5	0	214	839	379	0	3	1432	2228
4:00 PM	0	113	4	0	1	117	10	68	0	0	0	78	0	0	0	0	0	0	51	194	75	0	1	320	515
4:15 PM	0	98	3	0	0	101	9	74	0	0	0	83	0	0	0	0	0	0	54	209	82	0	2	345	529
4:30 PM	0	111	5	0	1	116	10	50	0	0	0	60	0	0	0	0	0	0	33	226	67	0	2	326	502
4:45 PM	0	110	11	0	0	121	7	93	0	0	0	100	0	0	0	0	2	0	45	248	81	0	5	374	595
Hourly Total	0	432	23	0	2	455	36	285	0	0	0	321	0	0	0	0	2	0	183	877	305	0	10	1365	2141

5:00 PM	0	129	9	0	0	138	6	64	0	0	3	70	0	0	0	0	0	0	57	231	87	0	0	375	583
5:15 PM	0	106	5	0	0	111	7	79	0	0	0	86	0	0	0	0	0	0	42	236	90	0	0	368	565
5:30 PM	0	97	10	0	0	107	11	63	0	0	0	74	0	0	0	0	0	0	43	221	83	0	0	347	528
5:45 PM	0	96	6	0	0	102	5	75	0	0	1	80	0	0	0	0	0	0	47	265	73	0	1	385	567
Hourly Total	0	428	30	0	0	458	29	281	0	0	4	310	0	0	0	0	0	0	189	953	333	0	1	1475	2243
Grand Total	0	3096	204	0	9	3300	224	1619	0	0	21	1843	0	0	0	0	25	0	1608	7432	2304	0	41	11344	16487
Approach %	0.0	93.8	6.2	0.0	-	-	12.2	87.8	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	14.2	65.5	20.3	0.0	-	-	-
Total %	0.0	18.8	1.2	0.0	-	20.0	1.4	9.8	0.0	0.0	-	11.2	0.0	0.0	0.0	0.0	-	0.0	9.8	45.1	14.0	0.0	-	68.8	-
Lights	0	3056	196	0	-	3252	186	1573	0	0	-	1759	0	0	0	0	-	0	1585	7280	2273	0	-	11138	16149
% Lights	-	98.7	96.1	-	-	98.5	83.0	97.2	-	-	-	95.4	-	-	-	-	-	-	98.6	98.0	98.7	-	-	98.2	97.9
Buses	0	20	5	0	-	25	34	30	0	0	-	64	0	0	0	0	-	0	7	34	4	0	-	45	134
% Buses	-	0.6	2.5	-	-	0.8	15.2	1.9	-	-	-	3.5	-	-	-	-	-	-	0.4	0.5	0.2	-	-	0.4	0.8
Single-Unit Trucks	0	17	3	0	-	20	4	15	0	0	-	19	0	0	0	0	-	0	15	74	22	0	-	111	150
% Single-Unit Trucks	-	0.5	1.5	-	-	0.6	1.8	0.9	-	-	-	1.0	-	-	-	-	-	-	0.9	1.0	1.0	-	-	1.0	0.9
Articulated Trucks	0	3	0	0	-	3	0	1	0	0	-	1	0	0	0	0	-	0	0	43	5	0	-	48	52
% Articulated Trucks	-	0.1	0.0	-	-	0.1	0.0	0.1	-	-	-	0.1	-	-	-	-	-	-	0.0	0.6	0.2	-	-	0.4	0.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	1	0	0	-	2	2
% Bicycles on Road	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.1	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	22.2	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	4.9	-	-
Pedestrians	-	-	-	-	7	-	-	-	-	21	-	-	-	-	-	25	-	-	-	-	-	-	39	-	-
% Pedestrians	-	-	-	-	77.8	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	95.1	-	-



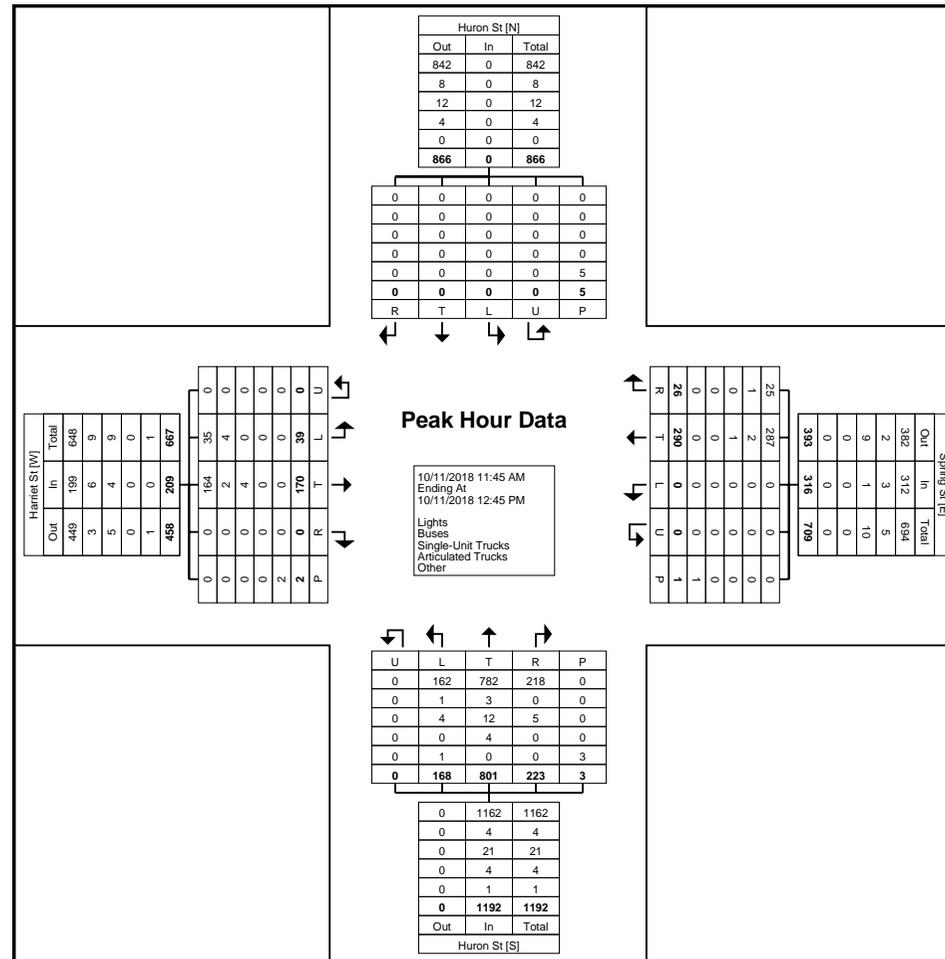
### Turning Movement Peak Hour Data (7:30 AM)

Start Time	Spring St Westbound						Harriet St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:30 AM	0	117	13	0	2	130	3	23	0	0	0	26	0	0	0	0	0	0	77	419	58	0	0	554	710
7:45 AM	0	115	5	0	2	120	2	18	0	0	0	20	0	0	0	0	0	0	101	363	113	0	1	577	717
8:00 AM	0	106	5	0	0	111	6	44	0	0	0	50	0	0	0	0	1	0	95	312	77	0	0	484	645
8:15 AM	0	85	8	0	0	93	4	36	0	0	0	40	0	0	0	0	0	0	86	331	94	0	0	511	644
<b>Total</b>	0	423	31	0	4	454	15	121	0	0	0	136	0	0	0	0	1	0	359	1425	342	0	1	2126	2716
Approach %	0.0	93.2	6.8	0.0	-	-	11.0	89.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	16.9	67.0	16.1	0.0	-	-	-
Total %	0.0	15.6	1.1	0.0	-	16.7	0.6	4.5	0.0	0.0	-	5.0	0.0	0.0	0.0	0.0	-	0.0	13.2	52.5	12.6	0.0	-	78.3	-
PHF	0.000	0.904	0.596	0.000	-	0.873	0.625	0.688	0.000	0.000	-	0.680	0.000	0.000	0.000	0.000	-	0.000	0.889	0.850	0.757	0.000	-	0.921	0.947
Lights	0	418	30	0	-	448	11	116	0	0	-	127	0	0	0	0	-	0	356	1396	338	0	-	2090	2665
% Lights	-	98.8	96.8	-	-	98.7	73.3	95.9	-	-	-	93.4	-	-	-	-	-	-	99.2	98.0	98.8	-	-	98.3	98.1
Buses	0	4	1	0	-	5	4	3	0	0	-	7	0	0	0	0	-	0	3	7	0	0	-	10	22
% Buses	-	0.9	3.2	-	-	1.1	26.7	2.5	-	-	-	5.1	-	-	-	-	-	-	0.8	0.5	0.0	-	-	0.5	0.8
Single-Unit Trucks	0	1	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	0	14	3	0	-	17	19
% Single-Unit Trucks	-	0.2	0.0	-	-	0.2	0.0	0.8	-	-	-	0.7	-	-	-	-	-	-	0.0	1.0	0.9	-	-	0.8	0.7
Articulated Trucks	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	8	1	0	-	9	10
% Articulated Trucks	-	0.0	0.0	-	-	0.0	0.0	0.8	-	-	-	0.7	-	-	-	-	-	-	0.0	0.6	0.3	-	-	0.4	0.4
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-



### Turning Movement Peak Hour Data (11:45 AM)

Start Time	Spring St Westbound						Harriet St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
11:45 AM	0	75	4	0	1	79	10	48	0	0	1	58	0	0	0	0	0	0	35	181	59	0	1	275	412
12:00 PM	0	70	10	0	0	80	6	39	0	0	1	45	0	0	0	0	0	0	41	217	48	0	2	306	431
12:15 PM	0	71	5	0	0	76	12	46	0	0	0	58	0	0	0	0	0	0	43	206	58	0	0	307	441
12:30 PM	0	74	7	0	0	81	11	37	0	0	0	48	0	0	0	0	5	0	49	197	58	0	0	304	433
<b>Total</b>	0	290	26	0	1	316	39	170	0	0	2	209	0	0	0	0	5	0	168	801	223	0	3	1192	1717
Approach %	0.0	91.8	8.2	0.0	-	-	18.7	81.3	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	14.1	67.2	18.7	0.0	-	-	-
Total %	0.0	16.9	1.5	0.0	-	18.4	2.3	9.9	0.0	0.0	-	12.2	0.0	0.0	0.0	0.0	-	0.0	9.8	46.7	13.0	0.0	-	69.4	-
PHF	0.000	0.967	0.650	0.000	-	0.975	0.813	0.885	0.000	0.000	-	0.901	0.000	0.000	0.000	0.000	-	0.000	0.857	0.923	0.945	0.000	-	0.971	0.973
Lights	0	287	25	0	-	312	35	164	0	0	-	199	0	0	0	0	-	0	162	782	218	0	-	1162	1673
% Lights	-	99.0	96.2	-	-	98.7	89.7	96.5	-	-	-	95.2	-	-	-	-	-	-	96.4	97.6	97.8	-	-	97.5	97.4
Buses	0	2	1	0	-	3	4	2	0	0	-	6	0	0	0	0	-	0	1	3	0	0	-	4	13
% Buses	-	0.7	3.8	-	-	0.9	10.3	1.2	-	-	-	2.9	-	-	-	-	-	-	0.6	0.4	0.0	-	-	0.3	0.8
Single-Unit Trucks	0	1	0	0	-	1	0	4	0	0	-	4	0	0	0	0	-	0	4	12	5	0	-	21	26
% Single-Unit Trucks	-	0.3	0.0	-	-	0.3	0.0	2.4	-	-	-	1.9	-	-	-	-	-	-	2.4	1.5	2.2	-	-	1.8	1.5
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	4	0	0	-	4	4
% Articulated Trucks	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.5	0.0	-	-	0.3	0.2
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	1	1
% Bicycles on Road	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.6	0.0	0.0	-	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	100.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	5	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	0.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (11:45 AM)

### Turning Movement Peak Hour Data (4:45 PM)

Start Time	Spring St Westbound						Harriet St Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:45 PM	0	110	11	0	0	121	7	93	0	0	0	100	0	0	0	0	2	0	45	248	81	0	5	374	595
5:00 PM	0	129	9	0	0	138	6	64	0	0	3	70	0	0	0	0	0	0	57	231	87	0	0	375	583
5:15 PM	0	106	5	0	0	111	7	79	0	0	0	86	0	0	0	0	0	0	42	236	90	0	0	368	565
5:30 PM	0	97	10	0	0	107	11	63	0	0	0	74	0	0	0	0	0	0	43	221	83	0	0	347	528
<b>Total</b>	0	442	35	0	0	477	31	299	0	0	3	330	0	0	0	0	2	0	187	936	341	0	5	1464	2271
Approach %	0.0	92.7	7.3	0.0	-	-	9.4	90.6	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	12.8	63.9	23.3	0.0	-	-	-
Total %	0.0	19.5	1.5	0.0	-	21.0	1.4	13.2	0.0	0.0	-	14.5	0.0	0.0	0.0	0.0	-	0.0	8.2	41.2	15.0	0.0	-	64.5	-
PHF	0.000	0.857	0.795	0.000	-	0.864	0.705	0.804	0.000	0.000	-	0.825	0.000	0.000	0.000	0.000	-	0.000	0.820	0.944	0.947	0.000	-	0.976	0.954
Lights	0	439	35	0	-	474	26	293	0	0	-	319	0	0	0	0	-	0	186	921	339	0	-	1446	2239
% Lights	-	99.3	100.0	-	-	99.4	83.9	98.0	-	-	-	96.7	-	-	-	-	-	-	99.5	98.4	99.4	-	-	98.8	98.6
Buses	0	1	0	0	-	1	4	1	0	0	-	5	0	0	0	0	-	0	0	4	0	0	-	4	10
% Buses	-	0.2	0.0	-	-	0.2	12.9	0.3	-	-	-	1.5	-	-	-	-	-	-	0.0	0.4	0.0	-	-	0.3	0.4
Single-Unit Trucks	0	2	0	0	-	2	1	5	0	0	-	6	0	0	0	0	-	0	1	5	2	0	-	8	16
% Single-Unit Trucks	-	0.5	0.0	-	-	0.4	3.2	1.7	-	-	-	1.8	-	-	-	-	-	-	0.5	0.5	0.6	-	-	0.5	0.7
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	6	0	0	-	6	6
% Articulated Trucks	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.6	0.0	-	-	0.4	0.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	20.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	80.0	-	-



### Turning Movement Data

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	103	78	0	0	181	6	78	0	0	1	84	0	0	0	0	4	0	19	163	15	0	1	197	462
7:15 AM	0	157	95	0	0	252	6	67	0	0	0	73	0	0	0	0	4	0	28	245	29	0	0	302	627
7:30 AM	0	194	146	0	1	340	13	101	0	0	0	114	0	0	0	0	1	0	29	285	8	0	0	322	776
7:45 AM	0	182	145	0	0	327	26	105	0	0	2	131	0	0	0	0	2	0	20	267	12	0	4	299	757
Hourly Total	0	636	464	0	1	1100	51	351	0	0	3	402	0	0	0	0	11	0	96	960	64	0	5	1120	2622
8:00 AM	0	138	119	0	1	257	17	104	0	0	1	121	0	0	0	0	3	0	16	267	22	0	2	305	683
8:15 AM	0	157	128	0	0	285	19	116	0	0	2	135	0	0	0	0	4	0	20	265	29	0	2	314	734
8:30 AM	0	159	154	0	2	313	25	133	0	0	2	158	0	0	0	0	4	0	25	268	11	0	3	304	775
8:45 AM	0	127	124	0	1	251	32	122	0	0	2	154	0	0	0	0	3	0	13	246	25	0	0	284	689
Hourly Total	0	581	525	0	4	1106	93	475	0	0	7	568	0	0	0	0	14	0	74	1046	87	0	7	1207	2881
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	106	55	0	2	161	24	142	0	0	0	166	0	0	0	0	15	0	24	129	26	1	1	180	507
11:15 AM	0	119	77	0	5	196	28	159	0	0	4	187	0	0	0	0	4	0	27	126	39	0	3	192	575
11:30 AM	0	139	73	0	1	212	26	144	0	0	1	170	0	0	0	0	3	0	25	152	23	0	5	200	582
11:45 AM	0	132	70	0	2	202	20	157	0	0	3	177	0	0	0	0	8	0	23	140	32	0	2	195	574
Hourly Total	0	496	275	0	10	771	98	602	0	0	8	700	0	0	0	0	30	0	99	547	120	1	11	767	2238
12:00 PM	0	116	77	0	5	193	23	172	0	0	1	195	0	0	0	0	5	0	22	174	44	0	11	240	628
12:15 PM	0	129	90	0	1	219	20	164	0	1	8	185	0	0	0	0	15	0	32	179	36	0	4	247	651
12:30 PM	0	123	89	0	1	212	33	182	0	0	2	215	0	0	0	0	5	0	21	124	30	0	5	175	602
12:45 PM	0	138	63	0	0	201	37	164	0	1	3	202	0	0	0	0	19	0	20	130	38	0	13	188	591
Hourly Total	0	506	319	0	7	825	113	682	0	2	14	797	0	0	0	0	44	0	95	607	148	0	33	850	2472
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	134	69	0	0	203	18	197	0	0	7	215	0	0	0	0	4	0	16	139	28	0	8	183	601
2:15 PM	0	164	68	0	3	232	38	184	0	0	1	222	0	0	0	0	4	0	21	128	27	0	9	176	630
2:30 PM	0	150	74	0	5	224	15	187	0	0	2	202	0	0	0	0	3	0	18	135	30	0	6	183	609
2:45 PM	0	116	71	2	2	189	28	229	0	0	6	257	0	0	0	0	3	0	22	141	52	0	8	215	661
Hourly Total	0	564	282	2	10	848	99	797	0	0	16	896	0	0	0	0	14	0	77	543	137	0	31	757	2501
3:00 PM	0	142	74	0	3	216	17	189	0	0	7	206	0	0	0	0	6	0	27	164	47	0	6	238	660
3:15 PM	0	156	106	0	2	262	37	234	0	0	0	271	0	1	0	0	4	1	18	189	47	0	12	254	788
3:30 PM	0	149	66	0	2	215	34	312	0	0	2	346	0	0	0	0	6	0	20	164	54	0	5	238	799
3:45 PM	0	169	76	0	1	245	43	252	0	0	4	295	0	0	0	0	8	0	28	208	39	0	4	275	815
Hourly Total	0	616	322	0	8	938	131	987	0	0	13	1118	0	1	0	0	24	1	93	725	187	0	27	1005	3062
4:00 PM	0	133	69	0	0	202	30	208	0	0	4	238	0	0	0	0	4	0	17	179	40	0	11	236	676
4:15 PM	0	131	76	0	1	207	30	215	0	0	3	245	0	0	0	0	11	0	23	152	51	0	3	226	678
4:30 PM	0	161	86	0	1	247	29	252	0	0	3	281	0	0	0	0	12	0	24	176	48	0	2	248	776
4:45 PM	0	141	70	0	2	211	25	219	0	0	2	244	0	1	0	0	5	1	28	193	48	0	2	269	725
Hourly Total	0	566	301	0	4	867	114	894	0	0	12	1008	0	1	0	0	32	1	92	700	187	0	18	979	2855

5:00 PM	0	164	89	0	3	253	34	253	0	0	6	287	0	0	0	0	2	0	31	215	42	0	5	288	828
5:15 PM	0	166	105	0	2	271	37	244	0	0	1	281	0	0	0	0	16	0	28	164	62	0	5	254	806
5:30 PM	0	170	87	1	2	258	43	255	0	0	1	298	0	0	0	0	3	0	30	170	41	0	1	241	797
5:45 PM	0	152	81	0	6	233	36	222	0	0	11	258	1	0	0	0	16	1	36	194	44	0	8	274	766
Hourly Total	0	652	362	1	13	1015	150	974	0	0	19	1124	1	0	0	0	37	1	125	743	189	0	19	1057	3197
Grand Total	0	4617	2850	3	57	7470	849	5762	0	2	92	6613	1	2	0	0	206	3	751	5871	1119	1	151	7742	21828
Approach %	0.0	61.8	38.2	0.0	-	-	12.8	87.1	0.0	0.0	-	-	33.3	66.7	0.0	0.0	-	-	9.7	75.8	14.5	0.0	-	-	-
Total %	0.0	21.2	13.1	0.0	-	34.2	3.9	26.4	0.0	0.0	-	30.3	0.0	0.0	0.0	0.0	-	0.0	3.4	26.9	5.1	0.0	-	35.5	-
Lights	0	4470	2775	3	-	7248	820	5587	0	2	-	6409	1	2	0	0	-	3	738	5755	1041	1	-	7535	21195
% Lights	-	96.8	97.4	100.0	-	97.0	96.6	97.0	-	100.0	-	96.9	100.0	100.0	-	-	-	100.0	98.3	98.0	93.0	100.0	-	97.3	97.1
Buses	0	28	42	0	-	70	20	85	0	0	-	105	0	0	0	0	-	0	4	50	8	0	-	62	237
% Buses	-	0.6	1.5	0.0	-	0.9	2.4	1.5	-	0.0	-	1.6	0.0	0.0	-	-	-	0.0	0.5	0.9	0.7	0.0	-	0.8	1.1
Single-Unit Trucks	0	71	23	0	-	94	6	70	0	0	-	76	0	0	0	0	-	0	8	35	37	0	-	80	250
% Single-Unit Trucks	-	1.5	0.8	0.0	-	1.3	0.7	1.2	-	0.0	-	1.1	0.0	0.0	-	-	-	0.0	1.1	0.6	3.3	0.0	-	1.0	1.1
Articulated Trucks	0	47	10	0	-	57	2	18	0	0	-	20	0	0	0	0	-	0	1	29	33	0	-	63	140
% Articulated Trucks	-	1.0	0.4	0.0	-	0.8	0.2	0.3	-	0.0	-	0.3	0.0	0.0	-	-	-	0.0	0.1	0.5	2.9	0.0	-	0.8	0.6
Bicycles on Road	0	1	0	0	-	1	1	2	0	0	-	3	0	0	0	0	-	0	0	2	0	0	-	2	6
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	0.1	0.0	-	0.0	-	0.0	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	5	-	-	-	-	-	5	-	-	-	-	-	8	-	-
% Bicycles on Crosswalk	-	-	-	-	1.8	-	-	-	-	-	5.4	-	-	-	-	-	2.4	-	-	-	-	-	5.3	-	-
Pedestrians	-	-	-	-	56	-	-	-	-	-	87	-	-	-	-	-	201	-	-	-	-	-	143	-	-
% Pedestrians	-	-	-	-	98.2	-	-	-	-	-	94.6	-	-	-	-	-	97.6	-	-	-	-	-	94.7	-	-



### Turning Movement Peak Hour Data (7:30 AM)

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:30 AM	0	194	146	0	1	340	13	101	0	0	0	114	0	0	0	0	1	0	29	285	8	0	0	322	776
7:45 AM	0	182	145	0	0	327	26	105	0	0	2	131	0	0	0	0	2	0	20	267	12	0	4	299	757
8:00 AM	0	138	119	0	1	257	17	104	0	0	1	121	0	0	0	0	3	0	16	267	22	0	2	305	683
8:15 AM	0	157	128	0	0	285	19	116	0	0	2	135	0	0	0	0	4	0	20	265	29	0	2	314	734
<b>Total</b>	<b>0</b>	<b>671</b>	<b>538</b>	<b>0</b>	<b>2</b>	<b>1209</b>	<b>75</b>	<b>426</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>501</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>85</b>	<b>1084</b>	<b>71</b>	<b>0</b>	<b>8</b>	<b>1240</b>	<b>2950</b>
Approach %	0.0	55.5	44.5	0.0	-	-	15.0	85.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	6.9	87.4	5.7	0.0	-	-	-
Total %	0.0	22.7	18.2	0.0	-	41.0	2.5	14.4	0.0	0.0	-	17.0	0.0	0.0	0.0	0.0	-	0.0	2.9	36.7	2.4	0.0	-	42.0	-
PHF	0.000	0.865	0.921	0.000	-	0.889	0.721	0.918	0.000	0.000	-	0.928	0.000	0.000	0.000	0.000	-	0.000	0.733	0.951	0.612	0.000	-	0.963	0.950
Lights	0	647	529	0	-	1176	70	411	0	0	-	481	0	0	0	0	-	0	84	1063	61	0	-	1208	2865
% Lights	-	96.4	98.3	-	-	97.3	93.3	96.5	-	-	-	96.0	-	-	-	-	-	-	98.8	98.1	85.9	-	-	97.4	97.1
Buses	0	5	3	0	-	8	3	12	0	0	-	15	0	0	0	0	-	0	0	5	0	0	-	5	28
% Buses	-	0.7	0.6	-	-	0.7	4.0	2.8	-	-	-	3.0	-	-	-	-	-	-	0.0	0.5	0.0	-	-	0.4	0.9
Single-Unit Trucks	0	13	3	0	-	16	0	1	0	0	-	1	0	0	0	0	-	0	0	12	6	0	-	18	35
% Single-Unit Trucks	-	1.9	0.6	-	-	1.3	0.0	0.2	-	-	-	0.2	-	-	-	-	-	-	0.0	1.1	8.5	-	-	1.5	1.2
Articulated Trucks	0	6	3	0	-	9	1	2	0	0	-	3	0	0	0	0	-	0	1	4	4	0	-	9	21
% Articulated Trucks	-	0.9	0.6	-	-	0.7	1.3	0.5	-	-	-	0.6	-	-	-	-	-	-	1.2	0.4	5.6	-	-	0.7	0.7
Bicycles on Road	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	-	0.0	0.0	-	-	0.0	1.3	0.0	-	-	-	0.2	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	30.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	5	-	-	-	-	-	7	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	70.0	-	-	-	-	-	100.0	-	-



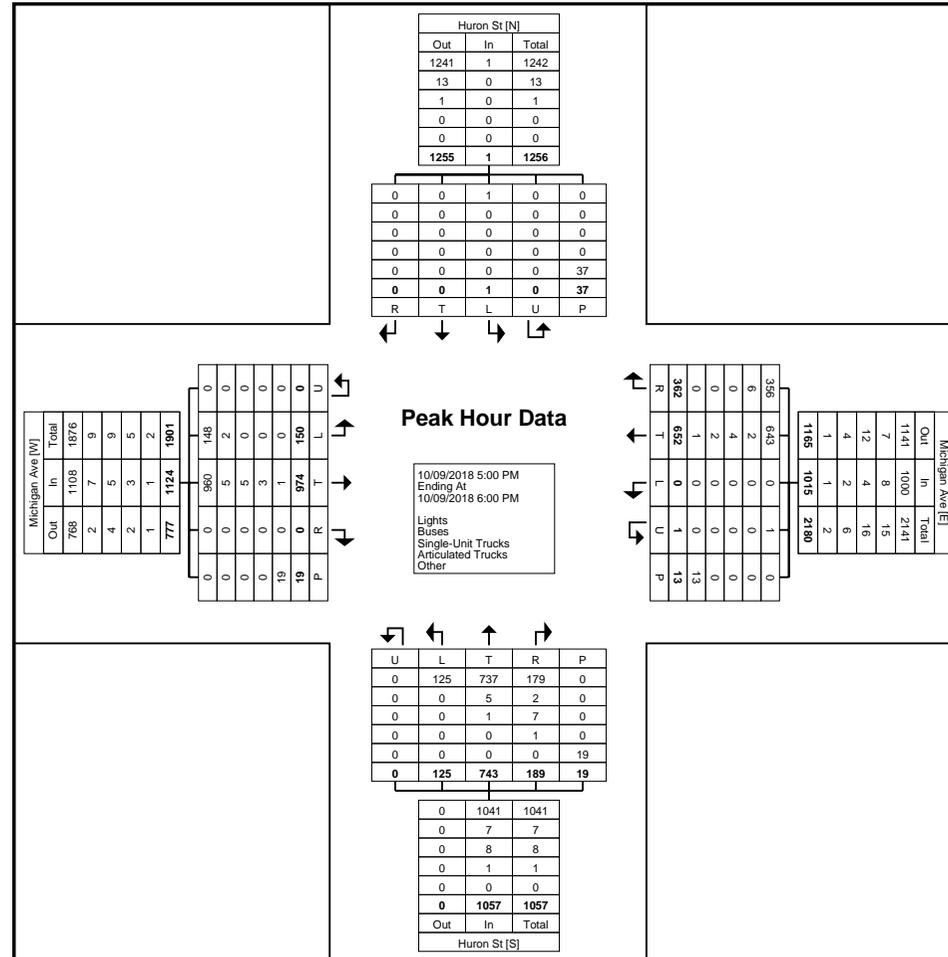
### Turning Movement Peak Hour Data (12:00 PM)

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
12:00 PM	0	116	77	0	5	193	23	172	0	0	1	195	0	0	0	0	5	0	22	174	44	0	11	240	628
12:15 PM	0	129	90	0	1	219	20	164	0	1	8	185	0	0	0	0	15	0	32	179	36	0	4	247	651
12:30 PM	0	123	89	0	1	212	33	182	0	0	2	215	0	0	0	0	5	0	21	124	30	0	5	175	602
12:45 PM	0	138	63	0	0	201	37	164	0	1	3	202	0	0	0	0	19	0	20	130	38	0	13	188	591
<b>Total</b>	<b>0</b>	<b>506</b>	<b>319</b>	<b>0</b>	<b>7</b>	<b>825</b>	<b>113</b>	<b>682</b>	<b>0</b>	<b>2</b>	<b>14</b>	<b>797</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>44</b>	<b>0</b>	<b>95</b>	<b>607</b>	<b>148</b>	<b>0</b>	<b>33</b>	<b>850</b>	<b>2472</b>
Approach %	0.0	61.3	38.7	0.0	-	-	14.2	85.6	0.0	0.3	-	-	0.0	0.0	0.0	0.0	-	-	11.2	71.4	17.4	0.0	-	-	-
Total %	0.0	20.5	12.9	0.0	-	33.4	4.6	27.6	0.0	0.1	-	32.2	0.0	0.0	0.0	0.0	-	0.0	3.8	24.6	6.0	0.0	-	34.4	-
PHF	0.000	0.917	0.886	0.000	-	0.942	0.764	0.937	0.000	0.500	-	0.927	0.000	0.000	0.000	0.000	-	0.000	0.742	0.848	0.841	0.000	-	0.860	0.949
Lights	0	491	309	0	-	800	105	664	0	2	-	771	0	0	0	0	-	0	88	589	141	0	-	818	2389
% Lights	-	97.0	96.9	-	-	97.0	92.9	97.4	-	100.0	-	96.7	-	-	-	-	-	-	92.6	97.0	95.3	-	-	96.2	96.6
Buses	0	0	6	0	-	6	3	6	0	0	-	9	0	0	0	0	-	0	2	6	1	0	-	9	24
% Buses	-	0.0	1.9	-	-	0.7	2.7	0.9	-	0.0	-	1.1	-	-	-	-	-	-	2.1	1.0	0.7	-	-	1.1	1.0
Single-Unit Trucks	0	9	4	0	-	13	5	11	0	0	-	16	0	0	0	0	-	0	5	5	2	0	-	12	41
% Single-Unit Trucks	-	1.8	1.3	-	-	1.6	4.4	1.6	-	0.0	-	2.0	-	-	-	-	-	-	5.3	0.8	1.4	-	-	1.4	1.7
Articulated Trucks	0	6	0	0	-	6	0	1	0	0	-	1	0	0	0	0	-	0	0	6	4	0	-	10	17
% Articulated Trucks	-	1.2	0.0	-	-	0.7	0.0	0.1	-	0.0	-	0.1	-	-	-	-	-	-	0.0	1.0	2.7	-	-	1.2	0.7
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1
% Bicycles on Road	-	0.0	0.0	-	-	0.0	0.0	0.0	-	0.0	-	0.0	-	-	-	-	-	-	0.0	0.2	0.0	-	-	0.1	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	-	4	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	14.3	-	-	-	-	-	0.0	-	-	-	-	-	-	12.1	-	-
Pedestrians	-	-	-	-	7	-	-	-	-	12	-	-	-	-	44	-	-	-	-	-	-	-	29	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	85.7	-	-	-	-	100.0	-	-	-	-	-	-	-	87.9	-	-



### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Huron St Southbound						Huron St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
5:00 PM	0	164	89	0	3	253	34	253	0	0	6	287	0	0	0	0	2	0	31	215	42	0	5	288	828
5:15 PM	0	166	105	0	2	271	37	244	0	0	1	281	0	0	0	0	16	0	28	164	62	0	5	254	806
5:30 PM	0	170	87	1	2	258	43	255	0	0	1	298	0	0	0	0	3	0	30	170	41	0	1	241	797
5:45 PM	0	152	81	0	6	233	36	222	0	0	11	258	1	0	0	0	16	1	36	194	44	0	8	274	766
<b>Total</b>	<b>0</b>	<b>652</b>	<b>362</b>	<b>1</b>	<b>13</b>	<b>1015</b>	<b>150</b>	<b>974</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>1124</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>37</b>	<b>1</b>	<b>125</b>	<b>743</b>	<b>189</b>	<b>0</b>	<b>19</b>	<b>1057</b>	<b>3197</b>
Approach %	0.0	64.2	35.7	0.1	-	-	13.3	86.7	0.0	0.0	-	-	100.0	0.0	0.0	0.0	-	-	11.8	70.3	17.9	0.0	-	-	-
Total %	0.0	20.4	11.3	0.0	-	31.7	4.7	30.5	0.0	0.0	-	35.2	0.0	0.0	0.0	0.0	-	0.0	3.9	23.2	5.9	0.0	-	33.1	-
PHF	0.000	0.959	0.862	0.250	-	0.936	0.872	0.955	0.000	0.000	-	0.943	0.250	0.000	0.000	0.000	-	0.250	0.868	0.864	0.762	0.000	-	0.918	0.965
Lights	0	643	356	1	-	1000	148	960	0	0	-	1108	1	0	0	0	-	1	125	737	179	0	-	1041	3150
% Lights	-	98.6	98.3	100.0	-	98.5	98.7	98.6	-	-	-	98.6	100.0	-	-	-	-	100.0	100.0	99.2	94.7	-	-	98.5	98.5
Buses	0	2	6	0	-	8	2	5	0	0	-	7	0	0	0	0	-	0	0	5	2	0	-	7	22
% Buses	-	0.3	1.7	0.0	-	0.8	1.3	0.5	-	-	-	0.6	0.0	-	-	-	-	0.0	0.0	0.7	1.1	-	-	0.7	0.7
Single-Unit Trucks	0	4	0	0	-	4	0	5	0	0	-	5	0	0	0	0	-	0	0	1	7	0	-	8	17
% Single-Unit Trucks	-	0.6	0.0	0.0	-	0.4	0.0	0.5	-	-	-	0.4	0.0	-	-	-	-	0.0	0.0	0.1	3.7	-	-	0.8	0.5
Articulated Trucks	0	2	0	0	-	2	0	3	0	0	-	3	0	0	0	0	-	0	0	0	1	0	-	1	6
% Articulated Trucks	-	0.3	0.0	0.0	-	0.2	0.0	0.3	-	-	-	0.3	0.0	-	-	-	-	0.0	0.0	0.0	0.5	-	-	0.1	0.2
Bicycles on Road	0	1	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Bicycles on Road	-	0.2	0.0	0.0	-	0.1	0.0	0.1	-	-	-	0.1	0.0	-	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	5.3	-	-
Pedestrians	-	-	-	-	13	-	-	-	-	-	19	-	-	-	-	-	37	-	-	-	-	-	18	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	94.7	-	-

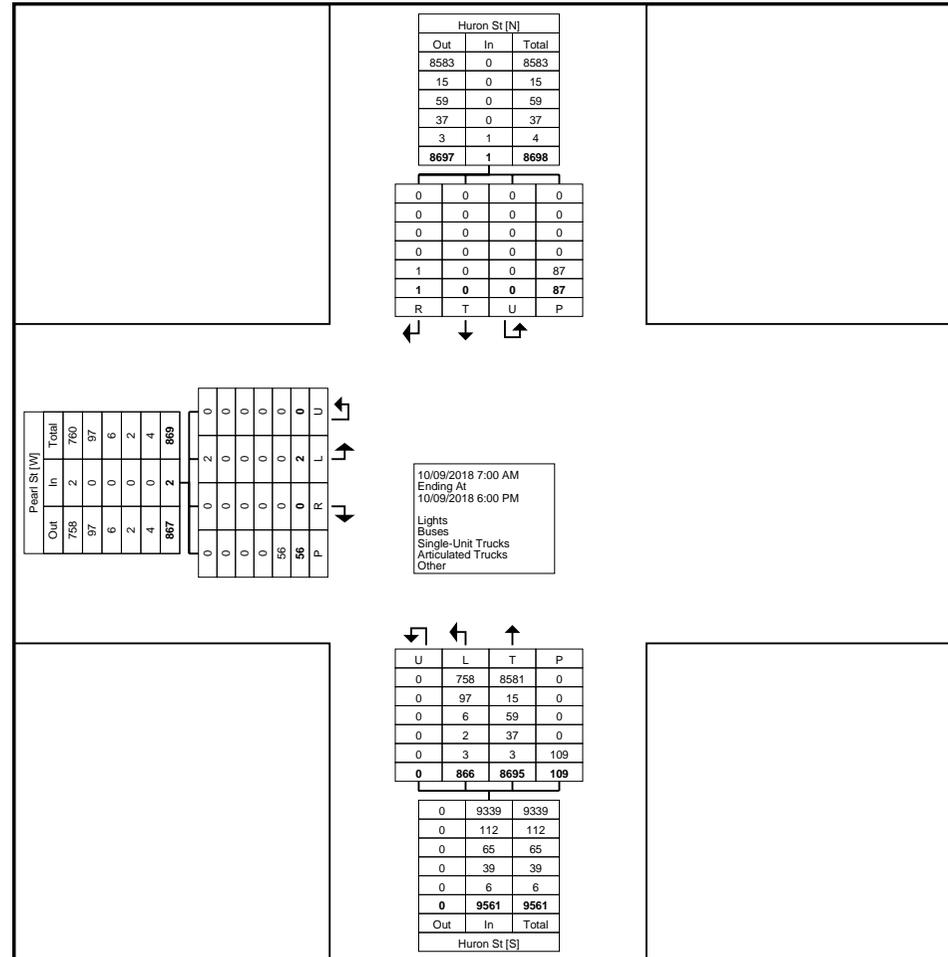


Turning Movement Peak Hour Data Plot (5:00 PM)

### Turning Movement Data

Start Time	Pearl St Eastbound					Huron St Southbound					Huron St Northbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	12	232	0	0	244	244
7:15 AM	0	0	0	2	0	0	0	0	0	0	11	337	0	0	348	348
7:30 AM	0	0	0	0	0	0	0	0	2	0	13	435	0	1	448	448
7:45 AM	0	0	0	0	0	0	0	0	0	0	18	438	0	2	456	456
Hourly Total	0	0	0	2	0	0	0	0	2	0	54	1442	0	3	1496	1496
8:00 AM	0	0	0	0	0	0	0	0	6	0	20	383	0	5	403	403
8:15 AM	0	0	0	1	0	0	0	0	2	0	22	395	0	3	417	417
8:30 AM	0	0	0	1	0	0	0	0	0	0	28	422	0	0	450	450
8:45 AM	0	0	0	1	0	0	0	0	2	0	24	387	0	2	411	411
Hourly Total	0	0	0	3	0	0	0	0	10	0	94	1587	0	10	1681	1681
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	0	0	2	0	0	0	0	4	0	24	177	0	7	201	201
11:15 AM	0	0	0	2	0	0	0	0	0	0	35	200	0	3	235	235
11:30 AM	0	0	0	0	0	0	0	0	7	0	18	219	0	4	237	237
11:45 AM	1	0	0	2	1	0	0	0	0	0	30	204	0	2	234	235
Hourly Total	1	0	0	6	1	0	0	0	11	0	107	800	0	16	907	908
12:00 PM	1	0	0	2	1	0	0	0	0	0	21	250	0	0	271	272
12:15 PM	0	0	0	3	0	0	0	0	0	0	23	274	0	3	297	297
12:30 PM	0	0	0	1	0	0	0	0	4	0	34	206	0	2	240	240
12:45 PM	0	0	0	1	0	0	0	0	1	0	44	191	0	4	235	235
Hourly Total	1	0	0	7	1	0	0	0	5	0	122	921	0	9	1043	1044
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	0	0	0	0	0	0	0	0	0	30	180	0	1	210	210
2:15 PM	0	0	0	4	0	0	0	0	3	0	24	219	0	1	243	243
2:30 PM	0	0	0	0	0	0	0	0	0	0	26	209	0	3	235	235
2:45 PM	0	0	0	4	0	0	0	0	1	0	31	217	0	3	248	248
Hourly Total	0	0	0	8	0	0	0	0	4	0	111	825	0	8	936	936
3:00 PM	0	0	0	1	0	0	0	0	4	0	25	227	0	5	252	252
3:15 PM	0	0	0	1	0	0	0	0	4	0	33	295	0	3	328	328
3:30 PM	0	0	0	1	0	0	0	0	1	0	23	243	0	6	266	266
3:45 PM	0	0	0	6	0	0	0	0	4	0	36	270	0	8	306	306
Hourly Total	0	0	0	9	0	0	0	0	13	0	117	1035	0	22	1152	1152
4:00 PM	0	0	0	4	0	0	0	0	5	0	29	246	0	5	275	275
4:15 PM	0	0	0	2	0	0	0	0	6	0	31	229	0	3	260	260
4:30 PM	0	0	0	3	0	0	0	0	3	0	32	264	0	3	296	296
4:45 PM	0	0	0	4	0	0	0	0	3	0	30	246	0	3	276	276
Hourly Total	0	0	0	13	0	0	0	0	17	0	122	985	0	14	1107	1107
5:00 PM	0	0	0	4	0	0	1	0	2	1	39	312	0	5	351	352

5:15 PM	0	0	0	2	0	0	0	0	7	0	31	272	0	7	303	303
5:30 PM	0	0	0	0	0	0	0	0	1	0	21	265	0	4	286	286
5:45 PM	0	0	0	2	0	0	0	0	15	0	48	251	0	11	299	299
Hourly Total	0	0	0	8	0	0	1	0	25	1	139	1100	0	27	1239	1240
Grand Total	2	0	0	56	2	0	1	0	87	1	866	8695	0	109	9561	9564
Approach %	100.0	0.0	0.0	-	-	0.0	100.0	0.0	-	-	9.1	90.9	0.0	-	-	-
Total %	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	9.1	90.9	0.0	-	100.0	-
Lights	2	0	0	-	2	0	0	0	-	0	758	8581	0	-	9339	9341
% Lights	100.0	-	-	-	100.0	-	0.0	-	-	0.0	87.5	98.7	-	-	97.7	97.7
Buses	0	0	0	-	0	0	0	0	-	0	97	15	0	-	112	112
% Buses	0.0	-	-	-	0.0	-	0.0	-	-	0.0	11.2	0.2	-	-	1.2	1.2
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	6	59	0	-	65	65
% Single-Unit Trucks	0.0	-	-	-	0.0	-	0.0	-	-	0.0	0.7	0.7	-	-	0.7	0.7
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	2	37	0	-	39	39
% Articulated Trucks	0.0	-	-	-	0.0	-	0.0	-	-	0.0	0.2	0.4	-	-	0.4	0.4
Bicycles on Road	0	0	0	-	0	0	1	0	-	1	3	3	0	-	6	7
% Bicycles on Road	0.0	-	-	-	0.0	-	100.0	-	-	100.0	0.3	0.0	-	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	5	-	-	-	-	4	-	-	-	-	7	-	-
% Bicycles on Crosswalk	-	-	-	8.9	-	-	-	-	4.6	-	-	-	-	6.4	-	-
Pedestrians	-	-	-	51	-	-	-	-	83	-	-	-	-	102	-	-
% Pedestrians	-	-	-	91.1	-	-	-	-	95.4	-	-	-	-	93.6	-	-



Turning Movement Data Plot

### Turning Movement Peak Hour Data (7:45 AM)

Start Time	Pearl St Eastbound					Huron St Southbound					Huron St Northbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	18	438	0	2	456	456
8:00 AM	0	0	0	0	0	0	0	0	6	0	20	383	0	5	403	403
8:15 AM	0	0	0	1	0	0	0	0	2	0	22	395	0	3	417	417
8:30 AM	0	0	0	1	0	0	0	0	0	0	28	422	0	0	450	450
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>88</b>	<b>1638</b>	<b>0</b>	<b>10</b>	<b>1726</b>	<b>1726</b>
Approach %	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	5.1	94.9	0.0	-	-	-
Total %	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	5.1	94.9	0.0	-	100.0	-
PHF	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	-	0.000	0.786	0.935	0.000	-	0.946	0.946
Lights	0	0	0	-	0	0	0	0	-	0	73	1613	0	-	1686	1686
% Lights	-	-	-	-	-	-	-	-	-	-	83.0	98.5	-	-	97.7	97.7
Buses	0	0	0	-	0	0	0	0	-	0	12	3	0	-	15	15
% Buses	-	-	-	-	-	-	-	-	-	-	13.6	0.2	-	-	0.9	0.9
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	2	16	0	-	18	18
% Single-Unit Trucks	-	-	-	-	-	-	-	-	-	-	2.3	1.0	-	-	1.0	1.0
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	1	6	0	-	7	7
% Articulated Trucks	-	-	-	-	-	-	-	-	-	-	1.1	0.4	-	-	0.4	0.4
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	-	-	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	12.5	-	-	-	-	10.0	-	-
Pedestrians	-	-	-	2	-	-	-	-	7	-	-	-	-	9	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	87.5	-	-	-	-	90.0	-	-



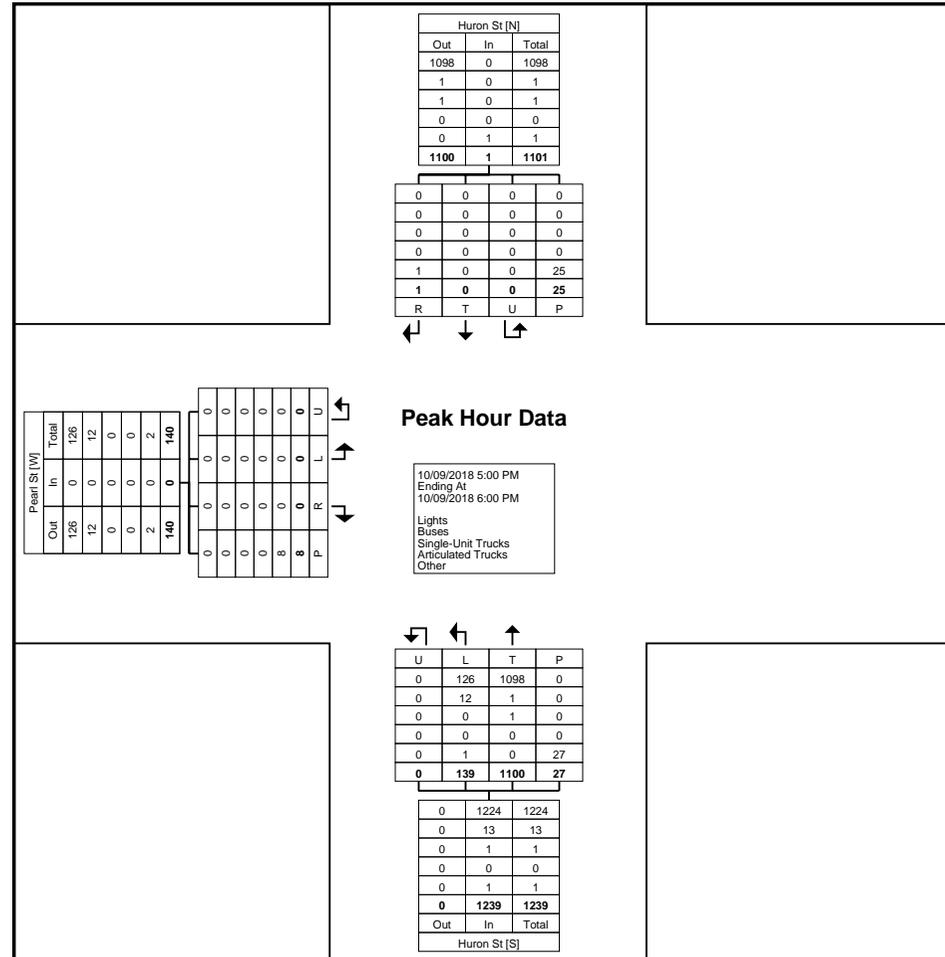
### Turning Movement Peak Hour Data (11:45 AM)

Start Time	Pearl St Eastbound					Huron St Southbound					Huron St Northbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
11:45 AM	1	0	0	2	1	0	0	0	0	0	30	204	0	2	234	235
12:00 PM	1	0	0	2	1	0	0	0	0	0	21	250	0	0	271	272
12:15 PM	0	0	0	3	0	0	0	0	0	0	23	274	0	3	297	297
12:30 PM	0	0	0	1	0	0	0	0	4	0	34	206	0	2	240	240
<b>Total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>108</b>	<b>934</b>	<b>0</b>	<b>7</b>	<b>1042</b>	<b>1044</b>
Approach %	100.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	10.4	89.6	0.0	-	-	-
Total %	0.2	0.0	0.0	-	0.2	0.0	0.0	0.0	-	0.0	10.3	89.5	0.0	-	99.8	-
PHF	0.500	0.000	0.000	-	0.500	0.000	0.000	0.000	-	0.000	0.794	0.852	0.000	-	0.877	0.879
Lights	2	0	0	-	2	0	0	0	-	0	94	910	0	-	1004	1006
% Lights	100.0	-	-	-	100.0	-	-	-	-	-	87.0	97.4	-	-	96.4	96.4
Buses	0	0	0	-	0	0	0	0	-	0	12	2	0	-	14	14
% Buses	0.0	-	-	-	0.0	-	-	-	-	-	11.1	0.2	-	-	1.3	1.3
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	1	17	0	-	18	18
% Single-Unit Trucks	0.0	-	-	-	0.0	-	-	-	-	-	0.9	1.8	-	-	1.7	1.7
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	4	0	-	4	4
% Articulated Trucks	0.0	-	-	-	0.0	-	-	-	-	-	0.0	0.4	-	-	0.4	0.4
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	1	1	0	-	2	2
% Bicycles on Road	0.0	-	-	-	0.0	-	-	-	-	-	0.9	0.1	-	-	0.2	0.2
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	12.5	-	-	-	-	25.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	7	-	-	-	-	3	-	-	-	-	7	-	-
% Pedestrians	-	-	-	87.5	-	-	-	-	75.0	-	-	-	-	100.0	-	-



### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Pearl St Eastbound					Huron St Southbound					Huron St Northbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
5:00 PM	0	0	0	4	0	0	1	0	2	1	39	312	0	5	351	352
5:15 PM	0	0	0	2	0	0	0	0	7	0	31	272	0	7	303	303
5:30 PM	0	0	0	0	0	0	0	0	1	0	21	265	0	4	286	286
5:45 PM	0	0	0	2	0	0	0	0	15	0	48	251	0	11	299	299
<b>Total</b>	0	0	0	8	0	0	1	0	25	1	139	1100	0	27	1239	1240
Approach %	0.0	0.0	0.0	-	-	0.0	100.0	0.0	-	-	11.2	88.8	0.0	-	-	-
Total %	0.0	0.0	0.0	-	0.0	0.0	0.1	0.0	-	0.1	11.2	88.7	0.0	-	99.9	-
PHF	0.000	0.000	0.000	-	0.000	0.000	0.250	0.000	-	0.250	0.724	0.881	0.000	-	0.882	0.881
Lights	0	0	0	-	0	0	0	0	-	0	126	1098	0	-	1224	1224
% Lights	-	-	-	-	-	-	0.0	-	-	0.0	90.6	99.8	-	-	98.8	98.7
Buses	0	0	0	-	0	0	0	0	-	0	12	1	0	-	13	13
% Buses	-	-	-	-	-	-	0.0	-	-	0.0	8.6	0.1	-	-	1.0	1.0
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Single-Unit Trucks	-	-	-	-	-	-	0.0	-	-	0.0	0.0	0.1	-	-	0.1	0.1
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	-	-	-	-	-	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	1	0	-	1	1	0	0	-	1	2
% Bicycles on Road	-	-	-	-	-	-	100.0	-	-	100.0	0.7	0.0	-	-	0.1	0.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	8	-	-	-	-	25	-	-	-	-	27	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (5:00 PM)

### Turning Movement Data

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Adams St Southbound						Adams St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	136	2	0	1	138	0	78	0	0	1	78	2	3	6	0	0	11	6	2	0	0	0	8	235
7:15 AM	0	183	1	0	1	184	0	89	2	0	2	91	2	1	4	0	3	7	7	4	3	0	0	14	296
7:30 AM	0	204	5	0	2	209	0	130	2	0	0	132	6	2	3	0	1	11	14	5	4	0	2	23	375
7:45 AM	1	211	7	0	6	219	1	126	4	0	1	131	2	1	6	0	1	9	18	22	2	0	2	42	401
Hourly Total	1	734	15	0	10	750	1	423	8	0	4	432	12	7	19	0	5	38	45	33	9	0	4	87	1307
8:00 AM	0	170	11	0	3	181	0	131	0	0	1	131	8	4	4	0	3	16	7	9	5	0	1	21	349
8:15 AM	0	163	6	0	1	169	1	142	0	0	1	143	4	3	5	0	1	12	4	3	0	0	3	7	331
8:30 AM	2	154	9	0	3	165	0	128	6	0	4	134	11	2	7	0	2	20	4	11	1	0	1	16	335
8:45 AM	1	145	9	0	2	155	0	129	3	0	2	132	4	3	4	0	2	11	9	12	3	0	2	24	322
Hourly Total	3	632	35	0	9	670	1	530	9	0	8	540	27	12	20	0	8	59	24	35	9	0	7	68	1337
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	5	115	17	0	8	137	11	139	4	0	2	154	6	4	7	0	5	17	12	7	8	0	2	27	335
11:15 AM	3	117	21	0	13	141	7	160	2	0	10	169	10	5	5	0	12	20	9	7	10	0	12	26	356
11:30 AM	7	144	15	0	11	166	2	130	2	0	4	134	8	6	6	0	7	20	3	7	8	0	5	18	338
11:45 AM	6	139	8	0	7	153	6	148	1	0	8	155	7	1	5	0	7	13	4	4	8	0	9	16	337
Hourly Total	21	515	61	0	39	597	26	577	9	0	24	612	31	16	23	0	31	70	28	25	34	0	28	87	1366
12:00 PM	1	142	8	0	9	151	3	156	2	0	3	161	5	7	10	0	4	22	9	13	12	0	6	34	368
12:15 PM	6	121	10	0	8	137	2	185	5	0	6	192	7	4	6	0	2	17	4	8	11	0	3	23	369
12:30 PM	3	131	9	0	10	143	7	162	3	0	8	172	12	6	4	0	6	22	19	9	11	0	11	39	376
12:45 PM	4	152	12	0	12	168	7	184	1	0	9	192	8	3	14	0	6	25	5	6	11	0	4	22	407
Hourly Total	14	546	39	0	39	599	19	687	11	0	26	717	32	20	34	0	18	86	37	36	45	0	24	118	1520
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	2	148	16	0	13	166	8	186	1	0	6	195	16	8	12	0	5	36	5	8	5	0	7	18	415
2:15 PM	3	161	9	0	19	173	4	171	3	0	4	178	7	2	11	0	8	20	6	9	5	0	4	20	391
2:30 PM	1	178	12	0	7	191	4	167	4	0	8	175	8	4	7	0	3	19	14	5	6	0	4	25	410
2:45 PM	4	168	3	0	8	175	2	173	4	0	4	179	11	7	11	0	3	29	6	8	10	0	10	24	407
Hourly Total	10	655	40	0	47	705	18	697	12	0	22	727	42	21	41	0	19	104	31	30	26	0	25	87	1623
3:00 PM	1	178	5	0	5	184	0	216	2	0	2	218	7	6	10	0	7	23	6	7	10	0	3	23	448
3:15 PM	2	161	6	0	10	169	0	227	9	0	5	236	8	3	13	0	2	24	12	3	7	0	0	22	451
3:30 PM	1	193	12	0	4	206	0	246	6	0	5	252	9	4	17	0	5	30	6	4	10	0	5	20	508
3:45 PM	1	176	10	0	9	187	1	265	5	0	6	271	9	10	12	0	7	31	13	11	9	0	3	33	522
Hourly Total	5	708	33	0	28	746	1	954	22	0	18	977	33	23	52	0	21	108	37	25	36	0	11	98	1929
4:00 PM	0	171	7	0	14	178	0	212	5	0	4	217	12	5	11	0	9	28	10	6	11	0	6	27	450
4:15 PM	0	157	12	0	18	169	2	225	4	0	3	231	8	6	5	0	7	19	13	8	11	0	6	32	451
4:30 PM	1	165	7	0	8	173	3	243	6	0	2	252	19	6	3	0	3	28	8	10	18	0	1	36	489
4:45 PM	2	170	10	0	8	182	0	237	1	0	2	238	5	3	11	0	10	19	7	9	13	0	4	29	468
Hourly Total	3	663	36	0	48	702	5	917	16	0	11	938	44	20	30	0	29	94	38	33	53	0	17	124	1858

5:00 PM	2	169	4	0	10	175	1	270	2	0	5	273	13	13	12	0	5	38	5	12	13	0	3	30	516
5:15 PM	2	178	5	0	13	185	1	267	2	0	2	270	17	4	6	0	3	27	1	6	7	0	1	14	496
5:30 PM	1	194	10	0	11	205	0	249	4	0	4	253	16	8	9	0	2	33	4	5	3	0	6	12	503
5:45 PM	1	153	6	0	14	160	4	220	1	0	2	225	6	6	12	0	9	24	4	6	4	0	6	14	423
Hourly Total	6	694	25	0	48	725	6	1006	9	0	13	1021	52	31	39	0	19	122	14	29	27	0	16	70	1938
Grand Total	63	5147	284	0	268	5494	77	5791	96	0	126	5964	273	150	258	0	150	681	254	246	239	0	132	739	12878
Approach %	1.1	93.7	5.2	0.0	-	-	1.3	97.1	1.6	0.0	-	-	40.1	22.0	37.9	0.0	-	-	34.4	33.3	32.3	0.0	-	-	-
Total %	0.5	40.0	2.2	0.0	-	42.7	0.6	45.0	0.7	0.0	-	46.3	2.1	1.2	2.0	0.0	-	5.3	2.0	1.9	1.9	0.0	-	5.7	-
Lights	63	5024	280	0	-	5367	75	5623	95	0	-	5793	236	132	209	0	-	577	252	246	235	0	-	733	12470
% Lights	100.0	97.6	98.6	-	-	97.7	97.4	97.1	99.0	-	-	97.1	86.4	88.0	81.0	-	-	84.7	99.2	100.0	98.3	-	-	99.2	96.8
Buses	0	30	1	0	-	31	1	65	0	0	-	66	33	15	40	0	-	88	2	0	2	0	-	4	189
% Buses	0.0	0.6	0.4	-	-	0.6	1.3	1.1	0.0	-	-	1.1	12.1	10.0	15.5	-	-	12.9	0.8	0.0	0.8	-	-	0.5	1.5
Single-Unit Trucks	0	62	3	0	-	65	0	71	1	0	-	72	3	0	7	0	-	10	0	0	2	0	-	2	149
% Single-Unit Trucks	0.0	1.2	1.1	-	-	1.2	0.0	1.2	1.0	-	-	1.2	1.1	0.0	2.7	-	-	1.5	0.0	0.0	0.8	-	-	0.3	1.2
Articulated Trucks	0	31	0	0	-	31	1	32	0	0	-	33	1	1	2	0	-	4	0	0	0	0	-	0	68
% Articulated Trucks	0.0	0.6	0.0	-	-	0.6	1.3	0.6	0.0	-	-	0.6	0.4	0.7	0.8	-	-	0.6	0.0	0.0	0.0	-	-	0.0	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	2
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	1.3	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	5	-	-
% Bicycles on Crosswalk	-	-	-	-	1.1	-	-	-	-	-	0.0	-	-	-	-	-	0.7	-	-	-	-	-	3.8	-	-
Pedestrians	-	-	-	-	265	-	-	-	-	-	126	-	-	-	-	-	149	-	-	-	-	-	127	-	-
% Pedestrians	-	-	-	-	98.9	-	-	-	-	-	100.0	-	-	-	-	-	99.3	-	-	-	-	-	96.2	-	-



### Turning Movement Peak Hour Data (7:30 AM)

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Adams St Southbound						Adams St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:30 AM	0	204	5	0	2	209	0	130	2	0	0	132	6	2	3	0	1	11	14	5	4	0	2	23	375
7:45 AM	1	211	7	0	6	219	1	126	4	0	1	131	2	1	6	0	1	9	18	22	2	0	2	42	401
8:00 AM	0	170	11	0	3	181	0	131	0	0	1	131	8	4	4	0	3	16	7	9	5	0	1	21	349
8:15 AM	0	163	6	0	1	169	1	142	0	0	1	143	4	3	5	0	1	12	4	3	0	0	3	7	331
<b>Total</b>	<b>1</b>	<b>748</b>	<b>29</b>	<b>0</b>	<b>12</b>	<b>778</b>	<b>2</b>	<b>529</b>	<b>6</b>	<b>0</b>	<b>3</b>	<b>537</b>	<b>20</b>	<b>10</b>	<b>18</b>	<b>0</b>	<b>6</b>	<b>48</b>	<b>43</b>	<b>39</b>	<b>11</b>	<b>0</b>	<b>8</b>	<b>93</b>	<b>1456</b>
Approach %	0.1	96.1	3.7	0.0	-	-	0.4	98.5	1.1	0.0	-	-	41.7	20.8	37.5	0.0	-	-	46.2	41.9	11.8	0.0	-	-	-
Total %	0.1	51.4	2.0	0.0	-	53.4	0.1	36.3	0.4	0.0	-	36.9	1.4	0.7	1.2	0.0	-	3.3	3.0	2.7	0.8	0.0	-	6.4	-
PHF	0.250	0.886	0.659	0.000	-	0.888	0.500	0.931	0.375	0.000	-	0.939	0.625	0.625	0.750	0.000	-	0.750	0.597	0.443	0.550	0.000	-	0.554	0.908
Lights	1	732	28	0	-	761	1	510	6	0	-	517	16	8	13	0	-	37	42	39	10	0	-	91	1406
% Lights	100.0	97.9	96.6	-	-	97.8	50.0	96.4	100.0	-	-	96.3	80.0	80.0	72.2	-	-	77.1	97.7	100.0	90.9	-	-	97.8	96.6
Buses	0	4	0	0	-	4	0	12	0	0	-	12	4	2	5	0	-	11	1	0	1	0	-	2	29
% Buses	0.0	0.5	0.0	-	-	0.5	0.0	2.3	0.0	-	-	2.2	20.0	20.0	27.8	-	-	22.9	2.3	0.0	9.1	-	-	2.2	2.0
Single-Unit Trucks	0	7	1	0	-	8	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	10
% Single-Unit Trucks	0.0	0.9	3.4	-	-	1.0	0.0	0.4	0.0	-	-	0.4	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.7
Articulated Trucks	0	5	0	0	-	5	1	5	0	0	-	6	0	0	0	0	-	0	0	0	0	0	-	0	11
% Articulated Trucks	0.0	0.7	0.0	-	-	0.6	50.0	0.9	0.0	-	-	1.1	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.8
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-
Pedestrians	-	-	-	-	12	-	-	-	-	3	-	-	-	-	-	6	-	-	-	-	-	8	-	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-



### Turning Movement Peak Hour Data (12:00 PM)

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Adams St Southbound						Adams St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
12:00 PM	1	142	8	0	9	151	3	156	2	0	3	161	5	7	10	0	4	22	9	13	12	0	6	34	368
12:15 PM	6	121	10	0	8	137	2	185	5	0	6	192	7	4	6	0	2	17	4	8	11	0	3	23	369
12:30 PM	3	131	9	0	10	143	7	162	3	0	8	172	12	6	4	0	6	22	19	9	11	0	11	39	376
12:45 PM	4	152	12	0	12	168	7	184	1	0	9	192	8	3	14	0	6	25	5	6	11	0	4	22	407
<b>Total</b>	14	546	39	0	39	599	19	687	11	0	26	717	32	20	34	0	18	86	37	36	45	0	24	118	1520
Approach %	2.3	91.2	6.5	0.0	-	-	2.6	95.8	1.5	0.0	-	-	37.2	23.3	39.5	0.0	-	-	31.4	30.5	38.1	0.0	-	-	-
Total %	0.9	35.9	2.6	0.0	-	39.4	1.3	45.2	0.7	0.0	-	47.2	2.1	1.3	2.2	0.0	-	5.7	2.4	2.4	3.0	0.0	-	7.8	-
PHF	0.583	0.898	0.813	0.000	-	0.891	0.679	0.928	0.550	0.000	-	0.934	0.667	0.714	0.607	0.000	-	0.860	0.487	0.692	0.938	0.000	-	0.756	0.934
Lights	14	535	39	0	-	588	19	663	11	0	-	693	27	17	27	0	-	71	37	36	44	0	-	117	1469
% Lights	100.0	98.0	100.0	-	-	98.2	100.0	96.5	100.0	-	-	96.7	84.4	85.0	79.4	-	-	82.6	100.0	100.0	97.8	-	-	99.2	96.6
Buses	0	2	0	0	-	2	0	4	0	0	-	4	4	2	5	0	-	11	0	0	1	0	-	1	18
% Buses	0.0	0.4	0.0	-	-	0.3	0.0	0.6	0.0	-	-	0.6	12.5	10.0	14.7	-	-	12.8	0.0	0.0	2.2	-	-	0.8	1.2
Single-Unit Trucks	0	8	0	0	-	8	0	16	0	0	-	16	0	0	1	0	-	1	0	0	0	0	-	0	25
% Single-Unit Trucks	0.0	1.5	0.0	-	-	1.3	0.0	2.3	0.0	-	-	2.2	0.0	0.0	2.9	-	-	1.2	0.0	0.0	0.0	-	-	0.0	1.6
Articulated Trucks	0	1	0	0	-	1	0	4	0	0	-	4	1	0	1	0	-	2	0	0	0	0	-	0	7
% Articulated Trucks	0.0	0.2	0.0	-	-	0.2	0.0	0.6	0.0	-	-	0.6	3.1	0.0	2.9	-	-	2.3	0.0	0.0	0.0	-	-	0.0	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	5.0	0.0	-	-	1.2	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	8.3	-	-
Pedestrians	-	-	-	-	39	-	-	-	-	-	26	-	-	-	-	-	18	-	-	-	-	-	22	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	91.7	-	-



### Turning Movement Peak Hour Data (4:45 PM)

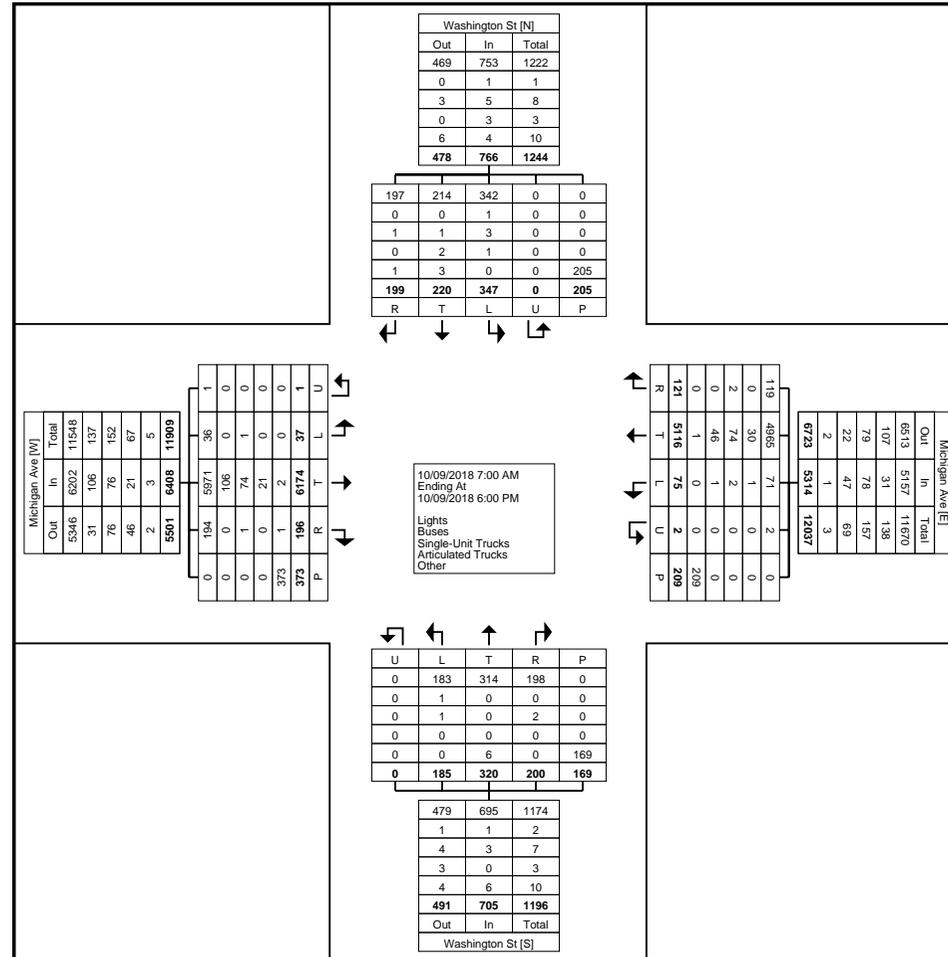
Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Adams St Southbound						Adams St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:45 PM	2	170	10	0	8	182	0	237	1	0	2	238	5	3	11	0	10	19	7	9	13	0	4	29	468
5:00 PM	2	169	4	0	10	175	1	270	2	0	5	273	13	13	12	0	5	38	5	12	13	0	3	30	516
5:15 PM	2	178	5	0	13	185	1	267	2	0	2	270	17	4	6	0	3	27	1	6	7	0	1	14	496
5:30 PM	1	194	10	0	11	205	0	249	4	0	4	253	16	8	9	0	2	33	4	5	3	0	6	12	503
<b>Total</b>	<b>7</b>	<b>711</b>	<b>29</b>	<b>0</b>	<b>42</b>	<b>747</b>	<b>2</b>	<b>1023</b>	<b>9</b>	<b>0</b>	<b>13</b>	<b>1034</b>	<b>51</b>	<b>28</b>	<b>38</b>	<b>0</b>	<b>20</b>	<b>117</b>	<b>17</b>	<b>32</b>	<b>36</b>	<b>0</b>	<b>14</b>	<b>85</b>	<b>1983</b>
Approach %	0.9	95.2	3.9	0.0	-	-	0.2	98.9	0.9	0.0	-	-	43.6	23.9	32.5	0.0	-	-	20.0	37.6	42.4	0.0	-	-	-
Total %	0.4	35.9	1.5	0.0	-	37.7	0.1	51.6	0.5	0.0	-	52.1	2.6	1.4	1.9	0.0	-	5.9	0.9	1.6	1.8	0.0	-	4.3	-
PHF	0.875	0.916	0.725	0.000	-	0.911	0.500	0.947	0.563	0.000	-	0.947	0.750	0.538	0.792	0.000	-	0.770	0.607	0.667	0.692	0.000	-	0.708	0.961
Lights	7	703	28	0	-	738	2	1009	9	0	-	1020	46	26	33	0	-	105	17	32	36	0	-	85	1948
% Lights	100.0	98.9	96.6	-	-	98.8	100.0	98.6	100.0	-	-	98.6	90.2	92.9	86.8	-	-	89.7	100.0	100.0	100.0	-	-	100.0	98.2
Buses	0	1	1	0	-	2	0	4	0	0	-	4	4	2	4	0	-	10	0	0	0	0	-	0	16
% Buses	0.0	0.1	3.4	-	-	0.3	0.0	0.4	0.0	-	-	0.4	7.8	7.1	10.5	-	-	8.5	0.0	0.0	0.0	-	-	0.0	0.8
Single-Unit Trucks	0	3	0	0	-	3	0	8	0	0	-	8	1	0	1	0	-	2	0	0	0	0	-	0	13
% Single-Unit Trucks	0.0	0.4	0.0	-	-	0.4	0.0	0.8	0.0	-	-	0.8	2.0	0.0	2.6	-	-	1.7	0.0	0.0	0.0	-	-	0.0	0.7
Articulated Trucks	0	4	0	0	-	4	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	6
% Articulated Trucks	0.0	0.6	0.0	-	-	0.5	0.0	0.2	0.0	-	-	0.2	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	2.4	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	41	-	-	-	-	-	13	-	-	-	-	-	20	-	-	-	-	-	14	-	-
% Pedestrians	-	-	-	-	97.6	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



### Turning Movement Data

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Washington St Southbound						Washington St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	120	1	0	0	121	0	85	1	0	1	86	1	2	0	0	3	3	0	0	0	1	0	210	
7:15 AM	0	179	0	0	1	179	0	73	0	0	0	73	1	2	5	0	3	8	0	3	1	0	0	264	
7:30 AM	1	209	0	0	0	210	0	111	0	0	0	111	1	1	3	0	3	5	11	23	6	0	1	366	
7:45 AM	1	186	3	0	1	190	0	121	1	0	8	122	6	0	2	0	3	8	22	36	6	0	1	384	
Hourly Total	2	694	4	0	2	700	0	390	2	0	9	392	9	5	10	0	12	24	33	62	13	0	3	108	1224
8:00 AM	0	159	1	0	2	160	0	121	3	0	4	124	2	2	4	0	2	8	8	18	4	0	2	30	322
8:15 AM	0	176	5	0	1	181	0	133	4	0	4	137	3	1	2	0	3	6	4	5	2	0	0	11	335
8:30 AM	0	175	5	0	5	180	0	153	4	0	6	157	3	2	1	0	2	6	6	29	10	0	0	45	388
8:45 AM	0	144	2	0	0	146	0	138	5	0	4	143	7	2	4	0	1	13	16	32	10	0	3	58	360
Hourly Total	0	654	13	0	8	667	0	545	16	0	18	561	15	7	11	0	8	33	34	84	26	0	5	144	1405
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	5	124	1	0	5	130	4	161	2	0	9	167	15	5	8	0	21	28	3	4	3	0	2	10	335
11:15 AM	1	134	4	0	7	139	1	174	2	0	14	177	8	12	6	0	8	26	3	6	5	0	5	14	356
11:30 AM	2	153	3	0	1	158	2	162	5	0	8	169	9	11	4	0	3	24	8	3	5	0	6	16	367
11:45 AM	2	147	7	0	7	156	3	156	8	0	10	167	12	10	7	0	5	29	4	6	6	0	3	16	368
Hourly Total	10	558	15	0	20	583	10	653	17	0	41	680	44	38	25	0	37	107	18	19	19	0	16	56	1426
12:00 PM	3	133	6	0	11	142	2	181	8	0	15	191	7	11	5	0	7	23	8	6	10	0	11	24	380
12:15 PM	9	144	6	0	8	159	2	180	7	0	11	189	13	8	6	0	9	27	4	9	5	0	4	18	393
12:30 PM	4	134	3	1	9	142	5	208	10	0	6	223	10	7	6	0	6	23	5	7	5	0	7	17	405
12:45 PM	8	148	4	0	15	160	3	180	10	0	14	193	9	5	12	0	10	26	1	8	10	0	8	19	398
Hourly Total	24	559	19	1	43	603	12	749	35	0	46	796	39	31	29	0	32	99	18	30	30	0	30	78	1576
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	3	142	3	0	10	148	4	202	3	0	11	209	13	12	12	0	10	37	5	8	1	0	10	14	408
2:15 PM	9	173	5	0	13	187	4	211	7	0	8	222	12	4	5	0	7	21	3	7	3	0	4	13	443
2:30 PM	8	171	2	0	16	181	1	194	5	0	22	200	10	5	6	0	8	21	4	6	4	0	5	14	416
2:45 PM	3	141	2	0	3	146	0	226	8	0	18	234	13	7	6	0	9	26	6	11	10	0	9	27	433
Hourly Total	23	627	12	0	42	662	9	833	23	0	59	865	48	28	29	0	34	105	18	32	18	0	28	68	1700
3:00 PM	2	152	2	0	9	156	0	195	7	0	18	202	6	19	9	0	8	34	5	5	5	0	9	15	407
3:15 PM	3	155	6	0	3	164	1	259	7	0	10	267	10	9	7	0	5	26	5	5	9	0	9	19	476
3:30 PM	1	160	4	0	13	165	0	304	7	0	13	311	18	8	8	0	3	34	7	9	15	0	8	31	541
3:45 PM	3	178	4	1	10	186	0	279	8	0	14	287	17	8	3	0	5	28	8	14	5	0	5	27	528
Hourly Total	9	645	16	1	35	671	1	1037	29	0	55	1067	51	44	27	0	21	122	25	33	34	0	31	92	1952
4:00 PM	1	143	2	0	6	146	1	217	9	0	22	227	17	15	9	0	8	41	7	7	4	0	9	18	432
4:15 PM	0	146	4	0	7	150	1	228	5	0	15	234	13	11	6	0	8	30	5	1	5	0	3	11	425
4:30 PM	2	182	4	0	6	188	1	256	6	1	18	264	17	3	9	0	4	29	3	9	8	0	2	20	501
4:45 PM	0	158	5	0	12	163	0	230	5	0	14	235	13	10	7	0	6	30	9	8	9	0	11	26	454
Hourly Total	3	629	15	0	31	647	3	931	25	1	69	960	60	39	31	0	26	130	24	25	26	0	25	75	1812

5:00 PM	0	190	5	0	5	195	0	255	9	0	24	264	21	11	10	0	4	42	4	13	14	0	10	31	532
5:15 PM	2	189	7	0	10	198	0	263	16	0	22	279	23	4	11	0	8	38	6	6	6	0	4	18	533
5:30 PM	1	191	10	0	7	202	2	275	16	0	12	293	21	9	8	0	6	38	1	7	8	0	7	16	549
5:45 PM	1	180	5	0	6	186	0	243	8	0	18	251	16	4	8	0	17	28	4	9	6	0	10	19	484
Hourly Total	4	750	27	0	28	781	2	1036	49	0	76	1087	81	28	37	0	35	146	15	35	34	0	31	84	2098
Grand Total	75	5116	121	2	209	5314	37	6174	196	1	373	6408	347	220	199	0	205	766	185	320	200	0	169	705	13193
Approach %	1.4	96.3	2.3	0.0	-	-	0.6	96.3	3.1	0.0	-	-	45.3	28.7	26.0	0.0	-	-	26.2	45.4	28.4	0.0	-	-	-
Total %	0.6	38.8	0.9	0.0	-	40.3	0.3	46.8	1.5	0.0	-	48.6	2.6	1.7	1.5	0.0	-	5.8	1.4	2.4	1.5	0.0	-	5.3	-
Lights	71	4965	119	2	-	5157	36	5971	194	1	-	6202	342	214	197	0	-	753	183	314	198	0	-	695	12807
% Lights	94.7	97.0	98.3	100.0	-	97.0	97.3	96.7	99.0	100.0	-	96.8	98.6	97.3	99.0	-	-	98.3	98.9	98.1	99.0	-	-	98.6	97.1
Buses	1	30	0	0	-	31	0	106	0	0	-	106	1	0	0	0	-	1	1	0	0	0	-	1	139
% Buses	1.3	0.6	0.0	0.0	-	0.6	0.0	1.7	0.0	0.0	-	1.7	0.3	0.0	0.0	-	-	0.1	0.5	0.0	0.0	-	-	0.1	1.1
Single-Unit Trucks	2	74	2	0	-	78	1	74	1	0	-	76	3	1	1	0	-	5	1	0	2	0	-	3	162
% Single-Unit Trucks	2.7	1.4	1.7	0.0	-	1.5	2.7	1.2	0.5	0.0	-	1.2	0.9	0.5	0.5	-	-	0.7	0.5	0.0	1.0	-	-	0.4	1.2
Articulated Trucks	1	46	0	0	-	47	0	21	0	0	-	21	1	2	0	0	-	3	0	0	0	0	-	0	71
% Articulated Trucks	1.3	0.9	0.0	0.0	-	0.9	0.0	0.3	0.0	0.0	-	0.3	0.3	0.9	0.0	-	-	0.4	0.0	0.0	0.0	-	-	0.0	0.5
Bicycles on Road	0	1	0	0	-	1	0	2	1	0	-	3	0	3	1	0	-	4	0	6	0	0	-	6	14
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.5	0.0	-	0.0	0.0	1.4	0.5	-	-	0.5	0.0	1.9	0.0	-	-	0.9	0.1
Bicycles on Crosswalk	-	-	-	-	11	-	-	-	-	-	16	-	-	-	-	-	6	-	-	-	-	-	8	-	-
% Bicycles on Crosswalk	-	-	-	-	5.3	-	-	-	-	-	4.3	-	-	-	-	-	2.9	-	-	-	-	-	4.7	-	-
Pedestrians	-	-	-	-	198	-	-	-	-	-	357	-	-	-	-	-	199	-	-	-	-	-	161	-	-
% Pedestrians	-	-	-	-	94.7	-	-	-	-	-	95.7	-	-	-	-	-	97.1	-	-	-	-	-	95.3	-	-



Turning Movement Data Plot

### Turning Movement Peak Hour Data (7:45 AM)

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Washington St Southbound						Washington St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:45 AM	1	186	3	0	1	190	0	121	1	0	8	122	6	0	2	0	3	8	22	36	6	0	1	64	384
8:00 AM	0	159	1	0	2	160	0	121	3	0	4	124	2	2	4	0	2	8	8	18	4	0	2	30	322
8:15 AM	0	176	5	0	1	181	0	133	4	0	4	137	3	1	2	0	3	6	4	5	2	0	0	11	335
8:30 AM	0	175	5	0	5	180	0	153	4	0	6	157	3	2	1	0	2	6	6	29	10	0	0	45	388
<b>Total</b>	1	696	14	0	9	711	0	528	12	0	22	540	14	5	9	0	10	28	40	88	22	0	3	150	1429
Approach %	0.1	97.9	2.0	0.0	-	-	0.0	97.8	2.2	0.0	-	-	50.0	17.9	32.1	0.0	-	-	26.7	58.7	14.7	0.0	-	-	-
Total %	0.1	48.7	1.0	0.0	-	49.8	0.0	36.9	0.8	0.0	-	37.8	1.0	0.3	0.6	0.0	-	2.0	2.8	6.2	1.5	0.0	-	10.5	-
PHF	0.250	0.935	0.700	0.000	-	0.936	0.000	0.863	0.750	0.000	-	0.860	0.583	0.625	0.563	0.000	-	0.875	0.455	0.611	0.550	0.000	-	0.586	0.921
Lights	1	671	13	0	-	685	0	497	12	0	-	509	14	4	9	0	-	27	40	88	21	0	-	149	1370
% Lights	100.0	96.4	92.9	-	-	96.3	-	94.1	100.0	-	-	94.3	100.0	80.0	100.0	-	-	96.4	100.0	100.0	95.5	-	-	99.3	95.9
Buses	0	4	0	0	-	4	0	24	0	0	-	24	0	0	0	0	-	0	0	0	0	0	-	0	28
% Buses	0.0	0.6	0.0	-	-	0.6	-	4.5	0.0	-	-	4.4	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	2.0
Single-Unit Trucks	0	14	1	0	-	15	0	4	0	0	-	4	0	0	0	0	-	0	0	0	1	0	-	1	20
% Single-Unit Trucks	0.0	2.0	7.1	-	-	2.1	-	0.8	0.0	-	-	0.7	0.0	0.0	0.0	-	-	0.0	0.0	0.0	4.5	-	-	0.7	1.4
Articulated Trucks	0	7	0	0	-	7	0	2	0	0	-	2	0	1	0	0	-	1	0	0	0	0	-	0	10
% Articulated Trucks	0.0	1.0	0.0	-	-	1.0	-	0.4	0.0	-	-	0.4	0.0	20.0	0.0	-	-	3.6	0.0	0.0	0.0	-	-	0.0	0.7
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	-	0.2	0.0	-	-	0.2	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	22.2	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	33.3	-	-
Pedestrians	-	-	-	-	7	-	-	-	-	-	22	-	-	-	-	-	10	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	77.8	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	66.7	-	-



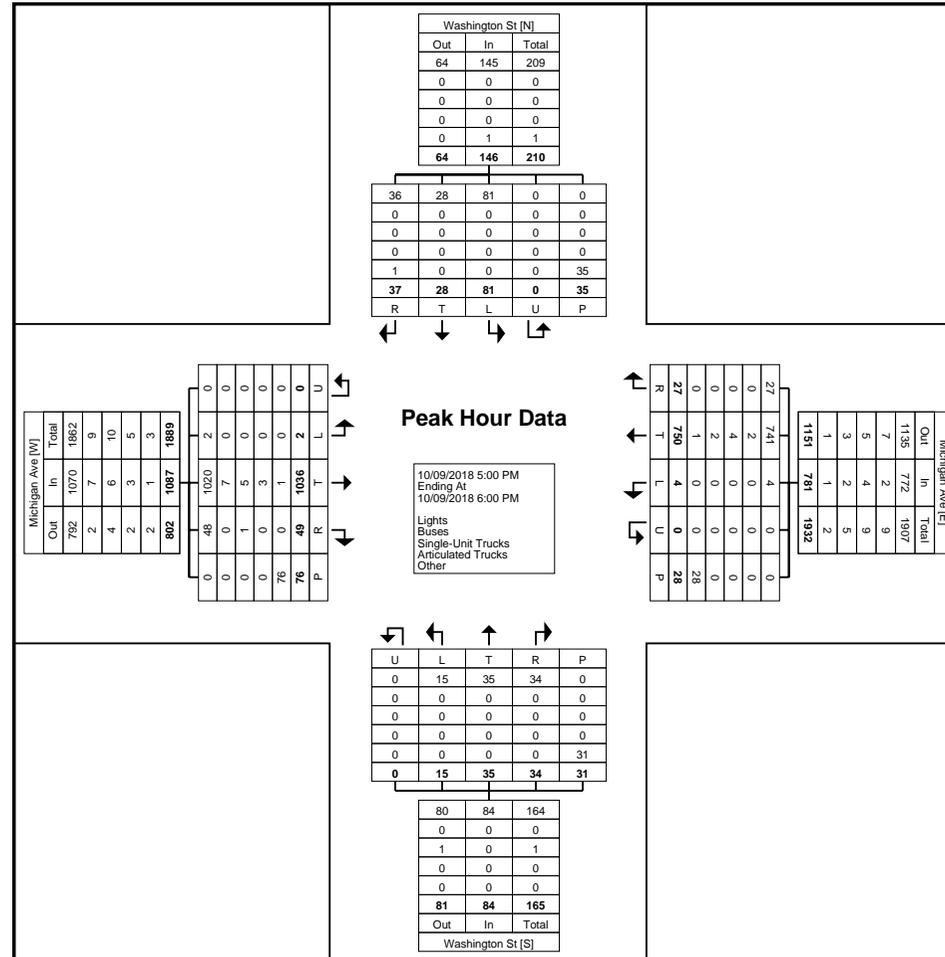
### Turning Movement Peak Hour Data (12:00 PM)

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Washington St Southbound						Washington St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
12:00 PM	3	133	6	0	11	142	2	181	8	0	15	191	7	11	5	0	7	23	8	6	10	0	11	24	380
12:15 PM	9	144	6	0	8	159	2	180	7	0	11	189	13	8	6	0	9	27	4	9	5	0	4	18	393
12:30 PM	4	134	3	1	9	142	5	208	10	0	6	223	10	7	6	0	6	23	5	7	5	0	7	17	405
12:45 PM	8	148	4	0	15	160	3	180	10	0	14	193	9	5	12	0	10	26	1	8	10	0	8	19	398
<b>Total</b>	<b>24</b>	<b>559</b>	<b>19</b>	<b>1</b>	<b>43</b>	<b>603</b>	<b>12</b>	<b>749</b>	<b>35</b>	<b>0</b>	<b>46</b>	<b>796</b>	<b>39</b>	<b>31</b>	<b>29</b>	<b>0</b>	<b>32</b>	<b>99</b>	<b>18</b>	<b>30</b>	<b>30</b>	<b>0</b>	<b>30</b>	<b>78</b>	<b>1576</b>
Approach %	4.0	92.7	3.2	0.2	-	-	1.5	94.1	4.4	0.0	-	-	39.4	31.3	29.3	0.0	-	-	23.1	38.5	38.5	0.0	-	-	-
Total %	1.5	35.5	1.2	0.1	-	38.3	0.8	47.5	2.2	0.0	-	50.5	2.5	2.0	1.8	0.0	-	6.3	1.1	1.9	1.9	0.0	-	4.9	-
PHF	0.667	0.944	0.792	0.250	-	0.942	0.600	0.900	0.875	0.000	-	0.892	0.750	0.705	0.604	0.000	-	0.917	0.563	0.833	0.750	0.000	-	0.813	0.973
Lights	22	538	18	1	-	579	11	724	35	0	-	770	37	30	29	0	-	96	17	29	30	0	-	76	1521
% Lights	91.7	96.2	94.7	100.0	-	96.0	91.7	96.7	100.0	-	-	96.7	94.9	96.8	100.0	-	-	97.0	94.4	96.7	100.0	-	-	97.4	96.5
Buses	1	1	0	0	-	2	0	9	0	0	-	9	1	0	0	0	-	1	0	0	0	0	-	0	12
% Buses	4.2	0.2	0.0	0.0	-	0.3	0.0	1.2	0.0	-	-	1.1	2.6	0.0	0.0	-	-	1.0	0.0	0.0	0.0	-	-	0.0	0.8
Single-Unit Trucks	0	14	1	0	-	15	1	15	0	0	-	16	1	0	0	0	-	1	1	0	0	0	-	1	33
% Single-Unit Trucks	0.0	2.5	5.3	0.0	-	2.5	8.3	2.0	0.0	-	-	2.0	2.6	0.0	0.0	-	-	1.0	5.6	0.0	0.0	-	-	1.3	2.1
Articulated Trucks	1	6	0	0	-	7	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	8
% Articulated Trucks	4.2	1.1	0.0	0.0	-	1.2	0.0	0.1	0.0	-	-	0.1	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	1	0	0	-	1	2
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	3.2	0.0	-	-	1.0	0.0	3.3	0.0	-	-	1.3	0.1
Bicycles on Crosswalk	-	-	-	-	4	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	9.3	-	-	-	-	2.2	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	39	-	-	-	-	45	-	-	-	-	-	-	32	-	-	-	-	-	30	-	-
% Pedestrians	-	-	-	-	90.7	-	-	-	-	97.8	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Michigan Ave Westbound						Michigan Ave Eastbound						Washington St Southbound						Washington St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
5:00 PM	0	190	5	0	5	195	0	255	9	0	24	264	21	11	10	0	4	42	4	13	14	0	10	31	532
5:15 PM	2	189	7	0	10	198	0	263	16	0	22	279	23	4	11	0	8	38	6	6	6	0	4	18	533
5:30 PM	1	191	10	0	7	202	2	275	16	0	12	293	21	9	8	0	6	38	1	7	8	0	7	16	549
5:45 PM	1	180	5	0	6	186	0	243	8	0	18	251	16	4	8	0	17	28	4	9	6	0	10	19	484
<b>Total</b>	<b>4</b>	<b>750</b>	<b>27</b>	<b>0</b>	<b>28</b>	<b>781</b>	<b>2</b>	<b>1036</b>	<b>49</b>	<b>0</b>	<b>76</b>	<b>1087</b>	<b>81</b>	<b>28</b>	<b>37</b>	<b>0</b>	<b>35</b>	<b>146</b>	<b>15</b>	<b>35</b>	<b>34</b>	<b>0</b>	<b>31</b>	<b>84</b>	<b>2098</b>
Approach %	0.5	96.0	3.5	0.0	-	-	0.2	95.3	4.5	0.0	-	-	55.5	19.2	25.3	0.0	-	-	17.9	41.7	40.5	0.0	-	-	-
Total %	0.2	35.7	1.3	0.0	-	37.2	0.1	49.4	2.3	0.0	-	51.8	3.9	1.3	1.8	0.0	-	7.0	0.7	1.7	1.6	0.0	-	4.0	-
PHF	0.500	0.982	0.675	0.000	-	0.967	0.250	0.942	0.766	0.000	-	0.927	0.880	0.636	0.841	0.000	-	0.869	0.625	0.673	0.607	0.000	-	0.677	0.955
Lights	4	741	27	0	-	772	2	1020	48	0	-	1070	81	28	36	0	-	145	15	35	34	0	-	84	2071
% Lights	100.0	98.8	100.0	-	-	98.8	100.0	98.5	98.0	-	-	98.4	100.0	100.0	97.3	-	-	99.3	100.0	100.0	100.0	-	-	100.0	98.7
Buses	0	2	0	0	-	2	0	7	0	0	-	7	0	0	0	0	-	0	0	0	0	0	-	0	9
% Buses	0.0	0.3	0.0	-	-	0.3	0.0	0.7	0.0	-	-	0.6	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.4
Single-Unit Trucks	0	4	0	0	-	4	0	5	1	0	-	6	0	0	0	0	-	0	0	0	0	0	-	0	10
% Single-Unit Trucks	0.0	0.5	0.0	-	-	0.5	0.0	0.5	2.0	-	-	0.6	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.5
Articulated Trucks	0	2	0	0	-	2	0	3	0	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	5
% Articulated Trucks	0.0	0.3	0.0	-	-	0.3	0.0	0.3	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.2
Bicycles on Road	0	1	0	0	-	1	0	1	0	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	3
% Bicycles on Road	0.0	0.1	0.0	-	-	0.1	0.0	0.1	0.0	-	-	0.1	0.0	0.0	2.7	-	-	0.7	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	3.6	-	-	-	-	-	5.3	-	-	-	-	-	0.0	-	-	-	-	-	3.2	-	-
Pedestrians	-	-	-	-	27	-	-	-	-	-	72	-	-	-	-	-	35	-	-	-	-	-	30	-	-
% Pedestrians	-	-	-	-	96.4	-	-	-	-	-	94.7	-	-	-	-	-	100.0	-	-	-	-	-	96.8	-	-



Turning Movement Peak Hour Data Plot (5:00 PM)

### Turning Movement Data

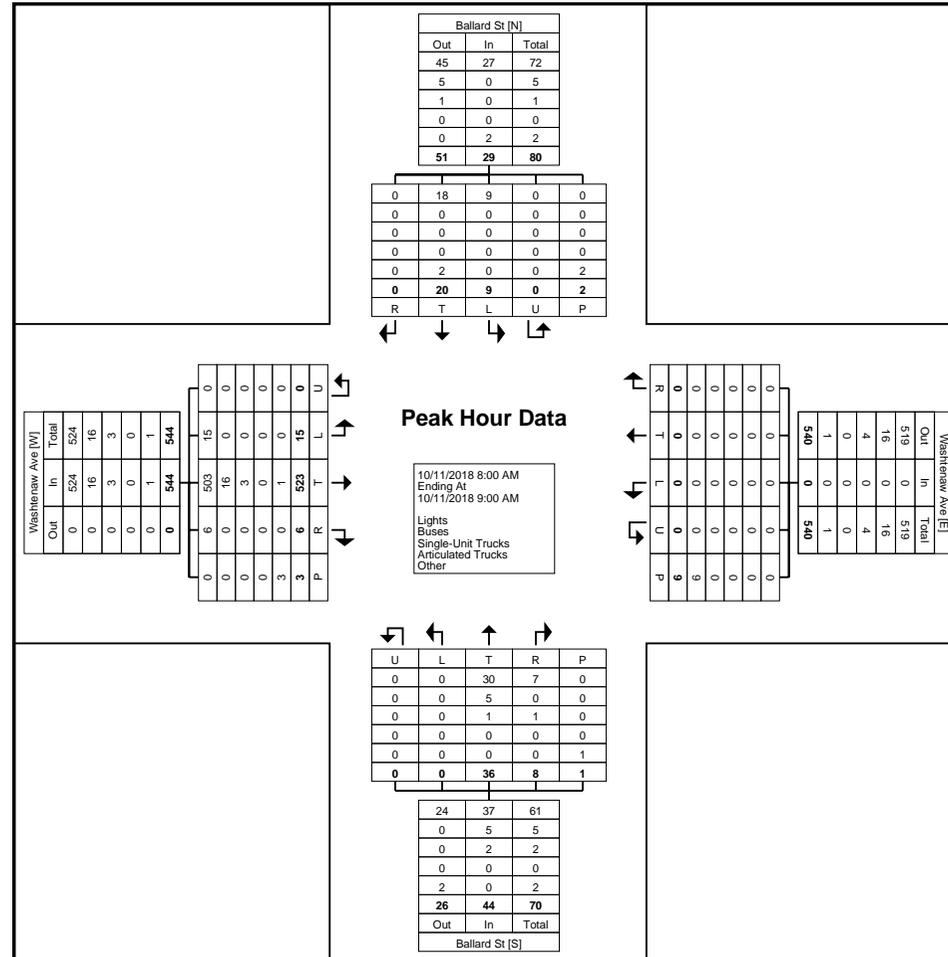
Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Ballard St Southbound						Ballard St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	0	0	0	0	0	2	84	0	0	0	86	1	3	0	0	0	4	0	4	0	0	0	4	94
7:15 AM	0	0	0	0	1	0	5	74	1	0	1	80	1	2	0	0	3	3	0	4	1	0	0	5	88
7:30 AM	0	0	0	0	0	0	5	94	0	0	1	99	1	1	0	0	0	2	0	6	0	0	0	6	107
7:45 AM	0	0	0	0	1	0	3	123	1	0	1	127	1	3	0	0	1	4	0	9	3	0	2	12	143
Hourly Total	0	0	0	0	2	0	15	375	2	0	3	392	4	9	0	0	4	13	0	23	4	0	2	27	432
8:00 AM	0	0	0	0	1	0	1	142	2	0	2	145	1	6	0	0	0	7	0	13	2	0	0	15	167
8:15 AM	0	0	0	0	5	0	7	116	3	0	0	126	2	6	0	0	0	8	0	8	4	0	1	12	146
8:30 AM	0	0	0	0	1	0	4	118	0	0	0	122	2	5	0	0	1	7	0	8	1	0	0	9	138
8:45 AM	0	0	0	0	2	0	3	147	1	0	1	151	4	3	0	0	1	7	0	7	1	0	0	8	166
Hourly Total	0	0	0	0	9	0	15	523	6	0	3	544	9	20	0	0	2	29	0	36	8	0	1	44	617
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	0	1	0	4	1	3	164	3	0	1	170	2	5	0	0	2	7	0	9	1	0	0	10	188
11:15 AM	0	0	0	0	1	0	3	155	3	0	1	161	4	3	0	0	1	7	0	26	3	0	1	29	197
11:30 AM	0	0	0	0	0	0	9	160	2	0	4	171	2	6	0	0	1	8	0	11	3	0	0	14	193
11:45 AM	0	0	0	0	1	0	13	177	3	0	3	193	4	3	0	0	0	7	0	8	2	0	2	10	210
Hourly Total	0	0	1	0	6	1	28	656	11	0	9	695	12	17	0	0	4	29	0	54	9	0	3	63	788
12:00 PM	0	0	0	0	2	0	3	171	8	0	1	182	5	5	0	0	0	10	0	19	7	0	0	26	218
12:15 PM	0	0	0	0	4	0	5	202	2	0	3	209	2	4	0	0	2	6	0	9	3	0	3	12	227
12:30 PM	0	0	0	0	1	0	6	206	10	0	3	222	2	7	0	0	2	9	0	28	1	0	2	29	260
12:45 PM	0	0	0	0	1	0	5	158	2	0	1	165	6	9	0	0	7	15	0	29	4	0	2	33	213
Hourly Total	0	0	0	0	8	0	19	737	22	0	8	778	15	25	0	0	11	40	0	85	15	0	7	100	918
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	0	0	0	2	0	8	242	5	0	3	255	5	5	0	0	3	10	0	19	1	0	0	20	285
2:15 PM	0	0	0	0	4	0	12	203	5	0	4	220	3	1	0	0	1	4	0	16	1	0	1	17	241
2:30 PM	0	0	0	0	3	0	7	202	5	0	2	214	3	5	0	0	0	8	0	10	5	0	1	15	237
2:45 PM	0	0	0	0	0	0	4	221	5	0	6	230	3	5	0	0	1	8	0	14	1	0	2	15	253
Hourly Total	0	0	0	0	9	0	31	868	20	0	15	919	14	16	0	0	5	30	0	59	8	0	4	67	1016
3:00 PM	0	0	0	0	5	0	8	260	4	0	2	272	6	7	0	0	3	13	0	7	3	0	2	10	295
3:15 PM	0	0	0	0	1	0	6	291	9	0	3	306	5	7	0	0	1	12	0	19	0	0	4	19	337
3:30 PM	0	0	0	0	1	0	6	304	6	0	4	316	9	10	0	0	1	19	0	21	4	0	0	25	360
3:45 PM	0	0	0	0	3	0	9	258	5	0	2	272	7	7	0	0	4	14	0	15	4	0	5	19	305
Hourly Total	0	0	0	0	10	0	29	1113	24	0	11	1166	27	31	0	0	9	58	0	62	11	0	11	73	1297
4:00 PM	0	0	0	0	1	0	6	319	8	0	4	333	1	3	0	0	1	4	0	16	8	0	1	24	361
4:15 PM	0	0	0	0	0	0	5	305	7	0	2	317	4	5	0	0	1	9	0	13	0	0	1	13	339
4:30 PM	0	0	0	0	1	0	6	312	4	0	6	322	6	10	0	0	0	16	0	13	2	0	2	15	353
4:45 PM	0	0	0	0	3	0	7	356	6	0	8	369	3	8	0	0	4	11	0	14	5	0	1	19	399
Hourly Total	0	0	0	0	5	0	24	1292	25	0	20	1341	14	26	0	0	6	40	0	56	15	0	5	71	1452

5:00 PM	0	0	0	0	2	0	8	338	11	0	2	357	3	16	0	0	0	19	0	11	4	0	2	15	391
5:15 PM	0	0	0	0	2	0	10	365	7	0	2	382	4	5	0	0	3	9	0	14	3	0	1	17	408
5:30 PM	0	0	0	0	1	0	8	280	6	0	6	294	7	7	0	0	1	14	0	11	2	0	1	13	321
5:45 PM	0	0	0	0	1	0	6	285	4	0	1	295	2	11	0	0	1	13	0	8	3	0	0	11	319
Hourly Total	0	0	0	0	6	0	32	1268	28	0	11	1328	16	39	0	0	5	55	0	44	12	0	4	56	1439
Grand Total	0	0	1	0	55	1	193	6832	138	0	80	7163	111	183	0	0	46	294	0	419	82	0	37	501	7959
Approach %	0.0	0.0	100.0	0.0	-	-	2.7	95.4	1.9	0.0	-	-	37.8	62.2	0.0	0.0	-	-	0.0	83.6	16.4	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	2.4	85.8	1.7	0.0	-	90.0	1.4	2.3	0.0	0.0	-	3.7	0.0	5.3	1.0	0.0	-	6.3	-
Lights	0	0	0	0	-	0	190	6674	136	0	-	7000	111	174	0	0	-	285	0	387	79	0	-	466	7751
% Lights	-	-	0.0	-	-	0.0	98.4	97.7	98.6	-	-	97.7	100.0	95.1	-	-	-	96.9	-	92.4	96.3	-	-	93.0	97.4
Buses	0	0	0	0	-	0	0	104	1	0	-	105	0	0	0	0	-	0	0	25	1	0	-	26	131
% Buses	-	-	0.0	-	-	0.0	0.0	1.5	0.7	-	-	1.5	0.0	0.0	-	-	-	0.0	-	6.0	1.2	-	-	5.2	1.6
Single-Unit Trucks	0	0	0	0	-	0	2	39	1	0	-	42	0	3	0	0	-	3	0	4	2	0	-	6	51
% Single-Unit Trucks	-	-	0.0	-	-	0.0	1.0	0.6	0.7	-	-	0.6	0.0	1.6	-	-	-	1.0	-	1.0	2.4	-	-	1.2	0.6
Articulated Trucks	0	0	0	0	-	0	0	12	0	0	-	12	0	0	0	0	-	0	0	0	0	0	-	0	12
% Articulated Trucks	-	-	0.0	-	-	0.0	0.0	0.2	0.0	-	-	0.2	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.2
Bicycles on Road	0	0	1	0	-	1	1	3	0	0	-	4	0	6	0	0	-	6	0	3	0	0	-	3	14
% Bicycles on Road	-	-	100.0	-	-	100.0	0.5	0.0	0.0	-	-	0.1	0.0	3.3	-	-	-	2.0	-	0.7	0.0	-	-	0.6	0.2
Bicycles on Crosswalk	-	-	-	-	9	-	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	3	-	-
% Bicycles on Crosswalk	-	-	-	-	16.4	-	-	-	-	-	5.0	-	-	-	-	-	4.3	-	-	-	-	-	8.1	-	-
Pedestrians	-	-	-	-	46	-	-	-	-	-	76	-	-	-	-	-	44	-	-	-	-	-	34	-	-
% Pedestrians	-	-	-	-	83.6	-	-	-	-	-	95.0	-	-	-	-	-	95.7	-	-	-	-	-	91.9	-	-



### Turning Movement Peak Hour Data (8:00 AM)

Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Ballard St Southbound						Ballard St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
8:00 AM	0	0	0	0	1	0	1	142	2	0	2	145	1	6	0	0	0	7	0	13	2	0	0	15	167
8:15 AM	0	0	0	0	5	0	7	116	3	0	0	126	2	6	0	0	0	8	0	8	4	0	1	12	146
8:30 AM	0	0	0	0	1	0	4	118	0	0	0	122	2	5	0	0	1	7	0	8	1	0	0	9	138
8:45 AM	0	0	0	0	2	0	3	147	1	0	1	151	4	3	0	0	1	7	0	7	1	0	0	8	166
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>15</b>	<b>523</b>	<b>6</b>	<b>0</b>	<b>3</b>	<b>544</b>	<b>9</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>29</b>	<b>0</b>	<b>36</b>	<b>8</b>	<b>0</b>	<b>1</b>	<b>44</b>	<b>617</b>
Approach %	0.0	0.0	0.0	0.0	-	-	2.8	96.1	1.1	0.0	-	-	31.0	69.0	0.0	0.0	-	-	0.0	81.8	18.2	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	2.4	84.8	1.0	0.0	-	88.2	1.5	3.2	0.0	0.0	-	4.7	0.0	5.8	1.3	0.0	-	7.1	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.536	0.889	0.500	0.000	-	0.901	0.563	0.833	0.000	0.000	-	0.906	0.000	0.692	0.500	0.000	-	0.733	0.924
Lights	0	0	0	0	-	0	15	503	6	0	-	524	9	18	0	0	-	27	0	30	7	0	-	37	588
% Lights	-	-	-	-	-	-	100.0	96.2	100.0	-	-	96.3	100.0	90.0	-	-	-	93.1	-	83.3	87.5	-	-	84.1	95.3
Buses	0	0	0	0	-	0	0	16	0	0	-	16	0	0	0	0	-	0	0	5	0	0	-	5	21
% Buses	-	-	-	-	-	-	0.0	3.1	0.0	-	-	2.9	0.0	0.0	-	-	-	0.0	-	13.9	0.0	-	-	11.4	3.4
Single-Unit Trucks	0	0	0	0	-	0	0	3	0	0	-	3	0	0	0	0	-	0	0	1	1	0	-	2	5
% Single-Unit Trucks	-	-	-	-	-	-	0.0	0.6	0.0	-	-	0.6	0.0	0.0	-	-	-	0.0	-	2.8	12.5	-	-	4.5	0.8
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	2	0	0	-	2	0	0	0	0	-	0	3
% Bicycles on Road	-	-	-	-	-	-	0.0	0.2	0.0	-	-	0.2	0.0	10.0	-	-	-	6.9	-	0.0	0.0	-	-	0.0	0.5
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	11.1	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	8	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	88.9	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (8:00 AM)

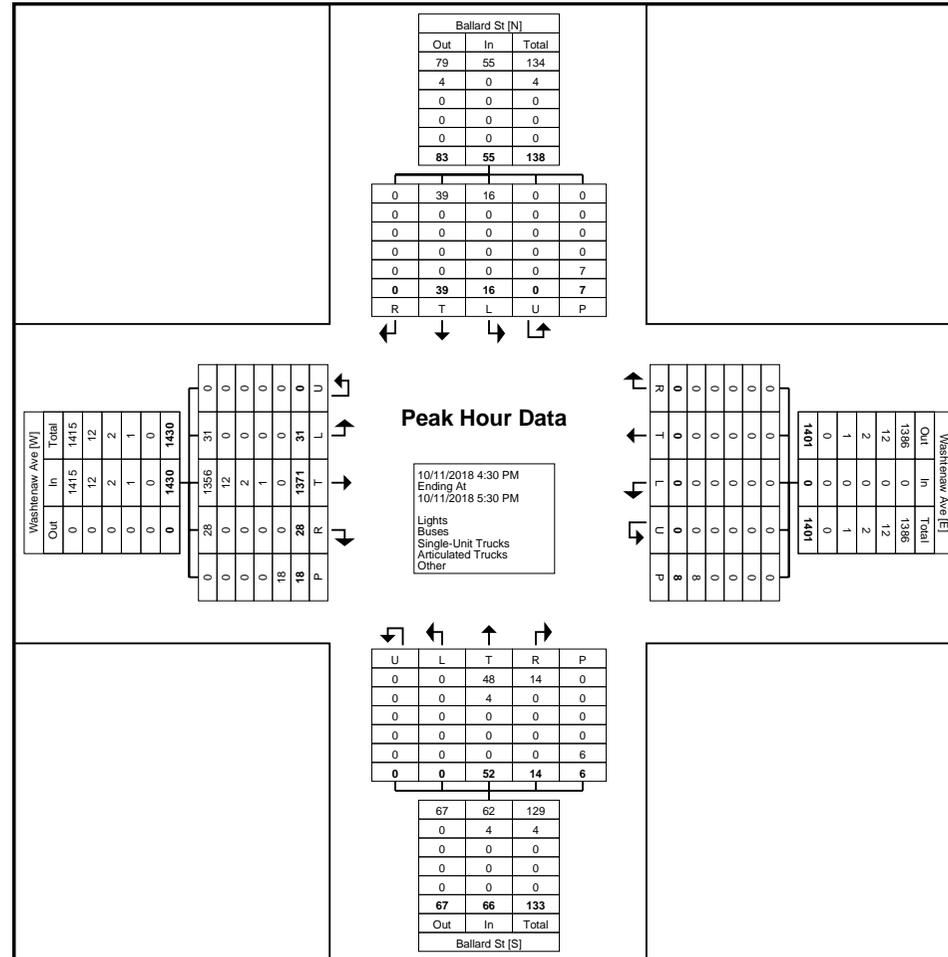
### Turning Movement Peak Hour Data (12:00 PM)

Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Ballard St Southbound						Ballard St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
12:00 PM	0	0	0	0	2	0	3	171	8	0	1	182	5	5	0	0	0	10	0	19	7	0	0	26	218
12:15 PM	0	0	0	0	4	0	5	202	2	0	3	209	2	4	0	0	2	6	0	9	3	0	3	12	227
12:30 PM	0	0	0	0	1	0	6	206	10	0	3	222	2	7	0	0	2	9	0	28	1	0	2	29	260
12:45 PM	0	0	0	0	1	0	5	158	2	0	1	165	6	9	0	0	7	15	0	29	4	0	2	33	213
<b>Total</b>	0	0	0	0	8	0	19	737	22	0	8	778	15	25	0	0	11	40	0	85	15	0	7	100	918
Approach %	0.0	0.0	0.0	0.0	-	-	2.4	94.7	2.8	0.0	-	-	37.5	62.5	0.0	0.0	-	-	0.0	85.0	15.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	2.1	80.3	2.4	0.0	-	84.7	1.6	2.7	0.0	0.0	-	4.4	0.0	9.3	1.6	0.0	-	10.9	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.792	0.894	0.550	0.000	-	0.876	0.625	0.694	0.000	0.000	-	0.667	0.000	0.733	0.536	0.000	-	0.758	0.883
Lights	0	0	0	0	-	0	17	723	22	0	-	762	15	21	0	0	-	36	0	80	15	0	-	95	893
% Lights	-	-	-	-	-	-	89.5	98.1	100.0	-	-	97.9	100.0	84.0	-	-	-	90.0	-	94.1	100.0	-	-	95.0	97.3
Buses	0	0	0	0	-	0	0	8	0	0	-	8	0	0	0	0	-	0	0	3	0	0	-	3	11
% Buses	-	-	-	-	-	-	0.0	1.1	0.0	-	-	1.0	0.0	0.0	-	-	-	0.0	-	3.5	0.0	-	-	3.0	1.2
Single-Unit Trucks	0	0	0	0	-	0	1	4	0	0	-	5	0	2	0	0	-	2	0	0	0	0	-	0	7
% Single-Unit Trucks	-	-	-	-	-	-	5.3	0.5	0.0	-	-	0.6	0.0	8.0	-	-	-	5.0	-	0.0	0.0	-	-	0.0	0.8
Articulated Trucks	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	2
% Articulated Trucks	-	-	-	-	-	-	0.0	0.3	0.0	-	-	0.3	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.2
Bicycles on Road	0	0	0	0	-	0	1	0	0	0	-	1	0	2	0	0	-	2	0	2	0	0	-	2	5
% Bicycles on Road	-	-	-	-	-	-	5.3	0.0	0.0	-	-	0.1	0.0	8.0	-	-	-	5.0	-	2.4	0.0	-	-	2.0	0.5
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	12.5	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	14.3	-	-
Pedestrians	-	-	-	-	7	-	-	-	-	-	8	-	-	-	-	-	11	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	87.5	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	85.7	-	-



### Turning Movement Peak Hour Data (4:30 PM)

Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Ballard St Southbound						Ballard St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:30 PM	0	0	0	0	1	0	6	312	4	0	6	322	6	10	0	0	0	16	0	13	2	0	2	15	353
4:45 PM	0	0	0	0	3	0	7	356	6	0	8	369	3	8	0	0	4	11	0	14	5	0	1	19	399
5:00 PM	0	0	0	0	2	0	8	338	11	0	2	357	3	16	0	0	0	19	0	11	4	0	2	15	391
5:15 PM	0	0	0	0	2	0	10	365	7	0	2	382	4	5	0	0	3	9	0	14	3	0	1	17	408
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>31</b>	<b>1371</b>	<b>28</b>	<b>0</b>	<b>18</b>	<b>1430</b>	<b>16</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>55</b>	<b>0</b>	<b>52</b>	<b>14</b>	<b>0</b>	<b>6</b>	<b>66</b>	<b>1551</b>
Approach %	0.0	0.0	0.0	0.0	-	-	2.2	95.9	2.0	0.0	-	-	29.1	70.9	0.0	0.0	-	-	0.0	78.8	21.2	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	2.0	88.4	1.8	0.0	-	92.2	1.0	2.5	0.0	0.0	-	3.5	0.0	3.4	0.9	0.0	-	4.3	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.775	0.939	0.636	0.000	-	0.936	0.667	0.609	0.000	0.000	-	0.724	0.000	0.929	0.700	0.000	-	0.868	0.950
Lights	0	0	0	0	-	0	31	1356	28	0	-	1415	16	39	0	0	-	55	0	48	14	0	-	62	1532
% Lights	-	-	-	-	-	-	100.0	98.9	100.0	-	-	99.0	100.0	100.0	-	-	-	100.0	-	92.3	100.0	-	-	93.9	98.8
Buses	0	0	0	0	-	0	0	12	0	0	-	12	0	0	0	0	-	0	0	4	0	0	-	4	16
% Buses	-	-	-	-	-	-	0.0	0.9	0.0	-	-	0.8	0.0	0.0	-	-	-	0.0	-	7.7	0.0	-	-	6.1	1.0
Single-Unit Trucks	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	2
% Single-Unit Trucks	-	-	-	-	-	-	0.0	0.1	0.0	-	-	0.1	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.1
Articulated Trucks	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	-	-	-	-	-	0.0	0.1	0.0	-	-	0.1	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.1
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	25.0	-	-	-	-	-	5.6	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	6	-	-	-	-	-	17	-	-	-	-	-	7	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	75.0	-	-	-	-	-	94.4	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (4:30 PM)

### Turning Movement Data

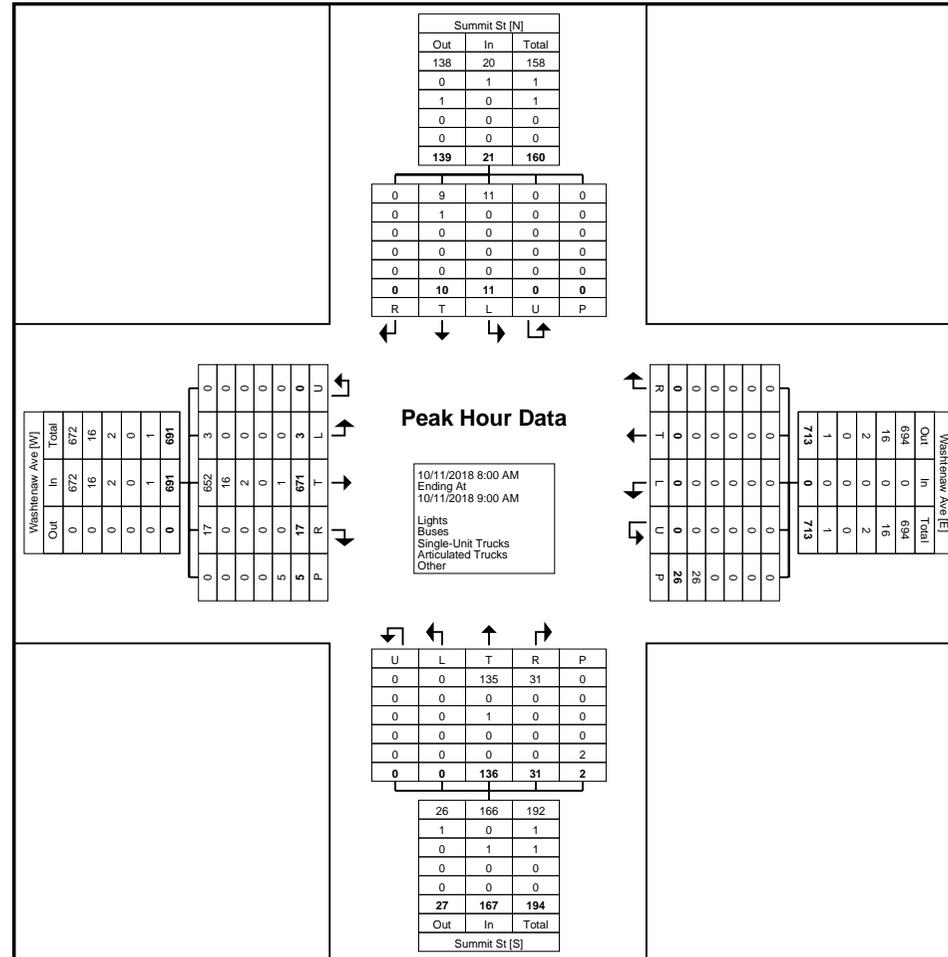
Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Summit St Southbound						Summit St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	0	0	0	1	0	0	93	3	0	2	96	4	0	0	0	0	4	0	15	5	0	1	20	120
7:15 AM	0	0	0	0	1	0	0	95	4	0	0	99	3	1	0	0	0	4	0	19	4	0	1	23	126
7:30 AM	0	0	0	0	3	0	3	128	8	0	1	139	2	0	0	0	0	2	0	28	8	0	0	36	177
7:45 AM	0	0	0	0	6	0	4	167	3	0	3	174	4	0	0	0	0	4	0	38	13	0	2	51	229
Hourly Total	0	0	0	0	11	0	7	483	18	0	6	508	13	1	0	0	0	14	0	100	30	0	4	130	652
8:00 AM	0	0	0	0	2	0	1	193	5	0	0	199	4	1	0	0	0	5	0	26	11	0	0	37	241
8:15 AM	0	0	0	0	8	0	2	146	4	0	0	152	2	1	0	0	0	3	0	35	6	0	0	41	196
8:30 AM	0	0	0	0	7	0	0	156	3	0	2	159	0	6	0	0	0	6	0	35	8	0	0	43	208
8:45 AM	0	0	0	0	9	0	0	176	5	0	3	181	5	2	0	0	0	7	0	40	6	0	2	46	234
Hourly Total	0	0	0	0	26	0	3	671	17	0	5	691	11	10	0	0	0	21	0	136	31	0	2	167	879
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	0	0	0	6	0	1	193	6	0	2	200	4	4	0	0	0	8	0	17	8	0	2	25	233
11:15 AM	0	0	0	0	3	0	1	204	5	0	4	210	5	3	0	0	2	8	0	24	4	0	0	28	246
11:30 AM	0	0	0	0	2	0	2	180	3	0	1	185	6	3	0	0	0	9	0	24	6	0	1	30	224
11:45 AM	0	0	0	0	12	0	2	215	7	0	3	224	2	1	0	0	0	3	0	12	2	0	1	14	241
Hourly Total	0	0	0	0	23	0	6	792	21	0	10	819	17	11	0	0	2	28	0	77	20	0	4	97	944
12:00 PM	0	0	0	0	15	0	3	227	13	0	7	243	7	9	0	0	0	16	0	19	3	0	2	22	281
12:15 PM	0	0	0	0	9	0	4	254	9	0	8	267	11	6	0	0	0	17	0	9	6	0	4	15	299
12:30 PM	0	0	0	0	9	0	3	239	9	0	4	251	12	2	0	0	0	14	0	26	9	0	1	35	300
12:45 PM	0	0	0	0	5	0	5	197	12	0	2	214	1	4	0	0	2	5	0	16	4	0	3	20	239
Hourly Total	0	0	0	0	38	0	15	917	43	0	21	975	31	21	0	0	2	52	0	70	22	0	10	92	1119
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	0	0	0	3	0	0	286	15	0	2	301	8	3	0	0	0	11	0	16	4	0	3	20	332
2:15 PM	0	0	0	0	3	0	0	245	6	0	1	251	7	8	0	0	1	15	0	18	6	0	2	24	290
2:30 PM	0	0	0	0	9	0	0	249	11	0	4	260	7	8	0	0	0	15	0	10	11	0	0	21	296
2:45 PM	0	0	0	0	6	0	0	266	12	0	0	278	6	9	0	0	0	15	0	17	4	0	3	21	314
Hourly Total	0	0	0	0	21	0	0	1046	44	0	7	1090	28	28	0	0	1	56	0	61	25	0	8	86	1232
3:00 PM	0	0	0	0	8	0	0	317	14	0	5	331	6	4	0	0	0	10	0	9	6	1	1	16	357
3:15 PM	0	0	0	0	6	0	2	388	10	0	4	400	5	11	0	0	1	16	0	20	7	0	1	27	443
3:30 PM	0	0	0	0	5	0	4	370	20	0	3	394	5	4	0	0	0	9	0	22	6	0	1	28	431
3:45 PM	0	0	0	0	7	0	4	326	23	0	2	353	12	8	0	0	1	20	0	24	5	0	3	29	402
Hourly Total	0	0	0	0	26	0	10	1401	67	0	14	1478	28	27	0	0	2	55	0	75	24	1	6	100	1633
4:00 PM	0	0	0	0	5	0	0	412	18	0	4	430	10	4	0	0	0	14	0	15	4	0	1	19	463
4:15 PM	0	0	0	0	7	0	1	349	13	0	1	363	6	11	0	0	0	17	0	13	10	0	2	23	403
4:30 PM	0	0	0	0	3	0	0	385	15	0	5	400	7	7	0	0	0	14	0	11	7	0	1	18	432
4:45 PM	0	0	0	0	7	0	5	405	21	0	8	431	8	7	0	0	3	15	0	17	4	0	3	21	467
Hourly Total	0	0	0	0	22	0	6	1551	67	0	18	1624	31	29	0	0	3	60	0	56	25	0	7	81	1765

5:00 PM	0	0	0	0	7	0	2	431	25	1	3	459	10	8	0	0	0	18	0	21	1	0	0	22	499
5:15 PM	0	0	0	0	7	0	1	490	22	0	4	513	11	17	0	0	1	28	0	14	13	0	1	27	568
5:30 PM	0	0	0	0	11	0	2	351	15	0	3	368	6	9	0	0	1	15	0	15	10	0	0	25	408
5:45 PM	0	0	0	0	1	0	2	361	19	0	2	382	9	6	0	0	2	15	0	17	8	0	3	25	422
Hourly Total	0	0	0	0	26	0	7	1633	81	1	12	1722	36	40	0	0	4	76	0	67	32	0	4	99	1897
Grand Total	0	0	0	0	193	0	54	8494	358	1	93	8907	195	167	0	0	14	362	0	642	209	1	45	852	10121
Approach %	0.0	0.0	0.0	0.0	-	-	0.6	95.4	4.0	0.0	-	-	53.9	46.1	0.0	0.0	-	-	0.0	75.4	24.5	0.1	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.5	83.9	3.5	0.0	-	88.0	1.9	1.7	0.0	0.0	-	3.6	0.0	6.3	2.1	0.0	-	8.4	-
Lights	0	0	0	0	-	0	53	8314	357	1	-	8725	193	163	0	0	-	356	0	634	207	1	-	842	9923
% Lights	-	-	-	-	-	-	98.1	97.9	99.7	100.0	-	98.0	99.0	97.6	-	-	-	98.3	-	98.8	99.0	100.0	-	98.8	98.0
Buses	0	0	0	0	-	0	0	111	0	0	-	111	0	3	0	0	-	3	0	1	0	0	-	1	115
% Buses	-	-	-	-	-	-	0.0	1.3	0.0	0.0	-	1.2	0.0	1.8	-	-	-	0.8	-	0.2	0.0	0.0	-	0.1	1.1
Single-Unit Trucks	0	0	0	0	-	0	0	56	1	0	-	57	2	1	0	0	-	3	0	7	0	0	-	7	67
% Single-Unit Trucks	-	-	-	-	-	-	0.0	0.7	0.3	0.0	-	0.6	1.0	0.6	-	-	-	0.8	-	1.1	0.0	0.0	-	0.8	0.7
Articulated Trucks	0	0	0	0	-	0	0	10	0	0	-	10	0	0	0	0	-	0	0	0	0	0	-	0	10
% Articulated Trucks	-	-	-	-	-	-	0.0	0.1	0.0	0.0	-	0.1	0.0	0.0	-	-	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Road	0	0	0	0	-	0	1	3	0	0	-	4	0	0	0	0	-	0	0	0	2	0	-	2	6
% Bicycles on Road	-	-	-	-	-	-	1.9	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	-	0.0	-	0.0	1.0	0.0	-	0.2	0.1
Bicycles on Crosswalk	-	-	-	-	17	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	6	-	-
% Bicycles on Crosswalk	-	-	-	-	8.8	-	-	-	-	-	6.5	-	-	-	-	-	0.0	-	-	-	-	-	13.3	-	-
Pedestrians	-	-	-	-	176	-	-	-	-	-	87	-	-	-	-	-	14	-	-	-	-	-	39	-	-
% Pedestrians	-	-	-	-	91.2	-	-	-	-	-	93.5	-	-	-	-	-	100.0	-	-	-	-	-	86.7	-	-



### Turning Movement Peak Hour Data (8:00 AM)

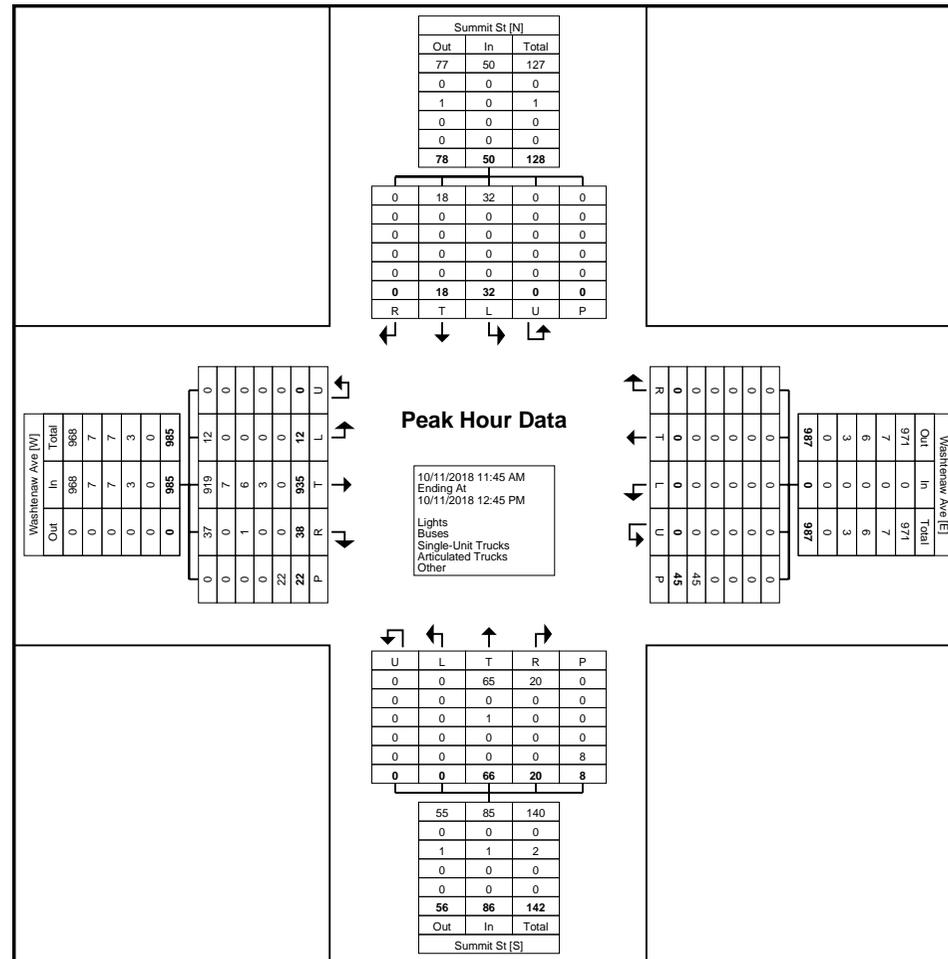
Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Summit St Southbound						Summit St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
8:00 AM	0	0	0	0	2	0	1	193	5	0	0	199	4	1	0	0	0	5	0	26	11	0	0	37	241
8:15 AM	0	0	0	0	8	0	2	146	4	0	0	152	2	1	0	0	0	3	0	35	6	0	0	41	196
8:30 AM	0	0	0	0	7	0	0	156	3	0	2	159	0	6	0	0	0	6	0	35	8	0	0	43	208
8:45 AM	0	0	0	0	9	0	0	176	5	0	3	181	5	2	0	0	0	7	0	40	6	0	2	46	234
<b>Total</b>	0	0	0	0	26	0	3	671	17	0	5	691	11	10	0	0	0	21	0	136	31	0	2	167	879
Approach %	0.0	0.0	0.0	0.0	-	-	0.4	97.1	2.5	0.0	-	-	52.4	47.6	0.0	0.0	-	-	0.0	81.4	18.6	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.3	76.3	1.9	0.0	-	78.6	1.3	1.1	0.0	0.0	-	2.4	0.0	15.5	3.5	0.0	-	19.0	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.375	0.869	0.850	0.000	-	0.868	0.550	0.417	0.000	0.000	-	0.750	0.000	0.850	0.705	0.000	-	0.908	0.912
Lights	0	0	0	0	-	0	3	652	17	0	-	672	11	9	0	0	-	20	0	135	31	0	-	166	858
% Lights	-	-	-	-	-	-	100.0	97.2	100.0	-	-	97.3	100.0	90.0	-	-	-	95.2	-	99.3	100.0	-	-	99.4	97.6
Buses	0	0	0	0	-	0	0	16	0	0	-	16	0	1	0	0	-	1	0	0	0	0	-	0	17
% Buses	-	-	-	-	-	-	0.0	2.4	0.0	-	-	2.3	0.0	10.0	-	-	-	4.8	-	0.0	0.0	-	-	0.0	1.9
Single-Unit Trucks	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	1	0	0	-	1	3
% Single-Unit Trucks	-	-	-	-	-	-	0.0	0.3	0.0	-	-	0.3	0.0	0.0	-	-	-	0.0	-	0.7	0.0	-	-	0.6	0.3
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	-	-	-	-	-	-	0.0	0.1	0.0	-	-	0.1	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	15.4	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	50.0	-	-
Pedestrians	-	-	-	-	22	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	84.6	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	50.0	-	-



Turning Movement Peak Hour Data Plot (8:00 AM)

### Turning Movement Peak Hour Data (11:45 AM)

Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Summit St Southbound						Summit St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
11:45 AM	0	0	0	0	12	0	2	215	7	0	3	224	2	1	0	0	0	3	0	12	2	0	1	14	241
12:00 PM	0	0	0	0	15	0	3	227	13	0	7	243	7	9	0	0	0	16	0	19	3	0	2	22	281
12:15 PM	0	0	0	0	9	0	4	254	9	0	8	267	11	6	0	0	0	17	0	9	6	0	4	15	299
12:30 PM	0	0	0	0	9	0	3	239	9	0	4	251	12	2	0	0	0	14	0	26	9	0	1	35	300
<b>Total</b>	0	0	0	0	45	0	12	935	38	0	22	985	32	18	0	0	0	50	0	66	20	0	8	86	1121
Approach %	0.0	0.0	0.0	0.0	-	-	1.2	94.9	3.9	0.0	-	-	64.0	36.0	0.0	0.0	-	-	0.0	76.7	23.3	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	1.1	83.4	3.4	0.0	-	87.9	2.9	1.6	0.0	0.0	-	4.5	0.0	5.9	1.8	0.0	-	7.7	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.750	0.920	0.731	0.000	-	0.922	0.667	0.500	0.000	0.000	-	0.735	0.000	0.635	0.556	0.000	-	0.614	0.934
Lights	0	0	0	0	-	0	12	919	37	0	-	968	32	18	0	0	-	50	0	65	20	0	-	85	1103
% Lights	-	-	-	-	-	-	100.0	98.3	97.4	-	-	98.3	100.0	100.0	-	-	-	100.0	-	98.5	100.0	-	-	98.8	98.4
Buses	0	0	0	0	-	0	0	7	0	0	-	7	0	0	0	0	-	0	0	0	0	0	-	0	7
% Buses	-	-	-	-	-	-	0.0	0.7	0.0	-	-	0.7	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.6
Single-Unit Trucks	0	0	0	0	-	0	0	6	1	0	-	7	0	0	0	0	-	0	0	1	0	0	-	1	8
% Single-Unit Trucks	-	-	-	-	-	-	0.0	0.6	2.6	-	-	0.7	0.0	0.0	-	-	-	0.0	-	1.5	0.0	-	-	1.2	0.7
Articulated Trucks	0	0	0	0	-	0	0	3	0	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	3
% Articulated Trucks	-	-	-	-	-	-	0.0	0.3	0.0	-	-	0.3	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	8.9	-	-	-	-	-	4.5	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	41	-	-	-	-	-	21	-	-	-	-	-	0	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	91.1	-	-	-	-	-	95.5	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (11:45 AM)

### Turning Movement Peak Hour Data (4:30 PM)

Start Time	Washtenaw Ave Westbound						Washtenaw Ave Eastbound						Summit St Southbound						Summit St Northbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:30 PM	0	0	0	0	3	0	0	385	15	0	5	400	7	7	0	0	0	14	0	11	7	0	1	18	432
4:45 PM	0	0	0	0	7	0	5	405	21	0	8	431	8	7	0	0	3	15	0	17	4	0	3	21	467
5:00 PM	0	0	0	0	7	0	2	431	25	1	3	459	10	8	0	0	0	18	0	21	1	0	0	22	499
5:15 PM	0	0	0	0	7	0	1	490	22	0	4	513	11	17	0	0	1	28	0	14	13	0	1	27	568
<b>Total</b>	0	0	0	0	24	0	8	1711	83	1	20	1803	36	39	0	0	4	75	0	63	25	0	5	88	1966
Approach %	0.0	0.0	0.0	0.0	-	-	0.4	94.9	4.6	0.1	-	-	48.0	52.0	0.0	0.0	-	-	0.0	71.6	28.4	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.4	87.0	4.2	0.1	-	91.7	1.8	2.0	0.0	0.0	-	3.8	0.0	3.2	1.3	0.0	-	4.5	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.400	0.873	0.830	0.250	-	0.879	0.818	0.574	0.000	0.000	-	0.670	0.000	0.750	0.481	0.000	-	0.815	0.865
Lights	0	0	0	0	-	0	8	1692	83	1	-	1784	36	38	0	0	-	74	0	63	25	0	-	88	1946
% Lights	-	-	-	-	-	-	100.0	98.9	100.0	100.0	-	98.9	100.0	97.4	-	-	-	98.7	-	100.0	100.0	-	-	100.0	99.0
Buses	0	0	0	0	-	0	0	14	0	0	-	14	0	1	0	0	-	1	0	0	0	0	-	0	15
% Buses	-	-	-	-	-	-	0.0	0.8	0.0	0.0	-	0.8	0.0	2.6	-	-	-	1.3	-	0.0	0.0	-	-	0.0	0.8
Single-Unit Trucks	0	0	0	0	-	0	0	3	0	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	3
% Single-Unit Trucks	-	-	-	-	-	-	0.0	0.2	0.0	0.0	-	0.2	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.2
Articulated Trucks	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	2
% Articulated Trucks	-	-	-	-	-	-	0.0	0.1	0.0	0.0	-	0.1	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.1
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	-	-	-	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	8.3	-	-	-	-	-	10.0	-	-	-	-	-	0.0	-	-	-	-	-	20.0	-	-
Pedestrians	-	-	-	-	22	-	-	-	-	-	18	-	-	-	-	-	4	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	91.7	-	-	-	-	-	90.0	-	-	-	-	-	100.0	-	-	-	-	-	80.0	-	-





# Michigan Department Of Transportation Turning Movement

US-12 / HURON ST.  
@ FERRIS ST. / JOHN C.C SHELDON BLVD.  
YPSILANTI TWP.  
WASHTENAW COUNTY

File Name : TM\_160203\_353421\_10-11-2016  
Site Code : 160203  
Start Date : 10/11/2016  
Page No : 1

Groups Printed- CARS - SINGLE UNITS - SEMIS - PEDESTRIANS

End Time	SB US-12 / HURON ST From North		NO LEG From East				NB US-12 / HURON ST From South					FERRIS / DR JOHN C. SHELTON BLVD From West				Int. Total
	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	
07:15 AM	0	0	0	0	0	0	0	178	4	0	182	0	3	1	4	186
07:30 AM	0	0	0	0	0	0	0	302	4	0	306	0	1	1	2	308
07:45 AM	0	0	0	0	0	0	0	313	6	0	319	0	0	0	0	319
08:00 AM	0	0	0	0	0	0	0	294	6	0	300	0	0	0	0	300
Total	0	0	0	0	0	0	0	1087	20	0	1107	0	4	2	6	1113
08:15 AM	0	0	0	0	1	1	0	284	11	0	295	0	4	0	4	300
08:30 AM	0	0	0	0	0	0	1	329	15	0	345	0	5	3	8	353
08:45 AM	0	0	0	1	0	1	0	314	6	0	320	0	3	0	3	324
09:00 AM	0	0	0	0	0	0	1	318	20	1	340	0	6	0	6	346
Total	0	0	0	1	1	2	2	1245	52	1	1300	0	18	3	21	1323
11:15 AM	2	2	0	0	3	3	0	183	10	1	194	0	2	1	3	202
11:30 AM	0	0	0	0	1	1	0	175	4	1	180	0	9	0	9	190
11:45 AM	1	1	0	0	1	1	1	183	9	0	193	0	11	0	11	206
12:00 PM	1	1	0	0	4	4	1	228	7	0	236	0	8	3	11	252
Total	4	4	0	0	9	9	2	769	30	2	803	0	30	4	34	850
12:15 PM	0	0	0	0	0	0	0	227	12	0	239	0	11	0	11	250
12:30 PM	0	0	0	0	0	0	0	184	11	1	196	0	12	0	12	208
12:45 PM	0	0	0	0	1	1	0	234	9	1	244	0	7	2	9	254
01:00 PM	2	2	0	1	0	1	0	177	9	0	186	1	8	0	9	198
Total	2	2	0	1	1	2	0	822	41	2	865	1	38	2	41	910
02:15 PM	4	4	0	0	4	4	0	184	10	0	194	0	9	1	10	212
02:30 PM	1	1	0	0	1	1	0	172	7	1	180	0	11	3	14	196
02:45 PM	0	0	1	0	2	3	1	192	8	3	204	0	13	1	14	221
03:00 PM	3	3	0	0	3	3	1	217	14	1	233	0	8	1	9	248
Total	8	8	1	0	10	11	2	765	39	5	811	0	41	6	47	877
03:15 PM	1	1	0	1	4	5	0	192	10	0	202	1	11	0	12	220
03:30 PM	0	0	1	0	1	2	0	220	13	2	235	0	14	2	16	253
03:45 PM	0	0	0	1	1	2	0	225	12	0	237	0	17	1	18	257
04:00 PM	6	6	0	0	2	2	1	207	12	0	220	0	17	1	18	246
Total	7	7	1	2	8	11	1	844	47	2	894	1	59	4	64	976
04:15 PM	1	1	2	0	3	5	1	197	11	0	209	1	5	2	8	223
04:30 PM	1	1	0	0	0	0	0	203	6	0	209	0	15	1	16	226
04:45 PM	2	2	0	0	2	2	0	314	12	2	328	0	7	2	9	341
05:00 PM	0	0	1	0	0	1	1	322	6	0	329	0	9	1	10	340
Total	4	4	3	0	5	8	2	1036	35	2	1075	1	36	6	43	1130
05:15 PM	1	1	2	1	0	3	0	310	8	0	318	0	14	6	20	342

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160203\_353421\_10-11-2016

Site Code : 160203

Start Date : 10/11/2016

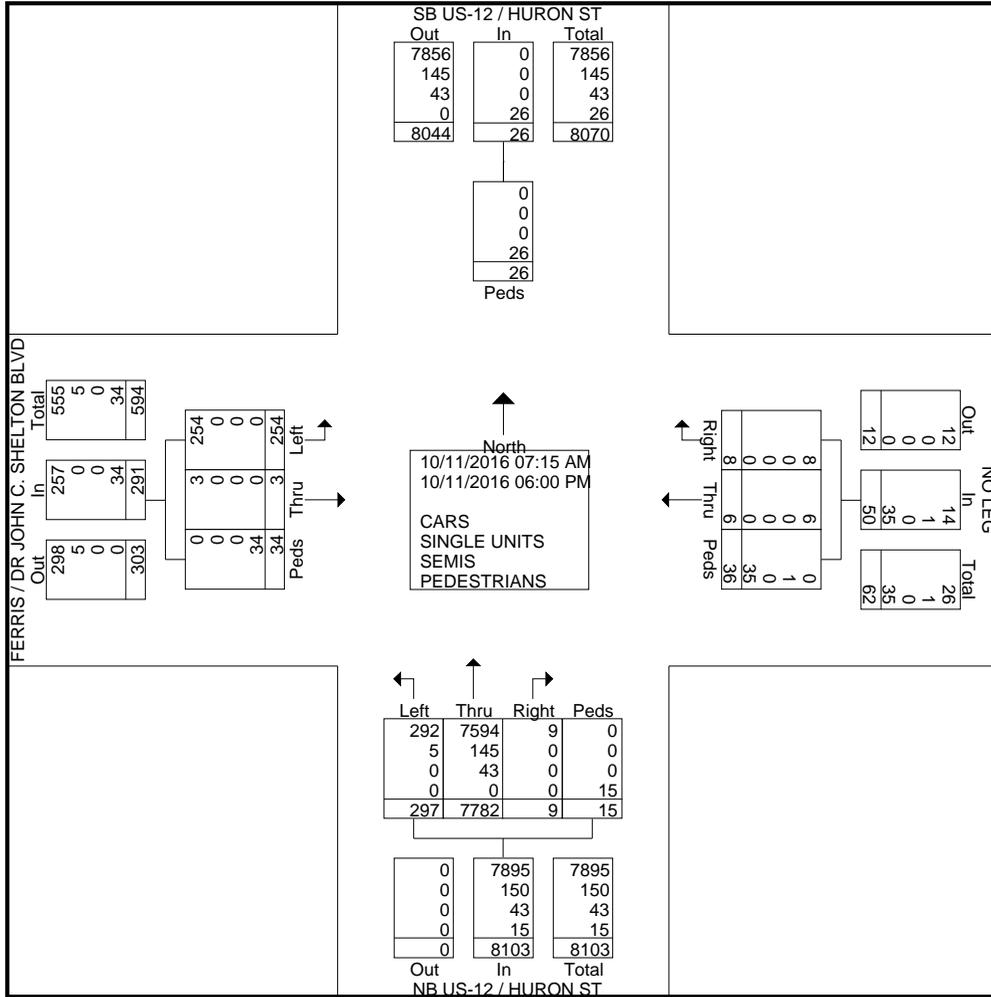
Page No : 2

Groups Printed- CARS - SINGLE UNITS - SEMIS - PEDESTRIANS

End Time	SB US-12 / HURON ST From North		NO LEG From East				NB US-12 / HURON ST From South					FERRIS / DR JOHN C. SHELTON BLVD From West				Int. Total
	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	
05:30 PM	0	0	0	1	1	2	0	316	5	0	321	0	6	1	7	330
05:45 PM	0	0	0	0	0	0	0	329	5	1	335	0	3	0	3	338
06:00 PM	0	0	1	0	1	2	0	259	15	0	274	0	5	0	5	281
Total	1	1	3	2	2	7	0	1214	33	1	1248	0	28	7	35	1291
Grand Total	26	26	8	6	36	50	9	7782	297	15	8103	3	254	34	291	8470
Apprch %	100		16	12	72		0.1	96	3.7	0.2		1	87.3	11.7		
Total %	0.3	0.3	0.1	0.1	0.4	0.6	0.1	91.9	3.5	0.2	95.7	0	3	0.4	3.4	
CARS	0	0	8	6	0	14	9	7594	292	0	7895	3	254	0	257	8166
% CARS	0	0	100	100	0	28	100	97.6	98.3	0	97.4	100	100	0	88.3	96.4
SINGLE UNITS	0	0	0	0	1	1	0	145	5	0	150	0	0	0	0	151
% SINGLE UNITS	0	0	0	0	2.8	2	0	1.9	1.7	0	1.9	0	0	0	0	1.8
SEMIS	0	0	0	0	0	0	0	43	0	0	43	0	0	0	0	43
% SEMIS	0	0	0	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0.5
PEDESTRIANS	26	26	0	0	35	35	0	0	0	15	15	0	0	34	34	110
% PEDESTRIANS	100	100	0	0	97.2	70	0	0	0	100	0.2	0	0	100	11.7	1.3

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160203\_353421\_10-11-2016  
 Site Code : 160203  
 Start Date : 10/11/2016  
 Page No : 3



# Michigan Department Of Transportation Turning Movement

US-12 / HURON ST.  
@ FERRIS ST. / JOHN C.C SHELDON BLVD.  
YPSILANTI TWP.  
WASHTENAW COUNTY

File Name : TM\_160203\_353421\_10-11-2016  
Site Code : 160203  
Start Date : 10/11/2016  
Page No : 1

Groups Printed- CARS

End Time	SB US-12 / HURON ST From North		NO LEG From East				NB US-12 / HURON ST From South					FERRIS / DR JOHN C. SHELTON BLVD From West				Int. Total
	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	
07:15 AM	0	0	0	0	0	0	0	172	4	0	176	0	3	0	3	179
07:30 AM	0	0	0	0	0	0	0	295	4	0	299	0	1	0	1	300
07:45 AM	0	0	0	0	0	0	0	309	6	0	315	0	0	0	0	315
08:00 AM	0	0	0	0	0	0	0	278	5	0	283	0	0	0	0	283
Total	0	0	0	0	0	0	0	1054	19	0	1073	0	4	0	4	1077
08:15 AM	0	0	0	0	0	0	0	275	11	0	286	0	4	0	4	290
08:30 AM	0	0	0	0	0	0	1	323	15	0	339	0	5	0	5	344
08:45 AM	0	0	0	1	0	1	0	310	6	0	316	0	3	0	3	320
09:00 AM	0	0	0	0	0	0	1	315	20	0	336	0	6	0	6	342
Total	0	0	0	1	0	1	2	1223	52	0	1277	0	18	0	18	1296
11:15 AM	0	0	0	0	0	0	0	177	10	0	187	0	2	0	2	189
11:30 AM	0	0	0	0	0	0	0	162	3	0	165	0	9	0	9	174
11:45 AM	0	0	0	0	0	0	1	177	9	0	187	0	11	0	11	198
12:00 PM	0	0	0	0	0	0	1	219	6	0	226	0	8	0	8	234
Total	0	0	0	0	0	0	2	735	28	0	765	0	30	0	30	795
12:15 PM	0	0	0	0	0	0	0	224	11	0	235	0	11	0	11	246
12:30 PM	0	0	0	0	0	0	0	177	11	0	188	0	12	0	12	200
12:45 PM	0	0	0	0	0	0	0	223	9	0	232	0	7	0	7	239
01:00 PM	0	0	0	1	0	1	0	174	9	0	183	1	8	0	9	193
Total	0	0	0	1	0	1	0	798	40	0	838	1	38	0	39	878
02:15 PM	0	0	0	0	0	0	0	181	10	0	191	0	9	0	9	200
02:30 PM	0	0	0	0	0	0	0	168	7	0	175	0	11	0	11	186
02:45 PM	0	0	1	0	0	1	1	184	8	0	193	0	13	0	13	207
03:00 PM	0	0	0	0	0	0	1	211	13	0	225	0	8	0	8	233
Total	0	0	1	0	0	1	2	744	38	0	784	0	41	0	41	826
03:15 PM	0	0	0	1	0	1	0	183	10	0	193	1	11	0	12	206
03:30 PM	0	0	1	0	0	1	0	212	13	0	225	0	14	0	14	240
03:45 PM	0	0	0	1	0	1	0	220	12	0	232	0	17	0	17	250
04:00 PM	0	0	0	0	0	0	1	205	12	0	218	0	17	0	17	235
Total	0	0	1	2	0	3	1	820	47	0	868	1	59	0	60	931
04:15 PM	0	0	2	0	0	2	1	192	11	0	204	1	5	0	6	212
04:30 PM	0	0	0	0	0	0	0	200	6	0	206	0	15	0	15	221
04:45 PM	0	0	0	0	0	0	0	311	12	0	323	0	7	0	7	330
05:00 PM	0	0	1	0	0	1	1	315	6	0	322	0	9	0	9	332
Total	0	0	3	0	0	3	2	1018	35	0	1055	1	36	0	37	1095
05:15 PM	0	0	2	1	0	3	0	307	8	0	315	0	14	0	14	332

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160203\_353421\_10-11-2016  
 Site Code : 160203  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- CARS

End Time	SB US-12 / HURON ST From North		NO LEG From East				NB US-12 / HURON ST From South					FERRIS / DR JOHN C. SHELTON BLVD From West				Int. Total
	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	
05:30 PM	0	0	0	1	0	1	0	314	5	0	319	0	6	0	6	326
05:45 PM	0	0	0	0	0	0	0	325	5	0	330	0	3	0	3	333
06:00 PM	0	0	1	0	0	1	0	256	15	0	271	0	5	0	5	277
Total	0	0	3	2	0	5	0	1202	33	0	1235	0	28	0	28	1268
Grand Total	0	0	8	6	0	14	9	7594	292	0	7895	3	254	0	257	8166
Apprch %	0		57.1	42.9	0		0.1	96.2	3.7	0		1.2	98.8	0		
Total %	0	0	0.1	0.1	0	0.2	0.1	93	3.6	0	96.7	0	3.1	0	3.1	

# Michigan Department Of Transportation Turning Movement

US-12 / HURON ST.  
@ FERRIS ST. / JOHN C.C SHELDON BLVD.  
YPSILANTI TWP.  
WASHTENAW COUNTY

File Name : TM\_160203\_353421\_10-11-2016  
Site Code : 160203  
Start Date : 10/11/2016  
Page No : 1

Groups Printed- SINGLE UNITS

End Time	SB US-12 / HURON ST From North		NO LEG From East				NB US-12 / HURON ST From South					FERRIS / DR JOHN C. SHELTON BLVD From West				Int. Total
	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	
07:15 AM	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	5
07:30 AM	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	6
07:45 AM	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	10	1	0	11	0	0	0	0	11
Total	0	0	0	0	0	0	0	25	1	0	26	0	0	0	0	26
08:15 AM	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	6
08:30 AM	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	4
08:45 AM	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	4
09:00 AM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
Total	0	0	0	0	0	0	0	17	0	0	17	0	0	0	0	17
11:15 AM	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	4
11:30 AM	0	0	0	0	0	0	0	11	1	0	12	0	0	0	0	12
11:45 AM	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	5
12:00 PM	0	0	0	0	0	0	0	7	1	0	8	0	0	0	0	8
Total	0	0	0	0	0	0	0	27	2	0	29	0	0	0	0	29
12:15 PM	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	3
12:30 PM	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	5
12:45 PM	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	8
01:00 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	0	0	0	17	1	0	18	0	0	0	0	18
02:15 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
02:30 PM	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	4
02:45 PM	0	0	0	0	1	1	0	8	0	0	8	0	0	0	0	9
03:00 PM	0	0	0	0	0	0	0	4	1	0	5	0	0	0	0	5
Total	0	0	0	0	1	1	0	18	1	0	19	0	0	0	0	20
03:15 PM	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	7
03:30 PM	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	6
03:45 PM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
04:00 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	0	0	0	18	0	0	18	0	0	0	0	18
04:15 PM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
04:45 PM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	5
Total	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	14
05:15 PM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160203\_353421\_10-11-2016  
 Site Code : 160203  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- SINGLE UNITS

End Time	SB US-12 / HURON ST From North		NO LEG From East				NB US-12 / HURON ST From South					FERRIS / DR JOHN C. SHELTON BLVD From West				Int. Total
	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	
05:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
06:00 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	9
Grand Total	0	0	0	0	1	1	0	145	5	0	150	0	0	0	0	151
Apprch %	0		0	0	100		0	96.7	3.3	0		0	0	0		
Total %	0	0	0	0	0.7	0.7	0	96	3.3	0	99.3	0	0	0	0	

# Michigan Department Of Transportation Turning Movement

US-12 / HURON ST.  
@ FERRIS ST. / JOHN C.C SHELDON BLVD.  
YPSILANTI TWP.  
WASHTENAW COUNTY

File Name : TM\_160203\_353421\_10-11-2016  
Site Code : 160203  
Start Date : 10/11/2016  
Page No : 1

Groups Printed- SEMIS

End Time	SB US-12 / HURON ST From North		NO LEG From East				NB US-12 / HURON ST From South					FERRIS / DR JOHN C. SHELTON BLVD From West				Int. Total
	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	
07:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	6
Total	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	8
08:15 AM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
08:30 AM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	5
11:15 AM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
11:30 AM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
11:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	7
12:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
12:45 PM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
01:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	7
02:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
03:00 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
03:15 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
03:30 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
03:45 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	6
04:15 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	4
05:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160203\_353421\_10-11-2016  
 Site Code : 160203  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- SEMIS

	SB US-12 / HURON ST From North		NO LEG From East				NB US-12 / HURON ST From South					FERRIS / DR JOHN C. SHELTON BLVD From West				Int. Total
	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	
Grand Total	0	0	0	0	0	0	0	43	0	0	43	0	0	0	0	43
Apprch %	0		0	0	0		0	100	0	0		0	0	0		
Total %	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	

# Michigan Department Of Transportation Turning Movement

US-12 / HURON ST.  
@ FERRIS ST. / JOHN C.C SHELDON BLVD.  
YPSILANTI TWP.  
WASHTENAW COUNTY

File Name : TM\_160203\_353421\_10-11-2016  
Site Code : 160203  
Start Date : 10/11/2016  
Page No : 1

### Groups Printed- PEDESTRIANS

End Time	SB US-12 / HURON ST From North		NO LEG From East				NB US-12 / HURON ST From South					FERRIS / DR JOHN C. SHELTON BLVD From West				Int. Total
	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>2</b>
08:15 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3
09:00 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>5</b>
11:15 AM	2	2	0	0	3	3	0	0	0	1	1	0	0	1	1	7
11:30 AM	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	2
11:45 AM	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	2
12:00 PM	1	1	0	0	4	4	0	0	0	0	0	0	0	3	3	8
<b>Total</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>19</b>
12:30 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
12:45 PM	0	0	0	0	1	1	0	0	0	1	1	0	0	2	2	4
01:00 PM	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>7</b>
02:15 PM	4	4	0	0	4	4	0	0	0	0	0	0	0	1	1	9
02:30 PM	1	1	0	0	1	1	0	0	0	1	1	0	0	3	3	6
02:45 PM	0	0	0	0	1	1	0	0	0	3	3	0	0	1	1	5
03:00 PM	3	3	0	0	3	3	0	0	0	1	1	0	0	1	1	8
<b>Total</b>	<b>8</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>28</b>
03:15 PM	1	1	0	0	4	4	0	0	0	0	0	0	0	0	0	5
03:30 PM	0	0	0	0	1	1	0	0	0	2	2	0	0	2	2	5
03:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	2
04:00 PM	6	6	0	0	2	2	0	0	0	0	0	0	0	1	1	9
<b>Total</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>21</b>
04:15 PM	1	1	0	0	3	3	0	0	0	0	0	0	0	2	2	6
04:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2
04:45 PM	2	2	0	0	2	2	0	0	0	2	2	0	0	2	2	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
<b>Total</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>17</b>
05:15 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	6	6	7
05:30 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	2

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160203\_353421\_10-11-2016  
 Site Code : 160203  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- PEDESTRIANS

End Time	SB US-12 / HURON ST From North		NO LEG From East				NB US-12 / HURON ST From South					FERRIS / DR JOHN C. SHELTON BLVD From West				Int. Total
	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	
05:45 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
06:00 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1
Total	1	1	0	0	2	2	0	0	0	1	1	0	0	7	7	11
Grand Total	26	26	0	0	35	35	0	0	0	15	15	0	0	34	34	110
Apprch %	100		0	0	100		0	0	0	100		0	0	100		
Total %	23.6	23.6	0	0	31.8	31.8	0	0	0	13.6	13.6	0	0	30.9	30.9	

Time	Ferris St										Huron St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
7:00 AM - 7:15 AM	3	0	0	1	3	0	0	0	0	0	4	178	0	0	182	0	0	0	0	0	185
7:15 AM - 7:30 AM	1	0	0	1	1	0	0	0	0	0	4	302	0	0	306	0	0	0	0	0	307
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	6	313	0	0	319	0	0	0	0	0	319
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	6	294	0	0	300	0	0	0	0	0	300
8:00 AM - 8:15 AM	4	0	0	0	4	0	0	0	1	0	11	284	0	0	295	0	0	0	0	0	299
8:15 AM - 8:30 AM	5	0	0	3	5	0	0	0	0	0	15	329	1	0	345	0	0	0	0	0	350
8:30 AM - 8:45 AM	3	0	0	0	3	0	1	0	0	1	6	314	0	0	320	0	0	0	0	0	324
8:45 AM - 9:00 AM	6	0	0	0	6	0	0	0	0	0	20	318	1	1	339	0	0	0	0	0	345
Total	22	0	0	5	22	0	1	0	1	1	72	2332	2	1	2406	0	0	0	0	0	2429

Time	Ferris St										Huron St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
7:00 AM - 8:00 AM	4	0	0	2	4	0	0	0	0	0	20	1087	0	0	1107	0	0	0	0	0	1111
7:15 AM - 8:15 AM	5	0	0	1	5	0	0	0	1	0	27	1193	0	0	1220	0	0	0	0	0	1225
7:30 AM - 8:30 AM	9	0	0	3	9	0	0	0	1	0	38	1220	1	0	1259	0	0	0	0	0	1268
7:45 AM - 8:45 AM	12	0	0	3	12	0	1	0	1	1	38	1221	1	0	1260	0	0	0	0	0	1273
8:00 AM - 9:00 AM	18	0	0	3	18	0	1	0	1	1	52	1245	2	1	1299	0	0	0	0	0	1318

Approach PHF	0.75	-	0.94	-
HV%	0%	-	0%	-

Time	Ferris St										Huron St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
11:00 AM - 11:15 AM	2	0	0	1	2	0	0	0	3	0	10	183	0	1	193	0	0	0	2	0	195
11:15 AM - 11:30 AM	9	0	0	0	9	0	0	0	1	0	4	175	0	1	179	9	0	0	0	9	197
11:30 AM - 11:45 AM	11	0	0	0	11	0	0	0	1	0	9	183	1	0	193	0	0	0	1	0	204
11:45 AM - 12:00 PM	8	0	0	3	8	0	0	0	4	0	7	228	1	0	236	0	0	0	1	0	244
12:00 PM - 12:15 PM	11	0	0	0	11	0	0	0	0	0	12	227	0	0	239	0	0	0	0	0	250
12:15 PM - 12:30 PM	12	0	0	0	12	0	0	0	0	0	11	184	0	1	195	0	0	0	0	0	207
12:30 PM - 12:45 PM	7	0	0	2	7	0	0	0	1	0	9	234	0	1	243	0	0	0	0	0	250
12:45 PM - 1:00 PM	8	1	0	0	9	0	1	0	0	1	9	177	0	0	186	0	0	0	2	0	196
Total	68	1	0	6	69	0	1	0	10	1	71	1591	2	4	1664	9	0	0	6	9	1743

Time	Ferris St										Huron St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
11:00 AM - 12:00 PM	30	0	0	4	30	0	0	0	9	0	30	769	2	2	801	9	0	0	4	9	840
11:15 AM - 12:15 PM	39	0	0	3	39	0	0	0	6	0	32	813	2	1	847	9	0	0	2	9	895
11:30 AM - 12:30 PM	42	0	0	3	42	0	0	0	5	0	39	822	2	1	863	0	0	0	2	0	905
11:45 AM - 12:45 PM	38	0	0	5	38	0	0	0	5	0	39	873	1	2	913	0	0	0	1	0	951
12:00 PM - 1:00 PM	38	1	0	2	39	0	1	0	1	1	41	822	0	2	863	0	0	0	2	0	903

Approach PHF	0.79	-	0.94	-
HV%	0%	-	1%	-

Time	Ferris St										Huron St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
2:00 PM - 2:15 PM	9	0	0	1	9	0	0	0	4	0	10	184	0	0	194	0	0	0	4	0	203
2:15 PM - 2:30 PM	11	0	0	3	11	0	0	0	1	0	7	172	0	1	179	0	0	0	1	0	190
2:30 PM - 2:45 PM	13	0	0	1	13	0	0	1	2	1	8	192	1	3	201	0	0	0	0	0	215
2:45 PM - 3:00 PM	8	0	0	1	8	0	0	0	3	0	14	217	1	1	232	0	0	0	3	0	240
3:00 PM - 3:15 PM	11	1	0	0	12	0	1	0	4	1	10	192	0	0	202	0	0	0	1	0	215
3:15 PM - 3:30 PM	14	0	0	2	14	0	0	1	1	1	13	220	0	2	233	0	0	0	0	0	248
3:30 PM - 3:45 PM	17	0	0	1	17	0	1	0	1	1	12	225	0	0	237	0	0	0	0	0	255
3:45 PM - 4:00 PM	17	0	0	1	17	0	0	0	2	0	12	207	1	0	220	0	0	0	6	0	237
4:00 PM - 4:15 PM	5	1	0	2	6	0	0	2	3	2	11	197	1	0	209	0	0	0	1	0	217
4:15 PM - 4:30 PM	15	0	0	1	15	0	0	0	0	0	6	203	0	0	209	0	0	0	1	0	224
4:30 PM - 4:45 PM	7	0	0	2	7	0	0	0	2	0	12	314	0	2	326	0	0	0	2	0	333
4:45 PM - 5:00 PM	9	0	0	1	9	0	0	1	0	1	6	322	1	0	329	0	0	0	0	0	339
5:00 PM - 5:15 PM	14	0	0	6	14	0	1	2	0	3	8	310	0	0	318	0	0	0	1	0	335
5:15 PM - 5:30 PM	6	0	0	1	6	0	1	0	1	1	5	316	0	0	321	0	0	0	0	0	328
5:30 PM - 5:45 PM	3	0	0	0	3	0	0	0	0	0	5	329	0	1	334	0	0	0	0	0	337
5:45 PM - 6:00 PM	5	0	0	0	5	0	0	1	1	1	15	259	0	0	274	0	0	0	0	0	280
Total	164	2	0	23	166	0	4	8	25	12	154	3859	5	10	4018	0	0	0	20	0	4196

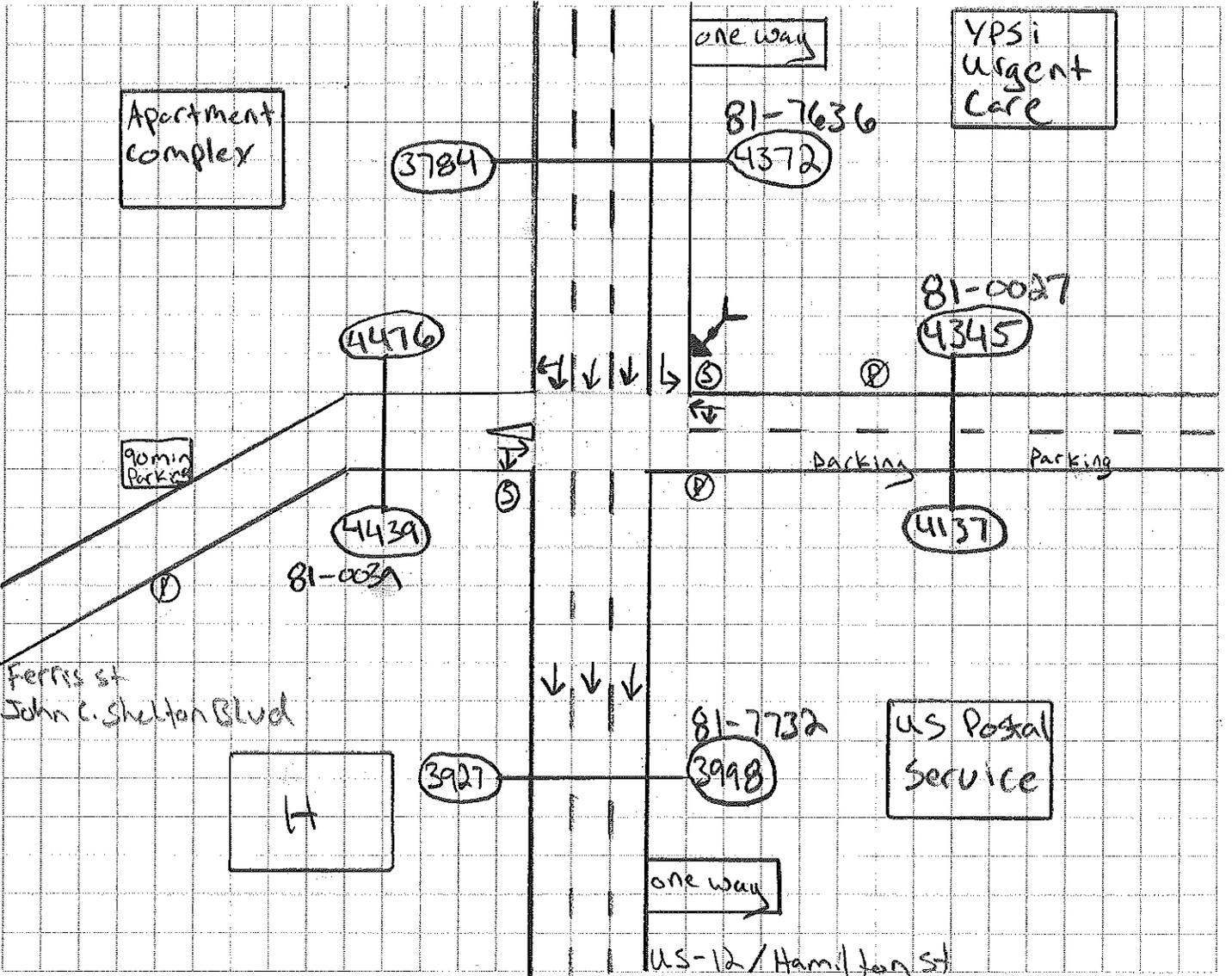
Time	Ferris St										Huron St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
2:00 PM - 3:00 PM	41	0	0	6	41	0	0	1	10	1	39	765	2	5	806	0	0	0	8	0	848
2:15 PM - 3:15 PM	43	1	0	5	44	0	1	1	10	2	39	773	2	5	814	0	0	0	5	0	860
2:30 PM - 3:30 PM	46	1	0	4	47	0	1	2	10	3	45	821	2	6	868	0	0	0	4	0	918
2:45 PM - 3:45 PM	50	1	0	4	51	0	2	1	9	3	49	854	1	3	904	0	0	0	4	0	958
3:00 PM - 4:00 PM	59	1	0	4	60	0	2	1	8	3	47	844	1	2	892	0	0	0	7	0	955
3:15 PM - 4:15 PM	53	1	0	6	54	0	1	3	7	4	48	849	2	2	899	0	0	0	7	0	957
3:30 PM - 4:30 PM	54	1	0	5	55	0	1	2	6	3	41	832	2	0	875	0	0	0	8	0	933
3:45 PM - 4:45 PM	44	1	0	6	45	0	0	2	7	2	41	921	2	2	964	0	0	0	10	0	1011
4:00 PM - 5:00 PM	36	1	0	6	37	0	0	3	5	3	35	1036	2	2	1073	0	0	0	4	0	1113
4:15 PM - 5:15 PM	45	0	0	10	45	0	1	3	2	4	32	1149	1	2	1182	0	0	0	4	0	1231
4:30 PM - 5:30 PM	36	0	0	10	36	0	2	3	3	5	31	1262	1	2	1294	0	0	0	3	0	1335
4:45 PM - 5:45 PM	32	0	0	8	32	0	2	3	1	5	24	1277	1	1	1302	0	0	0	1	0	1339
5:00 PM - 6:00 PM	28	0	0	7	28	0	2	3	2	5	33	1214	0	1	1247	0	0	0	1	0	1280

Approach PHF	0.57	-	0.97	-
HV%	0%	-	0%	-

**INTERSECTION DIAGRAM**  
(Not to Scale)



DATE 10-11-16	DAY Tuesday	COUNTY Washtenaw	TIME
TWP. VILLAGE OR CITY Ypsilanti Twp.	WEATHER Sunny		7a TO 9a
INTERSECTION OF US-12/Hamilton St @ Ferris St/John C Shelton			11a TO 1p 2p TO 6p



COMMENTS  
 Speed Limit on Hamilton St is 40 MPH  
 Speed Limit on Ferris St./John C. Shelton Blvd is not posted  
 MTD Set in Northeast corner

# Michigan Department Of Transportation Turning Movement

US-12 / HAMILTON ST.  
@ FERRIS ST. / J. C. SHELDON BLVD.  
YPSILATI TWP.  
WASHTENAW COUNTY

File Name : TM\_160204\_353429\_10-11-2016  
Site Code : 160204  
Start Date : 10/11/2016  
Page No : 1

Groups Printed- CARS - SINGLE UNITS - SEMIS - PEDESTRIANS

End Time	HAMILTON ST. From North					FERRIS ST. From East					HAMILTON ST. From South					FERRIS ST. From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:15 AM	0	137	2	0	139	0	4	8	0	12	0	0	0	0	0	6	1	0	0	7	158
07:30 AM	3	141	3	0	147	0	3	3	1	7	0	0	0	0	0	6	1	0	0	7	161
07:45 AM	0	123	4	0	127	0	8	2	0	10	0	0	0	2	2	3	1	0	0	4	143
08:00 AM	4	132	4	0	140	0	4	2	0	6	0	0	0	0	0	5	1	0	0	6	152
Total	7	533	13	0	553	0	19	15	1	35	0	0	0	2	2	20	4	0	0	24	614
08:15 AM	2	125	21	0	148	0	1	6	0	7	0	0	0	0	0	9	4	0	1	14	169
08:30 AM	0	148	12	0	160	0	5	2	0	7	0	0	0	0	0	5	4	0	0	9	176
08:45 AM	4	148	8	1	161	0	5	7	4	16	0	0	0	0	0	5	2	0	0	7	184
09:00 AM	3	125	14	0	142	0	2	5	0	7	0	0	0	1	1	7	4	0	0	11	161
Total	9	546	55	1	611	0	13	20	4	37	0	0	0	1	1	26	14	0	1	41	690
11:15 AM	2	188	21	0	211	0	9	12	0	21	0	0	0	0	0	4	3	0	1	8	240
11:30 AM	5	186	12	0	203	0	1	8	0	9	0	0	0	0	0	3	6	0	1	10	222
11:45 AM	2	169	19	2	192	0	5	9	0	14	0	0	0	0	0	9	2	0	0	11	217
12:00 PM	3	186	14	0	203	0	2	10	0	12	0	0	0	1	1	3	1	0	0	4	220
Total	12	729	66	2	809	0	17	39	0	56	0	0	0	1	1	19	12	0	2	33	899
12:15 PM	4	203	17	0	224	0	4	9	0	13	0	0	0	1	1	8	5	0	1	14	252
12:30 PM	6	235	31	1	273	0	4	6	1	11	0	0	0	4	4	6	7	0	3	16	304
12:45 PM	6	243	23	0	272	0	3	6	1	10	0	0	0	1	1	9	4	0	0	13	296
01:00 PM	3	220	23	6	252	0	2	10	1	13	0	0	0	1	1	6	5	0	1	12	278
Total	19	901	94	7	1021	0	13	31	3	47	0	0	0	7	7	29	21	0	5	55	1130
01:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
02:15 PM	2	308	25	1	336	0	7	9	0	16	0	0	0	1	1	9	4	0	2	15	368
02:30 PM	6	244	23	1	274	0	3	11	12	26	0	0	0	1	1	5	6	0	1	12	313
02:45 PM	4	247	26	0	277	0	8	6	1	15	0	0	0	0	0	11	9	0	1	21	313
03:00 PM	2	233	26	5	266	0	8	5	1	14	0	0	0	0	0	9	4	0	2	15	295
Total	14	1032	100	7	1153	0	26	31	14	71	0	0	0	2	2	34	23	0	6	63	1289
03:15 PM	3	337	23	3	366	0	4	15	0	19	0	0	0	0	0	4	4	0	1	9	394
03:30 PM	2	332	29	1	364	0	10	14	0	24	0	0	0	0	0	5	4	0	0	9	397
03:45 PM	4	379	22	2	407	0	10	8	1	19	0	0	0	2	2	7	11	0	1	19	447
04:00 PM	7	337	24	1	369	0	5	12	2	19	0	0	0	3	3	7	3	0	0	10	401
Total	16	1385	98	7	1506	0	29	49	3	81	0	0	0	5	5	23	22	0	2	47	1639
04:15 PM	6	336	29	2	373	0	0	14	0	14	0	0	0	2	2	9	4	0	3	16	405
04:30 PM	5	285	21	1	312	0	6	9	2	17	0	0	0	1	1	6	5	0	0	11	341
04:45 PM	1	309	26	3	339	0	9	3	0	12	0	0	0	1	1	4	7	0	4	15	367
05:00 PM	5	344	19	2	370	0	14	9	0	23	0	0	0	0	0	5	7	0	0	12	405
Total	17	1274	95	8	1394	0	29	35	2	66	0	0	0	4	4	24	23	0	7	54	1518

# Michigan Department Of Transportation Turning Movement

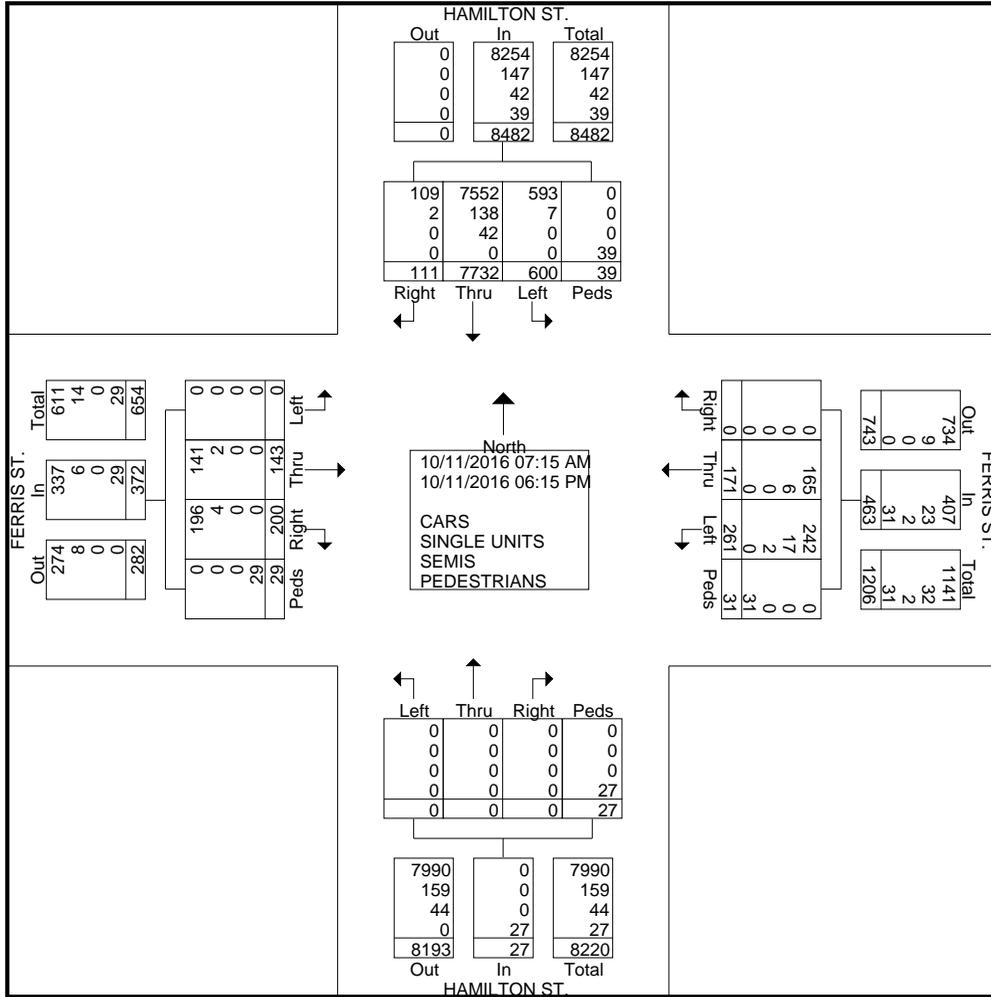
File Name : TM\_160204\_353429\_10-11-2016  
 Site Code : 160204  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- CARS - SINGLE UNITS - SEMIS - PEDESTRIANS

End Time	HAMILTON ST. From North					FERRIS ST. From East					HAMILTON ST. From South					FERRIS ST. From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
05:15 PM	3	403	26	1	433	0	5	17	0	22	0	0	0	2	2	6	5	0	2	13	470
05:30 PM	6	336	23	1	366	0	6	8	1	15	0	0	0	1	1	8	7	0	0	15	397
05:45 PM	4	288	19	2	313	0	6	7	1	14	0	0	0	1	1	4	5	0	1	10	338
06:00 PM	4	303	11	3	321	0	8	9	2	19	0	0	0	1	1	7	7	0	3	17	358
Total	17	1330	79	7	1433	0	25	41	4	70	0	0	0	5	5	25	24	0	6	55	1563
Grand Total	111	7732	600	39	8482	0	171	261	31	463	0	0	0	27	27	200	143	0	29	372	9344
Apprch %	1.3	91.2	7.1	0.5		0	36.9	56.4	6.7		0	0	0	100		53.8	38.4	0	7.8		
Total %	1.2	82.7	6.4	0.4	90.8	0	1.8	2.8	0.3	5	0	0	0	0.3	0.3	2.1	1.5	0	0.3	4	
CARS	109	7552	593	0	8254	0	165	242	0	407	0	0	0	0	0	196	141	0	0	337	8998
% CARS	98.2	97.7	98.8	0	97.3	0	96.5	92.7	0	87.9	0	0	0	0	0	98	98.6	0	0	90.6	96.3
SINGLE UNITS	2	138	7	0	147	0	6	17	0	23	0	0	0	0	0	4	2	0	0	6	176
% SINGLE UNITS	1.8	1.8	1.2	0	1.7	0	3.5	6.5	0	5	0	0	0	0	0	2	1.4	0	0	1.6	1.9
SEMIS	0	42	0	0	42	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	44
% SEMIS	0	0.5	0	0	0.5	0	0	0.8	0	0.4	0	0	0	0	0	0	0	0	0	0	0.5
PEDESTRIANS	0	0	0	39	39	0	0	0	31	31	0	0	0	27	27	0	0	0	29	29	126
% PEDESTRIANS	0	0	0	100	0.5	0	0	0	100	6.7	0	0	0	100	100	0	0	0	100	7.8	1.3

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160204\_353429\_10-11-2016  
 Site Code : 160204  
 Start Date : 10/11/2016  
 Page No : 3



# Michigan Department Of Transportation Turning Movement

US-12 / HAMILTON ST.  
@ FERRIS ST. / J. C. SHELDON BLVD.  
YPSILATI TWP.  
WASHTENAW COUNTY

File Name : TM\_160204\_353429\_10-11-2016  
Site Code : 160204  
Start Date : 10/11/2016  
Page No : 1

### Groups Printed- CARS

End Time	HAMILTON ST. From North					FERRIS ST. From East					HAMILTON ST. From South					FERRIS ST. From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:15 AM	0	133	2	0	135	0	3	6	0	9	0	0	0	0	0	6	1	0	0	7	151
07:30 AM	3	136	3	0	142	0	2	3	0	5	0	0	0	0	0	6	1	0	0	7	154
07:45 AM	0	118	3	0	121	0	7	2	0	9	0	0	0	0	0	3	1	0	0	4	134
08:00 AM	4	125	3	0	132	0	4	2	0	6	0	0	0	0	0	5	1	0	0	6	144
Total	7	512	11	0	530	0	16	13	0	29	0	0	0	0	0	20	4	0	0	24	583
08:15 AM	2	120	20	0	142	0	1	4	0	5	0	0	0	0	0	7	4	0	0	11	158
08:30 AM	0	144	12	0	156	0	5	2	0	7	0	0	0	0	0	5	4	0	0	9	172
08:45 AM	4	144	8	0	156	0	5	6	0	11	0	0	0	0	0	5	2	0	0	7	174
09:00 AM	3	117	14	0	134	0	2	5	0	7	0	0	0	0	0	7	4	0	0	11	152
Total	9	525	54	0	588	0	13	17	0	30	0	0	0	0	0	24	14	0	0	38	656
11:15 AM	2	181	20	0	203	0	9	11	0	20	0	0	0	0	0	4	3	0	0	7	230
11:30 AM	5	180	12	0	197	0	1	8	0	9	0	0	0	0	0	3	6	0	0	9	215
11:45 AM	2	155	19	0	176	0	5	8	0	13	0	0	0	0	0	8	2	0	0	10	199
12:00 PM	3	178	14	0	195	0	2	9	0	11	0	0	0	0	0	3	1	0	0	4	210
Total	12	694	65	0	771	0	17	36	0	53	0	0	0	0	0	18	12	0	0	30	854
12:15 PM	4	198	17	0	219	0	4	7	0	11	0	0	0	0	0	8	4	0	0	12	242
12:30 PM	6	232	31	0	269	0	4	6	0	10	0	0	0	0	0	6	7	0	0	13	292
12:45 PM	6	239	23	0	268	0	3	5	0	8	0	0	0	0	0	9	4	0	0	13	289
01:00 PM	3	213	23	0	239	0	2	10	0	12	0	0	0	0	0	6	5	0	0	11	262
Total	19	882	94	0	995	0	13	28	0	41	0	0	0	0	0	29	20	0	0	49	1085
01:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
02:15 PM	2	299	25	0	326	0	7	8	0	15	0	0	0	0	0	9	4	0	0	13	354
02:30 PM	6	238	23	0	267	0	3	11	0	14	0	0	0	0	0	5	6	0	0	11	292
02:45 PM	4	240	26	0	270	0	7	5	0	12	0	0	0	0	0	11	9	0	0	20	302
03:00 PM	1	229	25	0	255	0	7	5	0	12	0	0	0	0	0	9	4	0	0	13	280
Total	13	1006	99	0	1118	0	24	29	0	53	0	0	0	0	0	34	23	0	0	57	1228
03:15 PM	2	328	22	0	352	0	3	14	0	17	0	0	0	0	0	4	4	0	0	8	377
03:30 PM	2	323	29	0	354	0	10	14	0	24	0	0	0	0	0	5	4	0	0	9	387
03:45 PM	4	377	22	0	403	0	10	7	0	17	0	0	0	0	0	7	10	0	0	17	437
04:00 PM	7	331	24	0	362	0	5	12	0	17	0	0	0	0	0	6	3	0	0	9	388
Total	15	1359	97	0	1471	0	28	47	0	75	0	0	0	0	0	22	21	0	0	43	1589
04:15 PM	6	332	29	0	367	0	0	13	0	13	0	0	0	0	0	9	4	0	0	13	393
04:30 PM	5	283	21	0	309	0	6	9	0	15	0	0	0	0	0	6	5	0	0	11	335
04:45 PM	1	303	26	0	330	0	9	2	0	11	0	0	0	0	0	4	7	0	0	11	352
05:00 PM	5	338	19	0	362	0	14	9	0	23	0	0	0	0	0	5	7	0	0	12	397
Total	17	1256	95	0	1368	0	29	33	0	62	0	0	0	0	0	24	23	0	0	47	1477

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160204\_353429\_10-11-2016  
 Site Code : 160204  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- CARS

End Time	HAMILTON ST. From North					FERRIS ST. From East					HAMILTON ST. From South					FERRIS ST. From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
05:15 PM	3	399	25	0	427	0	5	16	0	21	0	0	0	0	0	6	5	0	0	11	459
05:30 PM	6	331	23	0	360	0	6	8	0	14	0	0	0	0	0	8	7	0	0	15	389
05:45 PM	4	287	19	0	310	0	6	6	0	12	0	0	0	0	0	4	5	0	0	9	331
06:00 PM	4	299	11	0	314	0	8	9	0	17	0	0	0	0	0	7	7	0	0	14	345
Total	17	1316	78	0	1411	0	25	39	0	64	0	0	0	0	0	25	24	0	0	49	1524
Grand Total	109	7552	593	0	8254	0	165	242	0	407	0	0	0	0	0	196	141	0	0	337	8998
Apprch %	1.3	91.5	7.2	0		0	40.5	59.5	0		0	0	0	0		58.2	41.8	0	0		
Total %	1.2	83.9	6.6	0	91.7	0	1.8	2.7	0	4.5	0	0	0	0	0	2.2	1.6	0	0	3.7	

# Michigan Department Of Transportation Turning Movement

US-12 / HAMILTON ST.  
@ FERRIS ST. / J. C. SHELDON BLVD.  
YPSILATI TWP.  
WASHTENAW COUNTY

File Name : TM\_160204\_353429\_10-11-2016  
Site Code : 160204  
Start Date : 10/11/2016  
Page No : 1

Groups Printed- SINGLE UNITS

End Time	HAMILTON ST. From North					FERRIS ST. From East					HAMILTON ST. From South					FERRIS ST. From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:15 AM	0	3	0	0	3	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	5
07:30 AM	0	5	0	0	5	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	6
07:45 AM	0	4	1	0	5	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	6
08:00 AM	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	15	2	0	17	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	21
08:15 AM	0	4	1	0	5	0	0	2	0	2	0	0	0	0	0	2	0	0	0	2	9
08:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:45 AM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
09:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	13	1	0	14	0	0	3	0	3	0	0	0	0	0	2	0	0	0	2	19
11:15 AM	0	4	1	0	5	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	6
11:30 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
11:45 AM	0	10	0	0	10	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	12
12:00 PM	0	6	0	0	6	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	7
Total	0	25	1	0	26	0	0	3	0	3	0	0	0	0	0	1	0	0	0	1	30
12:15 PM	0	4	0	0	4	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	6
12:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:45 PM	0	3	0	0	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4
01:00 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	15	0	0	15	0	0	2	0	2	0	0	0	0	0	0	1	0	0	1	18
02:15 PM	0	6	0	0	6	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	7
02:30 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
02:45 PM	0	6	0	0	6	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	8
03:00 PM	1	3	1	0	5	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	6
Total	1	20	1	0	22	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	26
03:15 PM	1	7	1	0	9	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	11
03:30 PM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
03:45 PM	0	2	0	0	2	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	4
04:00 PM	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	7
Total	1	22	1	0	24	0	1	2	0	3	0	0	0	0	0	1	1	0	0	2	29
04:15 PM	0	4	0	0	4	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	5
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	5	0	0	5	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	6
05:00 PM	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Total	0	16	0	0	16	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	18
05:15 PM	0	4	1	0	5	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	6
05:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160204\_353429\_10-11-2016  
 Site Code : 160204  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- SINGLE UNITS

End Time	HAMILTON ST. From North					FERRIS ST. From East					HAMILTON ST. From South					FERRIS ST. From West					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
05:45 PM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
06:00 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	12	1	0	13	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	15
Grand Total	2	138	7	0	147	0	6	17	0	23	0	0	0	0	0	4	2	0	0	6		176
Apprch %	1.4	93.9	4.8	0		0	26.1	73.9	0		0	0	0	0		66.7	33.3	0	0			
Total %	1.1	78.4	4	0	83.5	0	3.4	9.7	0	13.1	0	0	0	0		2.3	1.1	0	0	3.4		

# Michigan Department Of Transportation Turning Movement

US-12 / HAMILTON ST.  
@ FERRIS ST. / J. C. SHELDON BLVD.  
YPSILATI TWP.  
WASHTENAW COUNTY

File Name : TM\_160204\_353429\_10-11-2016  
Site Code : 160204  
Start Date : 10/11/2016  
Page No : 1

### Groups Printed- SEMIS

End Time	HAMILTON ST. From North					FERRIS ST. From East					HAMILTON ST. From South					FERRIS ST. From West					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
07:15 AM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	6	0	0	6	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	7
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
09:00 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
11:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
12:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
12:15 PM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
12:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	4	0	0	4	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	5
02:15 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
02:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
03:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
03:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2



# Michigan Department Of Transportation Turning Movement

US-12 / HAMILTON ST.  
@ FERRIS ST. / J. C. SHELDON BLVD.  
YPSILATI TWP.  
WASHTENAW COUNTY

File Name : TM\_160204\_353429\_10-11-2016  
Site Code : 160204  
Start Date : 10/11/2016  
Page No : 1

### Groups Printed- PEDESTRIANS

End Time	HAMILTON ST. From North					FERRIS ST. From East					HAMILTON ST. From South					FERRIS ST. From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:30 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:45 AM	0	0	0	1	1	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	5
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>7</b>
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
11:45 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</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>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>5</b>
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	2
12:30 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	4	4	0	0	0	3	3	9
12:45 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	2
01:00 PM	0	0	0	6	6	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	9
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>22</b>
02:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2	4
02:30 PM	0	0	0	1	1	0	0	0	12	12	0	0	0	1	1	0	0	0	1	1	15
02:45 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	2
03:00 PM	0	0	0	5	5	0	0	0	1	1	0	0	0	0	0	0	0	0	2	2	8
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>29</b>
03:15 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4
03:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	2	2	0	0	0	1	1	0	0	0	2	2	0	0	0	1	1	6
04:00 PM	0	0	0	1	1	0	0	0	2	2	0	0	0	3	3	0	0	0	0	0	6
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>17</b>
04:15 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2	0	0	0	3	3	7
04:30 PM	0	0	0	1	1	0	0	0	2	2	0	0	0	1	1	0	0	0	0	0	4
04:45 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	1	1	0	0	0	4	4	8
05:00 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>7</b>	<b>21</b>
05:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	2	2	0	0	0	2	2	5
05:30 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	3

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160204\_353429\_10-11-2016  
 Site Code : 160204  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- PEDESTRIANS

End Time	HAMILTON ST. From North					FERRIS ST. From East					HAMILTON ST. From South					FERRIS ST. From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
05:45 PM	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	5
06:00 PM	0	0	0	3	3	0	0	0	2	2	0	0	0	1	1	0	0	0	3	3	9
Total	0	0	0	7	7	0	0	0	4	4	0	0	0	5	5	0	0	0	6	6	22
Grand Total	0	0	0	39	39	0	0	0	31	31	0	0	0	27	27	0	0	0	29	29	126
Apprch %	0	0	0	100		0	0	0	100		0	0	0	100		0	0	0	100		
Total %	0	0	0	31	31	0	0	0	24.6	24.6	0	0	0	21.4	21.4	0	0	0	23	23	

Time	Ferris St										Hamilton St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
7:00 AM - 7:15 AM	0	1	6	0	7	8	4	0	0	12	0	0	0	0	0	2	137	0	0	139	158
7:15 AM - 7:30 AM	0	1	6	0	7	3	3	0	1	6	0	0	0	0	0	3	141	3	0	147	160
7:30 AM - 7:45 AM	0	1	3	0	4	2	8	0	0	10	0	0	0	2	0	4	123	0	0	127	141
7:45 AM - 8:00 AM	0	1	5	0	6	2	4	0	0	6	0	0	0	0	0	4	132	4	0	140	152
8:00 AM - 8:15 AM	0	4	9	1	13	6	1	0	0	7	0	0	0	0	0	21	125	2	0	148	168
8:15 AM - 8:30 AM	0	4	5	0	9	2	5	0	0	7	0	0	0	0	0	12	148	0	0	160	176
8:30 AM - 8:45 AM	0	2	5	0	7	7	5	0	4	12	0	0	0	0	0	8	148	4	1	160	179
8:45 AM - 9:00 AM	0	4	7	0	11	5	2	0	0	7	0	0	0	1	0	14	125	3	0	142	160
Total	0	18	46	1	64	35	32	0	5	67	0	0	0	3	0	68	1079	16	1	1163	1294

Time	Ferris St										Hamilton St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
7:00 AM - 8:00 AM	0	4	20	0	24	15	19	0	1	34	0	0	0	2	0	13	533	7	0	553	611
7:15 AM - 8:15 AM	0	7	23	1	30	13	16	0	1	29	0	0	0	2	0	32	521	9	0	562	621
7:30 AM - 8:30 AM	0	10	22	1	32	12	18	0	0	30	0	0	0	2	0	41	528	6	0	575	637
7:45 AM - 8:45 AM	0	11	24	1	35	17	15	0	4	32	0	0	0	0	0	45	553	10	1	608	675
8:00 AM - 9:00 AM	0	14	26	1	40	20	13	0	4	33	0	0	0	1	0	55	546	9	1	610	683

Approach PHF	0.77	0.69	-	0.95
HV%	0%	0%	-	1%

Time	Ferris St										Hamilton St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
11:00 AM - 11:15 AM	0	3	4	1	7	12	9	0	0	21	0	0	0	0	0	21	188	2	0	211	239
11:15 AM - 11:30 AM	0	6	3	1	9	8	1	0	0	9	0	0	0	0	0	12	186	5	0	203	221
11:30 AM - 11:45 AM	0	2	9	0	11	9	5	0	0	14	0	0	0	0	0	19	169	2	2	190	215
11:45 AM - 12:00 PM	0	1	3	0	4	10	2	0	0	12	0	0	0	1	0	14	186	3	0	203	219
12:00 PM - 12:15 PM	0	5	8	1	13	9	4	0	0	13	0	0	0	1	0	17	203	4	0	224	250
12:15 PM - 12:30 PM	0	7	6	3	13	6	4	0	1	10	0	0	0	4	0	31	235	6	1	272	295
12:30 PM - 12:45 PM	0	4	9	0	13	6	3	0	1	9	0	0	0	1	0	23	243	6	0	272	294
12:45 PM - 1:00 PM	0	5	6	1	11	10	2	0	1	12	0	0	0	1	0	23	220	3	6	246	269
Total	0	33	48	7	81	70	30	0	3	100	0	0	0	8	0	160	1630	31	9	1821	2002

Time	Ferris St										Hamilton St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
11:00 AM - 12:00 PM	0	12	19	2	31	39	17	0	0	56	0	0	0	1	0	66	729	12	2	807	894
11:15 AM - 12:15 PM	0	14	23	2	37	36	12	0	0	48	0	0	0	2	0	62	744	14	2	820	905
11:30 AM - 12:30 PM	0	15	26	4	41	34	15	0	1	49	0	0	0	6	0	81	793	15	3	889	979
11:45 AM - 12:45 PM	0	17	26	4	43	31	13	0	2	44	0	0	0	7	0	85	867	19	1	971	1058
12:00 PM - 1:00 PM	0	21	29	5	50	31	13	0	3	44	0	0	0	7	0	94	901	19	7	1014	1108

Approach PHF	0.96	0.85	-	0.93
HV%	0%	2%	-	0%

Time	Ferris St										Hamilton St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
2:00 PM - 2:15 PM	0	4	9	2	13	9	7	0	0	16	0	0	0	1	0	25	308	2	1	335	364
2:15 PM - 2:30 PM	0	6	5	1	11	11	3	0	12	14	0	0	0	1	0	23	244	6	1	273	298
2:30 PM - 2:45 PM	0	9	11	1	20	6	8	0	1	14	0	0	0	0	0	26	247	4	0	277	311
2:45 PM - 3:00 PM	0	4	9	2	13	5	8	0	1	13	0	0	0	0	0	26	233	2	5	261	287
3:00 PM - 3:15 PM	0	4	4	1	8	15	4	0	0	19	0	0	0	0	0	23	337	3	3	363	390
3:15 PM - 3:30 PM	0	4	5	0	9	14	10	0	0	24	0	0	0	0	0	29	332	2	1	363	396
3:30 PM - 3:45 PM	0	11	7	1	18	8	10	0	1	18	0	0	0	2	0	22	379	4	2	405	441
3:45 PM - 4:00 PM	0	3	7	0	10	12	5	0	2	17	0	0	0	3	0	24	337	7	1	368	395
4:00 PM - 4:15 PM	0	4	9	3	13	14	0	0	0	14	0	0	0	2	0	29	336	6	2	371	398
4:15 PM - 4:30 PM	0	5	6	0	11	9	6	0	2	15	0	0	0	1	0	21	285	5	1	311	337
4:30 PM - 4:45 PM	0	7	4	4	11	3	9	0	0	12	0	0	0	1	0	26	309	1	3	336	359
4:45 PM - 5:00 PM	0	7	5	0	12	9	14	0	0	23	0	0	0	0	0	19	344	5	2	368	403
5:00 PM - 5:15 PM	0	5	6	2	11	17	5	0	0	22	0	0	0	2	0	26	403	3	1	432	465
5:15 PM - 5:30 PM	0	7	8	0	15	8	6	0	1	14	0	0	0	1	0	23	336	6	1	365	394
5:30 PM - 5:45 PM	0	5	4	1	9	7	6	0	1	13	0	0	0	1	0	19	288	4	2	311	333
5:45 PM - 6:00 PM	0	7	7	3	14	9	8	0	2	17	0	0	0	1	0	11	303	4	3	318	349
Total	0	92	106	21	198	156	109	0	23	265	0	0	0	16	0	372	5021	64	29	5457	5920

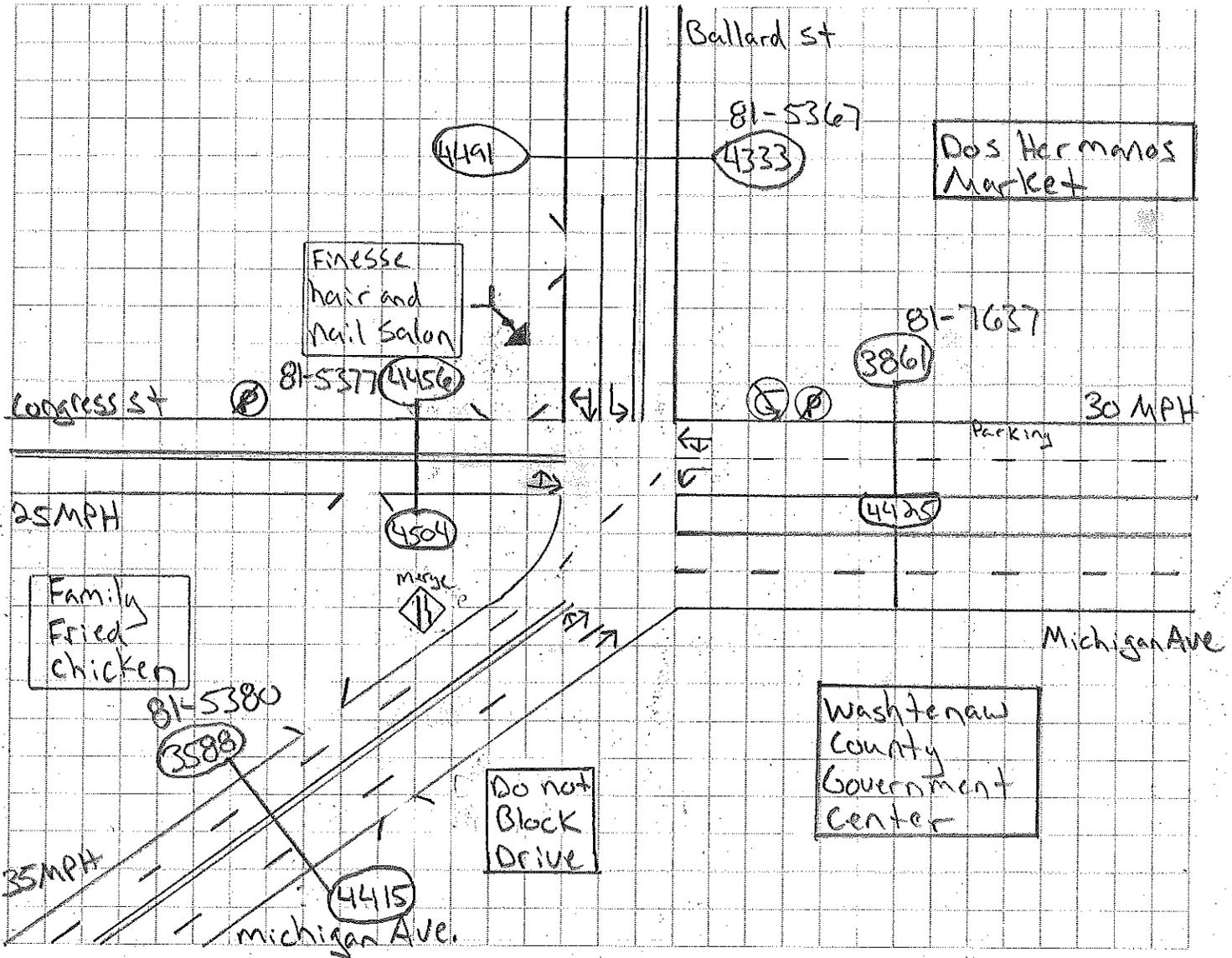
Time	Ferris St										Hamilton St										Total
	Eastbound					Westbound					Northbound					Southbound					
	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	Left	Thru	Right	Peds	Approach	
2:00 PM - 3:00 PM	0	23	34	6	57	31	26	0	14	57	0	0	0	2	0	100	1032	14	7	1146	1260
2:15 PM - 3:15 PM	0	23	29	5	52	37	23	0	14	60	0	0	0	1	0	98	1061	15	9	1174	1286
2:30 PM - 3:30 PM	0	21	29	4	50	40	30	0	2	70	0	0	0	0	0	104	1149	11	9	1264	1384
2:45 PM - 3:45 PM	0	23	25	4	48	42	32	0	2	74	0	0	0	2	0	100	1281	11	11	1392	1514
3:00 PM - 4:00 PM	0	22	23	2	45	49	29	0	3	78	0	0	0	5	0	98	1385	16	7	1499	1622
3:15 PM - 4:15 PM	0	22	28	4	50	48	25	0	3	73	0	0	0	7	0	104	1384	19	6	1507	1630
3:30 PM - 4:30 PM	0	23	29	4	52	43	21	0	5	64	0	0	0	8	0	96	1337	22	6	1455	1571
3:45 PM - 4:45 PM	0	19	26	7	45	38	20	0	4	58	0	0	0	7	0	100	1267	19	7	1386	1489
4:00 PM - 5:00 PM	0	23	24	7	47	35	29	0	2	64	0	0	0	4	0	95	1274	17	8	1386	1497
4:15 PM - 5:15 PM	0	24	21	6	45	38	34	0	2	72	0	0	0	4	0	92	1341	14	7	1447	1564
4:30 PM - 5:30 PM	0	26	23	6	49	37	34	0	1	71	0	0	0	4	0	94	1392	15	7	1501	1621
4:45 PM - 5:45 PM	0	24	23	3	47	41	31	0	2	72	0	0	0	4	0	87	1371	18	6	1476	1595
5:00 PM - 6:00 PM	0	24	25	6	49	41	25	0	4	66	0	0	0	5	0	79	1330	17	7	1426	1541

Approach PHF	0.69	0.76	-	0.93
HV%	0%	0%	-	0%

# INTERSECTION DIAGRAM (Not to Scale)



DATE 10-12-16	DAY Wednesday	COUNTY Washtenaw	TIME
TWP. VILLAGE OR CITY Ypsilanti Twp.	WEATHER Cloudy		7a TO 9a
INTERSECTION OF US-12/Michigan Ave @ Congress st./Ballard St			11a TO 1p 2p TO 6p



COMMENTS

Speed Limit on Ballard St is not posted. Speed Limit on Congress St. is 25 MPH. Speed limit on East leg of Michigan Ave. is 30 MPH. Speed Limit on West leg of Michigan Ave is 35 MPH. MIO was set in the Northwest corner.

SURVEY PARTY CHIEF F. Benavidez	DRAWN BY	COUNTED BY	MACHINES SET BY
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# Michigan Department Of Transportation Turning Movement

US-12 / MICHIGAN AVE.  
@ CONGRESS ST. / BALLARD ST.  
YPSILATI TWP.  
WASHTENAW COUNTY

File Name : TM\_160205\_353436\_10-11-2016  
Site Code : 160205  
Start Date : 10/11/2016  
Page No : 1

Groups Printed- CARS - SINGLE UNITS - SEMIS - PEDESTRIANS

End Time	BALLARD ST From North					MICHIGAN AVE. From East					MICHIGAN AVE From Southwest					CONGRESS ST. From West					Int. Total
	Right	Bear Right	Left	Peds	App. Total	Right	Thru	Bear Left	Peds	App. Total	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Thru	Left	Peds	App. Total	
07:15 AM	1	1	2	1	5	2	15	59	0	76	39	0	0	0	39	0	15	1	0	16	136
07:30 AM	1	3	5	2	11	7	30	79	0	116	54	0	0	0	54	0	18	0	2	20	201
07:45 AM	1	4	1	0	6	3	34	131	0	168	50	0	0	2	52	1	20	0	0	21	247
08:00 AM	0	3	4	0	7	8	39	96	0	143	69	0	0	0	69	1	13	1	0	15	234
Total	3	11	12	3	29	20	118	365	0	503	212	0	0	2	214	2	66	2	2	72	818
08:15 AM	0	7	1	1	9	6	35	103	0	144	79	0	0	0	79	0	22	2	0	24	256
08:30 AM	2	4	1	2	9	9	28	79	1	117	70	0	0	0	70	0	22	3	0	25	221
08:45 AM	0	4	8	3	15	8	39	90	0	137	77	0	0	1	78	0	16	2	1	19	249
09:00 AM	0	2	6	4	12	8	28	77	0	113	87	0	0	0	87	0	24	1	2	27	239
Total	2	17	16	10	45	31	130	349	1	511	313	0	0	1	314	0	84	8	3	95	965
11:15 AM	3	6	3	4	16	7	26	84	0	117	86	0	0	0	86	0	20	1	0	21	240
11:30 AM	3	4	4	7	18	6	30	86	0	122	90	0	0	0	90	0	15	1	1	17	247
11:45 AM	4	3	2	6	15	5	25	88	0	118	84	0	0	3	87	1	9	2	4	16	236
12:00 PM	1	6	4	6	17	11	24	77	0	112	81	0	0	0	81	0	17	2	0	19	229
Total	11	19	13	23	66	29	105	335	0	469	341	0	0	3	344	1	61	6	5	73	952
12:15 PM	3	5	3	5	16	8	29	89	0	126	87	0	0	9	96	1	15	2	5	23	261
12:30 PM	3	5	9	3	20	6	26	88	0	120	90	0	0	1	91	1	17	3	0	21	252
12:45 PM	3	4	2	15	24	5	28	91	0	124	107	0	0	1	108	1	28	2	1	32	288
01:00 PM	1	5	2	9	17	8	22	96	1	127	97	0	0	0	97	1	29	2	3	35	276
Total	10	19	16	32	77	27	105	364	1	497	381	0	0	11	392	4	89	9	9	111	1077
02:15 PM	2	4	6	9	21	10	34	85	0	129	96	0	0	5	101	0	19	2	0	21	272
02:30 PM	3	5	6	7	21	8	21	112	0	141	119	0	0	12	131	1	23	1	1	26	319
02:45 PM	0	4	5	4	13	10	36	109	0	155	99	0	0	4	103	1	27	1	2	31	302
03:00 PM	1	3	3	5	12	10	43	85	1	139	99	0	0	1	100	0	23	1	0	24	275
Total	6	16	20	25	67	38	134	391	1	564	413	0	0	22	435	2	92	5	3	102	1168
03:15 PM	7	6	4	6	23	6	35	97	0	138	109	0	0	0	109	0	31	3	0	34	304
03:30 PM	2	7	9	9	27	9	31	88	0	128	115	0	0	2	117	0	24	2	0	26	298
03:45 PM	1	12	6	10	29	11	42	85	0	138	130	0	0	1	131	0	29	3	0	32	330
04:00 PM	3	6	7	5	21	14	32	99	0	145	132	0	0	4	136	1	33	2	2	38	340
Total	13	31	26	30	100	40	140	369	0	549	486	0	0	7	493	1	117	10	2	130	1272
04:15 PM	2	3	11	4	20	9	32	94	1	136	119	0	0	0	119	0	33	3	1	37	312
04:30 PM	2	4	4	2	12	14	36	94	0	144	123	0	0	0	123	0	35	1	1	37	316
04:45 PM	3	3	7	7	20	10	50	122	0	182	127	0	0	0	127	0	22	3	3	28	357
05:00 PM	3	3	8	5	19	10	56	110	0	176	132	0	0	1	133	0	30	1	0	31	359
Total	10	13	30	18	71	43	174	420	1	638	501	0	0	1	502	0	120	8	5	133	1344
05:15 PM	3	13	12	5	33	8	71	138	1	218	145	1	0	0	146	0	26	5	1	32	429

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160205\_353436\_10-11-2016  
 Site Code : 160205  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- CARS - SINGLE UNITS - SEMIS - PEDESTRIANS

End Time	BALLARD ST From North					MICHIGAN AVE. From East					MICHIGAN AVE From Southwest					CONGRESS ST. From West					Int. Total
	Right	Bear Right	Left	Peds	App. Total	Right	Thru	Bear Left	Peds	App. Total	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Thru	Left	Peds	App. Total	
05:30 PM	1	2	5	4	12	12	57	157	0	226	147	0	0	3	150	0	34	6	2	42	430
05:45 PM	4	5	7	2	18	7	61	161	0	229	141	0	0	1	142	0	22	5	0	27	416
06:00 PM	4	8	4	4	20	17	47	108	0	172	117	1	0	1	119	0	42	2	0	44	355
Total	12	28	28	15	83	44	236	564	1	845	550	2	0	5	557	0	124	18	3	145	1630
06:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Grand Total	67	154	161	156	538	272	1142	3157	5	4576	3198	2	0	52	3252	10	753	66	32	861	9227
Apprch %	12.5	28.6	29.9	29		5.9	25	69	0.1		98.3	0.1	0	1.6		1.2	87.5	7.7	3.7		
Total %	0.7	1.7	1.7	1.7	5.8	2.9	12.4	34.2	0.1	49.6	34.7	0	0	0.6	35.2	0.1	8.2	0.7	0.3	9.3	
CARS	65	151	156	0	372	246	1117	3036	0	4399	3095	2	0	0	3097	7	734	66	0	807	8675
% CARS	97	98.1	96.9	0	69.1	90.4	97.8	96.2	0	96.1	96.8	100	0	0	95.2	70	97.5	100	0	93.7	94
SINGLE UNITS	2	3	5	0	10	25	25	104	0	154	85	0	0	0	85	3	19	0	0	22	271
% SINGLE UNITS	3	1.9	3.1	0	1.9	9.2	2.2	3.3	0	3.4	2.7	0	0	0	2.6	30	2.5	0	0	2.6	2.9
SEMIS	0	0	0	0	0	1	0	17	0	18	18	0	0	0	18	0	0	0	0	0	36
% SEMIS	0	0	0	0	0	0.4	0	0.5	0	0.4	0.6	0	0	0	0.6	0	0	0	0	0	0.4
PEDESTRIANS	0	0	0	156	156	0	0	0	5	5	0	0	0	52	52	0	0	0	32	32	245
% PEDESTRIANS	0	0	0	100	29	0	0	0	100	0.1	0	0	0	100	1.6	0	0	0	100	3.7	2.7



# Michigan Department Of Transportation Turning Movement

US-12 / MICHIGAN AVE.  
@ CONGRESS ST. / BALLARD ST.  
YPSILATI TWP.  
WASHTENAW COUNTY

File Name : TM\_160205\_353436\_10-11-2016  
Site Code : 160205  
Start Date : 10/11/2016  
Page No : 1

Groups Printed- CARS

End Time	BALLARD ST From North					MICHIGAN AVE. From East					MICHIGAN AVE From Southwest					CONGRESS ST. From West					Int. Total
	Right	Bear Right	Left	Peds	App. Total	Right	Thru	Bear Left	Peds	App. Total	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Thru	Left	Peds	App. Total	
07:15 AM	1	1	2	0	4	2	15	58	0	75	38	0	0	0	38	0	14	1	0	15	132
07:30 AM	1	3	5	0	9	7	29	75	0	111	53	0	0	0	53	0	18	0	0	18	191
07:45 AM	1	4	1	0	6	3	34	130	0	167	42	0	0	0	42	0	19	0	0	19	234
08:00 AM	0	3	3	0	6	7	37	92	0	136	69	0	0	0	69	1	13	1	0	15	226
Total	3	11	11	0	25	19	115	355	0	489	202	0	0	0	202	1	64	2	0	67	783
08:15 AM	0	7	1	0	8	4	34	98	0	136	75	0	0	0	75	0	21	2	0	23	242
08:30 AM	2	4	1	0	7	9	26	75	0	110	67	0	0	0	67	0	22	3	0	25	209
08:45 AM	0	4	8	0	12	7	38	85	0	130	73	0	0	0	73	0	16	2	0	18	233
09:00 AM	0	2	6	0	8	6	27	73	0	106	80	0	0	0	80	0	24	1	0	25	219
Total	2	17	16	0	35	26	125	331	0	482	295	0	0	0	295	0	83	8	0	91	903
11:15 AM	3	6	3	0	12	5	26	80	0	111	82	0	0	0	82	0	19	1	0	20	225
11:30 AM	3	4	4	0	11	6	29	82	0	117	88	0	0	0	88	0	14	1	0	15	231
11:45 AM	3	3	1	0	7	4	22	87	0	113	79	0	0	0	79	1	8	2	0	11	210
12:00 PM	1	6	4	0	11	10	23	74	0	107	76	0	0	0	76	0	16	2	0	18	212
Total	10	19	12	0	41	25	100	323	0	448	325	0	0	0	325	1	57	6	0	64	878
12:15 PM	3	5	3	0	11	7	28	84	0	119	87	0	0	0	87	0	14	2	0	16	233
12:30 PM	3	5	8	0	16	6	26	87	0	119	86	0	0	0	86	1	15	3	0	19	240
12:45 PM	3	4	2	0	9	4	27	87	0	118	103	0	0	0	103	1	27	2	0	30	260
01:00 PM	1	4	2	0	7	7	21	93	0	121	94	0	0	0	94	0	29	2	0	31	253
Total	10	18	15	0	43	24	102	351	0	477	370	0	0	0	370	2	85	9	0	96	986
02:15 PM	2	4	6	0	12	9	34	78	0	121	92	0	0	0	92	0	18	2	0	20	245
02:30 PM	3	5	5	0	13	8	21	106	0	135	116	0	0	0	116	1	23	1	0	25	289
02:45 PM	0	4	5	0	9	9	36	105	0	150	95	0	0	0	95	1	26	1	0	28	282
03:00 PM	1	2	3	0	6	9	42	81	0	132	93	0	0	0	93	0	22	1	0	23	254
Total	6	15	19	0	40	35	133	370	0	538	396	0	0	0	396	2	89	5	0	96	1070
03:15 PM	6	6	4	0	16	5	32	93	0	130	106	0	0	0	106	0	30	3	0	33	285
03:30 PM	2	7	8	0	17	9	31	86	0	126	112	0	0	0	112	0	24	2	0	26	281
03:45 PM	1	12	6	0	19	10	41	81	0	132	128	0	0	0	128	0	29	3	0	32	311
04:00 PM	3	6	7	0	16	13	31	95	0	139	130	0	0	0	130	1	33	2	0	36	321
Total	12	31	25	0	68	37	135	355	0	527	476	0	0	0	476	1	116	10	0	127	1198
04:15 PM	2	3	11	0	16	8	31	91	0	130	116	0	0	0	116	0	33	3	0	36	298
04:30 PM	2	4	4	0	10	14	36	88	0	138	120	0	0	0	120	0	33	1	0	34	302
04:45 PM	3	3	7	0	13	9	50	122	0	181	123	0	0	0	123	0	22	3	0	25	342
05:00 PM	3	2	8	0	13	9	55	108	0	172	127	0	0	0	127	0	29	1	0	30	342
Total	10	12	30	0	52	40	172	409	0	621	486	0	0	0	486	0	117	8	0	125	1284
05:15 PM	3	13	12	0	28	7	71	133	0	211	141	1	0	0	142	0	26	5	0	31	412

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160205\_353436\_10-11-2016  
 Site Code : 160205  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- CARS

End Time	BALLARD ST From North					MICHIGAN AVE. From East					MICHIGAN AVE From Southwest					CONGRESS ST. From West					Int. Total
	Right	Bear Right	Left	Peds	App. Total	Right	Thru	Bear Left	Peds	App. Total	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Thru	Left	Peds	App. Total	
05:30 PM	1	2	5	0	8	11	57	151	0	219	147	0	0	0	147	0	33	6	0	39	413
05:45 PM	4	5	7	0	16	6	61	154	0	221	140	0	0	0	140	0	22	5	0	27	404
06:00 PM	4	8	4	0	16	16	46	104	0	166	116	1	0	0	117	0	42	2	0	44	343
Total	12	28	28	0	68	40	235	542	0	817	544	2	0	0	546	0	123	18	0	141	1572
06:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Grand Total	65	151	156	0	372	246	1117	3036	0	4399	3095	2	0	0	3097	7	734	66	0	807	8675
Apprch %	17.5	40.6	41.9	0		5.6	25.4	69	0		99.9	0.1	0	0		0.9	91	8.2	0		
Total %	0.7	1.7	1.8	0	4.3	2.8	12.9	35	0	50.7	35.7	0	0	0	35.7	0.1	8.5	0.8	0	9.3	

# Michigan Department Of Transportation Turning Movement

US-12 / MICHIGAN AVE.  
@ CONGRESS ST. / BALLARD ST.  
YPSILATI TWP.  
WASHTENAW COUNTY

File Name : TM\_160205\_353436\_10-11-2016  
Site Code : 160205  
Start Date : 10/11/2016  
Page No : 1

### Groups Printed- SINGLE UNITS

End Time	BALLARD ST From North					MICHIGAN AVE. From East					MICHIGAN AVE From Southwest					CONGRESS ST. From West					Int. Total
	Right	Bear Right	Left	Peds	App. Total	Right	Thru	Bear Left	Peds	App. Total	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Thru	Left	Peds	App. Total	
07:15 AM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	1	0	0	1	3
07:30 AM	0	0	0	0	0	0	1	3	0	4	1	0	0	0	1	0	0	0	0	0	5
07:45 AM	0	0	0	0	0	0	0	1	0	1	6	0	0	0	6	1	1	0	0	2	9
08:00 AM	0	0	1	0	1	1	2	3	0	6	0	0	0	0	0	0	0	0	0	0	7
Total	0	0	1	0	1	1	3	8	0	12	8	0	0	0	8	1	2	0	0	3	24
08:15 AM	0	0	0	0	0	1	1	3	0	5	4	0	0	0	4	0	1	0	0	1	10
08:30 AM	0	0	0	0	0	0	2	3	0	5	3	0	0	0	3	0	0	0	0	0	8
08:45 AM	0	0	0	0	0	1	1	3	0	5	4	0	0	0	4	0	0	0	0	0	9
09:00 AM	0	0	0	0	0	2	1	4	0	7	6	0	0	0	6	0	0	0	0	0	13
Total	0	0	0	0	0	4	5	13	0	22	17	0	0	0	17	0	1	0	0	1	40
11:15 AM	0	0	0	0	0	2	0	3	0	5	4	0	0	0	4	0	1	0	0	1	10
11:30 AM	0	0	0	0	0	0	1	4	0	5	1	0	0	0	1	0	1	0	0	1	7
11:45 AM	1	0	1	0	2	1	3	1	0	5	4	0	0	0	4	0	1	0	0	1	12
12:00 PM	0	0	0	0	0	1	1	3	0	5	3	0	0	0	3	0	1	0	0	1	9
Total	1	0	1	0	2	4	5	11	0	20	12	0	0	0	12	0	4	0	0	4	38
12:15 PM	0	0	0	0	0	1	1	4	0	6	0	0	0	0	0	1	1	0	0	2	8
12:30 PM	0	0	1	0	1	0	0	1	0	1	4	0	0	0	4	0	2	0	0	2	8
12:45 PM	0	0	0	0	0	1	1	3	0	5	3	0	0	0	3	0	1	0	0	1	9
01:00 PM	0	1	0	0	1	1	1	3	0	5	2	0	0	0	2	1	0	0	0	1	9
Total	0	1	1	0	2	3	3	11	0	17	9	0	0	0	9	2	4	0	0	6	34
02:15 PM	0	0	0	0	0	1	0	5	0	6	2	0	0	0	2	0	1	0	0	1	9
02:30 PM	0	0	1	0	1	0	0	5	0	5	2	0	0	0	2	0	0	0	0	0	8
02:45 PM	0	0	0	0	0	1	0	4	0	5	4	0	0	0	4	0	1	0	0	1	10
03:00 PM	0	1	0	0	1	1	1	4	0	6	3	0	0	0	3	0	1	0	0	1	11
Total	0	1	1	0	2	3	1	18	0	22	11	0	0	0	11	0	3	0	0	3	38
03:15 PM	1	0	0	0	1	1	3	3	0	7	3	0	0	0	3	0	1	0	0	1	12
03:30 PM	0	0	1	0	1	0	0	2	0	2	3	0	0	0	3	0	0	0	0	0	6
03:45 PM	0	0	0	0	0	1	1	3	0	5	2	0	0	0	2	0	0	0	0	0	7
04:00 PM	0	0	0	0	0	1	1	4	0	6	2	0	0	0	2	0	0	0	0	0	8
Total	1	0	1	0	2	3	5	12	0	20	10	0	0	0	10	0	1	0	0	1	33
04:15 PM	0	0	0	0	0	1	1	3	0	5	3	0	0	0	3	0	0	0	0	0	8
04:30 PM	0	0	0	0	0	0	0	6	0	6	3	0	0	0	3	0	2	0	0	2	11
04:45 PM	0	0	0	0	0	1	0	0	0	1	4	0	0	0	4	0	0	0	0	0	5
05:00 PM	0	1	0	0	1	1	1	1	0	3	4	0	0	0	4	0	1	0	0	1	9
Total	0	1	0	0	1	3	2	10	0	15	14	0	0	0	14	0	3	0	0	3	33
05:15 PM	0	0	0	0	0	1	0	5	0	6	2	0	0	0	2	0	0	0	0	0	8

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160205\_353436\_10-11-2016  
 Site Code : 160205  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- SINGLE UNITS

End Time	BALLARD ST From North					MICHIGAN AVE. From East					MICHIGAN AVE From Southwest					CONGRESS ST. From West					Int. Total
	Right	Bear Right	Left	Peds	App. Total	Right	Thru	Bear Left	Peds	App. Total	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Thru	Left	Peds	App. Total	
05:30 PM	0	0	0	0	0	1	0	6	0	7	0	0	0	0	0	0	1	0	0	1	8
05:45 PM	0	0	0	0	0	1	0	6	0	7	1	0	0	0	1	0	0	0	0	0	8
06:00 PM	0	0	0	0	0	1	1	4	0	6	1	0	0	0	1	0	0	0	0	0	7
Total	0	0	0	0	0	4	1	21	0	26	4	0	0	0	4	0	1	0	0	1	31
Grand Total	2	3	5	0	10	25	25	104	0	154	85	0	0	0	85	3	19	0	0	22	271
Apprch %	20	30	50	0		16.2	16.2	67.5	0		100	0	0	0		13.6	86.4	0	0		
Total %	0.7	1.1	1.8	0	3.7	9.2	9.2	38.4	0	56.8	31.4	0	0	0	31.4	1.1	7	0	0	8.1	

# Michigan Department Of Transportation Turning Movement

US-12 / MICHIGAN AVE.  
@ CONGRESS ST. / BALLARD ST.  
YPSILATI TWP.  
WASHTENAW COUNTY

File Name : TM\_160205\_353436\_10-11-2016  
Site Code : 160205  
Start Date : 10/11/2016  
Page No : 1

Groups Printed- SEMIS

End Time	BALLARD ST From North					MICHIGAN AVE. From East					MICHIGAN AVE From Southwest					CONGRESS ST. From West					Int. Total
	Right	Bear Right	Left	Peds	App. Total	Right	Thru	Bear Left	Peds	App. Total	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Thru	Left	Peds	App. Total	
07:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	4
08:15 AM	0	0	0	0	0	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	3
08:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
09:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	5	0	6	1	0	0	0	1	0	0	0	0	0	7
11:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	1	0	1	4	0	0	0	4	0	0	0	0	0	5
12:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
01:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	4
02:15 PM	0	0	0	0	0	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	4
02:30 PM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
03:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	3	0	3	6	0	0	0	6	0	0	0	0	0	9
03:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1



# Michigan Department Of Transportation Turning Movement

US-12 / MICHIGAN AVE.  
@ CONGRESS ST. / BALLARD ST.  
YPSILATI TWP.  
WASHTENAW COUNTY

File Name : TM\_160205\_353436\_10-11-2016  
Site Code : 160205  
Start Date : 10/11/2016  
Page No : 1

### Groups Printed- PEDESTRIANS

End Time	BALLARD ST From North					MICHIGAN AVE. From East					MICHIGAN AVE From Southwest					CONGRESS ST. From West					Int. Total
	Right	Bear Right	Left	Peds	App. Total	Right	Thru	Bear Left	Peds	App. Total	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Thru	Left	Peds	App. Total	
07:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>7</b>
08:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	2	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3
08:45 AM	0	0	0	3	3	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	5
09:00 AM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	6
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>15</b>
11:15 AM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
11:30 AM	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	8
11:45 AM	0	0	0	6	6	0	0	0	0	0	0	0	0	3	3	0	0	0	4	4	13
12:00 PM	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>31</b>
12:15 PM	0	0	0	5	5	0	0	0	0	0	0	0	0	9	9	0	0	0	5	5	19
12:30 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	4
12:45 PM	0	0	0	15	15	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	17
01:00 PM	0	0	0	9	9	0	0	0	1	1	0	0	0	0	0	0	0	0	3	3	13
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>9</b>	<b>53</b>
02:15 PM	0	0	0	9	9	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	14
02:30 PM	0	0	0	7	7	0	0	0	0	0	0	0	0	12	12	0	0	0	1	1	20
02:45 PM	0	0	0	4	4	0	0	0	0	0	0	0	0	4	4	0	0	0	2	2	10
03:00 PM	0	0	0	5	5	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	7
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>51</b>
03:15 PM	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
03:30 PM	0	0	0	9	9	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	11
03:45 PM	0	0	0	10	10	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	11
04:00 PM	0	0	0	5	5	0	0	0	0	0	0	0	0	4	4	0	0	0	2	2	11
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>39</b>
04:15 PM	0	0	0	4	4	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	6
04:30 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
04:45 PM	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	10
05:00 PM	0	0	0	5	5	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	6
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>25</b>
05:15 PM	0	0	0	5	5	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	7

# Michigan Department Of Transportation Turning Movement

File Name : TM\_160205\_353436\_10-11-2016  
 Site Code : 160205  
 Start Date : 10/11/2016  
 Page No : 2

Groups Printed- PEDESTRIANS

End Time	BALLARD ST From North					MICHIGAN AVE. From East					MICHIGAN AVE From Southwest					CONGRESS ST. From West					Int. Total
	Right	Bear Right	Left	Peds	App. Total	Right	Thru	Bear Left	Peds	App. Total	Bear Right	Bear Left	Hard Left	Peds	App. Total	Hard Right	Thru	Left	Peds	App. Total	
05:30 PM	0	0	0	4	4	0	0	0	0	0	0	0	0	3	3	0	0	0	2	2	9
05:45 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3
06:00 PM	0	0	0	4	4	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	5
Total	0	0	0	15	15	0	0	0	1	1	0	0	0	5	5	0	0	0	3	3	24
Grand Total	0	0	0	156	156	0	0	0	5	5	0	0	0	52	52	0	0	0	32	32	245
Apprch %	0	0	0	100		0	0	0	100		0	0	0	100		0	0	0	100		
Total %	0	0	0	63.7	63.7	0	0	0	2	2	0	0	0	21.2	21.2	0	0	0	13.1	13.1	

Time	Congress St/Michigan Ave										Michigan Ave/Ballard St										Total
	Eastbound					Westbound					Northeast-Bound					Southbound					
	Left	Thru	Right (Hard Right)	Peds	Approach	Left (Bear Left)	Thru	Right	Peds	Approach	Left	Thru	Right (Bear Right)	Peds	Approach	Left	Thru (Bear Right)	Right	Peds	Approach	
7:00 AM - 7:15 AM	1	15	0	0	16	59	15	2	0	76	0	0	39	0	39	2	1	1	1	4	135
7:15 AM - 7:30 AM	0	18	0	2	18	79	30	7	0	116	0	0	54	0	54	5	3	1	2	9	197
7:30 AM - 7:45 AM	0	20	1	0	21	131	34	3	0	168	0	0	50	2	50	1	4	1	0	6	245
7:45 AM - 8:00 AM	1	13	1	0	15	96	39	8	0	143	0	0	69	0	69	4	3	0	0	7	234
8:00 AM - 8:15 AM	2	22	0	0	24	103	35	6	0	144	0	0	79	0	79	1	7	0	1	8	255
8:15 AM - 8:30 AM	3	22	0	0	25	79	28	9	1	116	0	0	70	0	70	3	22	0	0	25	236
8:30 AM - 8:45 AM	2	16	0	1	18	90	39	8	0	137	0	0	77	1	77	2	16	0	1	18	250
8:45 AM - 9:00 AM	1	24	0	2	25	77	28	8	0	113	0	0	87	0	87	6	2	0	4	8	233
<b>Total</b>	<b>10</b>	<b>150</b>	<b>2</b>	<b>5</b>	<b>162</b>	<b>714</b>	<b>248</b>	<b>51</b>	<b>1</b>	<b>1013</b>	<b>0</b>	<b>0</b>	<b>525</b>	<b>3</b>	<b>525</b>	<b>24</b>	<b>58</b>	<b>3</b>	<b>9</b>	<b>85</b>	<b>1785</b>

Time	Congress St/Michigan Ave										Michigan Ave/Ballard St										Total
	Eastbound					Westbound					Northeast-Bound					Southbound					
	Left	Thru	Right (Hard Right)	Peds	Approach	Left (Bear Left)	Thru	Right	Peds	Approach	Left	Thru	Right (Bear Right)	Peds	Approach	Left	Thru (Bear Right)	Right	Peds	Approach	
7:00 AM - 8:00 AM	2	66	2	2	70	365	118	20	0	503	0	0	212	2	212	12	11	3	3	26	811
7:15 AM - 8:15 AM	3	73	2	2	78	409	138	24	0	571	0	0	252	2	252	11	17	2	3	30	931
7:30 AM - 8:30 AM	6	77	2	0	85	409	136	26	1	571	0	0	268	2	268	9	36	1	1	46	970
7:45 AM - 8:45 AM	8	73	1	1	82	368	141	31	1	540	0	0	295	1	295	10	48	0	2	58	975
8:00 AM - 9:00 AM	8	84	0	3	92	349	130	31	1	510	0	0	313	1	313	12	47	0	6	59	974

Approach PHF	0.82	0.94	0.93	0.58
HV%	0%	1%	0%	0%

Time	Congress St/Michigan Ave										Michigan Ave/Ballard St										Total
	Eastbound					Westbound					Northeast-Bound					Southbound					
	Left	Thru	Right (Hard Right)	Peds	Approach	Left (Bear Left)	Thru	Right	Peds	Approach	Left	Thru	Right (Bear Right)	Peds	Approach	Left	Thru (Bear Right)	Right	Peds	Approach	
11:00 AM - 11:15 AM	1	20	0	0	21	84	26	7	0	117	0	0	86	0	86	3	6	3	4	12	236
11:15 AM - 11:30 AM	1	15	0	1	16	86	30	6	0	122	0	0	90	0	90	4	4	3	7	11	239
11:30 AM - 11:45 AM	2	9	1	4	12	88	25	5	0	118	0	0	84	3	84	2	3	4	6	9	223
11:45 AM - 12:00 PM	2	17	0	0	19	77	24	11	0	112	0	0	81	0	81	4	6	1	6	11	223
12:00 PM - 12:15 PM	2	15	1	5	18	89	29	8	0	126	0	0	87	9	87	3	5	3	5	11	242
12:15 PM - 12:30 PM	3	17	1	0	21	88	26	6	0	120	0	0	90	1	90	9	5	3	3	17	248
12:30 PM - 12:45 PM	2	28	1	1	31	91	28	5	0	124	0	0	107	1	107	2	4	3	15	9	271
12:45 PM - 1:00 PM	2	29	1	3	32	96	22	8	1	126	0	0	97	0	97	2	5	1	9	8	263
<b>Total</b>	<b>15</b>	<b>150</b>	<b>5</b>	<b>14</b>	<b>170</b>	<b>699</b>	<b>210</b>	<b>56</b>	<b>1</b>	<b>965</b>	<b>0</b>	<b>0</b>	<b>722</b>	<b>14</b>	<b>722</b>	<b>29</b>	<b>38</b>	<b>21</b>	<b>55</b>	<b>88</b>	<b>1945</b>

Time	Congress St/Michigan Ave										Michigan Ave/Ballard St										Total
	Eastbound					Westbound					Northeast-Bound					Southbound					
	Left	Thru	Right (Hard Right)	Peds	Approach	Left (Bear Left)	Thru	Right	Peds	Approach	Left	Thru	Right (Bear Right)	Peds	Approach	Left	Thru (Bear Right)	Right	Peds	Approach	
11:00 AM - 12:00 PM	6	61	1	5	68	335	105	29	0	469	0	0	341	3	341	13	19	11	23	43	921
11:15 AM - 12:15 PM	7	56	2	10	65	340	108	30	0	478	0	0	342	12	342	13	18	11	24	42	927
11:30 AM - 12:30 PM	9	58	3	9	70	342	104	30	0	476	0	0	342	13	342	18	19	11	20	48	936
11:45 AM - 12:45 PM	9	77	3	6	89	345	107	30	0	482	0	0	365	11	365	18	20	10	29	48	984
12:00 PM - 1:00 PM	9	89	4	9	102	364	105	27	1	496	0	0	381	11	381	16	19	10	32	45	1024

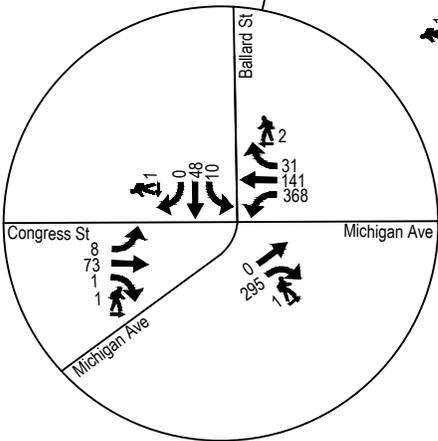
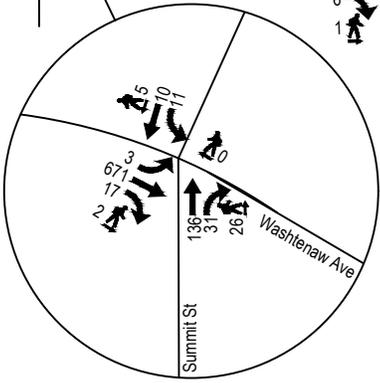
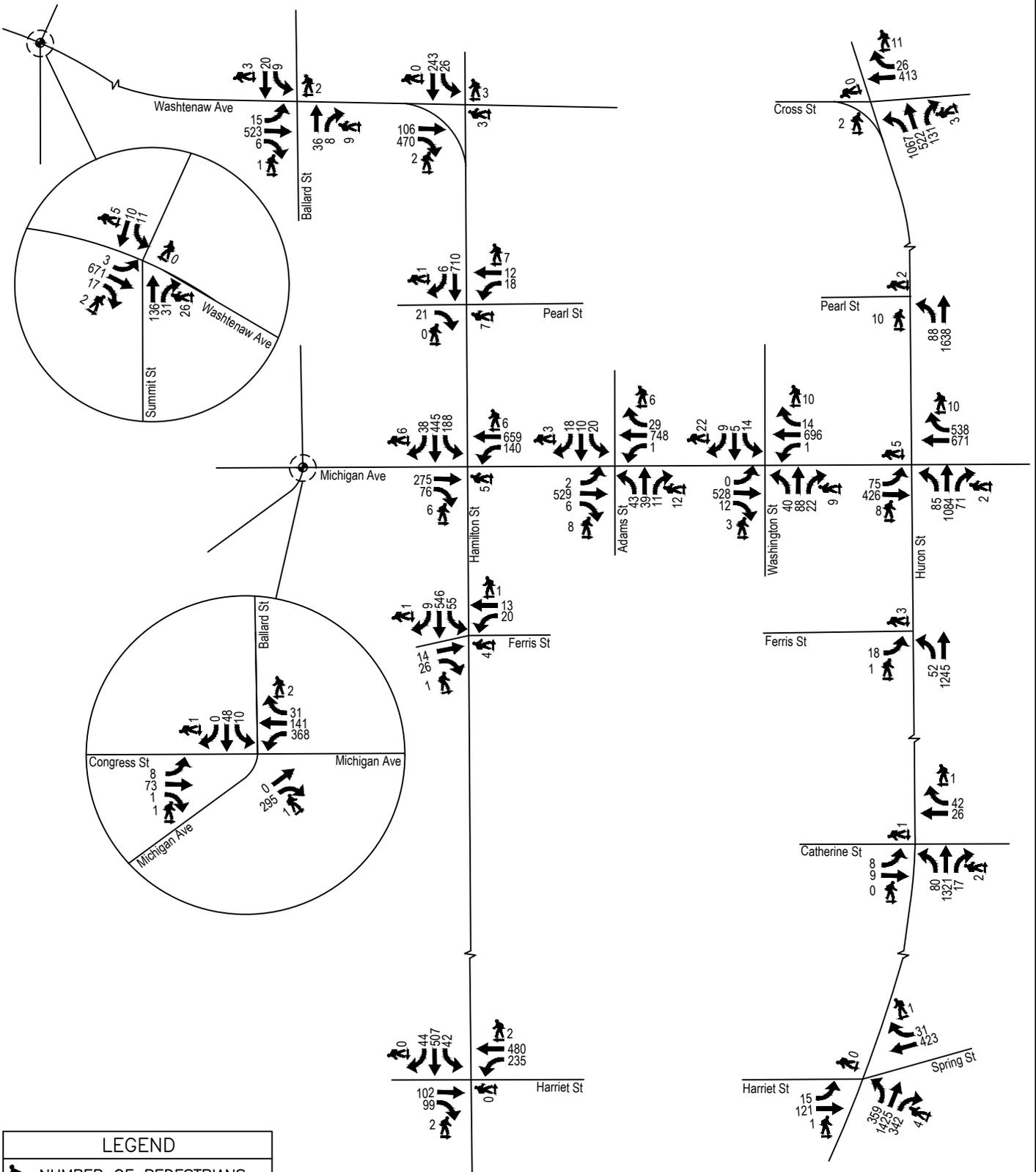
Approach PHF	0.80	0.98	0.89	0.66
HV%	0%	0%	1%	0%

Time	Congress St/Michigan Ave										Michigan Ave/Ballard St										Total
	Eastbound					Westbound					Northeast-Bound					Southbound					
	Left	Thru	Right (Hard Right)	Peds	Approach	Left (Bear Left)	Thru	Right	Peds	Approach	Left	Thru	Right (Bear Right)	Peds	Approach	Left	Thru (Bear Right)	Right	Peds	Approach	
2:00 PM - 2:15 PM	2	19	0	0	21	85	34	10	0	129	0	0	96	5	96	6	4	2	9	12	258
2:15 PM - 2:30 PM	1	23	1	1	25	112	21	8	0	141	0	0	119	12	119	6	5	3	7	14	299
2:30 PM - 2:45 PM	1	27	1	2	29	109	36	10	0	155	0	0	99	4	99	5	4	0	4	9	292
2:45 PM - 3:00 PM	1	23	0	0	24	85	43	10	1	138	0	0	99	1	99	3	3	1	5	7	268
3:00 PM - 3:15 PM	3	31	0	0	34	97	35	6	0	138	0	0	109	0	109	4	6	7	6	17	298
3:15 PM - 3:30 PM	2	24	0	0	26	88	31	9	0	128	0	0	115	2	115	9	7	2	9	18	287
3:30 PM - 3:45 PM	3	29	0	0	32	85	42	11	0	138	0	0	130	1	130	6	12	1	10	19	319
3:45 PM - 4:00 PM	2	33	1	2	36	99	32	14	0	145	0	0	132	4	132	7	6	3	5	16	329
4:00 PM - 4:15 PM	3	33	0	1	36	94	32	9	1	135	0	0	119	0	119	11	3	2	4	16	306
4:15 PM - 4:30 PM	1	35	0	1	36	94	36	14	0	144	0	0	123	0	123	4	4	2	2	10	313
4:30 PM - 4:45 PM	3	22	0	3	25	122	50	10	0	182	0	0	127	0	127	7	3	3	7	13	347
4:45 PM - 5:00 PM	1	30	0	0	31	110	56	10	0	176	0	0	132	1	132	8	3	3	5	14	353
5:00 PM - 5:15 PM	5	26	0	1	31	138	71	8	1	217	0	1	145	0	146	12	13	3	5	28	422
5:15 PM - 5:30 PM	6	34	0	2	40	157	57	12	0	226	0	0	147	3	147	5	2	1	4	8	421
5:30 PM - 5:45 PM	5	22	0	0	27	161	61	7	0	229	0	0	141	1	141	7	5	4	2	16	413
5:45 PM - 6:00 PM	2	42	0	0	44	108	47	17	0	172	0	1	117	1	118	4	8	4	4	16	350
<b>Total</b>	<b>41</b>	<b>453</b>	<b>3</b>	<b>13</b>	<b>497</b>	<b>1744</b>	<b>684</b>	<b>165</b>	<b>3</b>	<b>2593</b>	<b>0</b>	<b>2</b>	<b>1950</b>	<b>35</b>	<b>1952</b>	<b>104</b>	<b>88</b>	<b>41</b>	<b>88</b>	<b>233</b>	<b>5275</b>

Time	Congress St/Michigan Ave										Michigan Ave/Ballard St										Total
	Eastbound					Westbound					Northeast-Bound					Southbound					
	Left	Thru	Right (Hard Right)	Peds	Approach	Left (Bear Left)	Thru	Right	Peds	Approach	Left	Thru	Right (Bear Right)	Peds	Approach	Left	Thru (Bear Right)	Right	Peds	Approach	
2:00 PM - 3:00 PM	5	92	2	3	99	391	134	38	1	563	0	0	413	22	413	20	16	6	25	42	1117
2:15 PM - 3:15 PM	6	104	2	3	112	403	135	34	1	572	0	0	426	17	426	18	18	11	22	47	1157
2:30 PM - 3:30 PM	7	105	1	2	113	379	145	35	1	559	0	0	422	7	422	21	20	10	24	51	1145
2:45 PM - 3:45 PM	9	107	0	0	116	355	151	36	1	542	0	0	453	4	453	22	28	11	30	61	1172
3:00 PM - 4:00 PM	10	117	1	2	128	369	140	40	0	549	0	0	486	7	486	26	31	13	30	70	1233
3:15 PM - 4:15 PM	10	119	1	3	130	366	137	43	1	546	0	0	496	7	496	33	28	8	28	69	1241
3:30 PM - 4:30 PM	9	130	1	4	140	372	142	48	1	562	0	0	504	5	504	28	25	8	21	61	1267
3:45 PM - 4:45 PM	9	123	1	7	133	409	150	47	1	606	0	0	501	4	501	29	16	10	18	55	1295
4:00 PM - 5:00 PM	8	120	0	5	128	420	174	43	1	637	0	0	501	1	501	30	13	10	18	53	1319
4:15 PM - 5:15 PM	10	113	0	5	123	464	213	42	1	719	0	1	527	1	528	31	23	11	19	65	1435
4:30 PM - 5:30 PM	15	112	0	6	127	527	234	40	1	801	0	1	551	4	552	32	21	10	21	63	1543
4:45 PM - 5:45 PM	17	112	0	3	129	566	245	37	1	848	0	1	565	5	566	32	23	11	16	66	1609
5:00 PM - 6:00 PM	18	124	0	3	142	564	236	44	1	844	0	2	550	5	552	28	28	12	15	68	1606

Approach PHF	0.81	0.93	0.96	0.59
HV%	0%	0%	1%	0%

*Appendix B*  
*Existing Volume Diagrams*



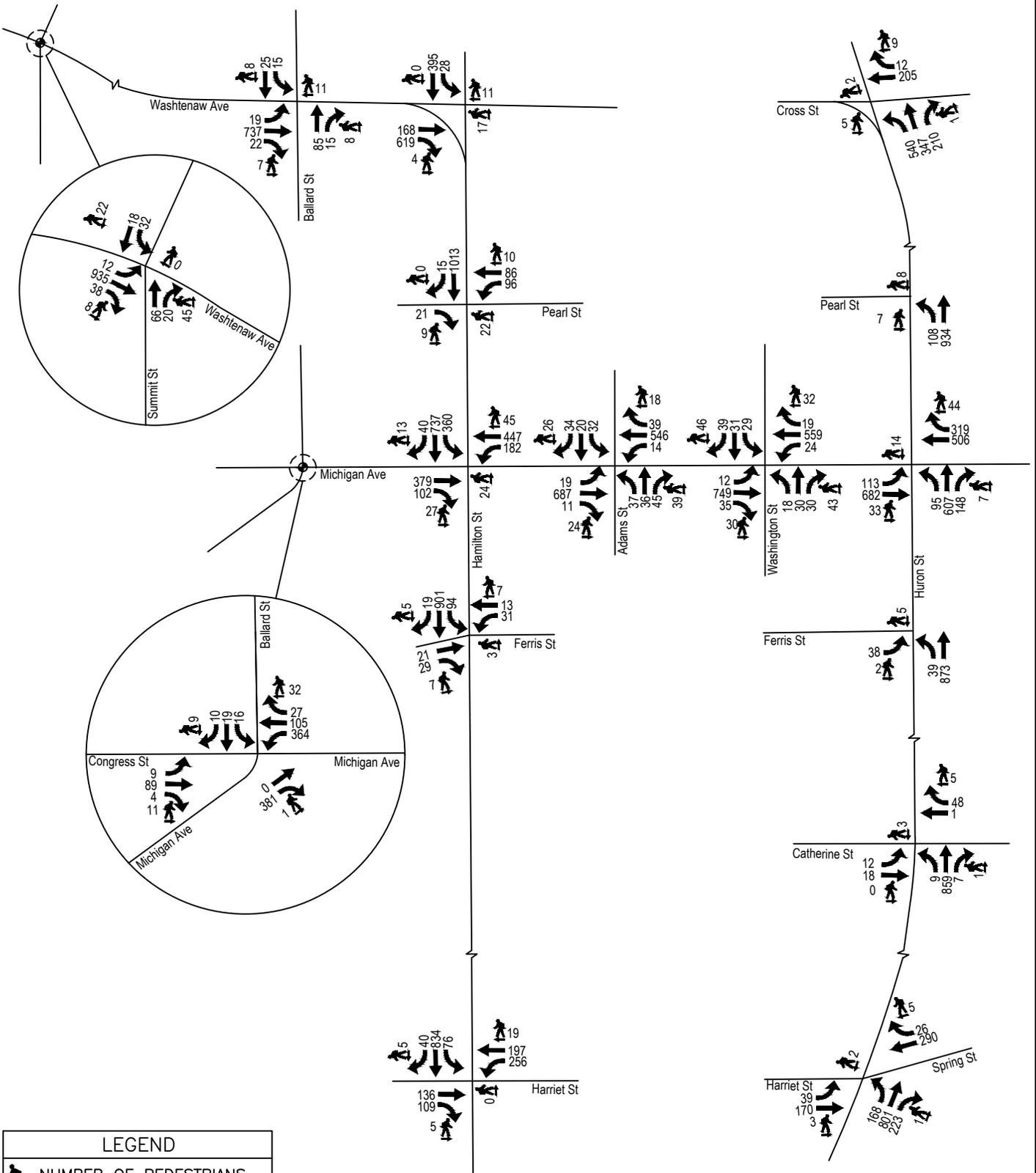
LEGEND	
	NUMBER OF PEDESTRIANS CROSSING ALONG APPROACH

**HRC**  
**HUBBELL, ROTH & CLARK, INC**  
 CONSULTING ENGINEERS SINCE 1913  
 555 HULET DRIVE P.O. BOX 824  
 BLOOMFIELD HILLS, MICH. 48303-0824

JOB NO. 20180230
DATE 12/14/2018

# EXISTING AM PEAK HOUR VOLUME DIAGRAM





LEGEND	
	NUMBER OF PEDESTRIANS CROSSING ALONG APPROACH

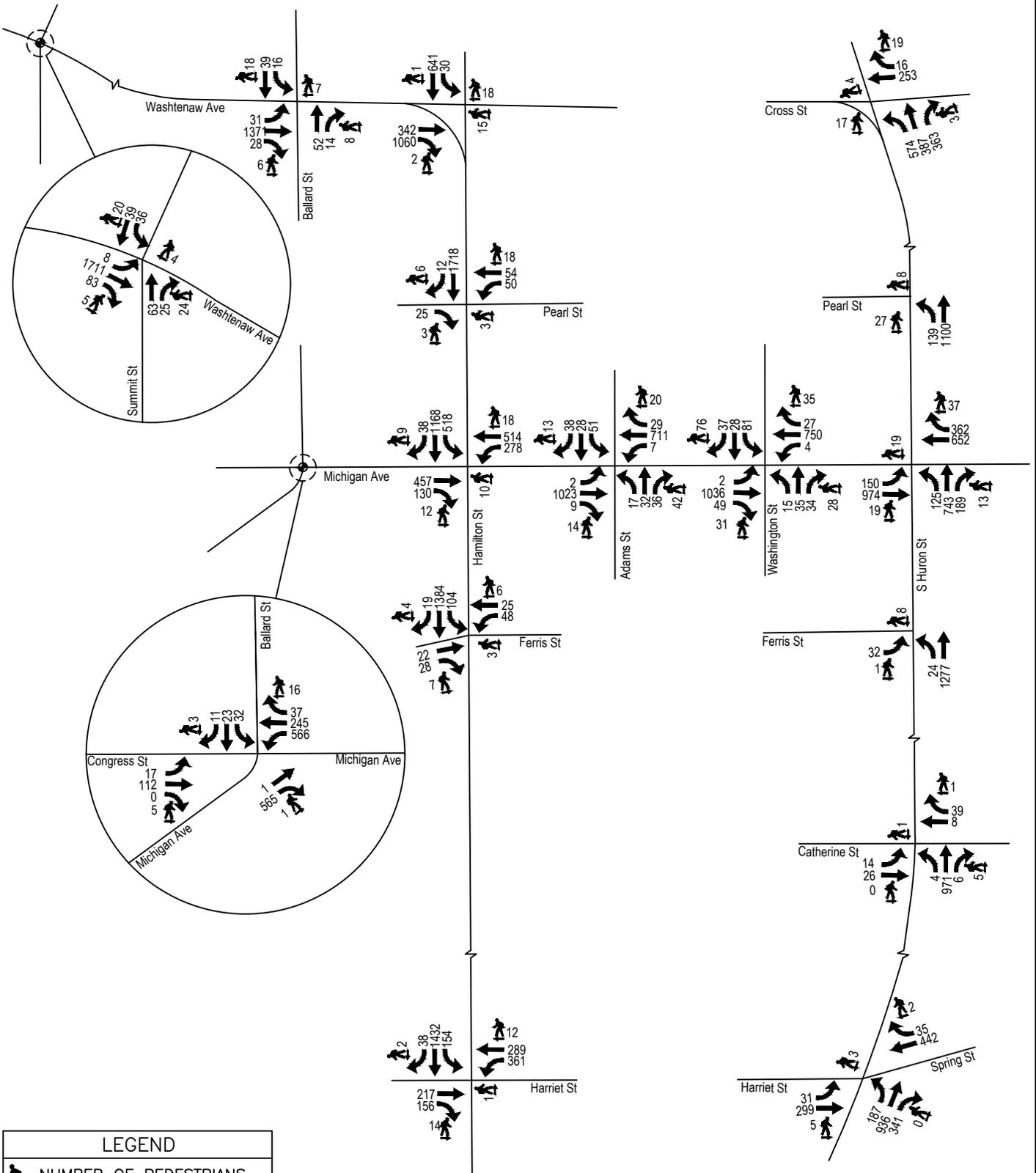
**HRC**  
**HUBBELL, ROTH & CLARK, INC**  
 CONSULTING ENGINEERS SINCE 1913

555 HULET DRIVE P.O. BOX 824  
 BLOOMFIELD HILLS, MICH. 48303-0824

JOB NO. 20180230
DATE 12/14/2018

# EXISTING MIDDAY PEAK HOUR VOLUME DIAGRAM





LEGEND	
	NUMBER OF PEDESTRIANS CROSSING ALONG APPROACH

**HRC**  
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JOB NO. 20180230
DATE 12/14/2018

# EXISTING PM PEAK HOUR VOLUME DIAGRAM



*Appendix C*  
*Growth Rates*

## Nicita, Nicholas

---

**From:** Mark Ferrall <ferrallm@miwats.org>  
**Sent:** Tuesday, November 27, 2018 11:45 AM  
**To:** Nicita, Nicholas  
**Subject:** Re: Ypsilanti Growth Rate  
**Attachments:** image001.jpg

	Rate
Hamilton	0.6%
Huron	0.6%
Michigan Ave	0.7%

Annual Growth Rate

Use annual growth rate of 0.6% for  
Washtenaw Ave per discussion with WATS  
-NN  
11/17/18

Growth rates are above. The difference from the previous counts probably comes from the horizon years or slightly different study segments.

On Mon, Nov 26, 2018 at 1:05 PM Nicita, Nicholas <[NNicita@hrcengr.com](mailto:NNicita@hrcengr.com)> wrote:

Hello Mark,

Following up our conversation, looking to put together a traffic model for the Hamilton and Huron St corridors. Attached are all the intersections (represented by circles) included in our study area. Need to apply a growth rate to the study area for a construction year of 2022 and a future year of 2038. Would you be able to please assist with providing a growth rate for our study area for the years 2022 and 2038?

For your reference, WCRC requested a growth rate in 2014 for the same study area and used an annual growth rate of 0.31%.

Thanks,



**Nicholas Nicita, PE, LEED AP**

Phone: (248) 454-6300

Direct: (248) 454-6344

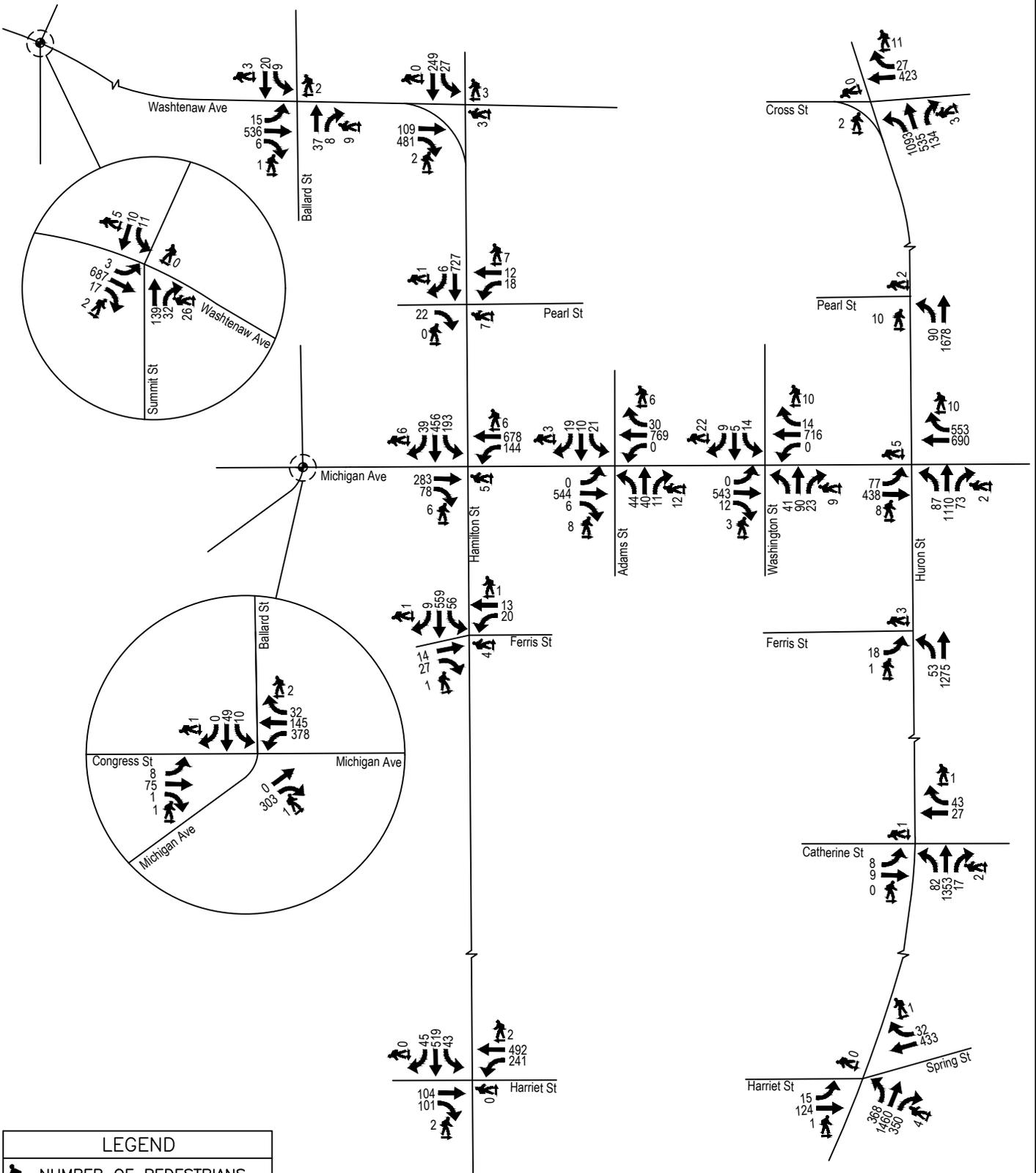
Email: [nnicita@hrcengr.com](mailto:nnicita@hrcengr.com)

The sender intends that this email is for the exclusive use of the person/company to whom it is addressed. This message may contain information that is confidential or privileged and exempt from disclosure under applicable law. If the reader of this email is not the intended recipient, be aware any disclosure, dissemination, distribution or copying of this communication, or the use of its contents is prohibited. If you have received this email in error, please immediately notify the sender of your inadvertent receipt and mail the original copy to: Hubbell, Roth, & Clark, Inc., P.O. Box 824, Bloomfield Hills, MI 48303.

--

Mark Ferrall  
Transportation Planner  
[Washtenaw Area Transportation Study](#)  
[ferrallm@miwats.org](mailto:ferrallm@miwats.org)  
(734)994.3127

*Appendix D*  
*Background Volume Diagrams*



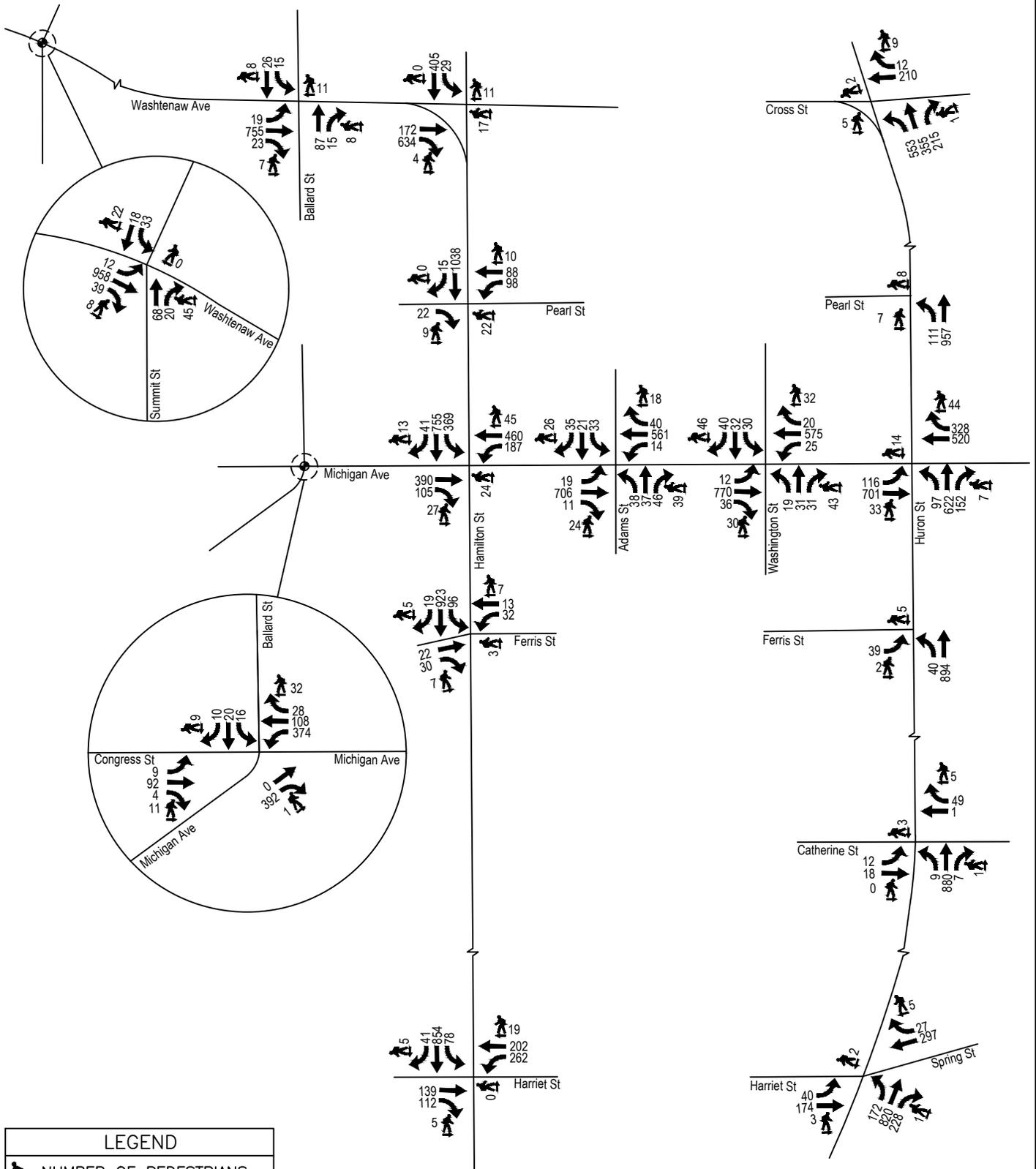
**HRC**  
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JOB NO. 20180230
DATE 12/14/2018

# BACKGROUND 2022 AM PEAK HOUR VOLUME DIAGRAM





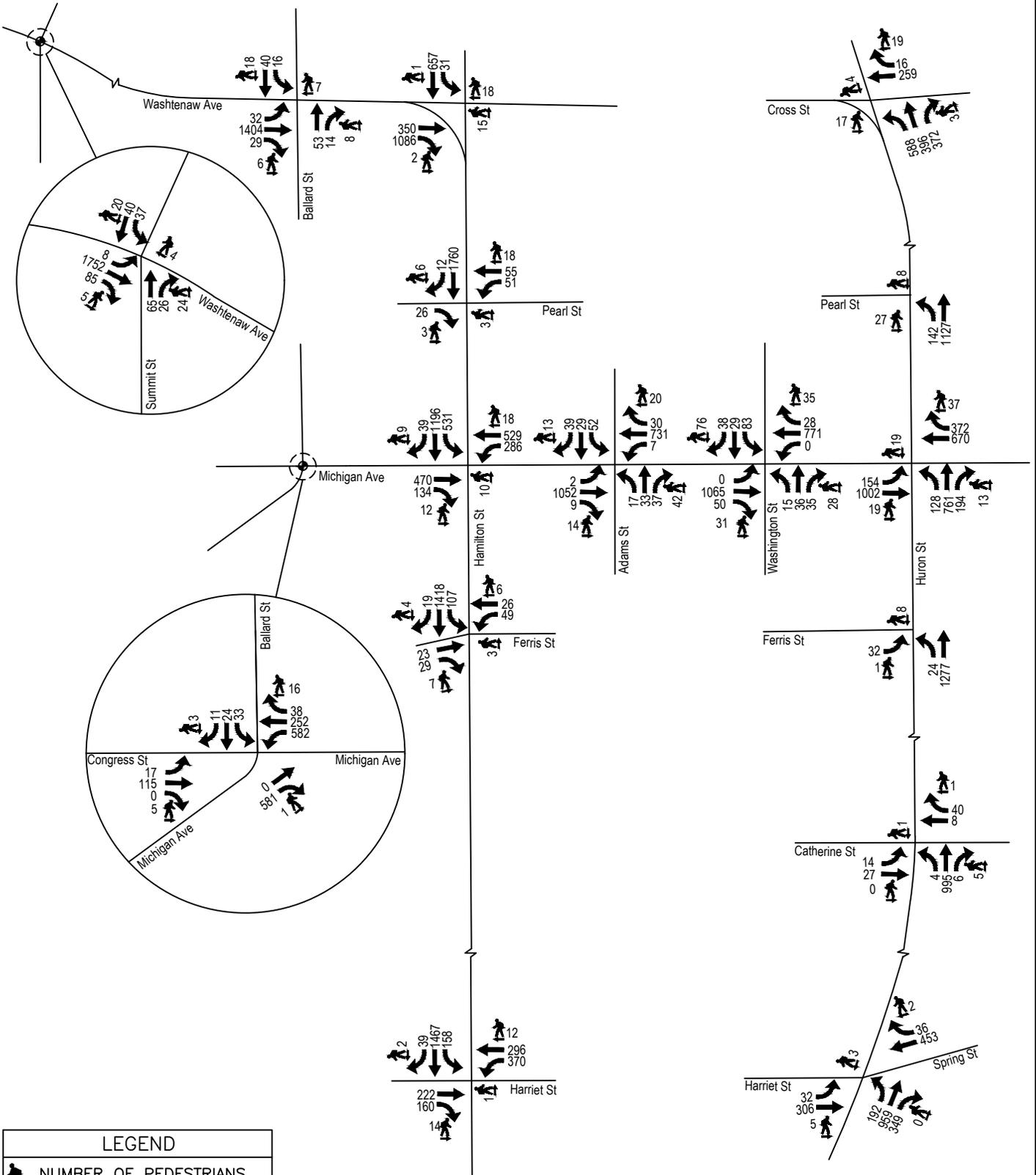
# BACKGROUND 2022 MIDDAY PEAK HOUR VOLUME DIAGRAM



**HRC**  
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 CONSULTING ENGINEERS SINCE 1913

555 HULET DRIVE P.O. BOX 824  
 BLOOMFIELD HILLS, MICH. 48303-0824

JOB NO.	20180230
DATE	12/14/2018



LEGEND	
	NUMBER OF PEDESTRIANS CROSSING ALONG APPROACH

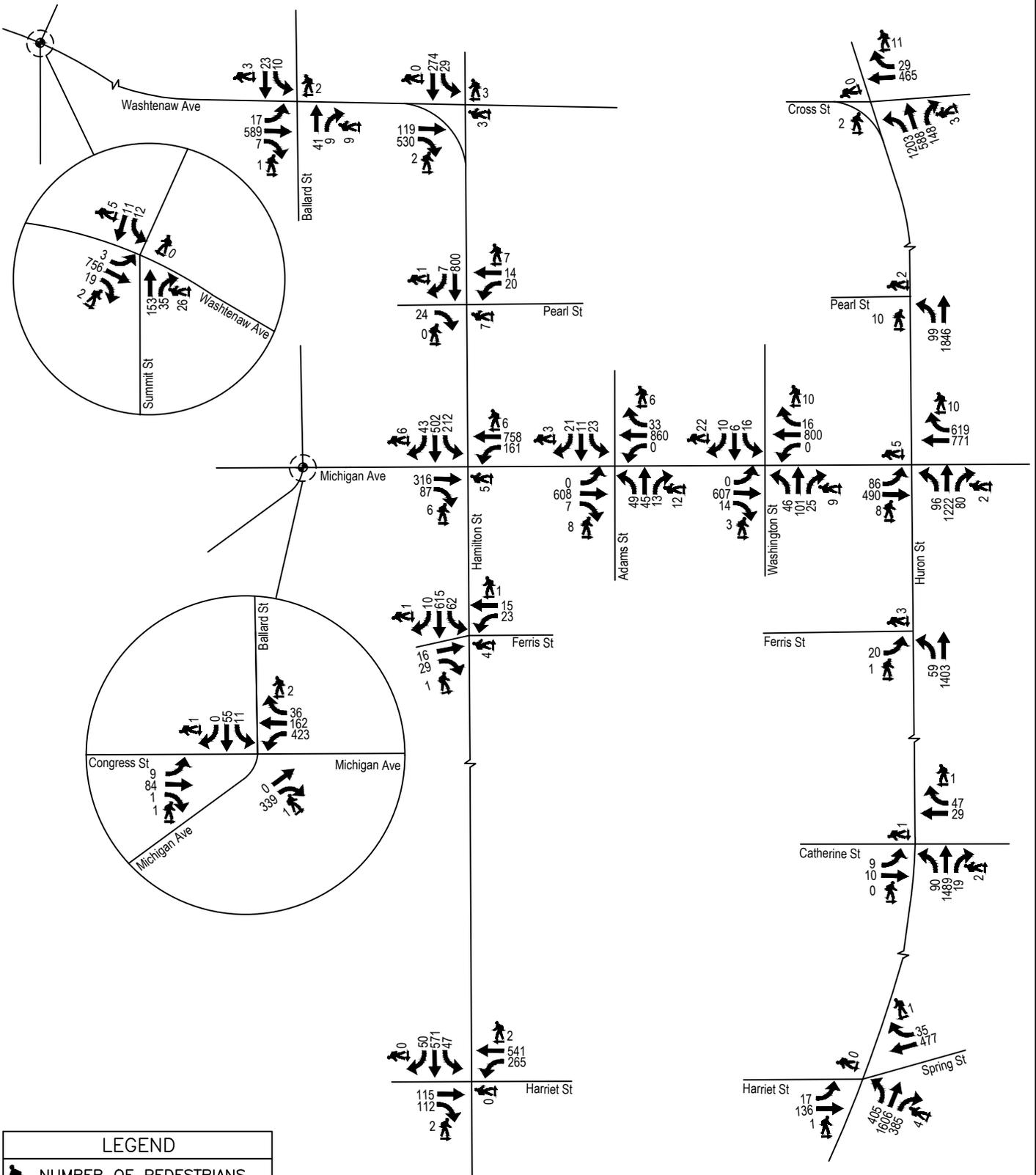
**HRC**  
**HUBBELL, ROTH & CLARK, INC**  
 CONSULTING ENGINEERS SINCE 1913

555 HULET DRIVE P.O. BOX 824  
 BLOOMFIELD HILLS, MICH. 48303-0824

JOB NO. 20180230
DATE 12/14/2018

# BACKGROUND 2022 PM PEAK HOUR VOLUME DIAGRAM





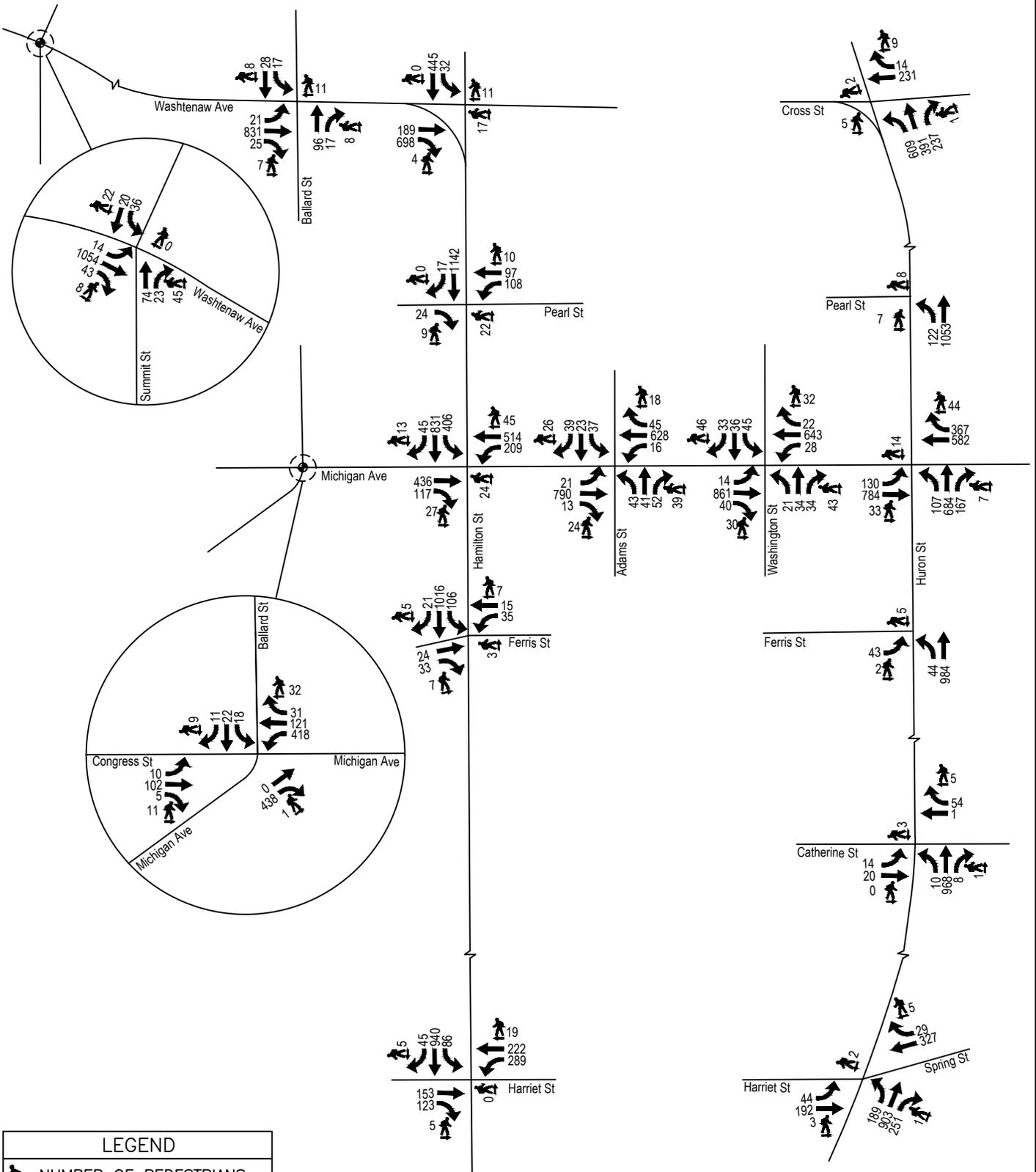
**HRC**  
**HUBBELL, ROTH & CLARK, INC**  
 CONSULTING ENGINEERS SINCE 1913

555 HULET DRIVE P.O. BOX 824  
 BLOOMFIELD HILLS, MICH. 48303-0824

JOB NO. 20180230
DATE 12/14/2018

# BACKGROUND 2038 AM PEAK HOUR VOLUME DIAGRAM





BACKGROUND 2038  
 MIDDAY PEAK HOUR VOLUME DIAGRAM

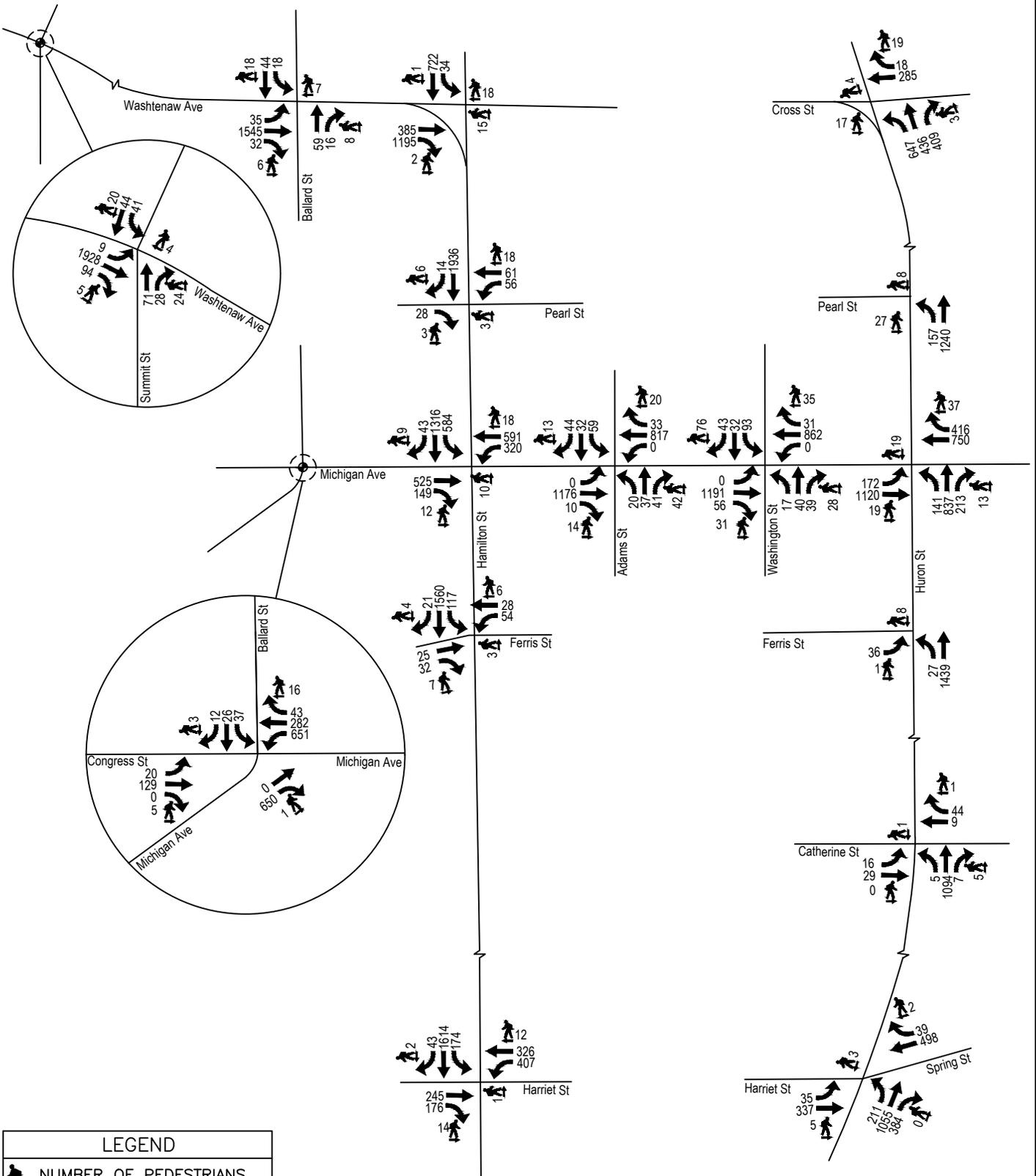


NOT TO SCALE

**HRC**  
**HUBBELL, ROTH & CLARK, INC**  
 CONSULTING ENGINEERS SINCE 1913

555 HULET DRIVE P.O. BOX 824  
 BLOOMFIELD HILLS, MICH. 48303-0824

JOB NO.	20180230
DATE	12/14/2018



**HRC**  
**HUBBELL, ROTH & CLARK, INC**  
 CONSULTING ENGINEERS SINCE 1913

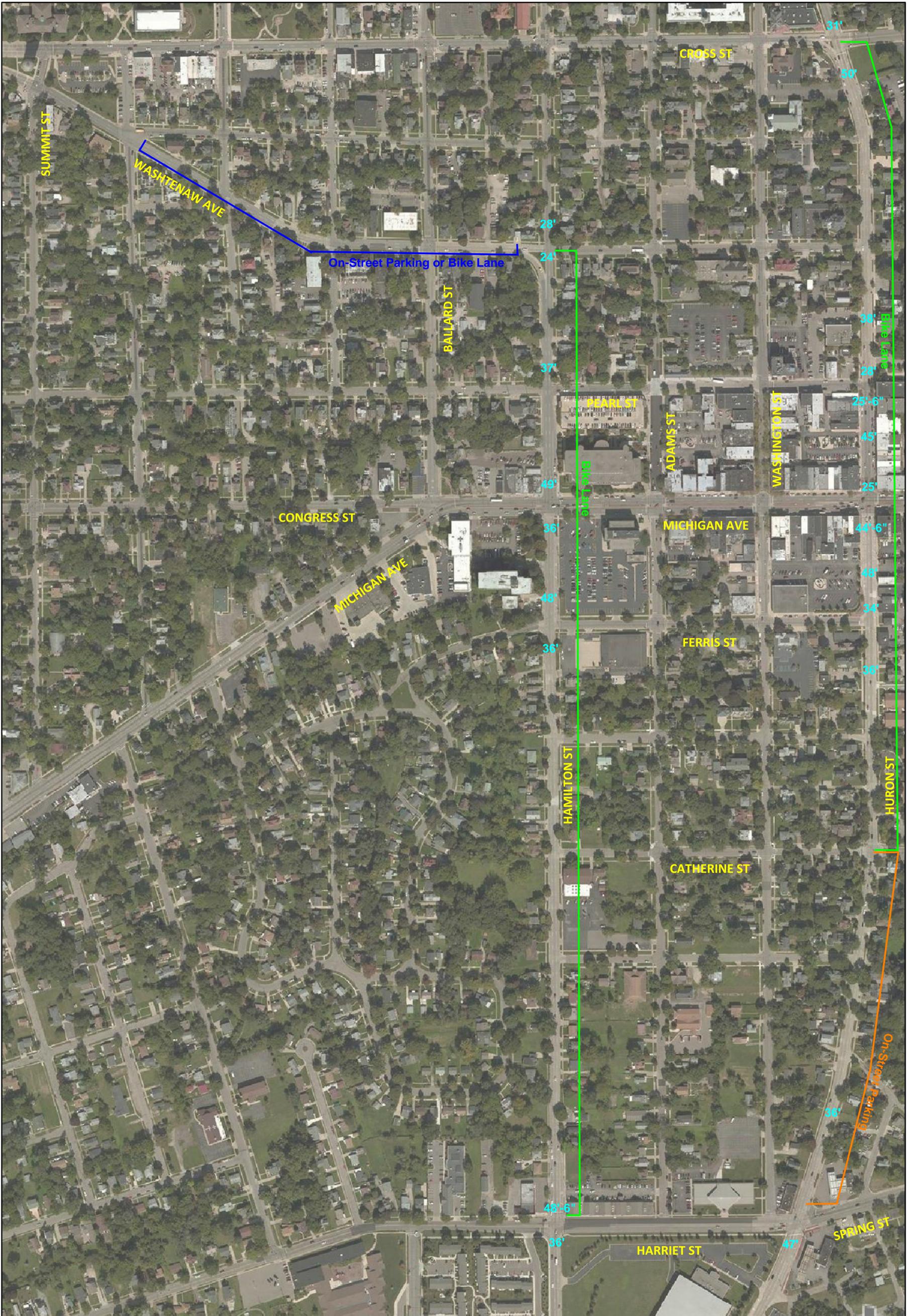
555 HULET DRIVE P.O. BOX 824  
 BLOOMFIELD HILLS, MICH. 48303-0824

JOB NO. 20180230
DATE 12/14/2018

BACKGROUND 2038  
 PM PEAK HOUR VOLUME DIAGRAM



*Appendix E*  
*On-Street Parking and Bike Lane Locations*



555 HULET DRIVE  
BLOOMFIELD HILLS, MICH.

P.O. BOX 824  
48303-0824

JOB NO.  
20180230

DATE  
12/14/2018

ROADWAY WIDTHS



*Appendix F*  
*Conceptual Plans*





















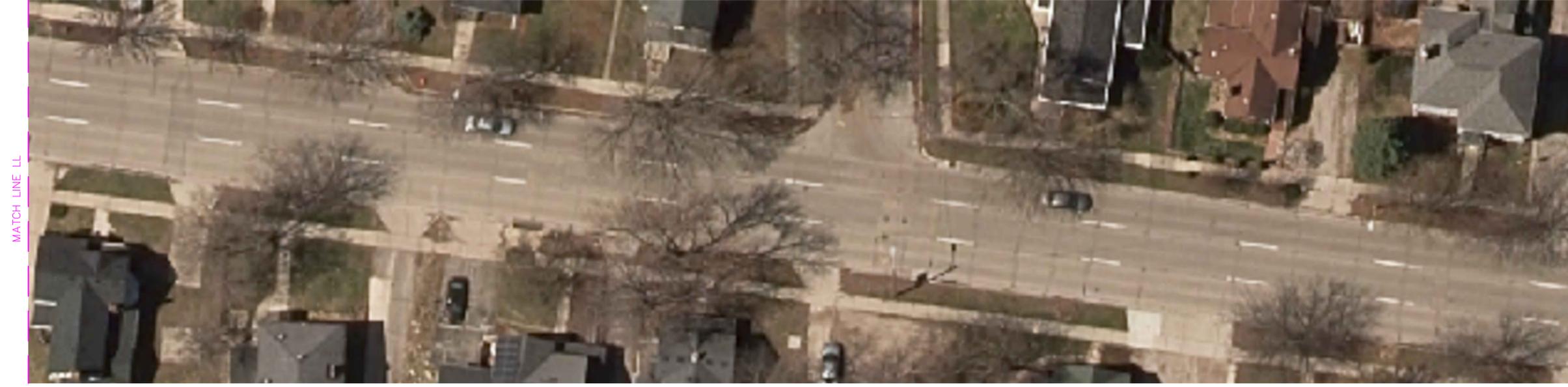




EXISTING  
CONDITION  
BUFFALO ST



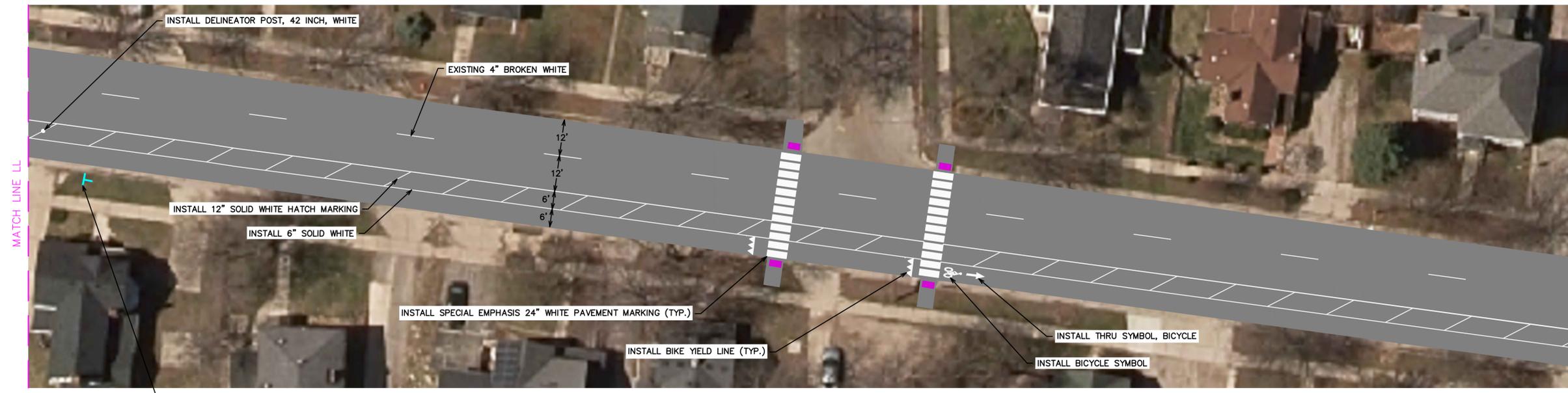
**HRC**  
**HUBBELL, ROTH & CLARK, INC**  
 CONSULTING ENGINEERS SINCE 1915  
 555 HULET DRIVE P.O. BOX 824  
 BLOOMFIELD HILLS, MICH. 48303 - 0824  
 PHONE: (248) 454-6300  
 FAX (1st. Floor): (248) 454-6312  
 FAX (2nd. Floor): (248) 454-6359  
 WEB SITE: [http:// www.hrcengr.com](http://www.hrcengr.com)

MATCH LINE LL

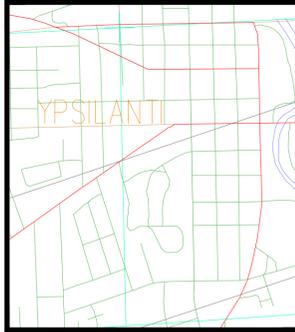
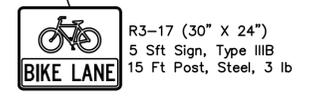
MATCH LINE MM  
HURON ST

PROPOSED  
CONDITION  
BUFFALO ST



MATCH LINE LL

MATCH LINE MM  
HURON ST



CITY OF YPSILANTI  
ROAD DIET  
CAPACITY ANALYSIS

HURON ST  
PAVEMENT MARKING  
RECONFIGURATION OPTION

HRC JOB NO. 20180230	SCALE 1" = 20'
DATE October 2019	SHEET NO. 13 OF 24

- NOTES:
1. LONGITUDINAL AND SPECIAL PAVEMENT MARKINGS SHALL BE RECESSED AND RETROREFLECTIVE.
  2. FURTHER ANALYSIS NEEDS TO BE PERFORMED TO DETERMINE IF ADDITIONAL PEDESTRIAN TREATMENTS ARE REQUIRED AT BUFFALO ST.























*Appendix G*  
*Capacity Analysis Tables*

AM Peak Hour Signalized Delay and LOS

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Washtenaw Ave & Summit St	1002	EB	LT/TH/RT	8.4	A	8.4	A	8.6	A	8.6	A	8.6	A
			Approach	8.4	A	8.4	A	8.6	A	8.6	A	8.6	A
		NB	TH/RT	32.3	C	32.7	C	34.1	C	34.1	C	34.1	C
			Approach	32.3	C	32.7	C	34.1	C	34.1	C	34.1	C
		SB	LT/TH	34.2	C	34.5	C	33.9	C	33.9	C	33.9	C
			Approach	34.2	C	34.5	C	33.9	C	33.9	C	33.9	C
Intersection		13.5	B	13.5	B	13.9	B	13.9	B	13.9	B		
Washtenaw Ave & Ballard St	1004	EB	LT/TH/RT	1.3	A	1.4	A	1.4	A	2.1	A	2.1	A
			Approach	1.3	A	1.4	A	1.4	A	2.1	A	2.1	A
		NB	TH/RT	34.7	C	34.6	C	34.7	C	34.7	C	34.7	C
			Approach	34.7	C	34.6	C	34.7	C	34.7	C	34.7	C
		SB	LT	33.4	C	33.3	C	33.3	C	33.3	C	33.3	C
			TH	33.6	C	33.5	C	33.5	C	33.5	C	33.5	C
		Approach	33.5	C	33.4	C	33.4	C	33.4	C	33.4	C	
		Intersection		5.7	A	5.7	A	5.8	A	6.4	A	6.4	A
Hamilton St & Michigan Ave	1013	EB	TH/RT	19.1	B	19.2	B	19.6	B	19.6	B	20.8	C
			Approach	19.1	B	19.2	B	19.6	B	19.6	B	20.8	C
		WB	LT	13.0	B	13.5	B	15.2	B	15.2	B	16.7	B
			TH	8.5	A	8.8	A	9.8	A	9.8	A	12.2	B
			Approach	9.3	A	9.6	A	10.7	B	10.7	B	13.0	B
		SB	LT	23.0	C	23.2	C	23.8	C	23.4	C	21.2	C
			LT/TH/RT	21.7	C	21.7	C	22.1	C	N/A			
			TH/RT	N/A						23.9	C	21.7	C
		Approach	22.0	C	22.1	C	22.5	C	23.7	C	21.6	C	
		Intersection		15.6	B	15.8	B	16.6	B	17.0	B	17.5	B
Huron St & Cross St	1016	WB	TH	16.5	B	16.8	B	17.8	B	17.8	B	17.8	B
			RT	10.9	B	10.9	B	10.9	B	10.9	B	10.9	B
			Approach	16.2	B	16.4	B	17.4	B	17.4	B	17.4	B
		NB	LT	Free Flow									
			TH	28.6	C	28.6	C	28.4	C	N/A			
			RT	26.1	C	26.1	C	25.7	C	N/A			
			TH/RT	N/A						30.4	C	30.4	C
		Approach	28.1	C	28.1	C	27.9	C	30.4	C	30.4	C	
Intersection		22.9	C	23.0	C	23.3	C	24.7	C	24.7	C		
Huron St & Michigan Ave	1023	EB	LT	15.7	B	16.1	B	18.5	B	18.5	B	17.4	B
			TH	5.8	A	5.8	A	6.2	A	6.2	A	5.4	A
			Approach	7.3	A	7.3	A	8.0	A	8.0	A	7.2	A
		WB	TH/RT	37.9	D	40.9	D	64.4	E	64.4	E	64.4	E
			RT	73.7	E	81.0	F	123.6	F	123.6	F	123.6	F
			Approach	48.9	D	53.2	D	82.6	F	82.6	F	82.6	F
		NB	LT	4.6	A	2.7	A	2.8	A	9.7	A	9.7	A
			TH/RT	16.2	B	15.1	B	23.7	C	27.1	C	27.0	C
			Approach	15.4	B	14.2	B	22.3	C	25.9	C	25.9	C
		Intersection		28.3	C	29.6	C	45.7	D	47.1	D	47.0	D
Michigan Ave & Congress St & Ballard St	2000	EB	LT/TH/RT	44.4	D	44.5	D	44.8	D	44.8	D	44.8	D
			Approach	44.4	D	44.5	D	44.8	D	44.8	D	44.8	D
		WB	LT	17.7	B	17.9	B	18.4	B	18.4	B	18.4	B
			LT/TH/RT	18.7	B	18.8	B	19.6	B	19.6	B	19.6	B
		Approach	18.2	B	18.4	B	19.0	B	19.0	B	19.0	B	
		SB	LT	42.1	D	42.1	D	42.1	D	42.1	D	42.1	D
			TH/RT	44.3	D	44.4	D	44.7	D	44.7	D	44.7	D
		Approach	43.9	D	44.0	D	44.3	D	44.3	D	44.3	D	
		NB	RT	15.1	B	15.1	B	15.3	B	15.3	B	15.3	B
			Approach	15.1	B	15.1	B	15.3	B	15.3	B	15.3	B
Intersection		22.0	C	22.1	C	22.5	C	22.5	C	22.5	C		

AM Peak Hour Signalized Delay and LOS

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038			
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Michigan Ave & Adams St	2004	EB	LT/TH/RT	2.3	A	2.3	A	2.3	A	2.3	A	2.7	A		
			Approach	2.3	A	2.3	A	2.3	A	2.3	A	2.7	A		
		WB	LT/TH/RT	2.2	A	2.2	A	2.6	A	2.6	A	2.8	A		
			Approach	2.2	A	2.2	A	2.6	A	2.6	A	3.6	A		
		NB	LT	31.4	C	31.5	C	32.2	C	32.2	C	32.2	C		
			TH/RT	30.5	C	30.6	C	31.3	C	31.3	C	31.3	C		
			Approach	30.9	C	31.0	C	31.7	C	31.7	C	31.7	C		
		SB	LT	28.7	C	28.8	C	29.0	C	29.0	C	29.0	C		
			TH/RT	28.0	C	28.0	C	28.1	C	28.1	C	28.1	C		
			Approach	28.3	C	28.3	C	28.5	C	28.5	C	28.5	C		
Intersection				5.9	A	5.9	A	6.2	A	6.2	A	6.5	A		
Michigan Ave & Washington St	2005	EB	LT/TH/RT	1.8	A	1.8	A	1.8	A	1.8	A	2.6	A		
			Approach	1.8	A	1.8	A	1.8	A	1.8	A	2.6	A		
		WB	LT/TH/RT	1.4	A	1.4	A	1.2	A	1.1	A	1.2	A		
			Approach	1.4	A	1.4	A	1.2	A	1.1	A	1.2	A		
		NB	LT/TH/RT	75.1	E	78.5	E	111.7	F	111.7	F	51.2	D		
			Approach	75.1	E	78.5	E	111.7	F	111.7	F	51.2	D		
		SB	LT/TH/RT	28.6	C	28.6	C	29.1	C	29.1	C	25.0	C		
			Approach	28.6	C	28.6	C	29.1	C	29.1	C	25.0	C		
		Intersection				13.1	B	13.6	B	18.6	B	18.5	B	9.7	A
		Huron St & Harriet/Spring St	3001	EB	LT	22.8	C	22.9	C	23.5	C	23.5	C	23.9	C
TH	22.3				C	22.3	C	22.3	C	22.3	C	22.8	C		
Approach	22.3				C	22.4	C	22.4	C	22.4	C	23.0	C		
WB	TH/RT			25.7	C	25.9	C	26.6	C	26.6	C	26.6	C		
	Approach			25.7	C	25.9	C	26.6	C	26.6	C	26.6	C		
NB	LT/TH			13.1	B	11.9	B	12.1	B	35.3	D	35.3	D		
	RT			9.3	A	13.9	B	14.0	B	13.4	B	13.4	B		
Approach				12.5	B	12.2	B	12.4	B	31.8	C	31.8	C		
Intersection				15.4	B	15.2	B	15.5	B	30.3	C	30.3	C		
Hamilton St & Harriet St	3003			EB	TH/RT	22.4	C	22.4	C	22.6	C	22.6	C	32.7	C
		Approach	22.4		C	22.4	C	22.6	C	22.6	C	32.7	C		
		WB	LT	9.5	A	9.6	A	10.9	B	13.2	B	24.0	C		
			TH	7.9	A	7.8	A	8.7	A	10.8	B	19.4	B		
			Approach	8.4	A	8.4	A	9.4	A	11.6	B	20.9	C		
		SB	LT	13.3	B	13.3	B	13.7	B	13.1	B	5.1	A		
			TH/RT	15.5	B	15.5	B	16.0	B	17.9	B	6.9	A		
		Approach				15.3	B	15.4	B	15.9	B	17.6	B	6.8	A
		Intersection				13.4	B	13.4	B	14.1	B	15.7	B	17.4	B
		Huron St & Catherine St	3004	EB	LT/TH	34.8	C	34.8	C	34.5	C	34.5	C	34.5	C
Approach	34.8				C	34.8	C	34.5	C	34.5	C	34.5	C		
WB	TH/RT			35.3	D	35.4	D	35.7	D	35.7	D	35.7	D		
	Approach			35.3	D	35.4	D	35.7	D	35.7	D	35.7	D		
NB	LT/TH/RT			3.4	A	3.5	A	3.8	A	4.2	A	4.2	A		
	Approach			3.4	A	3.5	A	3.8	A	4.2	A	4.2	A		
Intersection				5.6	A	5.7	A	5.9	A	6.3	A	6.3	A		

Off Peak Signalized Delay and LOS

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS						
Washtenaw Ave & Summit St	1002	EB	LT/TH/RT	9.0	A	9.0	A	9.3	A	9.3	A	9.3	A
			Approach	9.0	A	9.0	A	9.3	A	9.3	A	9.3	A
		NB	TH/RT	29.7	C	29.9	C	30.7	C	30.7	C	30.7	C
			Approach	29.7	C	29.9	C	30.7	C	30.7	C	30.7	C
		SB	LT/TH	36.5	D	36.4	D	37.1	D	37.1	D	37.1	D
			Approach	36.5	D	36.4	D	37.1	D	37.1	D	37.1	D
Intersection		12.7	B	12.8	B	13.1	B	13.1	B	13.1	B		
Washtenaw Ave & Ballard St	1004	EB	LT/TH/RT	0.8	A	0.8	A	0.9	A	1.8	A	1.8	A
			Approach	0.8	A	0.8	A	0.9	A	1.8	A	1.8	A
		NB	TH/RT	33.8	C	33.7	C	34.2	C	34.2	C	34.2	C
			Approach	33.8	C	33.7	C	34.2	C	34.2	C	34.2	C
		SB	LT	31.1	C	31.0	C	30.9	C	30.9	C	30.9	C
			TH	31.1	C	31.1	C	30.8	C	30.8	C	30.8	C
			Approach	31.1	C	31.0	C	30.9	C	30.9	C	30.9	C
		Intersection		6.5	A	6.5	A	6.6	A	7.3	A	7.3	A
Hamilton St & Michigan Ave	1013	EB	TH/RT	18.8	B	18.9	B	19.5	B	19.5	B	23.4	C
			Approach	18.8	B	18.9	B	19.5	B	19.5	B	23.4	C
		WB	LT	13.3	B	14.1	B	17.2	B	17.2	B	28.2	C
			TH	6.7	A	6.9	A	7.9	A	7.9	A	18.2	B
			Approach	8.6	A	9.0	A	10.6	B	10.6	B	21.1	C
		SB	LT	27.9	C	28.3	C	30.3	C	32.5	C	22.0	C
			LT/TH/RT	24.5	C	24.7	C	25.7	C	N/A			
			TH/RT	N/A						30.8	C	21.3	C
			Approach	25.3	C	25.6	C	26.8	C	31.3	C	21.5	C
		Intersection		19.3	B	19.6	B	20.7	C	23.0	C	21.8	C
Huron St & Cross St	1016	WB	TH	14.9	B	14.9	B	15.3	B	15.3	B	15.3	B
			RT	12.4	B	12.4	B	12.5	B	12.5	B	12.5	B
			Approach	14.7	B	14.8	B	15.1	B	15.1	B	15.1	B
		NB	LT	Free Flow									
			TH	22.2	C	22.1	C	21.8	C	N/A			
			RT	23.9	C	23.9	C	23.7	C	N/A			
			TH/RT	N/A						24.7	C	24.7	C
		Approach	22.9	C	22.8	C	22.5	C	24.7	C	24.7	C	
Intersection		20.4	C	20.4	C	20.2	C	21.8	C	21.8	C		
Huron St & Michigan Ave	1023	EB	LT	9.3	A	9.7	A	12.0	B	12.1	B	11.2	B
			TH	4.7	A	4.7	A	5.0	A	5.0	A	4.3	A
			Approach	5.4	A	5.4	A	6.0	A	6.0	A	5.3	A
		WB	TH/RT	23.7	C	24.0	C	25.3	C	25.3	C	25.3	C
			RT	29.9	C	30.7	C	34.7	C	34.7	C	34.7	C
			Approach	25.6	C	26.0	C	28.2	C	28.2	C	28.2	C
		NB	LT	7.3	A	6.7	A	6.7	A	7.4	A	7.5	A
			TH/RT	12.0	B	11.8	B	13.3	B	13.0	B	13.1	B
			Approach	11.5	B	11.2	B	12.5	B	12.4	B	12.5	B
		Intersection		14.1	B	14.2	B	15.6	B	15.5	B	15.3	B
Michigan Ave & Congress St & Ballard St	2000	EB	LT/TH/RT	24.3	C	24.4	C	24.6	C	24.6	C	24.6	C
			Approach	24.3	C	24.4	C	24.6	C	24.6	C	24.6	C
		WB	LT	30.2	C	30.2	C	30.6	C	30.5	C	23.3	C
			LT/TH/RT	33.6	C	33.9	C	35.8	D	35.6	D	28.0	C
		SB	Approach	31.9	C	32.1	C	33.2	C	33.1	C	25.6	C
			LT	22.8	C	22.8	C	22.9	C	22.9	C	22.9	C
		NB	TH/RT	22.7	C	22.7	C	22.7	C	22.7	C	22.7	C
			Approach	22.7	C	22.7	C	22.8	C	22.8	C	22.8	C
			RT	22.5	C	22.5	C	22.7	C	22.7	C	22.7	C
		Approach	22.5	C	22.5	C	22.7	C	22.7	C	22.7	C	
Intersection		27.0	C	27.1	C	27.7	C	27.6	C	24.3	C		

Off Peak Signalized Delay and LOS

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038			
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Michigan Ave & Adams St	2004	EB	LT/TH/RT	4.1	A	4.1	A	4.1	A	3.8	A	5.5	A		
			Approach	4.1	A	4.1	A	4.1	A	3.8	A	5.5	A		
		WB	LT/TH/RT	1.5	A	1.5	A	1.6	A	1.6	A	1.6	A		
			Approach	1.5	A	1.5	A	1.6	A	1.6	A	1.6	A		
		NB	LT	30.1	C	30.2	C	30.7	C	30.7	C	30.7	C		
			TH/RT	30.2	C	30.3	C	30.7	C	30.7	C	30.7	C		
			Approach	30.1	C	30.3	C	30.7	C	30.7	C	30.7	C		
		SB	LT	29.5	C	29.6	C	30.1	C	30.1	C	30.1	C		
			TH/RT	28.7	C	28.8	C	29.0	C	29.0	C	29.0	C		
			Approach	29.0	C	29.1	C	29.4	C	29.4	C	29.4	C		
Intersection				6.9	A	7.0	A	7.1	A	6.9	A	7.7	A		
Michigan Ave & Washington St	2005	EB	LT/TH/RT	1.9	A	1.9	A	2.0	A	2.0	A	2.2	A		
			Approach	1.9	A	1.9	A	2.0	A	2.0	A	2.2	A		
		WB	LT/TH/RT	2.4	A	2.5	A	2.5	A	2.2	A	2.2	A		
			Approach	2.4	A	2.5	A	2.5	A	2.2	A	2.2	A		
		NB	LT/TH/RT	31.3	C	31.6	C	32.4	C	32.4	C	32.4	C		
			Approach	31.3	C	31.6	C	32.4	C	32.4	C	32.4	C		
		SB	LT/TH/RT	31.8	C	32.1	C	33.2	C	33.2	C	33.2	C		
			Approach	31.8	C	32.1	C	33.2	C	33.2	C	33.2	C		
		Intersection				5.5	A	5.6	A	5.8	A	5.7	A	5.8	A
		Huron St & Harriet/Spring St	3001	EB	LT	19.9	B	19.7	B	20.1	C	20.0	B	20.9	C
TH	19.2				B	19.1	B	19.3	B	19.3	B	20.6	C		
Approach	19.3				B	19.2	B	19.5	B	19.4	B	20.7	C		
WB	TH/RT			21.0	C	21.0	C	21.3	C	21.3	C	21.3	C		
	Approach			21.0	C	21.0	C	21.3	C	21.3	C	21.3	C		
NB	LT/TH			8.4	A	9.0	A	9.8	A	11.8	B	11.8	B		
	RT			7.8	A	9.3	A	10.7	B	10.7	B	10.7	B		
	Approach			8.3	A	9.1	A	10.0	A	11.6	B	11.6	B		
Intersection				12.0	B	12.5	B	13.3	B	14.4	B	14.5	B		
Hamilton St & Harriet St	3003			EB	TH/RT	22.5	C	22.5	C	22.8	C	22.8	C	32.5	C
		Approach	22.5		C	22.5	C	22.8	C	22.8	C	32.5	C		
		WB	LT	11.4	B	10.9	B	11.2	B	12.2	B	26.1	C		
			TH	7.0	A	6.6	A	6.2	A	7.0	A	15.3	B		
		SB	Approach	9.4	A	9.0	A	9.1	A	9.9	A	21.4	C		
			LT	12.8	B	12.9	B	13.2	B	12.2	B	6.1	A		
			TH/RT	17.3	B	17.5	B	18.6	B	29.0	C	11.5	B		
		Approach	17.0	B	17.1	B	18.2	B	27.6	C	11.1	B			
			Intersection				15.7	B	15.7	B	16.3	B	22.0	C	17.1
		Huron St & Catherine St	3004	EB	LT/TH	34.6	C	34.6	C	34.8	C	34.8	C	34.8	C
Approach	34.6				C	34.6	C	34.8	C	34.8	C	34.8	C		
WB	TH/RT			32.8	C	32.8	C	32.7	C	32.7	C	32.7	C		
	Approach			32.8	C	32.8	C	32.7	C	32.7	C	32.7	C		
NB	LT/TH/RT			3.6	A	4.0	A	4.3	A	4.7	A	4.7	A		
	Approach			3.6	A	4.0	A	4.3	A	4.7	A	4.7	A		
Intersection				6.6	A	6.9	A	7.2	A	7.6	A	7.6	A		

PM Peak Signalized Delay and LOS

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038		
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	
Washtenaw Ave & Summit St	1002	EB	LT/TH/RT	12.2	B	12.5	B	13.7	B	13.7	B	13.7	B	
			Approach	12.2	B	12.5	B	13.7	B	13.7	B	13.7	B	
		NB	TH/RT	28.3	C	28.5	C	29.2	C	29.2	C	29.2	C	
			Approach	28.3	C	28.5	C	29.2	C	29.2	C	29.2	C	
		SB	LT/TH	37.3	D	37.4	D	38.1	D	38.1	D	38.1	D	
			Approach	37.3	D	37.4	D	38.1	D	38.1	D	38.1	D	
Intersection		14.2	B	14.5	B	15.6	B	15.6	B	15.6	B			
Washtenaw Ave & Ballard St	1004	EB	LT/TH/RT	0.5	A	0.5	A	0.5	A	1.6	A	1.6	A	
			Approach	0.5	A	0.5	A	0.5	A	1.6	A	1.6	A	
		NB	TH/RT	34.8	C	34.9	C	35.2	D	35.2	D	35.2	D	
			Approach	34.8	C	34.9	C	35.2	D	35.2	D	35.2	D	
		SB	LT	33.8	C	33.8	C	33.8	C	33.8	C	33.8	C	
			TH	34.4	C	34.5	C	34.5	C	34.5	C	34.5	C	
			Approach	34.2	C	34.3	C	34.3	C	34.3	C	34.3	C	
		Intersection		3.6	A	3.6	A	3.6	A	4.6	A	4.6	A	
Hamilton St & Michigan Ave	1013	EB	TH/RT	22.1	C	22.3	C	23.3	C	23.3	C	30.3	C	
			Approach	22.1	C	22.3	C	23.3	C	23.3	C	30.3	C	
		WB	LT	20.4	C	22.4	C	38.7	D	38.7	D	53.9	D	
			TH	6.3	A	6.6	A	7.5	A	7.5	A	5.3	A	
		SB	Approach	11.3	B	12.1	B	18.5	B	18.5	B	22.4	C	
			LT	43.0	D	45.5	D	61.7	E	74.8	E	38.9	D	
			LT/TH/RT	31.4	C	32.7	C	43.1	D	N/A				
		TH/RT	N/A				132.8	F	60.4	E				
Approach	34.2	C	35.8	D	47.6	D	115.3	F	53.9	D				
Intersection		26.2	C	27.4	C	35.7	D	73.5	E	41.5	D			
Huron St & Cross St	1016	WB	TH	14.8	B	14.9	B	15.3	B	15.3	B	15.3	B	
			RT	11.9	B	11.9	B	11.9	B	11.9	B	11.9	B	
			Approach	14.6	B	14.7	B	15.1	B	15.1	B	15.1	B	
		NB	LT	Free Flow										
			TH	21.4	C	21.4	C	21.5	C	N/A				
			RT	26.5	C	26.7	C	27.5	C					
			TH/RT	N/A				26.1	C	25.8	C			
Approach	23.9	C	24.0	C	24.4	C	26.1	C	25.8	C				
Intersection		21.3	C	21.4	C	21.8	C	23.0	C	22.8	C			
Huron St & Michigan Ave	1023	EB	LT	18.6	B	19.5	B	26.5	C	26.5	C	28.6	C	
			TH	7.7	A	7.9	A	9.5	A	9.5	A	11.4	B	
			Approach	9.1	A	9.4	A	11.8	B	11.8	B	13.6	B	
		WB	TH/RT	26.1	C	26.5	C	29.2	C	29.2	C	29.2	C	
			RT	36.7	D	38.6	D	48.7	D	48.7	D	48.7	D	
		NB	Approach	29.3	C	30.1	C	35.0	C	35.0	C	35.0	C	
			LT	9.4	A	9.2	A	9.1	A	11.4	B	21.9	C	
			TH/RT	16.6	B	16.7	B	19.6	B	20.5	C	31.6	C	
Approach	15.7	B	15.8	B	18.4	B	19.4	B	30.5	C				
Intersection		17.7	B	18.1	B	21.3	C	21.7	C	26.0	C			
Michigan Ave & Congress St & Ballard St	2000	EB	LT/TH/RT	46.4	D	46.5	D	47.9	D	47.9	D	47.9	D	
			Approach	46.4	D	46.5	D	47.9	D	47.9	D	47.9	D	
		WB	LT	20.7	C	21.0	C	22.3	C	22.3	C	22.3	C	
			TH	23.1	C	23.6	C	25.7	C	25.7	C	25.7	C	
		SB	Approach	21.9	C	22.3	C	24.0	C	24.0	C	24.0	C	
			LT	43.1	D	43.2	D	43.4	D	43.4	D	43.4	D	
			TH/RT	41.9	D	42.0	D	42.0	D	42.0	D	42.0	D	
		NB	Approach	42.5	D	42.5	D	42.7	D	42.7	D	42.7	D	
			RT	16.1	B	16.2	B	16.4	B	16.4	B	16.4	B	
		Approach	16.1	B	16.2	B	16.4	B	16.4	B	16.4	B		
Intersection		23.4	C	23.6	C	24.8	C	24.8	C	24.8	C			

PM Peak Signalized Delay and LOS

Intersection	Synchro Node	Approach	Movement	Existing		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038			
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Michigan Ave & Adams St	2004	EB	LT/TH/RT	3.1	A	3.4	A	3.3	A	3.2	A	4.6	A		
			Approach	3.1	A	3.4	A	3.3	A	3.2	A	4.6	A		
		WB	LT/TH/RT	1.2	A	1.2	A	1.6	A	1.6	A	1.2	A		
			Approach	1.2	A	1.2	A	1.6	A	1.6	A	1.2	A		
		NB	LT	28.5	C	28.5	C	28.8	C	28.8	C	28.8	C		
			TH/RT	30.0	C	30.0	C	30.4	C	30.4	C	30.4	C		
			Approach	29.7	C	29.7	C	30.1	C	30.1	C	30.1	C		
		SB	LT	31.7	C	31.8	C	32.8	C	32.8	C	32.8	C		
			TH/RT	29.4	C	29.5	C	29.8	C	29.8	C	29.8	C		
			Approach	30.4	C	30.5	C	31.1	C	31.1	C	31.1	C		
Intersection				5.8	A	5.9	A	6.1	A	6.0	A	6.6	A		
Michigan Ave & Washington St	2005	EB	LT/TH/RT	1.8	A	1.8	A	2.2	A	2.2	A	5.0	A		
			Approach	1.8	A	1.8	A	2.2	A	2.2	A	5.0	A		
		WB	LT/TH/RT	2.4	A	2.5	A	2.4	A	2.3	A	2.3	A		
			Approach	2.4	A	2.5	A	2.4	A	2.3	A	2.3	A		
		NB	LT/TH/RT	33.2	C	33.4	C	35.2	D	35.2	D	35.2	D		
			Approach	33.2	C	33.4	C	35.2	D	35.2	D	35.2	D		
		SB	LT/TH/RT	40.6	D	41.7	D	49.0	D	49.0	D	49.0	D		
			Approach	40.6	D	41.7	D	49.0	D	49.0	D	49.0	D		
		Intersection				6.6	A	6.7	A	7.5	A	7.5	A	8.9	A
		Huron St & Harriet/Spring St	3001	EB	LT	17.9	B	18.1	B	19.2	B	19.2	B	27.5	C
TH	18.2				B	18.2	B	18.9	B	18.9	B	28.0	C		
Approach	18.1				B	18.2	B	18.9	B	18.9	B	28.0	C		
WB	TH/RT			20.4	C	20.6	C	21.1	C	21.1	C	22.0	C		
	Approach			20.4	C	20.6	C	21.1	C	21.1	C	22.0	C		
NB	LT/TH			10.4	B	8.9	A	9.2	A	13.1	B	18.2	B		
	RT			4.9	A	4.7	A	5.5	A	5.5	A	17.9	B		
Approach				9.1	A	7.9	A	8.3	A	11.4	B	18.1	B		
Intersection				13.1	B	12.4	B	12.8	B	14.7	B	20.5	C		
Hamilton St & Harriet St	3003			EB	TH/RT	24.2	C	24.4	C	25.1	C	25.1	C	30.0	C
		Approach	24.2		C	24.4	C	25.1	C	25.1	C	30.0	C		
		WB	LT	15.9	B	16.5	B	19.3	B	21.0	C	120.5	F		
			TH	5.6	A	5.7	A	5.7	A	6.9	A	9.3	A		
		Approach				11.3	B	11.7	B	13.3	B	14.8	B	71.0	E
		SB	LT	15.7	B	15.7	B	16.0	B	15.5	B	6.5	A		
			TH/RT	30.0	C	32.5	C	55.7	E	253.1	F	23.2	C		
		Approach				28.6	C	30.9	C	51.9	D	230.5	F	21.6	C
		Intersection				23.3	C	24.8	C	37.6	D	142.5	F	36.2	D
		Huron St & Catherine St	3004	EB	LT/TH	34.7	C	34.7	C	34.8	C	34.8	C	34.8	C
Approach	34.7				C	34.7	C	34.8	C	34.8	C	34.8	C		
WB	TH/RT			33.1	C	33.1	C	33.0	C	33.0	C	33.0	C		
	Approach			33.1	C	33.1	C	33.0	C	33.0	C	33.0	C		
NB	LT/TH/RT			4.0	A	3.9	A	4.1	A	4.4	A	1.1	A		
	Approach			4.0	A	3.9	A	4.1	A	4.4	A	1.1	A		
Intersection				6.8	A	6.8	A	7.0	A	7.2	A	4.2	A		

AM Peak Unsignalized Delay and LOS

Intersection	Synchro Node	Approach	Movement	Existing 2018		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Hamilton St & Washtenaw Ave	9000	EB	TH	7.5	A	7.5	A	7.7	A	7.7	A	7.7	A
			RT	7.8	A	7.9	A	8.5	A	8.5	A	8.5	A
			Approach	7.7	A	7.8	A	8.4	A	8.4	A	8.4	A
		SB	LT/TH	8.0	A	8.0	A	8.3	A	8.3	A	8.3	A
			Approach	8.0	A	8.0	A	8.3	A	8.3	A	8.3	A
		Intersection	7.8	A	7.9	A	8.3	A	8.3	A	8.3	A	8.3
Hamilton St & Pearl St	9001	EB	RT	10.2	B	10.2	B	10.5	B	11.9	B	11.9	B
			Approach	10.2	B	10.2	B	10.5	B	11.9	B	11.9	B
		WB	LT	11.0	B	11.1	B	11.4	B	13.3	B	13.3	B
			LT/TH	14.7	B	14.9	B	16.3	C	17.0	C	17.0	C
			Approach	13.2	B	13.4	B	14.4	B	15.5	C	15.5	C
		SB	TH/RT	Free Flow				N/A					
			TH	N/A				Free Flow					
			RT	N/A				Free Flow					
		Approach	Free Flow				Free Flow						
		Intersection	0.9	A	0.9	A	1.0	A	1.1	A	1.1	A	1.1
Hamilton St & Ferris St	9002	EB	TH/RT	11.2	B	11.2	B	11.6	B	11.2	B	11.3	B
			Approach	11.2	B	11.2	B	11.6	B	11.2	B	11.3	B
		WB	LT/TH	13.1	B	13.2	B	13.7	B	13.2	B	13.4	B
			Approach	13.1	B	13.2	B	13.7	B	13.2	B	13.4	B
		SB	LT	Free Flow				N/A					
			TH/RT	Free Flow				N/A					
			LT/TH/RT	N/A				Free Flow					
		Approach	Free Flow				Free Flow						
Intersection	2.2	A	2.2	A	2.3	A	2.4	A	2.4	A	2.4	A	
Huron St & Ferris St	9003	EB	LT	11.6	B	11.6	B	11.4	B	13.0	B	13.0	B
			Approach	11.6	B	11.6	B	11.4	B	13.0	B	13.0	B
		NB	LT/TH	Free Flow				Free Flow					
			Approach	Free Flow				Free Flow					
Intersection	0.5	A	0.5	A	0.6	A	0.6	A	0.6	A	0.6	A	
Huron St & Pearl St	9004	NB	LT/TH	Free Flow				Free Flow					
			Approach	Free Flow				Free Flow					
		Intersection	Free Flow				Free Flow						

Off Peak Unsignalized Delay and LOS

Intersection	Synchro Node	Approach	Movement	Existing 2018		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Hamilton St & Washtenaw Ave	9000	EB	TH	8.5	A	8.5	A	8.8	A	8.8	A	8.8	A
			RT	10.7	B	11.1	B	13.1	B	13.1	B	13.1	B
			Approach	10.2	B	10.5	B	12.2	B	12.2	B	12.2	B
		SB	LT/TH	9.8	A	9.9	A	10.6	B	10.6	B	10.6	B
			Approach	9.8	A	9.9	A	10.6	B	10.6	B	10.6	B
		Intersection	10.1	B	10.3	B	11.7	B	11.7	B	11.7	B	
Hamilton St & Pearl St	9001	EB	RT	11.2	B	11.4	B	11.8	B	14.5	B	14.5	B
			Approach	11.2	B	11.4	B	11.8	B	14.5	B	14.5	B
		WB	LT	13.8	B	14.1	B	15.3	C	22.0	C	22.0	C
			LT/TH	44.7	E	49.4	E	86.3	F	100.4	F	100.4	F
			Approach	33.8	D	36.9	E	61.3	F	72.9	F	72.9	F
		SB	TH/RT	Free Flow				N/A					
			TH	N/A				Free Flow					
			RT	N/A				Free Flow					
			Approach	Free Flow				Free Flow					
		Intersection	6.1	A	6.6	A	10.8	B	12.8	B	12.8	B	
Hamilton St & Ferris St	9002	EB	TH/RT	13.4	B	13.6	B	14.6	B	16.2	C	16.8	C
			Approach	13.4	B	13.6	B	14.6	B	16.2	C	16.8	C
		WB	LT/TH	13.2	B	13.2	B	14.1	B	17.5	C	19.2	C
			Approach	13.2	B	13.2	B	14.1	B	17.5	C	19.2	C
		SB	LT	Free Flow				N/A					
			TH/RT	Free Flow				N/A					
			LT/TH/RT	N/A				Free Flow					
			Approach	Free Flow				Free Flow					
Intersection	1.8	A	1.8	A	1.9	A	2.4	A	2.5	A			
Huron St & Ferris St	9003	EB	LT	11.8	B	11.8	B	11.9	B	12.9	B	12.9	B
			Approach	11.8	B	11.8	B	11.9	B	12.9	B	12.9	B
		NB	LT/TH	Free Flow				Free Flow					
			Approach	Free Flow				Free Flow					
		Intersection	0.9	A	0.9	A	0.9	A	1.0	A	1.0	A	
Huron St & Pearl St	9004	NB	LT/TH	Free Flow				Free Flow					
			Approach	Free Flow				Free Flow					
		Intersection	Free Flow				Free Flow						

PM Peak Unsignalized Delay and LOS

Intersection	Synchro Node	Approach	Movement	Existing 2018		Background 2022		Background 2038		Road Diet 2038		Road Diet Mitigation 2038	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Hamilton St & Washtenaw Ave	9000	EB	TH	11.3	B	11.5	B	12.4	B	12.4	B	12.4	B
			RT	41.0	E	47.0	E	79.7	F	79.7	F	79.7	F
			Approach	33.8	D	38.4	E	63.4	F	63.4	F	63.4	F
		SB	LT/TH	20.0	C	21.4	C	30.0	D	30.0	D	30.0	D
			Approach	20.0	C	21.4	C	30.0	D	30.0	D	30.0	D
		Intersection	29.0	D	32.5	D	51.7	F	51.7	F	51.7	F	
Hamilton St & Pearl St	9001	EB	RT	14.4	B	14.7	B	15.9	C	25.1	D	25.1	D
			Approach	14.4	B	14.7	B	15.9	C	25.1	D	25.1	D
		WB	LT	18.1	C	18.7	C	21.2	C	44.8	E	44.8	E
			LT/TH	189.8	F	228.7	F	449.7	F	491.9	F	491.9	F
			Approach	134.8	F	161.3	F	312.6	F	348.9	F	348.9	F
		SB	TH/RT	Free Flow				N/A					
			TH	N/A				Free Flow					
			RT	N/A				Free Flow					
		Approach	Free Flow				Free Flow						
		Intersection	8.9	A	10.6	B	20.3	C	22.8	C	22.8	C	
Hamilton St & Ferris St	9002	EB	TH/RT	17.7	C	18.3	C	20.6	C	46.8	E	40.7	E
			Approach	17.7	C	18.3	C	20.6	C	46.8	E	40.7	E
		WB	LT/TH	18.5	C	19.2	C	22.4	C	78.1	F	50.5	F
			Approach	18.5	C	19.2	C	22.4	C	78.1	F	50.5	F
		SB	LT	Free Flow				N/A					
			TH/RT	Free Flow				N/A					
			LT/TH/RT	N/A				Free Flow					
		Approach	Free Flow				Free Flow						
Intersection	2.2	A	2.2	A	2.5	A	7.0	A	5.3	A			
Huron St & Ferris St	9003	EB	LT	12.5	B	12.6	B	12.7	B	15.4	C	15.4	C
			Approach	12.5	B	12.6	B	12.7	B	15.4	C	15.4	C
		NB	LT/TH	Free Flow				Free Flow					
			Approach	Free Flow				Free Flow					
Intersection	0.6	A	0.6	A	0.6	A	0.8	A	0.8	A			
Huron St & Pearl St	9004	NB	LT/TH	Free Flow				Free Flow					
			Approach	Free Flow				Free Flow					
		Intersection	Free Flow				Free Flow						

*Appendix H*  
*Existing Condition Synchro Reports*

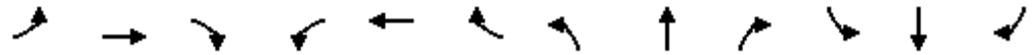
HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
Existing AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  						 					
Traffic Volume (vph)	3	671	17	0	0	0	0	136	31	11	10	0	
Future Volume (vph)	3	671	17	0	0	0	0	136	31	11	10	0	
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.4						10.8			10.8		
Lane Util. Factor		0.91						1.00			1.00		
Frbp, ped/bikes		1.00						0.99			1.00		
Flpb, ped/bikes		1.00						1.00			0.98		
Frt		1.00						0.97			1.00		
Flt Protected		1.00						1.00			0.97		
Satd. Flow (prot)		5281						1642			1917		
Flt Permitted		1.00						1.00			0.74		
Satd. Flow (perm)		5281						1642			1461		
Peak-hour factor, PHF	0.87	0.87	0.87	0.92	0.92	0.92	0.91	0.91	0.91	0.75	0.75	0.75	
Adj. Flow (vph)	3	771	20	0	0	0	0	149	34	15	13	0	
RTOR Reduction (vph)	0	3	0	0	0	0	0	10	0	0	0	0	
Lane Group Flow (vph)	0	791	0	0	0	0	0	173	0	0	28	0	
Confl. Peds. (#/hr)			2						26	26			
Confl. Bikes (#/hr)			1										
Heavy Vehicles (%)	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Parking (#/hr)								10					
Turn Type	Perm	NA						NA		Perm	NA		
Protected Phases		1						2			2		
Permitted Phases	1									2			
Actuated Green, G (s)		46.6						17.2			17.2		
Effective Green, g (s)		46.6						17.2			17.2		
Actuated g/C Ratio		0.58						0.21			0.21		
Clearance Time (s)		5.4						10.8			10.8		
Lane Grp Cap (vph)		3076						353			314		
v/s Ratio Prot								c0.11					
v/s Ratio Perm		0.15									0.02		
v/c Ratio		0.26						0.49			0.09		
Uniform Delay, d1		8.2						27.5			25.1		
Progression Factor		1.00						1.00			1.34		
Incremental Delay, d2		0.2						4.8			0.6		
Delay (s)		8.4						32.3			34.2		
Level of Service		A						C			C		
Approach Delay (s)		8.4			0.0			32.3			34.2		
Approach LOS		A			A			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			13.5									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.32										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	16.2
Intersection Capacity Utilization			45.6%									ICU Level of Service	A
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Existing AM Peak Hour

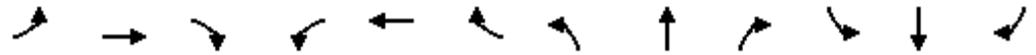


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		←↑↑↑						↑		↑	↑		
Traffic Volume (vph)	15	523	6	0	0	0	0	36	8	9	20	0	
Future Volume (vph)	15	523	6	0	0	0	0	36	8	9	20	0	
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.3						5.7		5.7	5.7		
Lane Util. Factor		0.91						1.00		1.00	1.00		
Frbp, ped/bikes		1.00						1.00		1.00	1.00		
Flpb, ped/bikes		1.00						1.00		0.99	1.00		
Frt		1.00						0.98		1.00	1.00		
Flt Protected		1.00						1.00		0.95	1.00		
Satd. Flow (prot)		5420						1944		1887	2000		
Flt Permitted		1.00						1.00		0.72	1.00		
Satd. Flow (perm)		5420						1944		1426	2000		
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.91	0.91	0.91	
Adj. Flow (vph)	17	581	7	0	0	0	0	49	11	10	22	0	
RTOR Reduction (vph)	0	1	0	0	0	0	0	10	0	0	0	0	
Lane Group Flow (vph)	0	604	0	0	0	0	0	50	0	10	22	0	
Confl. Peds. (#/hr)	2		1						9	9			
Confl. Bikes (#/hr)			1										
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	3	0	0	0	0	0	0	0	0	0	0	
Turn Type	custom	NA						NA		Perm	NA		
Protected Phases	1	1						2			2		
Permitted Phases	1									2			
Actuated Green, G (s)		61.6						7.4		7.4	7.4		
Effective Green, g (s)		61.6						7.4		7.4	7.4		
Actuated g/C Ratio		0.77						0.09		0.09	0.09		
Clearance Time (s)		5.3						5.7		5.7	5.7		
Vehicle Extension (s)		0.2						3.0		3.0	3.0		
Lane Grp Cap (vph)		4173						179		131	185		
v/s Ratio Prot		c0.11						c0.03			0.01		
v/s Ratio Perm										0.01			
v/c Ratio		0.14						0.28		0.08	0.12		
Uniform Delay, d1		2.4						33.8		33.2	33.3		
Progression Factor		0.53						1.00		1.00	1.00		
Incremental Delay, d2		0.1						0.9		0.2	0.3		
Delay (s)		1.3						34.7		33.4	33.6		
Level of Service		A						C		C	C		
Approach Delay (s)		1.3			0.0			34.7			33.5		
Approach LOS		A			A			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			5.7									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.16										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	11.0
Intersection Capacity Utilization			36.4%									ICU Level of Service	A
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Existing AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	275	76	140	659	0	0	0	0	188	445	38
Future Volume (vph)	0	275	76	140	659	0	0	0	0	188	445	38
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					0.86	0.86	
Frbp, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3662		1878	3480					1618	5032	
Flt Permitted		1.00		0.47	1.00					0.95	1.00	
Satd. Flow (perm)		3662		938	3480					1618	5032	
Peak-hour factor, PHF	0.84	0.84	0.84	0.83	0.83	0.83	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	0	327	90	169	794	0	0	0	0	207	489	42
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	417	0	169	794	0	0	0	0	180	547	0
Confl. Peds. (#/hr)			6	6						5		6
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom	NA	
Protected Phases		1		2	1 2					3	3	
Permitted Phases				1 2						3		
Actuated Green, G (s)		28.8		37.6	42.8					25.2	25.2	
Effective Green, g (s)		28.8		37.6	42.8					25.2	25.2	
Actuated g/C Ratio		0.36		0.47	0.53					0.31	0.31	
Clearance Time (s)		5.2		5.2						6.8	6.8	
Lane Grp Cap (vph)		1318		544	1861					509	1585	
v/s Ratio Prot		0.11		0.03	c0.23					c0.11	0.11	
v/s Ratio Perm				0.11								
v/c Ratio		0.32		0.31	0.43					0.35	0.35	
Uniform Delay, d1		18.5		14.8	11.2					21.1	21.1	
Progression Factor		1.00		0.78	0.70					1.00	1.00	
Incremental Delay, d2		0.6		1.4	0.7					1.9	0.6	
Delay (s)		19.1		13.0	8.5					23.0	21.7	
Level of Service		B		B	A					C	C	
Approach Delay (s)		19.1			9.3			0.0			22.0	
Approach LOS		B			A			A			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			15.6			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			17.2			
Intersection Capacity Utilization			56.7%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Existing AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					↑	↗		↑↑	↗				
Traffic Volume (vph)	0	0	0	0	413	26	0	522	131	0	0	0	
Future Volume (vph)	0	0	0	0	413	26	0	522	131	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)					5.5	5.5		5.6	5.6				
Lane Util. Factor					1.00	1.00		0.95	1.00				
Frbp, ped/bikes					1.00	1.00		1.00	1.00				
Flpb, ped/bikes					1.00	1.00		1.00	1.00				
Frt					1.00	0.85		1.00	0.85				
Flt Protected					1.00	1.00		1.00	1.00				
Satd. Flow (prot)					2000	1700		3800	1700				
Flt Permitted					1.00	1.00		1.00	1.00				
Satd. Flow (perm)					2000	1700		3800	1700				
Peak-hour factor, PHF	0.92	0.92	0.92	0.81	0.81	0.81	0.94	0.94	0.94	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	0	510	32	0	555	139	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	17	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	510	15	0	555	139	0	0	0	
Confl. Peds. (#/hr)						11			3				
Confl. Bikes (#/hr)						4							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type					NA	custom		NA	custom				
Protected Phases					2	2		8	8				
Permitted Phases						2			8				
Actuated Green, G (s)					38.5	38.5		30.4	30.4				
Effective Green, g (s)					38.5	38.5		30.4	30.4				
Actuated g/C Ratio					0.48	0.48		0.38	0.38				
Clearance Time (s)					5.5	5.5		5.6	5.6				
Lane Grp Cap (vph)					962	818		1444	646				
v/s Ratio Prot					c0.26	0.01		c0.15	0.08				
v/s Ratio Perm													
v/c Ratio					0.53	0.02		0.38	0.22				
Uniform Delay, d1					14.5	10.9		18.0	16.7				
Progression Factor					1.00	1.00		1.56	1.54				
Incremental Delay, d2					2.1	0.0		0.4	0.4				
Delay (s)					16.5	10.9		28.6	26.1				
Level of Service					B	B		C	C				
Approach Delay (s)		0.0			16.2			28.1			0.0		
Approach LOS		A			B			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			22.9		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.47										
Actuated Cycle Length (s)			80.0		Sum of lost time (s)					11.1			
Intersection Capacity Utilization			55.2%		ICU Level of Service					B			
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

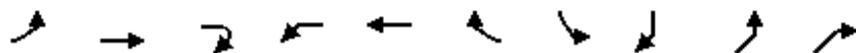
Road Diet Capacity Analysis  
Existing AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 					
Traffic Volume (vph)	75	426	0	0	671	538	85	1084	71	0	0	0	
Future Volume (vph)	75	426	0	0	671	538	85	1084	71	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6					
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95					
Frbp, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00					
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00					
Frt	1.00	1.00			0.97	0.85	1.00	0.99					
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00					
Satd. Flow (prot)	1881	3480			3219	1271	1873	3724					
Flt Permitted	0.15	1.00			1.00	1.00	0.95	1.00					
Satd. Flow (perm)	305	3480			3219	1271	1873	3724					
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	81	458	0	0	754	604	89	1141	75	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	81	458	0	0	941	417	89	1216	0	0	0	0	
Confl. Peds. (#/hr)	10					10	5		2				
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%	
Parking (#/hr)		10			10	10							
Turn Type	pm+pt	NA			NA	Perm	Perm	NA					
Protected Phases	2	1 2			1			3					
Permitted Phases	1 2					1	3						
Actuated Green, G (s)	34.0	39.0			26.0	26.0	30.4	30.4					
Effective Green, g (s)	34.0	39.0			26.0	26.0	30.4	30.4					
Actuated g/C Ratio	0.42	0.49			0.32	0.32	0.38	0.38					
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6					
Lane Grp Cap (vph)	287	1696			1046	413	711	1415					
v/s Ratio Prot	0.03	c0.13			0.29			c0.33					
v/s Ratio Perm	0.09					c0.33	0.05						
v/c Ratio	0.28	0.27			0.90	1.01	0.13	0.86					
Uniform Delay, d1	27.2	12.1			25.8	27.0	16.1	22.8					
Progression Factor	0.49	0.45			1.00	1.00	0.26	0.42					
Incremental Delay, d2	2.4	0.4			12.2	46.7	0.3	6.7					
Delay (s)	15.7	5.8			37.9	73.7	4.6	16.2					
Level of Service	B	A			D	E	A	B					
Approach Delay (s)		7.3			48.9			15.4			0.0		
Approach LOS		A			D			B			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			28.3		HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.86										
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				15.6				
Intersection Capacity Utilization			72.7%		ICU Level of Service				C				
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
Existing AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕		↕
Traffic Volume (vph)	8	73	1	368	141	31	10	48	0	295
Future Volume (vph)	8	73	1	368	141	31	10	48	0	295
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3		6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00		0.88
Frbp, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00
Frt		1.00		1.00	0.98		1.00	0.85		0.85
Flt Protected		1.00		0.95	0.98		0.95	1.00		1.00
Satd. Flow (prot)		1987		1787	1538		1900	1700		2992
Flt Permitted		1.00		0.95	0.98		0.95	1.00		1.00
Satd. Flow (perm)		1987		1787	1538		1900	1700		2992
Peak-hour factor, PHF	0.82	0.82	0.82	0.94	0.94	0.94	0.60	0.60	0.93	0.93
Adj. Flow (vph)	10	89	1	391	150	33	17	80	0	317
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	154
Lane Group Flow (vph)	0	100	0	285	286	0	17	80	0	163
Confl. Peds. (#/hr)	2		1	1		2	1			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%
Parking (#/hr)				10						
Turn Type	Split	NA		Split	NA		Prot	Prot		Over
Protected Phases	3	3		1	1		2	2		1
Permitted Phases										
Actuated Green, G (s)		20.0		61.7	61.7		20.0	20.0		61.7
Effective Green, g (s)		20.0		61.7	61.7		20.0	20.0		61.7
Actuated g/C Ratio		0.17		0.51	0.51		0.17	0.17		0.51
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3		6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		331		918	790		316	283		1538
v/s Ratio Prot		c0.05		0.16	c0.19		0.01	c0.05		0.05
v/s Ratio Perm										
v/c Ratio		0.30		0.31	0.36		0.05	0.28		0.11
Uniform Delay, d1		43.9		16.9	17.4		42.0	43.7		15.0
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2		0.5		0.9	1.3		0.1	0.6		0.1
Delay (s)		44.4		17.7	18.7		42.1	44.3		15.1
Level of Service		D		B	B		D	D		B
Approach Delay (s)		44.4		18.2			43.9		15.1	
Approach LOS		D		B			D		B	
<b>Intersection Summary</b>										
HCM 2000 Control Delay			22.0			HCM 2000 Level of Service				C
HCM 2000 Volume to Capacity ratio			0.33							
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			18.3	
Intersection Capacity Utilization			64.4%			ICU Level of Service				C
Analysis Period (min)			15							
c	Critical Lane Group									

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Existing AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	529	6	0	748	29	43	39	11	20	10	18
Future Volume (vph)	0	529	6	0	748	29	43	39	11	20	10	18
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		0.99	1.00	
Frt		1.00			0.99		1.00	0.97		1.00	0.90	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3473			3456		1894	1636		1879	1520	
Flt Permitted		1.00			1.00		0.73	1.00		0.70	1.00	
Satd. Flow (perm)		3473			3456		1462	1636		1390	1520	
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.60	0.60	0.60	0.75	0.75	0.75
Adj. Flow (vph)	0	563	6	0	840	33	72	65	18	27	13	24
RTOR Reduction (vph)	0	1	0	0	3	0	0	12	0	0	20	0
Lane Group Flow (vph)	0	568	0	0	870	0	72	71	0	27	17	0
Confl. Peds. (#/hr)	6		8	8		6	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10			10	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases							2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2383			2371		255	286		243	266	
v/s Ratio Prot		0.16			c0.25			0.04			0.01	
v/s Ratio Perm							c0.05			0.02		
v/c Ratio		0.24			0.37		0.28	0.25		0.11	0.06	
Uniform Delay, d1		4.7			5.3		28.6	28.5		27.8	27.5	
Progression Factor		0.44			0.34		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.4		2.8	2.1		0.9	0.5	
Delay (s)		2.3			2.2		31.4	30.5		28.7	28.0	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		2.3			2.2			30.9			28.3	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			5.9				HCM 2000 Level of Service				A	
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)				11.1	
Intersection Capacity Utilization			49.0%				ICU Level of Service				A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
2005: Washington St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Existing AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	0	528	12	0	696	14	40	88	22	14	5	9	
Future Volume (vph)	0	528	12	0	696	14	40	88	22	14	5	9	
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.0			5.0			6.0			6.0		
Lane Util. Factor		0.95			0.95			1.00			1.00		
Frbp, ped/bikes		1.00			1.00			1.00			0.99		
Flpb, ped/bikes		1.00			1.00			0.99			1.00		
Frt		1.00			1.00			0.98			0.96		
Flt Protected		1.00			1.00			0.99			0.98		
Satd. Flow (prot)		3501			3467			1628			1771		
Flt Permitted		1.00			1.00			0.90			0.73		
Satd. Flow (perm)		3501			3467			1483			1328		
Peak-hour factor, PHF	0.86	0.86	0.86	0.94	0.94	0.94	0.60	0.60	0.60	0.88	0.88	0.88	
Adj. Flow (vph)	0	614	14	0	740	15	67	147	37	16	6	10	
RTOR Reduction (vph)	0	2	0	0	2	0	0	7	0	0	8	0	
Lane Group Flow (vph)	0	626	0	0	753	0	0	244	0	0	24	0	
Confl. Peds. (#/hr)	10		3	3		10	22		9	9		22	
Confl. Bikes (#/hr)			1										
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	4%	4%	4%	
Parking (#/hr)		10			10			10					
Turn Type		NA			NA		Perm	NA		Perm	NA		
Protected Phases		1			1			2			2		
Permitted Phases							2			2			
Actuated Green, G (s)		55.0			55.0			14.0			14.0		
Effective Green, g (s)		55.0			55.0			14.0			14.0		
Actuated g/C Ratio		0.69			0.69			0.18			0.18		
Clearance Time (s)		5.0			5.0			6.0			6.0		
Lane Grp Cap (vph)		2406			2383			259			232		
v/s Ratio Prot		0.18			c0.22								
v/s Ratio Perm								c0.16			0.02		
v/c Ratio		0.26			0.32			0.94			0.10		
Uniform Delay, d1		4.8			5.0			32.6			27.7		
Progression Factor		0.32			0.24			1.00			1.00		
Incremental Delay, d2		0.3			0.2			42.5			0.9		
Delay (s)		1.8			1.4			75.1			28.6		
Level of Service		A			A			E			C		
Approach Delay (s)		1.8			1.4			75.1			28.6		
Approach LOS		A			A			E			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			13.1									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.44										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	11.0
Intersection Capacity Utilization			45.4%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
Existing AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	15	121	0	0	423	31	359	1425	342	0	0	0	
Future Volume (vph)	15	121	0	0	423	31	359	1425	342	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1				
Lane Util. Factor	1.00	0.95			0.95			0.91	1.00				
Frbp, ped/bikes	1.00	1.00			1.00			1.00	0.99				
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00				
Frt	1.00	1.00			0.99			1.00	0.85				
Flt Protected	0.95	1.00			1.00			0.99	1.00				
Satd. Flow (prot)	1880	3762			3757			5384	1675				
Flt Permitted	0.38	1.00			1.00			0.99	1.00				
Satd. Flow (perm)	755	3762			3757			5384	1675				
Peak-hour factor, PHF	0.68	0.68	0.68	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	22	178	0	0	486	36	390	1549	372	0	0	0	
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	163	0	0	0	
Lane Group Flow (vph)	22	178	0	0	516	0	0	1939	209	0	0	0	
Confl. Peds. (#/hr)	1					1			4				
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Perm				
Protected Phases		4			8			2					
Permitted Phases	4						2		2				
Actuated Green, G (s)	22.4	22.4			22.4			44.9	44.9				
Effective Green, g (s)	22.4	22.4			22.4			44.9	44.9				
Actuated g/C Ratio	0.28	0.28			0.28			0.56	0.56				
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1				
Lane Grp Cap (vph)	211	1053			1051			3021	940				
v/s Ratio Prot		0.05			c0.14								
v/s Ratio Perm	0.03							0.36	0.12				
v/c Ratio	0.10	0.17			0.49			0.64	0.22				
Uniform Delay, d1	21.4	21.8			24.0			12.0	8.8				
Progression Factor	1.02	1.01			1.00			1.00	1.00				
Incremental Delay, d2	1.0	0.3			1.6			1.1	0.5				
Delay (s)	22.8	22.3			25.7			13.1	9.3				
Level of Service	C	C			C			B	A				
Approach Delay (s)		22.3			25.7			12.5			0.0		
Approach LOS		C			C			B			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			15.4									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.59										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	12.7
Intersection Capacity Utilization			61.5%									ICU Level of Service	B
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
Existing AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	102	99	235	480	0	0	0	0	42	507	44
Future Volume (vph)	0	102	99	235	480	0	0	0	0	42	507	44
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.91	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.93		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3495		1898	3800					1881	5320	
Flt Permitted		1.00		0.58	1.00					0.95	1.00	
Satd. Flow (perm)		3495		1168	3800					1881	5320	
Peak-hour factor, PHF	0.74	0.74	0.74	0.95	0.95	0.95	0.93	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	138	134	247	505	0	0	0	0	45	545	47
RTOR Reduction (vph)	0	97	0	0	0	0	0	0	0	0	13	0
Lane Group Flow (vph)	0	175	0	247	505	0	0	0	0	45	579	0
Confl. Peds. (#/hr)			2	2								
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		42.2	42.2					26.4	26.4	
Effective Green, g (s)		22.2		42.2	42.2					26.4	26.4	
Actuated g/C Ratio		0.28		0.53	0.53					0.33	0.33	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		969		745	2004					620	1755	
v/s Ratio Prot		0.05		c0.06	0.13						c0.11	
v/s Ratio Perm				c0.12						0.02		
v/c Ratio		0.18		0.33	0.25					0.07	0.33	
Uniform Delay, d1		22.0		11.3	10.3					18.4	20.2	
Progression Factor		1.00		0.82	0.76					0.71	0.74	
Incremental Delay, d2		0.4		0.3	0.1					0.2	0.5	
Delay (s)		22.4		9.5	7.9					13.3	15.5	
Level of Service		C		A	A					B	B	
Approach Delay (s)		22.4			8.4			0.0			15.3	
Approach LOS		C			A			A			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.4			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			17.2			
Intersection Capacity Utilization			54.4%			ICU Level of Service			A			
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis  
3004: Huron St & Catherine St (PB)

Road Diet Capacity Analysis  
Existing AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations								  					
Traffic Volume (vph)	8	9	0	0	26	42	80	1321	17	0	0	0	
Future Volume (vph)	8	9	0	0	26	42	80	1321	17	0	0	0	
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.3			5.3			5.3					
Lane Util. Factor		1.00			1.00			0.91					
Frbp, ped/bikes		1.00			0.99			1.00					
Flpb, ped/bikes		1.00			1.00			1.00					
Frt		1.00			0.92			1.00					
Flt Protected		0.98			1.00			1.00					
Satd. Flow (prot)		1954			1818			5357					
Flt Permitted		0.81			1.00			1.00					
Satd. Flow (perm)		1619			1818			5357					
Peak-hour factor, PHF	0.71	0.71	0.71	0.77	0.77	0.77	0.94	0.94	0.94	0.92	0.92	0.92	
Adj. Flow (vph)	11	13	0	0	34	55	85	1405	18	0	0	0	
RTOR Reduction (vph)	0	0	0	0	50	0	0	1	0	0	0	0	
Lane Group Flow (vph)	0	24	0	0	39	0	0	1507	0	0	0	0	
Confl. Peds. (#/hr)	1						1	1		2			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA					
Protected Phases		2			2			1					
Permitted Phases	2						1						
Actuated Green, G (s)		6.6			6.6			62.8					
Effective Green, g (s)		6.6			6.6			62.8					
Actuated g/C Ratio		0.08			0.08			0.78					
Clearance Time (s)		5.3			5.3			5.3					
Vehicle Extension (s)		3.0			3.0			0.2					
Lane Grp Cap (vph)		133			149			4205					
v/s Ratio Prot					c0.02								
v/s Ratio Perm		0.01						0.28					
v/c Ratio		0.18			0.26			0.36					
Uniform Delay, d1		34.2			34.4			2.6					
Progression Factor		1.00			1.00			1.25					
Incremental Delay, d2		0.7			0.9			0.2					
Delay (s)		34.8			35.3			3.4					
Level of Service		C			D			A					
Approach Delay (s)		34.8			35.3			3.4			0.0		
Approach LOS		C			D			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			5.6					HCM 2000 Level of Service		A			
HCM 2000 Volume to Capacity ratio			0.35										
Actuated Cycle Length (s)			80.0					Sum of lost time (s)		10.6			
Intersection Capacity Utilization			42.2%					ICU Level of Service		A			
Analysis Period (min)			15										
c Critical Lane Group													

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Existing AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗								↖↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	106	470	0	0	0	0	0	0	26	243	0
Future Volume (vph)	0	106	470	0	0	0	0	0	0	26	243	0
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.91	0.91	0.91
Hourly flow rate (vph)	0	119	528	0	0	0	0	0	0	29	267	0
Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2							
Volume Total (vph)	60	60	528	118	178							
Volume Left (vph)	0	0	0	29	0							
Volume Right (vph)	0	0	528	0	0							
Hadj (s)	0.00	0.00	-0.70	0.14	0.02							
Departure Headway (s)	5.2	5.2	3.2	5.0	4.8							
Degree Utilization, x	0.09	0.09	0.47	0.16	0.24							
Capacity (veh/h)	652	656	1116	707	726							
Control Delay (s)	7.5	7.5	7.8	7.7	8.1							
Approach Delay (s)	7.7				8.0							
Approach LOS	A				A							
Intersection Summary												
Delay			7.8									
Level of Service			A									
Intersection Capacity Utilization			41.6%	ICU Level of Service	A							
Analysis Period (min)			15									

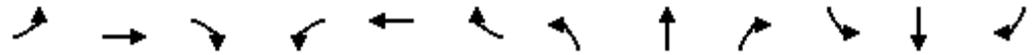
HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St & Pearl St

Road Diet Capacity Analysis  
 Existing AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	21	18	12	0	0	0	0	0	710	6
Future Volume (Veh/h)	0	0	21	18	12	0	0	0	0	0	710	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.66	0.66	0.66	0.83	0.83	0.83	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	32	22	14	0	0	0	0	0	772	7
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		4.0										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	784	776	262	289	780	0	780			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	784	776	262	289	780	0	780			0		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	96	96	96	100	100			100		
cM capacity (veh/h)	269	321	727	617	329	1091	846			1629		
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	SB 3						
Volume Total	32	15	21	309	309	161						
Volume Left	0	15	7	0	0	0						
Volume Right	32	0	0	0	0	7						
cSH	727	617	392	1700	1700	1700						
Volume to Capacity	0.04	0.02	0.05	0.18	0.18	0.09						
Queue Length 95th (ft)	3	2	4	0	0	0						
Control Delay (s)	10.2	11.0	14.7	0.0	0.0	0.0						
Lane LOS	B	B	B									
Approach Delay (s)	10.2	13.2		0.0								
Approach LOS	B	B										
<b>Intersection Summary</b>												
Average Delay			0.9									
Intersection Capacity Utilization			29.8%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Existing AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻					↻	↻↻↻	
Traffic Volume (veh/h)	0	14	26	20	13	0	0	0	0	55	546	9
Future Volume (Veh/h)	0	14	26	20	13	0	0	0	0	55	546	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.69	0.69	0.69	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	18	34	29	19	0	0	0	0	58	575	9
Pedestrians		1			4			1				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.98	0.98	0.98	0.98	0.98		0.98					
vC, conflicting volume	706	700	198	356	705	4	585			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	609	603	88	249	608	4	485			4		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	95	96	95	95	100	100			96		
cM capacity (veh/h)	349	389	935	603	387	1081	1061			1618		
Direction, Lane #	EB 1	WB 1	SB 1	SB 2	SB 3	SB 4						
Volume Total	52	48	58	230	230	124						
Volume Left	0	29	58	0	0	0						
Volume Right	34	0	0	0	0	9						
cSH	629	494	1618	1700	1700	1700						
Volume to Capacity	0.08	0.10	0.04	0.14	0.14	0.07						
Queue Length 95th (ft)	7	8	3	0	0	0						
Control Delay (s)	11.2	13.1	7.3	0.0	0.0	0.0						
Lane LOS	B	B	A									
Approach Delay (s)	11.2	13.1	0.7									
Approach LOS	B	B										
<b>Intersection Summary</b>												
Average Delay			2.2									
Intersection Capacity Utilization			25.4%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Existing AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶			↷↷↷		
Traffic Volume (veh/h)	18	0	52	1245	0	0
Future Volume (Veh/h)	18	0	52	1245	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	24	0	55	1324	0	0
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.95					
vC, conflicting volume	554	3	3			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	353	3	3			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	97			
cM capacity (veh/h)	572	1083	1628			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3		
Volume Total	24	320	530	530		
Volume Left	24	55	0	0		
Volume Right	0	0	0	0		
cSH	572	1628	1700	1700		
Volume to Capacity	0.04	0.03	0.31	0.31		
Queue Length 95th (ft)	3	3	0	0		
Control Delay (s)	11.6	1.5	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	11.6	0.3				
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			33.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

Road Diet Capacity Analysis  
 Existing AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↑↑		
Traffic Volume (veh/h)	0	0	88	1638	0	0
Future Volume (Veh/h)	0	0	88	1638	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	0	0	93	1724	0	0
Pedestrians	2					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.69					
vC, conflicting volume	1050	2	2			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	191	2	2			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	94			
cM capacity (veh/h)	514	1088	1634			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	668	1149				
Volume Left	93	0				
Volume Right	0	0				
cSH	1634	1700				
Volume to Capacity	0.06	0.68				
Queue Length 95th (ft)	5	0				
Control Delay (s)	1.6	0.0				
Lane LOS	A					
Approach Delay (s)	0.6					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay				0.6		
Intersection Capacity Utilization	48.8%			ICU Level of Service	A	
Analysis Period (min)	15					

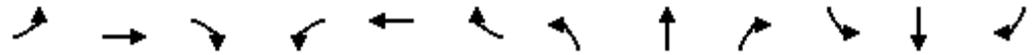
HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
Existing OP Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  						 					
Traffic Volume (vph)	12	935	38	0	0	0	0	66	20	32	18	0	
Future Volume (vph)	12	935	38	0	0	0	0	66	20	32	18	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.4						10.8			10.8		
Lane Util. Factor		0.91						1.00			1.00		
Frbp, ped/bikes		1.00						0.98			1.00		
Flpb, ped/bikes		1.00						1.00			0.97		
Frt		0.99						0.97			1.00		
Flt Protected		1.00						1.00			0.97		
Satd. Flow (prot)		5418						1617			1871		
Flt Permitted		1.00						1.00			0.72		
Satd. Flow (perm)		5418						1617			1396		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.61	0.61	0.61	0.74	0.74	0.74	
Adj. Flow (vph)	13	1016	41	0	0	0	0	108	33	43	24	0	
RTOR Reduction (vph)	0	5	0	0	0	0	0	14	0	0	0	0	
Lane Group Flow (vph)	0	1065	0	0	0	0	0	127	0	0	67	0	
Confl. Peds. (#/hr)			8						45	45			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Parking (#/hr)								10					
Turn Type	Perm	NA						NA		Perm	NA		
Protected Phases		1						2			2		
Permitted Phases	1									2			
Actuated Green, G (s)		46.6						17.2			17.2		
Effective Green, g (s)		46.6						17.2			17.2		
Actuated g/C Ratio		0.58						0.21			0.21		
Clearance Time (s)		5.4						10.8			10.8		
Lane Grp Cap (vph)		3155						347			300		
v/s Ratio Prot								c0.08					
v/s Ratio Perm		0.20									0.05		
v/c Ratio		0.34						0.37			0.22		
Uniform Delay, d1		8.7						26.8			25.9		
Progression Factor		1.00						1.00			1.35		
Incremental Delay, d2		0.3						3.0			1.7		
Delay (s)		9.0						29.7			36.5		
Level of Service		A						C			D		
Approach Delay (s)		9.0			0.0			29.7			36.5		
Approach LOS		A			A			C			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			12.7									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.34										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	16.2
Intersection Capacity Utilization			45.6%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Existing OP Peak Hour



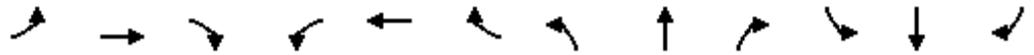
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑		↑	↑	
Traffic Volume (vph)	19	737	22	0	0	0	0	85	15	15	25	0
Future Volume (vph)	19	737	22	0	0	0	0	85	15	15	25	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3						5.7		5.7	5.7	
Lane Util. Factor		0.91						1.00		1.00	1.00	
Frbp, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.99	1.00	
Frt		1.00						0.98		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		5403						1954		1890	2000	
Flt Permitted		1.00						1.00		0.67	1.00	
Satd. Flow (perm)		5403						1954		1338	2000	
Peak-hour factor, PHF	0.88	0.88	0.88	0.25	0.25	0.25	0.76	0.76	0.76	0.67	0.67	0.67
Adj. Flow (vph)	22	838	25	0	0	0	0	112	20	22	37	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	882	0	0	0	0	0	123	0	22	37	0
Confl. Peds. (#/hr)	11		7						8	8		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	3	0	0	0	0	0	0	0	0	0	0
Turn Type	custom	NA						NA		Perm	NA	
Protected Phases	1	1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		58.6						10.4		10.4	10.4	
Effective Green, g (s)		58.6						10.4		10.4	10.4	
Actuated g/C Ratio		0.73						0.13		0.13	0.13	
Clearance Time (s)		5.3						5.7		5.7	5.7	
Vehicle Extension (s)		0.2						3.0		3.0	3.0	
Lane Grp Cap (vph)		3957						254		173	260	
v/s Ratio Prot		c0.16						c0.06			0.02	
v/s Ratio Perm										0.02		
v/c Ratio		0.22						0.49		0.13	0.14	
Uniform Delay, d1		3.4						32.3		30.8	30.8	
Progression Factor		0.19						1.00		1.00	1.00	
Incremental Delay, d2		0.1						1.5		0.3	0.3	
Delay (s)		0.8						33.8		31.1	31.1	
Level of Service		A						C		C	C	
Approach Delay (s)		0.8			0.0			33.8			31.1	
Approach LOS		A			A			C			C	

Intersection Summary		
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.26	A
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	36.0%	11.0
Analysis Period (min)	15	ICU Level of Service
		A

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Existing OP Peak Hour

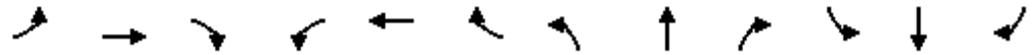


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	379	102	182	447	0	0	0	0	360	737	40
Future Volume (vph)	0	379	102	182	447	0	0	0	0	360	737	40
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					0.86	0.86	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		0.99	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3647		1871	3480					1618	5043	
Flt Permitted		1.00		0.41	1.00					0.95	1.00	
Satd. Flow (perm)		3647		800	3480					1618	5043	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.25	0.25	0.25	0.93	0.93	0.93
Adj. Flow (vph)	0	399	107	192	471	0	0	0	0	387	792	43
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	506	0	192	471	0	0	0	0	298	918	0
Confl. Peds. (#/hr)			27	27						24		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom		NA
Protected Phases		1		2	1 2					3		3
Permitted Phases				1 2						3		
Actuated Green, G (s)		28.8		37.6	42.8					25.2		25.2
Effective Green, g (s)		28.8		37.6	42.8					25.2		25.2
Actuated g/C Ratio		0.36		0.47	0.53					0.31		0.31
Clearance Time (s)		5.2		5.2						6.8		6.8
Lane Grp Cap (vph)		1312		493	1861					509		1588
v/s Ratio Prot		0.14		c0.04	0.14					c0.18		0.18
v/s Ratio Perm				c0.14								
v/c Ratio		0.39		0.39	0.25					0.59		0.58
Uniform Delay, d1		19.0		16.8	10.0					23.0		22.9
Progression Factor		0.94		0.66	0.64					1.00		1.00
Incremental Delay, d2		0.8		2.2	0.3					4.9		1.5
Delay (s)		18.8		13.3	6.7					27.9		24.5
Level of Service		B		B	A					C		C
Approach Delay (s)		18.8			8.6			0.0				25.3
Approach LOS		B			A			A				C

Intersection Summary		
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.47	B
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	58.9%	17.2
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		B

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Existing OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					↑	↗		↑↑	↗				
Traffic Volume (vph)	0	0	0	0	205	12	0	347	210	0	0	0	
Future Volume (vph)	0	0	0	0	205	12	0	347	210	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)					5.5	5.5		5.6	5.6				
Lane Util. Factor					1.00	1.00		0.95	1.00				
Frbp, ped/bikes					1.00	1.00		1.00	1.00				
Flpb, ped/bikes					1.00	1.00		1.00	1.00				
Frt					1.00	0.85		1.00	0.85				
Flt Protected					1.00	1.00		1.00	1.00				
Satd. Flow (prot)					2000	1700		3762	1683				
Flt Permitted					1.00	1.00		1.00	1.00				
Satd. Flow (perm)					2000	1700		3762	1683				
Peak-hour factor, PHF	0.92	0.92	0.92	0.84	0.84	0.84	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	0	244	14	0	365	221	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	244	6	0	365	221	0	0	0	
Confl. Peds. (#/hr)						9			1				
Confl. Bikes (#/hr)						4							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Turn Type					NA	custom		NA	custom				
Protected Phases					2	2		8	8				
Permitted Phases						2			8				
Actuated Green, G (s)					35.5	35.5		33.4	33.4				
Effective Green, g (s)					35.5	35.5		33.4	33.4				
Actuated g/C Ratio					0.44	0.44		0.42	0.42				
Clearance Time (s)					5.5	5.5		5.6	5.6				
Lane Grp Cap (vph)					887	754		1570	702				
v/s Ratio Prot					c0.12	0.00		0.10	c0.13				
v/s Ratio Perm													
v/c Ratio					0.28	0.01		0.23	0.31				
Uniform Delay, d1					14.1	12.4		15.0	15.6				
Progression Factor					1.00	1.00		1.46	1.47				
Incremental Delay, d2					0.8	0.0		0.3	1.0				
Delay (s)					14.9	12.4		22.2	23.9				
Level of Service					B	B		C	C				
Approach Delay (s)		0.0			14.7			22.9			0.0		
Approach LOS		A			B			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			20.4		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.29										
Actuated Cycle Length (s)			80.0		Sum of lost time (s)					11.1			
Intersection Capacity Utilization			56.3%		ICU Level of Service					B			
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Existing OP Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 					
Traffic Volume (vph)	113	682	0	0	506	319	95	607	148	0	0	0	
Future Volume (vph)	113	682	0	0	506	319	95	607	148	0	0	0	
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6					
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95					
Frbp, ped/bikes	1.00	1.00			0.99	0.94	1.00	1.00					
Flpb, ped/bikes	1.00	1.00			1.00	1.00	0.99	1.00					
Frt	1.00	1.00			0.98	0.85	1.00	0.97					
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00					
Satd. Flow (prot)	1891	3515			3247	1219	1857	3638					
Flt Permitted	0.30	1.00			1.00	1.00	0.95	1.00					
Satd. Flow (perm)	597	3515			3247	1219	1857	3638					
Peak-hour factor, PHF	0.93	0.93	0.93	0.94	0.94	0.94	0.86	0.86	0.86	0.92	0.92	0.92	
Adj. Flow (vph)	122	733	0	0	538	339	110	706	172	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	122	733	0	0	613	264	110	878	0	0	0	0	
Confl. Peds. (#/hr)	44					44	14		7				
Confl. Bikes (#/hr)									1				
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%	
Parking (#/hr)		10			10	10							
Turn Type	pm+pt	NA			NA	Perm	Perm	NA					
Protected Phases	2	1 2			1			3					
Permitted Phases	1 2					1	3						
Actuated Green, G (s)	35.0	40.0			27.0	27.0	29.4	29.4					
Effective Green, g (s)	35.0	40.0			27.0	27.0	29.4	29.4					
Actuated g/C Ratio	0.44	0.50			0.34	0.34	0.37	0.37					
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6					
Lane Grp Cap (vph)	390	1757			1095	411	682	1336					
v/s Ratio Prot	0.03	c0.21			0.19			c0.24					
v/s Ratio Perm	0.11					c0.22	0.06						
v/c Ratio	0.31	0.42			0.56	0.64	0.16	0.66					
Uniform Delay, d1	20.0	12.6			21.6	22.4	17.0	21.1					
Progression Factor	0.37	0.32			1.00	1.00	0.40	0.45					
Incremental Delay, d2	2.0	0.7			2.1	7.5	0.5	2.5					
Delay (s)	9.3	4.7			23.7	29.9	7.3	12.0					
Level of Service	A	A			C	C	A	B					
Approach Delay (s)		5.4			25.6			11.5			0.0		
Approach LOS		A			C			B			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			14.1									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.64										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	15.6
Intersection Capacity Utilization			57.8%									ICU Level of Service	B
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
Existing OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕			↕
Traffic Volume (vph)	9	89	4	364	105	27	16	19	10	0	381
Future Volume (vph)	9	89	4	364	105	27	16	19	10	0	381
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00			0.88
Frbp, ped/bikes		1.00		1.00	0.99		1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00
Frt		0.99		1.00	0.98		1.00	0.85			0.85
Flt Protected		1.00		0.95	0.98		0.95	1.00			1.00
Satd. Flow (prot)		1978		1805	1533		1900	1700			2962
Flt Permitted		1.00		0.95	0.98		0.95	1.00			1.00
Satd. Flow (perm)		1978		1805	1533		1900	1700			2962
Peak-hour factor, PHF	0.80	0.80	0.80	0.95	0.95	0.95	0.66	0.66	0.66	0.89	0.89
Adj. Flow (vph)	11	111	5	383	111	28	24	29	15	0	428
RTOR Reduction (vph)	0	2	0	0	5	0	0	33	0	0	312
Lane Group Flow (vph)	0	126	0	260	257	0	24	11	0	0	116
Confl. Peds. (#/hr)	32		11	11		32	1		9		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)				10							
Turn Type	Split	NA		Split	NA		Prot	Prot			Over
Protected Phases	3	3		1	1		2	2			1
Permitted Phases											
Actuated Green, G (s)		20.0		21.7	21.7		20.0	20.0			21.7
Effective Green, g (s)		20.0		21.7	21.7		20.0	20.0			21.7
Actuated g/C Ratio		0.25		0.27	0.27		0.25	0.25			0.27
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		494		489	415		475	425			803
v/s Ratio Prot		c0.06		0.14	c0.17		c0.01	0.01			0.04
v/s Ratio Perm											
v/c Ratio		0.25		0.53	0.62		0.05	0.03			0.14
Uniform Delay, d1		24.0		24.8	25.5		22.8	22.6			22.1
Progression Factor		1.00		1.05	1.06		1.00	1.00			1.00
Incremental Delay, d2		0.3		4.0	6.6		0.0	0.0			0.4
Delay (s)		24.3		30.2	33.6		22.8	22.7			22.5
Level of Service		C		C	C		C	C			C
Approach Delay (s)		24.3		31.9			22.7			22.5	
Approach LOS		C		C			C			C	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			27.0			HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.32								
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			18.3		
Intersection Capacity Utilization			63.5%			ICU Level of Service				B	
Analysis Period (min)			15								
c	Critical Lane Group										

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Existing OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↗	↖		↗	↖	
Traffic Volume (vph)	19	687	11	14	546	39	37	36	45	32	20	34
Future Volume (vph)	19	687	11	14	546	39	37	36	45	32	20	34
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.97		1.00	0.97	
Flpb, ped/bikes		1.00			1.00		0.98	1.00		0.96	1.00	
Frt		1.00			0.99		1.00	0.92		1.00	0.90	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3462			3462		1853	1513		1797	1470	
Flt Permitted		0.93			0.93		0.72	1.00		0.69	1.00	
Satd. Flow (perm)		3229			3232		1396	1513		1303	1470	
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.76	0.76	0.76	0.86	0.86	0.86
Adj. Flow (vph)	20	739	12	16	613	44	49	47	59	37	23	40
RTOR Reduction (vph)	0	1	0	0	6	0	0	49	0	0	33	0
Lane Group Flow (vph)	0	770	0	0	667	0	49	57	0	37	30	0
Confl. Peds. (#/hr)	18		24	24		18	26		39	39		26
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	2%	2%	2%
Parking (#/hr)		10			10			10			10	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2215			2217		244	264		228	257	
v/s Ratio Prot								c0.04				0.02
v/s Ratio Perm		c0.24			0.21		0.04			0.03		
v/c Ratio		0.35			0.30		0.20	0.22		0.16	0.12	
Uniform Delay, d1		5.2			5.0		28.2	28.3		28.0	27.8	
Progression Factor		0.72			0.24		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			0.3		1.8	1.9		1.5	0.9	
Delay (s)		4.1			1.5		30.1	30.2		29.5	28.7	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		4.1			1.5			30.1			29.0	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 2005: Washington St (PB) & Michigan Ave

# Road Diet Capacity Analysis

## Existing OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Volume (vph)	12	749	35	24	559	19	18	30	30	39	31	29
Future Volume (vph)	12	749	35	24	559	19	18	30	30	39	31	29
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			0.99			0.98	
Frt		0.99			1.00			0.95			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		3476			3445			1541			1818	
Flt Permitted		0.94			0.90			0.91			0.86	
Satd. Flow (perm)		3285			3110			1412			1595	
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.81	0.81	0.81	0.92	0.92	0.92
Adj. Flow (vph)	13	842	39	26	595	20	22	37	37	42	34	32
RTOR Reduction (vph)	0	4	0	0	3	0	0	28	0	0	19	0
Lane Group Flow (vph)	0	890	0	0	638	0	0	68	0	0	89	0
Confl. Peds. (#/hr)	32		30	30		32	46		43	43		46
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10				
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		55.0			55.0			14.0			14.0	
Effective Green, g (s)		55.0			55.0			14.0			14.0	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2258			2138			247			279	
v/s Ratio Prot												
v/s Ratio Perm		c0.27			0.21			0.05			c0.06	
v/c Ratio		0.39			0.30			0.28			0.32	
Uniform Delay, d1		5.4			4.9			28.6			28.8	
Progression Factor		0.25			0.42			1.00			1.00	
Incremental Delay, d2		0.5			0.3			2.7			3.0	
Delay (s)		1.9			2.4			31.3			31.8	
Level of Service		A			A			C			C	
Approach Delay (s)		1.9			2.4			31.3			31.8	
Approach LOS		A			A			C			C	

### Intersection Summary

HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

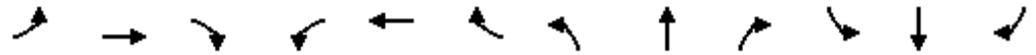
HCM Signalized Intersection Capacity Analysis  
 3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
 Existing OP Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			  					
Traffic Volume (vph)	39	170	0	0	290	26	168	801	223	0	0	0	
Future Volume (vph)	39	170	0	0	290	26	168	801	223	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1				
Lane Util. Factor	1.00	0.95			0.95			0.91	1.00				
Frbp, ped/bikes	1.00	1.00			1.00			1.00	0.99				
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00				
Frt	1.00	1.00			0.99			1.00	0.85				
Flt Protected	0.95	1.00			1.00			0.99	1.00				
Satd. Flow (prot)	1893	3800			3748			5390	1678				
Flt Permitted	0.55	1.00			1.00			0.99	1.00				
Satd. Flow (perm)	1099	3800			3748			5390	1678				
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	43	189	0	0	305	27	177	843	235	0	0	0	
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	112	0	0	0	
Lane Group Flow (vph)	43	189	0	0	324	0	0	1020	123	0	0	0	
Confl. Peds. (#/hr)	5					5	2		1				
Confl. Bikes (#/hr)									1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Perm				
Protected Phases		4			8			2					
Permitted Phases	4						2		2				
Actuated Green, G (s)	25.4	25.4			25.4			41.9	41.9				
Effective Green, g (s)	25.4	25.4			25.4			41.9	41.9				
Actuated g/C Ratio	0.32	0.32			0.32			0.52	0.52				
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1				
Lane Grp Cap (vph)	348	1206			1189			2823	878				
v/s Ratio Prot		0.05			0.09								
v/s Ratio Perm	0.04							0.19	0.07				
v/c Ratio	0.12	0.16			0.27			0.36	0.14				
Uniform Delay, d1	19.4	19.6			20.4			11.2	9.8				
Progression Factor	0.99	0.96			1.00			0.72	0.76				
Incremental Delay, d2	0.7	0.3			0.6			0.3	0.3				
Delay (s)	19.9	19.2			21.0			8.4	7.8				
Level of Service	B	B			C			A	A				
Approach Delay (s)		19.3			21.0			8.3			0.0		
Approach LOS		B			C			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			12.0									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.33										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	12.7
Intersection Capacity Utilization			66.4%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
Existing OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	136	109	256	197	0	0	0	0	76	834	40
Future Volume (vph)	0	136	109	256	197	0	0	0	0	76	834	40
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.91	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.93		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3519		1896	3800					1881	5340	
Flt Permitted		1.00		0.58	1.00					0.95	1.00	
Satd. Flow (perm)		3519		1158	3800					1881	5340	
Peak-hour factor, PHF	0.88	0.88	0.88	0.87	0.87	0.87	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	0	155	124	294	226	0	0	0	0	87	959	46
RTOR Reduction (vph)	0	90	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	189	0	294	226	0	0	0	0	87	998	0
Confl. Peds. (#/hr)			5	5								5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		42.2	42.2					26.4	26.4	
Effective Green, g (s)		22.2		42.2	42.2					26.4	26.4	
Actuated g/C Ratio		0.28		0.53	0.53					0.33	0.33	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		976		741	2004					620	1762	
v/s Ratio Prot		0.05		c0.07	0.06						c0.19	
v/s Ratio Perm				c0.14						0.05		
v/c Ratio		0.19		0.40	0.11					0.14	0.57	
Uniform Delay, d1		22.1		12.0	9.5					18.8	22.1	
Progression Factor		1.00		0.91	0.73					0.66	0.73	
Incremental Delay, d2		0.4		0.5	0.0					0.4	1.2	
Delay (s)		22.5		11.4	7.0					12.8	17.3	
Level of Service		C		B	A					B	B	
Approach Delay (s)		22.5			9.4			0.0			17.0	
Approach LOS		C			A			A			B	

Intersection Summary		
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.50	B
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	65.3%	17.2
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		C

HCM Signalized Intersection Capacity Analysis  
 3004: Huron St & Catherine St (PB)

Road Diet Capacity Analysis  
 Existing OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Traffic Volume (vph)	12	18	0	0	1	48	9	859	7	0	0	0
Future Volume (vph)	12	18	0	0	1	48	9	859	7	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.91				
Frbp, ped/bikes		1.00			0.98			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.87			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1956			1699			5373				
Flt Permitted		0.84			1.00			1.00				
Satd. Flow (perm)		1685			1699			5373				
Peak-hour factor, PHF	0.60	0.60	0.60	0.88	0.88	0.88	0.91	0.91	0.91	0.92	0.92	0.92
Adj. Flow (vph)	20	30	0	0	1	55	10	944	8	0	0	0
RTOR Reduction (vph)	0	0	0	0	50	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	50	0	0	6	0	0	961	0	0	0	0
Confl. Peds. (#/hr)	5					5	3		1			
Confl. Bikes (#/hr)						1			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		7.8			7.8			61.6				
Effective Green, g (s)		7.8			7.8			61.6				
Actuated g/C Ratio		0.10			0.10			0.77				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		164			165			4137				
v/s Ratio Prot					0.00							
v/s Ratio Perm		c0.03						0.18				
v/c Ratio		0.30			0.04			0.23				
Uniform Delay, d1		33.6			32.7			2.6				
Progression Factor		1.00			1.00			1.37				
Incremental Delay, d2		1.1			0.1			0.1				
Delay (s)		34.6			32.8			3.6				
Level of Service		C			C			A				
Approach Delay (s)		34.6			32.8			3.6			0.0	
Approach LOS		C			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			6.6					HCM 2000 Level of Service		A		
HCM 2000 Volume to Capacity ratio			0.24									
Actuated Cycle Length (s)			80.0					Sum of lost time (s)		10.6		
Intersection Capacity Utilization			33.1%					ICU Level of Service		A		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Existing OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗								↖↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	168	619	0	0	0	0	0	0	28	395	0
Future Volume (vph)	0	168	619	0	0	0	0	0	0	28	395	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	0	198	728	0	0	0	0	0	0	31	439	0
Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2							
Volume Total (vph)	99	99	728	177	293							
Volume Left (vph)	0	0	0	31	0							
Volume Right (vph)	0	0	728	0	0							
Hadj (s)	0.00	0.00	-0.70	0.12	0.03							
Departure Headway (s)	5.6	5.6	3.2	5.2	5.1							
Degree Utilization, x	0.16	0.16	0.65	0.26	0.41							
Capacity (veh/h)	600	602	1119	676	690							
Control Delay (s)	8.5	8.5	10.7	8.7	10.4							
Approach Delay (s)	10.2				9.8							
Approach LOS	B		A									
Intersection Summary												
Delay			10.1									
Level of Service			B									
Intersection Capacity Utilization			54.7%			ICU Level of Service		A				
Analysis Period (min)			15									

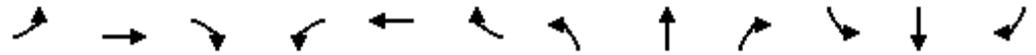
HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St & Pearl St

Road Diet Capacity Analysis  
 Existing OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	21	96	86	0	0	0	0	0	1013	15
Future Volume (Veh/h)	0	0	21	96	86	0	0	0	0	0	1013	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.60	0.60	0.60	0.75	0.75	0.75	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	35	128	115	0	0	0	0	0	1126	17
Pedestrians								9				
Lane Width (ft)								0.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	1192	1134	393	419	1143	0	1143			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1192	1134	393	419	1143	0	1143			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	94	74	43	100	100			100		
cM capacity (veh/h)	79	204	612	493	202	1091	619			1629		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>WB 2</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>						
Volume Total	35	85	158	450	450	242						
Volume Left	0	85	43	0	0	0						
Volume Right	35	0	0	0	0	17						
cSH	612	493	240	1700	1700	1700						
Volume to Capacity	0.06	0.17	0.66	0.26	0.26	0.14						
Queue Length 95th (ft)	5	16	103	0	0	0						
Control Delay (s)	11.2	13.8	44.7	0.0	0.0	0.0						
Lane LOS	B	B	E									
Approach Delay (s)	11.2	33.8		0.0								
Approach LOS	B	D										
<b>Intersection Summary</b>												
Average Delay			6.1									
Intersection Capacity Utilization			39.5%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Existing OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔					↔	↔↔↔	
Traffic Volume (veh/h)	0	21	29	31	13	0	0	0	0	94	901	19
Future Volume (Veh/h)	0	21	29	31	13	0	0	0	0	94	901	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.92	0.92	0.92	0.93	0.93	0.93
Hourly flow rate (vph)	0	22	31	36	15	0	0	0	0	101	969	20
Pedestrians		5			3			7				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.88	0.88	0.88	0.88	0.88		0.88					
vC, conflicting volume	1194	1189	345	577	1199	3	994			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	746	741	0	46	752	3	520			3		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	92	97	95	95	100	100			94		
cM capacity (veh/h)	244	284	957	720	277	1077	927			1628		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>	<b>SB 4</b>						
Volume Total	53	51	101	388	388	214						
Volume Left	0	36	101	0	0	0						
Volume Right	31	0	0	0	0	20						
cSH	483	490	1628	1700	1700	1700						
Volume to Capacity	0.11	0.10	0.06	0.23	0.23	0.13						
Queue Length 95th (ft)	9	9	5	0	0	0						
Control Delay (s)	13.4	13.2	7.4	0.0	0.0	0.0						
Lane LOS	B	B	A									
Approach Delay (s)	13.4	13.2	0.7									
Approach LOS	B	B										
<b>Intersection Summary</b>												
Average Delay			1.8									
Intersection Capacity Utilization			32.6%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Existing OP Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	0	39	873	0	0
Future Volume (Veh/h)	38	0	39	873	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	48	0	41	929	0	0
Pedestrians	5				1	
Lane Width (ft)	12.0				0.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	1.00					
vC, conflicting volume	398	5	5			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	385	5	5			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	100	97			
cM capacity (veh/h)	577	1078	1615			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3		
Volume Total	48	227	372	372		
Volume Left	48	41	0	0		
Volume Right	0	0	0	0		
cSH	577	1615	1700	1700		
Volume to Capacity	0.08	0.03	0.22	0.22		
Queue Length 95th (ft)	7	2	0	0		
Control Delay (s)	11.8	1.5	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	11.8	0.3				
Approach LOS	B					
Intersection Summary						
Average Delay	0.9					
Intersection Capacity Utilization	26.8%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

Road Diet Capacity Analysis  
 Existing OP Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	108	934	0	0
Future Volume (Veh/h)	0	0	108	934	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	0	123	1061	0	0
Pedestrians	8					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.82					
vC, conflicting volume	784	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	305	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	92			
cM capacity (veh/h)	508	1078	1625			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	477	707				
Volume Left	123	0				
Volume Right	0	0				
cSH	1625	1700				
Volume to Capacity	0.08	0.42				
Queue Length 95th (ft)	6	0				
Control Delay (s)	2.4	0.0				
Lane LOS	A					
Approach Delay (s)	1.0					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			1.0			
Intersection Capacity Utilization			30.8%	ICU Level of Service	A	
Analysis Period (min)			15			

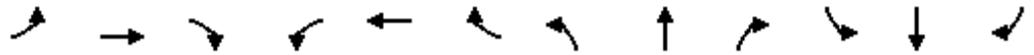
HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
Existing PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  						 			 		
Traffic Volume (vph)	8	1711	83	0	0	0	0	63	25	36	39	0	
Future Volume (vph)	8	1711	83	0	0	0	0	63	25	36	39	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.4						10.8			10.8		
Lane Util. Factor		0.91						1.00			1.00		
Frbp, ped/bikes		1.00						0.99			1.00		
Flpb, ped/bikes		1.00						1.00			0.99		
Frt		0.99						0.96			1.00		
Flt Protected		1.00						1.00			0.98		
Satd. Flow (prot)		5413						1614			1925		
Flt Permitted		1.00						1.00			0.79		
Satd. Flow (perm)		5413						1614			1563		
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.82	0.82	0.82	0.67	0.67	0.67	
Adj. Flow (vph)	9	1944	94	0	0	0	0	77	30	54	58	0	
RTOR Reduction (vph)	0	6	0	0	0	0	0	9	0	0	0	0	
Lane Group Flow (vph)	0	2041	0	0	0	0	0	98	0	0	112	0	
Confl. Peds. (#/hr)	4		5						24	24			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Parking (#/hr)								10					
Turn Type	Perm	NA						NA		Perm	NA		
Protected Phases		1						2			2		
Permitted Phases	1									2			
Actuated Green, G (s)		46.6						17.2			17.2		
Effective Green, g (s)		46.6						17.2			17.2		
Actuated g/C Ratio		0.58						0.21			0.21		
Clearance Time (s)		5.4						10.8			10.8		
Lane Grp Cap (vph)		3153						347			336		
v/s Ratio Prot								0.06					
v/s Ratio Perm		0.38									c0.07		
v/c Ratio		0.65						0.28			0.33		
Uniform Delay, d1		11.2						26.2			26.6		
Progression Factor		1.00						1.00			1.31		
Incremental Delay, d2		1.0						2.0			2.7		
Delay (s)		12.2						28.3			37.3		
Level of Service		B						C			D		
Approach Delay (s)		12.2			0.0			28.3			37.3		
Approach LOS		B			A			C			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			14.2									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.56										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	16.2
Intersection Capacity Utilization			60.6%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Existing PM Peak Hour

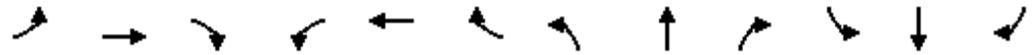


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑						↑		↑	↑	
Traffic Volume (vph)	31	1371	28	0	0	0	0	52	14	16	39	0
Future Volume (vph)	31	1371	28	0	0	0	0	52	14	16	39	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3						5.7		5.7	5.7	
Lane Util. Factor		0.91						1.00		1.00	1.00	
Frbp, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.99	1.00	
Frt		1.00						0.97		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		5413						1936		1889	2000	
Flt Permitted		1.00						1.00		0.71	1.00	
Satd. Flow (perm)		5413						1936		1407	2000	
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.87	0.87	0.87	0.72	0.72	0.72
Adj. Flow (vph)	33	1459	30	0	0	0	0	60	16	22	54	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	1520	0	0	0	0	0	62	0	22	54	0
Confl. Peds. (#/hr)	7		6						8	8		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	3	0	0	0	0	0	0	0	0	0	0
Turn Type	custom	NA						NA		Perm	NA	
Protected Phases	1	1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		61.3						7.7		7.7	7.7	
Effective Green, g (s)		61.3						7.7		7.7	7.7	
Actuated g/C Ratio		0.77						0.10		0.10	0.10	
Clearance Time (s)		5.3						5.7		5.7	5.7	
Vehicle Extension (s)		0.2						3.0		3.0	3.0	
Lane Grp Cap (vph)		4147						186		135	192	
v/s Ratio Prot		c0.28						c0.03			0.03	
v/s Ratio Perm										0.02		
v/c Ratio		0.37						0.34		0.16	0.28	
Uniform Delay, d1		3.0						33.8		33.2	33.6	
Progression Factor		0.09						1.00		1.00	1.00	
Incremental Delay, d2		0.2						1.1		0.6	0.8	
Delay (s)		0.5						34.8		33.8	34.4	
Level of Service		A						C		C	C	
Approach Delay (s)		0.5			0.0			34.8			34.2	
Approach LOS		A			A			C			C	

Intersection Summary		
HCM 2000 Control Delay	3.6	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.36	A
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	45.7%	11.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

HCM Signalized Intersection Capacity Analysis  
1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Existing PM Peak Hour

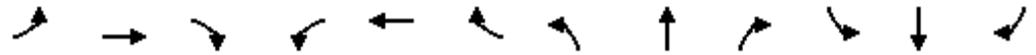


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	457	130	278	514	0	0	0	0	518	1168	38
Future Volume (vph)	0	457	130	278	514	0	0	0	0	518	1168	38
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					0.86	0.86	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	1.00	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3652		1898	3515					1634	5115	
Flt Permitted		1.00		0.31	1.00					0.95	1.00	
Satd. Flow (perm)		3652		610	3515					1634	5115	
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	0	502	143	296	547	0	0	0	0	576	1298	42
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	645	0	296	547	0	0	0	0	467	1446	0
Confl. Peds. (#/hr)			12	12						10		9
Confl. Bikes (#/hr)			1									1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom	NA	
Protected Phases		1		2	1 2					3	3	
Permitted Phases				1 2						3		
Actuated Green, G (s)		27.8		36.6	41.8					26.2	26.2	
Effective Green, g (s)		27.8		36.6	41.8					26.2	26.2	
Actuated g/C Ratio		0.35		0.46	0.52					0.33	0.33	
Clearance Time (s)		5.2		5.2						6.8	6.8	
Lane Grp Cap (vph)		1269		420	1836					535	1675	
v/s Ratio Prot		0.18		c0.08	0.16					c0.29	0.28	
v/s Ratio Perm				c0.24								
v/c Ratio		0.51		0.70	0.30					0.87	0.86	
Uniform Delay, d1		20.7		22.8	10.8					25.3	25.2	
Progression Factor		1.00		0.49	0.54					1.00	1.00	
Incremental Delay, d2		1.5		9.2	0.4					17.7	6.2	
Delay (s)		22.1		20.4	6.3					43.0	31.4	
Level of Service		C		C	A					D	C	
Approach Delay (s)		22.1			11.3			0.0			34.2	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑	↗		↑↑	↗			
Traffic Volume (vph)	0	0	0	0	253	16	0	387	363	0	0	0
Future Volume (vph)	0	0	0	0	253	16	0	387	363	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)					5.5	5.5		5.6	5.6			
Lane Util. Factor					1.00	1.00		0.95	1.00			
Frbp, ped/bikes					1.00	1.00		1.00	1.00			
Flpb, ped/bikes					1.00	1.00		1.00	1.00			
Frt					1.00	0.85		1.00	0.85			
Flt Protected					1.00	1.00		1.00	1.00			
Satd. Flow (prot)					2000	1700		3800	1700			
Flt Permitted					1.00	1.00		1.00	1.00			
Satd. Flow (perm)					2000	1700		3800	1700			
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	291	18	0	407	382	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	10	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	291	8	0	407	382	0	0	0
Confl. Peds. (#/hr)						19			3			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type					NA	custom		NA	custom			
Protected Phases					2	2		8	8			
Permitted Phases						2			8			
Actuated Green, G (s)					36.5	36.5		32.4	32.4			
Effective Green, g (s)					36.5	36.5		32.4	32.4			
Actuated g/C Ratio					0.46	0.46		0.40	0.40			
Clearance Time (s)					5.5	5.5		5.6	5.6			
Lane Grp Cap (vph)					912	775		1539	688			
v/s Ratio Prot					c0.15	0.00		0.11	c0.22			
v/s Ratio Perm												
v/c Ratio					0.32	0.01		0.26	0.56			
Uniform Delay, d1					13.8	11.9		15.9	18.3			
Progression Factor					1.00	1.00		1.33	1.31			
Incremental Delay, d2					0.9	0.0		0.3	2.7			
Delay (s)					14.8	11.9		21.4	26.5			
Level of Service					B	B		C	C			
Approach Delay (s)		0.0			14.6			23.9			0.0	
Approach LOS		A			B			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.3		HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				11.1			
Intersection Capacity Utilization			55.4%		ICU Level of Service				B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Traffic Volume (vph)	150	974	0	0	652	362	125	743	189	0	0	0
Future Volume (vph)	150	974	0	0	652	362	125	743	189	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6				
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95				
Frbp, ped/bikes	1.00	1.00			1.00	0.94	1.00	1.00				
Flpb, ped/bikes	1.00	1.00			1.00	1.00	0.98	1.00				
Frt	1.00	1.00			0.99	0.85	1.00	0.97				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1896	3515			3310	1241	1867	3667				
Flt Permitted	0.21	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	420	3515			3310	1241	1867	3667				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.25	0.25	0.25
Adj. Flow (vph)	160	1036	0	0	694	385	136	808	205	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	160	1036	0	0	756	323	136	1013	0	0	0	0
Confl. Peds. (#/hr)	37					37	19		13			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10	10						
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	2	1 2			1			3				
Permitted Phases	1 2					1	3					
Actuated Green, G (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Effective Green, g (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Actuated g/C Ratio	0.44	0.50			0.34	0.34	0.37	0.37				
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6				
Lane Grp Cap (vph)	331	1757			1117	418	686	1347				
v/s Ratio Prot	0.05	c0.29			0.23			c0.28				
v/s Ratio Perm	0.16					c0.26	0.07					
v/c Ratio	0.48	0.59			0.68	0.77	0.20	0.75				
Uniform Delay, d1	25.3	14.2			22.8	23.8	17.3	22.1				
Progression Factor	0.56	0.45			1.00	1.00	0.50	0.57				
Incremental Delay, d2	4.4	1.3			3.3	13.0	0.6	3.9				
Delay (s)	18.6	7.7			26.1	36.7	9.4	16.6				
Level of Service	B	A			C	D	A	B				
Approach Delay (s)		9.1			29.3			15.7			0.0	
Approach LOS		A			C			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			17.7				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)		15.6			
Intersection Capacity Utilization			67.7%				ICU Level of Service		C			
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis  
2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕			↕
Traffic Volume (vph)	17	112	0	566	245	37	32	23	11	0	565
Future Volume (vph)	17	112	0	566	245	37	32	23	11	0	565
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00			0.88
Frbp, ped/bikes		1.00		1.00	0.99		1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00
Frt		1.00		1.00	0.99		1.00	0.85			0.85
Flt Protected		0.99		0.95	0.98		0.95	1.00			1.00
Satd. Flow (prot)		1987		1805	1554		1900	1700			2962
Flt Permitted		0.99		0.95	0.98		0.95	1.00			1.00
Satd. Flow (perm)		1987		1805	1554		1900	1700			2962
Peak-hour factor, PHF	0.81	0.81	0.81	0.93	0.93	0.93	0.60	0.60	0.60	0.95	0.95
Adj. Flow (vph)	21	138	0	609	263	40	53	38	18	0	595
RTOR Reduction (vph)	0	0	0	0	2	0	0	47	0	0	289
Lane Group Flow (vph)	0	159	0	451	459	0	53	9	0	0	306
Confl. Peds. (#/hr)	16		5	5		16	1		3		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)					10						
Turn Type	Split	NA		Split	NA		Prot	Prot			Over
Protected Phases	3	3		1	1		2	2			1
Permitted Phases											
Actuated Green, G (s)		20.0		61.7	61.7		20.0	20.0			61.7
Effective Green, g (s)		20.0		61.7	61.7		20.0	20.0			61.7
Actuated g/C Ratio		0.17		0.51	0.51		0.17	0.17			0.51
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		331		928	799		316	283			1522
v/s Ratio Prot		c0.08		0.25	c0.29		c0.03	0.01			0.10
v/s Ratio Perm											
v/c Ratio		0.48		0.49	0.57		0.17	0.03			0.20
Uniform Delay, d1		45.3		18.9	20.1		42.9	41.9			15.8
Progression Factor		1.00		1.00	1.00		1.00	1.00			1.00
Incremental Delay, d2		1.1		1.8	3.0		0.3	0.0			0.3
Delay (s)		46.4		20.7	23.1		43.1	41.9			16.1
Level of Service		D		C	C		D	D			B
Approach Delay (s)		46.4			21.9		42.5			16.1	
Approach LOS		D			C		D			B	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			23.4			HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.48								
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			18.3		
Intersection Capacity Utilization			72.5%			ICU Level of Service				C	
Analysis Period (min)			15								
c	Critical Lane Group										

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔		↔	↔	
Traffic Volume (vph)	0	1023	9	0	711	29	17	32	36	51	28	38
Future Volume (vph)	0	1023	9	0	711	29	17	32	36	51	28	38
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.97		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		0.96	1.00	
Frt		1.00			0.99		1.00	0.92		1.00	0.91	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3509			3451		1877	1519		1827	1530	
Flt Permitted		1.00			1.00		0.70	1.00		0.69	1.00	
Satd. Flow (perm)		3509			3451		1387	1519		1336	1530	
Peak-hour factor, PHF	0.95	0.95	0.95	0.91	0.91	0.91	0.71	0.71	0.71	0.77	0.77	0.77
Adj. Flow (vph)	0	1077	9	0	781	32	24	45	51	66	36	49
RTOR Reduction (vph)	0	1	0	0	4	0	0	42	0	0	40	0
Lane Group Flow (vph)	0	1085	0	0	809	0	24	54	0	66	45	0
Confl. Peds. (#/hr)	20		14	14		20	13		42	42		13
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10			10	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases							2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2408			2368		242	265		233	267	
v/s Ratio Prot		c0.31			0.23			0.04			0.03	
v/s Ratio Perm							0.02			c0.05		
v/c Ratio		0.45			0.34		0.10	0.20		0.28	0.17	
Uniform Delay, d1		5.7			5.1		27.7	28.2		28.6	28.0	
Progression Factor		0.47			0.15		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.4		0.8	1.7		3.0	1.3	
Delay (s)		3.1			1.2		28.5	30.0		31.7	29.4	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		3.1			1.2			29.7			30.4	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
2005: Washington St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Existing PM Peak Hour



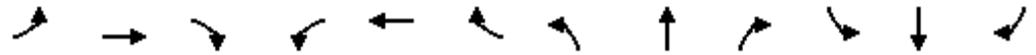
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕				↕
Traffic Volume (vph)	0	1036	49	0	750	27	15	35	34	81	28	37
Future Volume (vph)	0	1036	49	0	750	27	15	35	34	81	28	37
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			0.98			0.97	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		0.99			0.99			0.95			0.97	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		3478			3486			1547			1806	
Flt Permitted		1.00			1.00			0.92			0.78	
Satd. Flow (perm)		3478			3486			1444			1448	
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.68	0.68	0.68	0.87	0.87	0.87
Adj. Flow (vph)	0	1114	53	0	789	28	22	51	50	93	32	43
RTOR Reduction (vph)	0	4	0	0	3	0	0	31	0	0	16	0
Lane Group Flow (vph)	0	1163	0	0	814	0	0	92	0	0	152	0
Confl. Peds. (#/hr)	35		31	31		35	76		28	28		76
Confl. Bikes (#/hr)			1			1						1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10				
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases							2			2		
Actuated Green, G (s)		55.0			55.0			14.0			14.0	
Effective Green, g (s)		55.0			55.0			14.0			14.0	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2391			2396			252			253	
v/s Ratio Prot		c0.33			0.23							
v/s Ratio Perm								0.06			c0.11	
v/c Ratio		0.49			0.34			0.37			0.60	
Uniform Delay, d1		5.9			5.1			29.1			30.4	
Progression Factor		0.19			0.42			1.00			1.00	
Incremental Delay, d2		0.7			0.3			4.1			10.2	
Delay (s)		1.8			2.4			33.2			40.6	
Level of Service		A			A			C			D	
Approach Delay (s)		1.8			2.4			33.2			40.6	
Approach LOS		A			A			C			D	

Intersection Summary

HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
 Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑			↙↙↙	↘			
Traffic Volume (vph)	31	299	0	0	442	35	187	936	341	0	0	0
Future Volume (vph)	31	299	0	0	442	35	187	936	341	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Util. Factor	1.00	0.95			0.95			0.91	1.00			
Frbp, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1898	3800			3754			5391	1700			
Flt Permitted	0.39	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	781	3800			3754			5391	1700			
Peak-hour factor, PHF	0.83	0.83	0.83	0.86	0.86	0.86	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	37	360	0	0	514	41	197	985	359	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	150	0	0	0
Lane Group Flow (vph)	37	360	0	0	548	0	0	1182	209	0	0	0
Confl. Peds. (#/hr)	2					2	3					
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	28.4	28.4			28.4			38.9	38.9			
Effective Green, g (s)	28.4	28.4			28.4			38.9	38.9			
Actuated g/C Ratio	0.35	0.35			0.35			0.49	0.49			
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Grp Cap (vph)	277	1349			1332			2621	826			
v/s Ratio Prot		0.09			c0.15							
v/s Ratio Perm	0.05							0.22	0.12			
v/c Ratio	0.13	0.27			0.41			0.45	0.25			
Uniform Delay, d1	17.5	18.4			19.5			13.5	12.0			
Progression Factor	0.97	0.96			1.00			0.73	0.35			
Incremental Delay, d2	1.0	0.5			0.9			0.5	0.7			
Delay (s)	17.9	18.2			20.4			10.4	4.9			
Level of Service	B	B			C			B	A			
Approach Delay (s)		18.1			20.4			9.1			0.0	
Approach LOS		B			C			A			A	

Intersection Summary		
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.43	B
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	55.8%	12.7
Analysis Period (min)	15	ICU Level of Service
		B

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

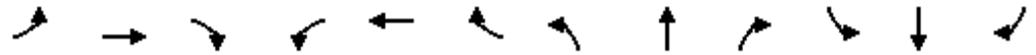
Road Diet Capacity Analysis  
Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	217	156	361	289	0	0	0	0	154	1432	38
Future Volume (vph)	0	217	156	361	289	0	0	0	0	154	1432	38
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.91	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.94		1.00	1.00					1.00	1.00	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3521		1893	3800					1898	5414	
Flt Permitted		1.00		0.47	1.00					0.95	1.00	
Satd. Flow (perm)		3521		928	3800					1898	5414	
Peak-hour factor, PHF	0.89	0.89	0.89	0.82	0.82	0.82	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	0	244	175	440	352	0	0	0	0	162	1507	40
RTOR Reduction (vph)	0	68	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	351	0	440	352	0	0	0	0	162	1544	0
Confl. Peds. (#/hr)			14	14						1		2
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		44.2	44.2					24.4	24.4	
Effective Green, g (s)		22.2		44.2	44.2					24.4	24.4	
Actuated g/C Ratio		0.28		0.55	0.55					0.30	0.30	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		977		708	2099					578	1651	
v/s Ratio Prot		0.10		c0.13	0.09						c0.29	
v/s Ratio Perm				c0.22						0.09		
v/c Ratio		0.36		0.62	0.17					0.28	0.93	
Uniform Delay, d1		23.2		15.4	8.8					21.1	27.0	
Progression Factor		1.00		0.92	0.63					0.70	0.79	
Incremental Delay, d2		1.0		1.8	0.0					0.9	8.7	
Delay (s)		24.2		15.9	5.6					15.7	30.0	
Level of Service		C		B	A					B	C	
Approach Delay (s)		24.2			11.3			0.0			28.6	
Approach LOS		C			B			A			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			23.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			17.2			
Intersection Capacity Utilization			77.9%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 3004: Huron St & Catherine St (PB)

Road Diet Capacity Analysis  
 Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖			↗			↖↗↘				
Traffic Volume (vph)	14	26	0	0	8	39	4	971	6	0	0	0
Future Volume (vph)	14	26	0	0	8	39	4	971	6	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.91				
Frbp, ped/bikes		1.00			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.89			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1965			1757			5377				
Flt Permitted		0.86			1.00			1.00				
Satd. Flow (perm)		1718			1757			5377				
Peak-hour factor, PHF	0.77	0.77	0.77	0.73	0.73	0.73	0.89	0.89	0.89	0.92	0.92	0.92
Adj. Flow (vph)	18	34	0	0	11	53	4	1091	7	0	0	0
RTOR Reduction (vph)	0	0	0	0	48	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	52	0	0	16	0	0	1102	0	0	0	0
Confl. Peds. (#/hr)	1						1	1	5			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		7.8			7.8			61.6				
Effective Green, g (s)		7.8			7.8			61.6				
Actuated g/C Ratio		0.10			0.10			0.77				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		167			171			4140				
v/s Ratio Prot					0.01							
v/s Ratio Perm		c0.03						0.20				
v/c Ratio		0.31			0.09			0.27				
Uniform Delay, d1		33.6			32.9			2.7				
Progression Factor		1.00			1.00			1.45				
Incremental Delay, d2		1.1			0.2			0.1				
Delay (s)		34.7			33.1			4.0				
Level of Service		C			C			A				
Approach Delay (s)		34.7			33.1			4.0			0.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

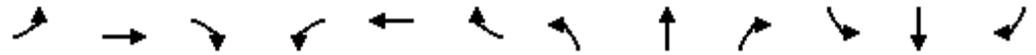
HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗								↖↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	342	1060	0	0	0	0	0	0	30	641	0
Future Volume (vph)	0	342	1060	0	0	0	0	0	0	30	641	0
Peak Hour Factor	0.95	0.95	0.95	0.92	1.00	0.92	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	0	360	1116	0	0	0	0	0	0	35	754	0
Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2							
Volume Total (vph)	180	180	1116	286	503							
Volume Left (vph)	0	0	0	35	0							
Volume Right (vph)	0	0	1116	0	0							
Hadj (s)	0.00	0.00	-0.70	0.06	0.00							
Departure Headway (s)	6.4	6.4	3.2	5.7	5.6							
Degree Utilization, x	0.32	0.32	0.99	0.45	0.78							
Capacity (veh/h)	533	533	1116	622	629							
Control Delay (s)	11.3	11.3	41.0	12.0	24.5							
Approach Delay (s)	33.8				20.0							
Approach LOS	D				C							
Intersection Summary												
Delay			29.0									
Level of Service			D									
Intersection Capacity Utilization			86.9%	ICU Level of Service	E							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St (PB)/Hamilton St & Pearl St

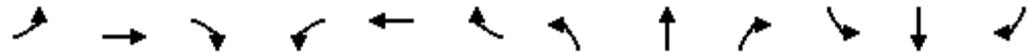
Road Diet Capacity Analysis  
 Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↙						↑↑↑	
Traffic Volume (veh/h)	0	0	25	50	54	0	0	0	0	0	1718	12
Future Volume (Veh/h)	0	0	25	50	54	0	0	0	0	0	1718	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.65	0.65	0.79	0.79	0.79	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	38	63	68	0	0	0	0	0	1867	13
Pedestrians		6						3				
Lane Width (ft)		12.0						0.0				
Walking Speed (ft/s)		4.0						4.0				
Percent Blockage		1						0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	1914	1880	638	663	1886	0	1886			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1914	1880	638	663	1886	0	1886			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	91	80	4	100	100			100		
cM capacity (veh/h)	6	72	422	318	71	1091	320			1636		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>WB 2</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>						
Volume Total	38	42	89	747	747	386						
Volume Left	0	42	21	0	0	0						
Volume Right	38	0	0	0	0	13						
cSH	422	318	87	1700	1700	1700						
Volume to Capacity	0.09	0.13	1.02	0.44	0.44	0.23						
Queue Length 95th (ft)	7	11	148	0	0	0						
Control Delay (s)	14.4	18.1	189.8	0.0	0.0	0.0						
Lane LOS	B	C	F									
Approach Delay (s)	14.4	134.8		0.0								
Approach LOS	B	F										
<b>Intersection Summary</b>												
Average Delay			8.9									
Intersection Capacity Utilization			49.4%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻					↻	↻↻↻	
Traffic Volume (veh/h)	0	22	28	48	25	0	0	0	0	104	1384	19
Future Volume (Veh/h)	0	22	28	48	25	0	0	0	0	104	1384	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.69	0.69	0.69	0.76	0.76	0.76	0.92	0.92	0.92	0.93	0.93	0.93
Hourly flow rate (vph)	0	32	41	63	33	0	0	0	0	112	1488	20
Pedestrians		4			3			7				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.76	0.76	0.76	0.76	0.76		0.76					
vC, conflicting volume	1742	1729	517	787	1739	3	1512			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	893	875	0	0	888	3	591			3		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	84	95	90	84	100	100			93		
cM capacity (veh/h)	151	205	831	620	202	1083	758			1628		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>	<b>SB 4</b>						
Volume Total	73	96	112	595	595	318						
Volume Left	0	63	112	0	0	0						
Volume Right	41	0	0	0	0	20						
cSH	356	362	1628	1700	1700	1700						
Volume to Capacity	0.21	0.27	0.07	0.35	0.35	0.19						
Queue Length 95th (ft)	19	26	6	0	0	0						
Control Delay (s)	17.7	18.5	7.4	0.0	0.0	0.0						
Lane LOS	C	C	A									
Approach Delay (s)	17.7	18.5	0.5									
Approach LOS	C	C										
<b>Intersection Summary</b>												
Average Delay			2.2									
Intersection Capacity Utilization			42.9%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Existing PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶			↷↷↷		
Traffic Volume (veh/h)	32	0	24	1277	0	0
Future Volume (Veh/h)	32	0	24	1277	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	53	0	25	1344	0	0
Pedestrians	8				1	
Lane Width (ft)	12.0				0.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.98					
vC, conflicting volume	507	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	437	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	100	98			
cM capacity (veh/h)	531	1071	1615			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3		
Volume Total	53	294	538	538		
Volume Left	53	25	0	0		
Volume Right	0	0	0	0		
cSH	531	1615	1700	1700		
Volume to Capacity	0.10	0.02	0.32	0.32		
Queue Length 95th (ft)	8	1	0	0		
Control Delay (s)	12.5	0.7	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	12.5	0.2				
Approach LOS	B					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			33.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

Road Diet Capacity Analysis  
 Existing PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	139	1100	0	0
Future Volume (Veh/h)	0	0	139	1100	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	0	158	1250	0	0
Pedestrians	8					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.78					
vC, conflicting volume	949	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	372	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	90			
cM capacity (veh/h)	428	1078	1625			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	575	833				
Volume Left	158	0				
Volume Right	0	0				
cSH	1625	1700				
Volume to Capacity	0.10	0.49				
Queue Length 95th (ft)	8	0				
Control Delay (s)	2.7	0.0				
Lane LOS	A					
Approach Delay (s)	1.1					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			1.1			
Intersection Capacity Utilization			36.1%	ICU Level of Service		A
Analysis Period (min)	15					

*Appendix I*  
*Background 2022 Condition Synchro Reports*

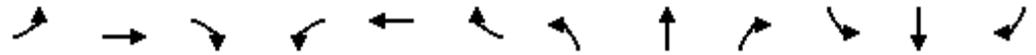
HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
Background 2022 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  						 				
Traffic Volume (vph)	3	687	17	0	0	0	0	139	32	11	10	0
Future Volume (vph)	3	687	17	0	0	0	0	139	32	11	10	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.4						10.8			10.8	
Lane Util. Factor		0.91						1.00			1.00	
Frbp, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			0.98	
Frt		1.00						0.97			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		5436						1642			1917	
Flt Permitted		1.00						1.00			0.74	
Satd. Flow (perm)		5436						1642			1456	
Peak-hour factor, PHF	0.87	0.87	0.87	0.92	0.92	0.92	0.91	0.91	0.91	0.75	0.75	0.75
Adj. Flow (vph)	3	790	20	0	0	0	0	153	35	15	13	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	810	0	0	0	0	0	178	0	0	28	0
Confl. Peds. (#/hr)			2						26	26		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)								10				
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		46.6						17.2			17.2	
Effective Green, g (s)		46.6						17.2			17.2	
Actuated g/C Ratio		0.58						0.21			0.21	
Clearance Time (s)		5.4						10.8			10.8	
Lane Grp Cap (vph)		3166						353			313	
v/s Ratio Prot								c0.11				
v/s Ratio Perm		0.15									0.02	
v/c Ratio		0.26						0.50			0.09	
Uniform Delay, d1		8.2						27.6			25.1	
Progression Factor		1.00						1.00			1.35	
Incremental Delay, d2		0.2						5.1			0.6	
Delay (s)		8.4						32.7			34.5	
Level of Service		A						C			C	
Approach Delay (s)		8.4			0.0			32.7			34.5	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.5					HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			80.0					Sum of lost time (s)		16.2		
Intersection Capacity Utilization			45.6%					ICU Level of Service		A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2022 AM Peak Hour



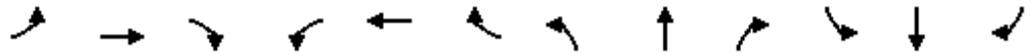
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔						↔		↔	↔	
Traffic Volume (vph)	15	536	6	0	0	0	0	37	8	9	20	0
Future Volume (vph)	15	536	6	0	0	0	0	37	8	9	20	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3						5.7		5.7	5.7	
Lane Util. Factor		0.91						1.00		1.00	1.00	
Frbp, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.99	1.00	
Frt		1.00						0.98		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		5420						1945		1887	2000	
Flt Permitted		1.00						1.00		0.72	1.00	
Satd. Flow (perm)		5420						1945		1423	2000	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.91	0.91	0.91
Adj. Flow (vph)	17	596	7	0	0	0	0	51	11	10	22	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	619	0	0	0	0	0	52	0	10	22	0
Confl. Peds. (#/hr)	2		1						9	9		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	3	0	0	0	0	0	0	0	0	0	0
Turn Type	custom	NA						NA		Perm	NA	
Protected Phases	1	1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		61.5						7.5		7.5	7.5	
Effective Green, g (s)		61.5						7.5		7.5	7.5	
Actuated g/C Ratio		0.77						0.09		0.09	0.09	
Clearance Time (s)		5.3						5.7		5.7	5.7	
Vehicle Extension (s)		0.2						3.0		3.0	3.0	
Lane Grp Cap (vph)		4166						182		133	187	
v/s Ratio Prot		c0.11						c0.03			0.01	
v/s Ratio Perm										0.01		
v/c Ratio		0.15						0.29		0.08	0.12	
Uniform Delay, d1		2.4						33.8		33.1	33.2	
Progression Factor		0.54						1.00		1.00	1.00	
Incremental Delay, d2		0.1						0.9		0.2	0.3	
Delay (s)		1.4						34.6		33.3	33.5	
Level of Service		A						C		C	C	
Approach Delay (s)		1.4			0.0			34.6			33.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	36.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Background 2022 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	283	78	144	678	0	0	0	0	193	456	39
Future Volume (vph)	0	283	78	144	678	0	0	0	0	193	456	39
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					0.86	0.86	
Frbp, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3662		1878	3480					1618	5032	
Flt Permitted		1.00		0.46	1.00					0.95	1.00	
Satd. Flow (perm)		3662		917	3480					1618	5032	
Peak-hour factor, PHF	0.84	0.84	0.84	0.83	0.83	0.83	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	0	337	93	173	817	0	0	0	0	212	501	43
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	430	0	173	817	0	0	0	0	184	561	0
Confl. Peds. (#/hr)			6	6						5		6
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom	NA	
Protected Phases		1		2	1 2					3	3	
Permitted Phases				1 2						3		
Actuated Green, G (s)		28.8		37.6	42.8					25.2	25.2	
Effective Green, g (s)		28.8		37.6	42.8					25.2	25.2	
Actuated g/C Ratio		0.36		0.47	0.53					0.31	0.31	
Clearance Time (s)		5.2		5.2						6.8	6.8	
Lane Grp Cap (vph)		1318		536	1861					509	1585	
v/s Ratio Prot		0.12		0.04	c0.23					c0.11	0.11	
v/s Ratio Perm				0.12								
v/c Ratio		0.33		0.32	0.44					0.36	0.35	
Uniform Delay, d1		18.6		15.0	11.3					21.2	21.1	
Progression Factor		1.00		0.79	0.71					1.00	1.00	
Incremental Delay, d2		0.7		1.5	0.7					2.0	0.6	
Delay (s)		19.2		13.5	8.8					23.2	21.7	
Level of Service		B		B	A					C	C	
Approach Delay (s)		19.2			9.6			0.0			22.1	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

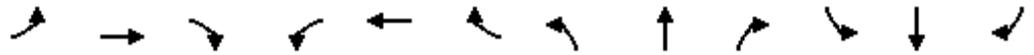
Road Diet Capacity Analysis  
 Background 2022 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					↑	↗		↑↑	↗				
Traffic Volume (vph)	0	0	0	0	423	27	0	535	134	0	0	0	
Future Volume (vph)	0	0	0	0	423	27	0	535	134	0	0	0	
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)					5.5	5.5		5.6	5.6				
Lane Util. Factor					1.00	1.00		0.95	1.00				
Frbp, ped/bikes					1.00	1.00		1.00	1.00				
Flpb, ped/bikes					1.00	1.00		1.00	1.00				
Frt					1.00	0.85		1.00	0.85				
Flt Protected					1.00	1.00		1.00	1.00				
Satd. Flow (prot)					2000	1700		3800	1700				
Flt Permitted					1.00	1.00		1.00	1.00				
Satd. Flow (perm)					2000	1700		3800	1700				
Peak-hour factor, PHF	0.92	0.92	0.92	0.81	0.81	0.81	0.94	0.94	0.94	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	0	522	33	0	569	143	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	17	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	522	16	0	569	143	0	0	0	
Confl. Peds. (#/hr)						11			3				
Confl. Bikes (#/hr)						4							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type					NA	custom		NA	custom				
Protected Phases					2	2		8	8				
Permitted Phases						2			8				
Actuated Green, G (s)					38.5	38.5		30.4	30.4				
Effective Green, g (s)					38.5	38.5		30.4	30.4				
Actuated g/C Ratio					0.48	0.48		0.38	0.38				
Clearance Time (s)					5.5	5.5		5.6	5.6				
Lane Grp Cap (vph)					962	818		1444	646				
v/s Ratio Prot					c0.26	0.01		c0.15	0.08				
v/s Ratio Perm													
v/c Ratio					0.54	0.02		0.39	0.22				
Uniform Delay, d1					14.6	10.9		18.1	16.8				
Progression Factor					1.00	1.00		1.56	1.53				
Incremental Delay, d2					2.2	0.0		0.4	0.4				
Delay (s)					16.8	10.9		28.6	26.1				
Level of Service					B	B		C	C				
Approach Delay (s)		0.0			16.4			28.1			0.0		
Approach LOS		A			B			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			23.0		HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.48										
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				11.1				
Intersection Capacity Utilization			55.7%		ICU Level of Service				B				
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2022 AM Peak Hour



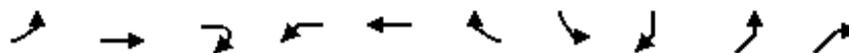
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘	↑↑				
Traffic Volume (vph)	77	438	0	0	690	553	87	1110	73	0	0	0
Future Volume (vph)	77	438	0	0	690	553	87	1110	73	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6				
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95				
Frbp, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00				
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00				
Frt	1.00	1.00			0.97	0.85	1.00	0.99				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1881	3480			3219	1271	1873	3724				
Flt Permitted	0.15	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	305	3480			3219	1271	1873	3724				
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	83	471	0	0	775	621	92	1168	77	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	83	471	0	0	968	428	92	1245	0	0	0	0
Confl. Peds. (#/hr)	10					10	5		2			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Parking (#/hr)		10			10	10						
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	2	1 2			1			3				
Permitted Phases	1 2					1	3					
Actuated Green, G (s)	34.0	39.0			26.0	26.0	30.4	30.4				
Effective Green, g (s)	34.0	39.0			26.0	26.0	30.4	30.4				
Actuated g/C Ratio	0.42	0.49			0.32	0.32	0.38	0.38				
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6				
Lane Grp Cap (vph)	287	1696			1046	413	711	1415				
v/s Ratio Prot	0.03	c0.14			0.30			c0.33				
v/s Ratio Perm	0.09					c0.34	0.05					
v/c Ratio	0.29	0.28			0.93	1.04	0.13	0.88				
Uniform Delay, d1	27.7	12.2			26.1	27.0	16.2	23.1				
Progression Factor	0.49	0.45			1.00	1.00	0.15	0.32				
Incremental Delay, d2	2.5	0.4			14.8	54.0	0.4	7.8				
Delay (s)	16.1	5.8			40.9	81.0	2.7	15.1				
Level of Service	B	A			D	F	A	B				
Approach Delay (s)		7.3			53.2			14.2			0.0	
Approach LOS		A			D			B			A	

Intersection Summary		
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.88	
Actuated Cycle Length (s)	80.0	Sum of lost time (s) 15.6
Intersection Capacity Utilization	74.1%	ICU Level of Service D
Analysis Period (min)	15	

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
Background 2022 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER
Lane Configurations		↕		↖	↕		↖	↗		↗
Traffic Volume (vph)	8	75	1	378	145	32	10	49	0	303
Future Volume (vph)	8	75	1	378	145	32	10	49	0	303
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3		6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00		0.88
Frbp, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00
Frt		1.00		1.00	0.98		1.00	0.85		0.85
Flt Protected		1.00		0.95	0.98		0.95	1.00		1.00
Satd. Flow (prot)		1987		1787	1538		1900	1700		2992
Flt Permitted		1.00		0.95	0.98		0.95	1.00		1.00
Satd. Flow (perm)		1987		1787	1538		1900	1700		2992
Peak-hour factor, PHF	0.82	0.82	0.82	0.94	0.94	0.94	0.60	0.60	0.93	0.93
Adj. Flow (vph)	10	91	1	402	154	34	17	82	0	326
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	158
Lane Group Flow (vph)	0	102	0	293	294	0	17	82	0	168
Confl. Peds. (#/hr)	2		1	1		2	1			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%
Parking (#/hr)				10						
Turn Type	Split	NA		Split	NA		Prot	Prot		Over
Protected Phases	3	3		1	1		2	2		1
Permitted Phases										
Actuated Green, G (s)		20.0		61.7	61.7		20.0	20.0		61.7
Effective Green, g (s)		20.0		61.7	61.7		20.0	20.0		61.7
Actuated g/C Ratio		0.17		0.51	0.51		0.17	0.17		0.51
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3		6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		331		918	790		316	283		1538
v/s Ratio Prot		c0.05		0.16	c0.19		0.01	c0.05		0.06
v/s Ratio Perm										
v/c Ratio		0.31		0.32	0.37		0.05	0.29		0.11
Uniform Delay, d1		43.9		16.9	17.5		42.0	43.8		15.0
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2		0.5		0.9	1.3		0.1	0.6		0.1
Delay (s)		44.5		17.9	18.8		42.1	44.4		15.1
Level of Service		D		B	B		D	D		B
Approach Delay (s)		44.5		18.4			44.0		15.1	
Approach LOS		D		B			D		B	
<b>Intersection Summary</b>										
HCM 2000 Control Delay			22.1			HCM 2000 Level of Service				C
HCM 2000 Volume to Capacity ratio			0.34							
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			18.3	
Intersection Capacity Utilization			64.8%			ICU Level of Service				C
Analysis Period (min)			15							
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2022 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔		↔	↔	
Traffic Volume (vph)	0	544	6	0	769	30	44	40	11	21	10	19
Future Volume (vph)	0	544	6	0	769	30	44	40	11	21	10	19
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		0.99	1.00	
Frt		1.00			0.99		1.00	0.97		1.00	0.90	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3474			3456		1894	1638		1879	1517	
Flt Permitted		1.00			1.00		0.73	1.00		0.70	1.00	
Satd. Flow (perm)		3474			3456		1460	1638		1388	1517	
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.60	0.60	0.60	0.75	0.75	0.75
Adj. Flow (vph)	0	579	6	0	864	34	73	67	18	28	13	25
RTOR Reduction (vph)	0	1	0	0	3	0	0	12	0	0	21	0
Lane Group Flow (vph)	0	584	0	0	895	0	73	73	0	28	17	0
Confl. Peds. (#/hr)	6		8	8		6	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10			10	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2384			2371		255	286		242	265	
v/s Ratio Prot		0.17			c0.26			0.04			0.01	
v/s Ratio Perm							c0.05			0.02		
v/c Ratio		0.24			0.38		0.29	0.25		0.12	0.07	
Uniform Delay, d1		4.7			5.3		28.7	28.5		27.8	27.5	
Progression Factor		0.44			0.33		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.4		2.8	2.1		1.0	0.5	
Delay (s)		2.3			2.2		31.5	30.6		28.8	28.0	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		2.3			2.2			31.0			28.3	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 2005: Washington St (PB) & Michigan Ave

# Road Diet Capacity Analysis

## Background 2022 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Volume (vph)	0	543	12	0	716	14	41	90	23	14	5	9
Future Volume (vph)	0	543	12	0	716	14	41	90	23	14	5	9
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			0.99			1.00	
Frt		1.00			1.00			0.98			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		3502			3467			1628			1771	
Flt Permitted		1.00			1.00			0.90			0.72	
Satd. Flow (perm)		3502			3467			1483			1315	
Peak-hour factor, PHF	0.86	0.86	0.86	0.94	0.94	0.94	0.60	0.60	0.60	0.88	0.88	0.88
Adj. Flow (vph)	0	631	14	0	762	15	68	150	38	16	6	10
RTOR Reduction (vph)	0	2	0	0	2	0	0	8	0	0	8	0
Lane Group Flow (vph)	0	643	0	0	775	0	0	248	0	0	24	0
Confl. Peds. (#/hr)	10		3	3		10	22		9	9		22
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	4%	4%	4%
Parking (#/hr)		10			10			10				
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		55.0			55.0			14.0			14.0	
Effective Green, g (s)		55.0			55.0			14.0			14.0	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2407			2383			259			230	
v/s Ratio Prot		0.18			c0.22							
v/s Ratio Perm								c0.17			0.02	
v/c Ratio		0.27			0.33			0.96			0.10	
Uniform Delay, d1		4.8			5.0			32.7			27.7	
Progression Factor		0.32			0.23			1.00			1.00	
Incremental Delay, d2		0.3			0.2			45.8			0.9	
Delay (s)		1.8			1.4			78.5			28.6	
Level of Service		A			A			E			C	
Approach Delay (s)		1.8			1.4			78.5			28.6	
Approach LOS		A			A			E			C	

### Intersection Summary

HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
Background 2022 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑			↑↑↑	↘			
Traffic Volume (vph)	15	124	0	0	433	32	368	1460	350	0	0	0
Future Volume (vph)	15	124	0	0	433	32	368	1460	350	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Util. Factor	1.00	0.95			0.95			0.91	1.00			
Frbp, ped/bikes	1.00	1.00			1.00			1.00	0.99			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1880	3762			3757			5384	1675			
Flt Permitted	0.37	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	733	3762			3757			5384	1675			
Peak-hour factor, PHF	0.68	0.68	0.68	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	182	0	0	498	37	400	1587	380	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	167	0	0	0
Lane Group Flow (vph)	22	182	0	0	529	0	0	1987	213	0	0	0
Confl. Peds. (#/hr)	1					1			4			
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	22.4	22.4			22.4			44.9	44.9			
Effective Green, g (s)	22.4	22.4			22.4			44.9	44.9			
Actuated g/C Ratio	0.28	0.28			0.28			0.56	0.56			
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Grp Cap (vph)	205	1053			1051			3021	940			
v/s Ratio Prot		0.05			c0.14							
v/s Ratio Perm	0.03							0.37	0.13			
v/c Ratio	0.11	0.17			0.50			0.66	0.23			
Uniform Delay, d1	21.4	21.8			24.1			12.2	8.8			
Progression Factor	1.02	1.01			1.00			0.94	1.55			
Incremental Delay, d2	1.0	0.4			1.7			0.4	0.2			
Delay (s)	22.9	22.3			25.9			11.9	13.9			
Level of Service	C	C			C			B	B			
Approach Delay (s)		22.4			25.9			12.2			0.0	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
Background 2022 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	104	101	241	492	0	0	0	0	43	519	45
Future Volume (vph)	0	104	101	241	492	0	0	0	0	43	519	45
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.91	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.93		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3496		1898	3800					1881	5320	
Flt Permitted		1.00		0.58	1.00					0.95	1.00	
Satd. Flow (perm)		3496		1162	3800					1881	5320	
Peak-hour factor, PHF	0.74	0.74	0.74	0.95	0.95	0.95	0.93	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	141	136	254	518	0	0	0	0	46	558	48
RTOR Reduction (vph)	0	98	0	0	0	0	0	0	0	0	13	0
Lane Group Flow (vph)	0	179	0	254	518	0	0	0	0	46	593	0
Confl. Peds. (#/hr)			2	2								
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		42.2	42.2					26.4	26.4	
Effective Green, g (s)		22.2		42.2	42.2					26.4	26.4	
Actuated g/C Ratio		0.28		0.53	0.53					0.33	0.33	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		970		743	2004					620	1755	
v/s Ratio Prot		0.05		c0.06	0.14						c0.11	
v/s Ratio Perm				c0.12						0.02		
v/c Ratio		0.18		0.34	0.26					0.07	0.34	
Uniform Delay, d1		22.0		11.4	10.3					18.4	20.2	
Progression Factor		1.00		0.81	0.75					0.71	0.74	
Incremental Delay, d2		0.4		0.3	0.1					0.2	0.5	
Delay (s)		22.4		9.6	7.8					13.3	15.5	
Level of Service		C		A	A					B	B	
Approach Delay (s)		22.4			8.4			0.0			15.4	
Approach LOS		C			A			A			B	

Intersection Summary		
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.37	B
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	55.0%	17.2
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

# HCM Signalized Intersection Capacity Analysis

## 3004: Huron St & Catherine St (PB)

# Road Diet Capacity Analysis

## Background 2022 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖			↗			↖↗↘				
Traffic Volume (vph)	8	9	0	0	27	43	82	1353	17	0	0	0
Future Volume (vph)	8	9	0	0	27	43	82	1353	17	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.91				
Frbp, ped/bikes		1.00			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.92			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1954			1819			5358				
Flt Permitted		0.81			1.00			1.00				
Satd. Flow (perm)		1617			1819			5358				
Peak-hour factor, PHF	0.71	0.71	0.71	0.77	0.77	0.77	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	11	13	0	0	35	56	87	1439	18	0	0	0
RTOR Reduction (vph)	0	0	0	0	51	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	24	0	0	40	0	0	1543	0	0	0	0
Confl. Peds. (#/hr)	1						1	1	2			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		6.6			6.6			62.8				
Effective Green, g (s)		6.6			6.6			62.8				
Actuated g/C Ratio		0.08			0.08			0.78				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		133			150			4206				
v/s Ratio Prot					c0.02							
v/s Ratio Perm		0.01						0.29				
v/c Ratio		0.18			0.26			0.37				
Uniform Delay, d1		34.2			34.4			2.6				
Progression Factor		1.00			1.00			1.27				
Incremental Delay, d2		0.7			0.9			0.2				
Delay (s)		34.8			35.4			3.5				
Level of Service		C			D			A				
Approach Delay (s)		34.8			35.4			3.5			0.0	
Approach LOS		C			D			A			A	

### Intersection Summary

HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2022 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑								↑↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	109	481	0	0	0	0	0	0	27	249	0
Future Volume (vph)	0	109	481	0	0	0	0	0	0	27	249	0
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.91	0.91	0.91
Hourly flow rate (vph)	0	122	540	0	0	0	0	0	0	30	274	0

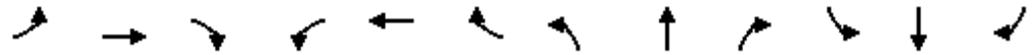
Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2
Volume Total (vph)	61	61	540	121	183
Volume Left (vph)	0	0	0	30	0
Volume Right (vph)	0	0	540	0	0
Hadj (s)	0.00	0.00	-0.70	0.14	0.02
Departure Headway (s)	5.2	5.2	3.2	5.0	4.8
Degree Utilization, x	0.09	0.09	0.48	0.17	0.25
Capacity (veh/h)	649	653	1116	706	725
Control Delay (s)	7.5	7.5	7.9	7.8	8.2
Approach Delay (s)	7.8			8.0	
Approach LOS	A			A	

Intersection Summary

Delay	7.9
Level of Service	A
Intersection Capacity Utilization	42.5%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St & Pearl St

Road Diet Capacity Analysis  
 Background 2022 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↙						↕	↘
Traffic Volume (veh/h)	0	0	22	18	12	0	0	0	0	0	727	6
Future Volume (Veh/h)	0	0	22	18	12	0	0	0	0	0	727	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.66	0.66	0.66	0.83	0.83	0.83	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	33	22	14	0	0	0	0	0	790	7
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		4.0										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	802	794	268	296	798	0	798			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	802	794	268	296	798	0	798			0		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	95	96	96	100	100			100		
cM capacity (veh/h)	261	313	721	609	321	1091	833			1629		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>WB 2</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>						
Volume Total	33	15	21	316	316	165						
Volume Left	0	15	7	0	0	0						
Volume Right	33	0	0	0	0	7						
cSH	721	609	383	1700	1700	1700						
Volume to Capacity	0.05	0.02	0.06	0.19	0.19	0.10						
Queue Length 95th (ft)	4	2	4	0	0	0						
Control Delay (s)	10.2	11.1	14.9	0.0	0.0	0.0						
Lane LOS	B	B	B									
Approach Delay (s)	10.2	13.4		0.0								
Approach LOS	B	B										
<b>Intersection Summary</b>												
Average Delay			0.9									
Intersection Capacity Utilization			30.1%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2022 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗			↖					↘	↕	↙
Traffic Volume (veh/h)	0	14	27	20	13	0	0	0	0	56	559	9
Future Volume (Veh/h)	0	14	27	20	13	0	0	0	0	56	559	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.69	0.69	0.69	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	18	35	29	19	0	0	0	0	59	588	9
Pedestrians		1			4			1				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.97	0.97	0.97	0.97	0.97		0.97					
vC, conflicting volume	721	716	202	363	720	4	598			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	617	612	85	249	616	4	491			4		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	95	96	95	95	100	100			96		
cM capacity (veh/h)	343	384	938	601	382	1081	1053			1618		

Direction, Lane #	EB 1	WB 1	SB 1	SB 2	SB 3	SB 4
Volume Total	53	48	59	235	235	127
Volume Left	0	29	59	0	0	0
Volume Right	35	0	0	0	0	9
cSH	629	490	1618	1700	1700	1700
Volume to Capacity	0.08	0.10	0.04	0.14	0.14	0.07
Queue Length 95th (ft)	7	8	3	0	0	0
Control Delay (s)	11.2	13.2	7.3	0.0	0.0	0.0
Lane LOS	B	B	A			
Approach Delay (s)	11.2	13.2	0.7			
Approach LOS	B	B				

Intersection Summary		
Average Delay		2.2
Intersection Capacity Utilization	25.6%	ICU Level of Service
Analysis Period (min)	15	A

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2022 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	0	53	1275	0	0
Future Volume (Veh/h)	18	0	53	1275	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	24	0	56	1356	0	0
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.95					
vC, conflicting volume	567	3	3			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	348	3	3			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	97			
cM capacity (veh/h)	573	1083	1628			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3		
Volume Total	24	327	542	542		
Volume Left	24	56	0	0		
Volume Right	0	0	0	0		
cSH	573	1628	1700	1700		
Volume to Capacity	0.04	0.03	0.32	0.32		
Queue Length 95th (ft)	3	3	0	0		
Control Delay (s)	11.6	1.5	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	11.6	0.3				
Approach LOS	B					
Intersection Summary						
Average Delay	0.5					
Intersection Capacity Utilization	34.4%		ICU Level of Service	A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

Road Diet Capacity Analysis  
 Background 2022 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	90	1678	0	0
Future Volume (Veh/h)	0	0	90	1678	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	0	0	95	1766	0	0
Pedestrians	2					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.68					
vC, conflicting volume	1075	2	2			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	181	2	2			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	94			
cM capacity (veh/h)	513	1088	1634			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	684	1177				
Volume Left	95	0				
Volume Right	0	0				
cSH	1634	1700				
Volume to Capacity	0.06	0.69				
Queue Length 95th (ft)	5	0				
Control Delay (s)	1.6	0.0				
Lane LOS	A					
Approach Delay (s)	0.6					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			49.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
Background 2022 OP Peak Hour



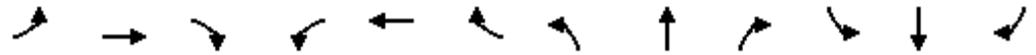
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↕↔						↔			↕	
Traffic Volume (vph)	12	958	39	0	0	0	0	68	20	33	18	0
Future Volume (vph)	12	958	39	0	0	0	0	68	20	33	18	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.4						10.8			10.8	
Lane Util. Factor		0.91						1.00			1.00	
Frbp, ped/bikes		1.00						0.98			1.00	
Flpb, ped/bikes		1.00						1.00			0.97	
Frt		0.99						0.97			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		5418						1619			1869	
Flt Permitted		1.00						1.00			0.72	
Satd. Flow (perm)		5418						1619			1386	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.61	0.61	0.61	0.74	0.74	0.74
Adj. Flow (vph)	13	1041	42	0	0	0	0	111	33	45	24	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	13	0	0	0	0
Lane Group Flow (vph)	0	1091	0	0	0	0	0	131	0	0	69	0
Confl. Peds. (#/hr)			8						45	45		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)								10				
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		46.6						17.2			17.2	
Effective Green, g (s)		46.6						17.2			17.2	
Actuated g/C Ratio		0.58						0.21			0.21	
Clearance Time (s)		5.4						10.8			10.8	
Lane Grp Cap (vph)		3155						348			297	
v/s Ratio Prot								c0.08				
v/s Ratio Perm		0.20									0.05	
v/c Ratio		0.35						0.38			0.23	
Uniform Delay, d1		8.7						26.8			25.9	
Progression Factor		1.00						1.00			1.33	
Incremental Delay, d2		0.3						3.1			1.8	
Delay (s)		9.0						29.9			36.4	
Level of Service		A						C			D	
Approach Delay (s)		9.0			0.0			29.9			36.4	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.2
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2022 OP Peak Hour



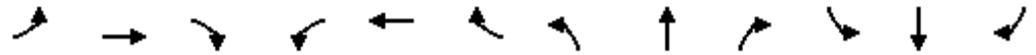
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑		↑	↑	
Traffic Volume (vph)	19	755	23	0	0	0	0	87	15	15	26	0
Future Volume (vph)	19	755	23	0	0	0	0	87	15	15	26	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3						5.7		5.7	5.7	
Lane Util. Factor		0.91						1.00		1.00	1.00	
Frbp, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.99	1.00	
Frt		1.00						0.98		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		5403						1954		1890	2000	
Flt Permitted		1.00						1.00		0.67	1.00	
Satd. Flow (perm)		5403						1954		1335	2000	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.76	0.76	0.76	0.67	0.67	0.67
Adj. Flow (vph)	22	858	26	0	0	0	0	114	20	22	39	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	903	0	0	0	0	0	125	0	22	39	0
Confl. Peds. (#/hr)	11		7						8	8		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	3	0	0	0	0	0	0	0	0	0	0
Turn Type	custom	NA						NA		Perm	NA	
Protected Phases	1	1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		58.5						10.5		10.5	10.5	
Effective Green, g (s)		58.5						10.5		10.5	10.5	
Actuated g/C Ratio		0.73						0.13		0.13	0.13	
Clearance Time (s)		5.3						5.7		5.7	5.7	
Vehicle Extension (s)		0.2						3.0		3.0	3.0	
Lane Grp Cap (vph)		3950						256		175	262	
v/s Ratio Prot		c0.17						c0.06			0.02	
v/s Ratio Perm										0.02		
v/c Ratio		0.23						0.49		0.13	0.15	
Uniform Delay, d1		3.5						32.3		30.7	30.8	
Progression Factor		0.19						1.00		1.00	1.00	
Incremental Delay, d2		0.1						1.5		0.3	0.3	
Delay (s)		0.8						33.7		31.0	31.1	
Level of Service		A						C		C	C	
Approach Delay (s)		0.8			0.0			33.7			31.0	
Approach LOS		A			A			C			C	

Intersection Summary		
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.27	A
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	36.0%	11.0
Analysis Period (min)	15	ICU Level of Service
		A

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Background 2022 OP Peak Hour

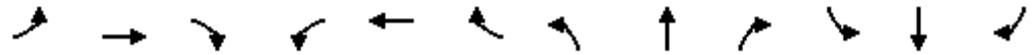


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	390	105	187	460	0	0	0	0	369	755	41
Future Volume (vph)	0	390	105	187	460	0	0	0	0	369	755	41
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					0.86	0.86	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3646		1872	3480					1618	5043	
Flt Permitted		1.00		0.39	1.00					0.95	1.00	
Satd. Flow (perm)		3646		778	3480					1618	5043	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	411	111	197	484	0	0	0	0	397	812	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	522	0	197	484	0	0	0	0	306	941	0
Confl. Peds. (#/hr)			27	27						24		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom		NA
Protected Phases		1		2	1 2					3		3
Permitted Phases				1 2						3		
Actuated Green, G (s)		28.8		37.6	42.8					25.2		25.2
Effective Green, g (s)		28.8		37.6	42.8					25.2		25.2
Actuated g/C Ratio		0.36		0.47	0.53					0.31		0.31
Clearance Time (s)		5.2		5.2						6.8		6.8
Lane Grp Cap (vph)		1312		486	1861					509		1588
v/s Ratio Prot		0.14		c0.04	0.14					c0.19		0.19
v/s Ratio Perm				c0.15								
v/c Ratio		0.40		0.41	0.26					0.60		0.59
Uniform Delay, d1		19.1		17.2	10.0					23.2		23.1
Progression Factor		0.94		0.68	0.66					1.00		1.00
Incremental Delay, d2		0.9		2.4	0.3					5.2		1.6
Delay (s)		18.9		14.1	6.9					28.3		24.7
Level of Service		B		B	A					C		C
Approach Delay (s)		18.9			9.0			0.0				25.6
Approach LOS		B			A			A				C

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Background 2022 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					↑	↗		↑↑	↗				
Traffic Volume (vph)	0	0	0	0	210	12	0	355	215	0	0	0	
Future Volume (vph)	0	0	0	0	210	12	0	355	215	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)					5.5	5.5		5.6	5.6				
Lane Util. Factor					1.00	1.00		0.95	1.00				
Frbp, ped/bikes					1.00	1.00		1.00	1.00				
Flpb, ped/bikes					1.00	1.00		1.00	1.00				
Frt					1.00	0.85		1.00	0.85				
Flt Protected					1.00	1.00		1.00	1.00				
Satd. Flow (prot)					2000	1700		3762	1683				
Flt Permitted					1.00	1.00		1.00	1.00				
Satd. Flow (perm)					2000	1700		3762	1683				
Peak-hour factor, PHF	0.92	0.92	0.92	0.84	0.84	0.84	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	0	250	14	0	374	226	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	250	6	0	374	226	0	0	0	
Confl. Peds. (#/hr)						9			1				
Confl. Bikes (#/hr)						4							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Turn Type					NA	custom		NA	custom				
Protected Phases					2	2		8	8				
Permitted Phases						2			8				
Actuated Green, G (s)					35.5	35.5		33.4	33.4				
Effective Green, g (s)					35.5	35.5		33.4	33.4				
Actuated g/C Ratio					0.44	0.44		0.42	0.42				
Clearance Time (s)					5.5	5.5		5.6	5.6				
Lane Grp Cap (vph)					887	754		1570	702				
v/s Ratio Prot					c0.13	0.00		0.10	c0.13				
v/s Ratio Perm													
v/c Ratio					0.28	0.01		0.24	0.32				
Uniform Delay, d1					14.1	12.4		15.1	15.7				
Progression Factor					1.00	1.00		1.45	1.46				
Incremental Delay, d2					0.8	0.0		0.3	1.0				
Delay (s)					14.9	12.4		22.1	23.9				
Level of Service					B	B		C	C				
Approach Delay (s)		0.0			14.8			22.8			0.0		
Approach LOS		A			B			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			20.4		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.30										
Actuated Cycle Length (s)			80.0		Sum of lost time (s)					11.1			
Intersection Capacity Utilization			56.3%		ICU Level of Service					B			
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2022 OP Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 					
Traffic Volume (vph)	116	701	0	0	520	328	97	622	152	0	0	0	
Future Volume (vph)	116	701	0	0	520	328	97	622	152	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6					
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95					
Frbp, ped/bikes	1.00	1.00			0.99	0.94	1.00	1.00					
Flpb, ped/bikes	1.00	1.00			1.00	1.00	0.99	1.00					
Frt	1.00	1.00			0.98	0.85	1.00	0.97					
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00					
Satd. Flow (prot)	1892	3515			3247	1219	1857	3638					
Flt Permitted	0.29	1.00			1.00	1.00	0.95	1.00					
Satd. Flow (perm)	574	3515			3247	1219	1857	3638					
Peak-hour factor, PHF	0.93	0.93	0.93	0.94	0.94	0.94	0.86	0.86	0.86	0.92	0.92	0.92	
Adj. Flow (vph)	125	754	0	0	553	349	113	723	177	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	125	754	0	0	630	272	113	900	0	0	0	0	
Confl. Peds. (#/hr)	44					44	14		7				
Confl. Bikes (#/hr)									1				
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%	
Parking (#/hr)		10			10	10							
Turn Type	pm+pt	NA			NA	Perm	Perm	NA					
Protected Phases	2	1 2			1			3					
Permitted Phases	1 2					1	3						
Actuated Green, G (s)	35.0	40.0			27.0	27.0	29.4	29.4					
Effective Green, g (s)	35.0	40.0			27.0	27.0	29.4	29.4					
Actuated g/C Ratio	0.44	0.50			0.34	0.34	0.37	0.37					
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6					
Lane Grp Cap (vph)	382	1757			1095	411	682	1336					
v/s Ratio Prot	0.03	c0.21			0.19			c0.25					
v/s Ratio Perm	0.11					c0.22	0.06						
v/c Ratio	0.33	0.43			0.58	0.66	0.17	0.67					
Uniform Delay, d1	20.5	12.7			21.8	22.6	17.0	21.3					
Progression Factor	0.37	0.32			1.00	1.00	0.36	0.43					
Incremental Delay, d2	2.1	0.7			2.2	8.1	0.5	2.7					
Delay (s)	9.7	4.7			24.0	30.7	6.7	11.8					
Level of Service	A	A			C	C	A	B					
Approach Delay (s)		5.4			26.0			11.2			0.0		
Approach LOS		A			C			B			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			14.2									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.65										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	15.6
Intersection Capacity Utilization			58.4%									ICU Level of Service	B
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
 Background 2022 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕			↕
Traffic Volume (vph)	9	92	4	374	108	28	16	20	10	0	392
Future Volume (vph)	9	92	4	374	108	28	16	20	10	0	392
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00			0.88
Frbp, ped/bikes		1.00		1.00	0.99		1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00
Frt		0.99		1.00	0.98		1.00	0.85			0.85
Flt Protected		1.00		0.95	0.98		0.95	1.00			1.00
Satd. Flow (prot)		1979		1805	1533		1900	1700			2962
Flt Permitted		1.00		0.95	0.98		0.95	1.00			1.00
Satd. Flow (perm)		1979		1805	1533		1900	1700			2962
Peak-hour factor, PHF	0.80	0.80	0.80	0.95	0.95	0.95	0.66	0.66	0.66	0.89	0.89
Adj. Flow (vph)	11	115	5	394	114	29	24	30	15	0	440
RTOR Reduction (vph)	0	2	0	0	5	0	0	34	0	0	321
Lane Group Flow (vph)	0	130	0	268	264	0	24	11	0	0	119
Confl. Peds. (#/hr)	32		11	11		32	1		9		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)				10							
Turn Type	Split	NA		Split	NA		Prot	Prot			Over
Protected Phases	3	3		1	1		2	2			1
Permitted Phases											
Actuated Green, G (s)		20.0		21.7	21.7		20.0	20.0			21.7
Effective Green, g (s)		20.0		21.7	21.7		20.0	20.0			21.7
Actuated g/C Ratio		0.25		0.27	0.27		0.25	0.25			0.27
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		494		489	415		475	425			803
v/s Ratio Prot		c0.07		0.15	c0.17		c0.01	0.01			0.04
v/s Ratio Perm											
v/c Ratio		0.26		0.55	0.64		0.05	0.03			0.15
Uniform Delay, d1		24.1		25.0	25.7		22.8	22.6			22.1
Progression Factor		1.00		1.04	1.04		1.00	1.00			1.00
Incremental Delay, d2		0.3		4.3	7.1		0.0	0.0			0.4
Delay (s)		24.4		30.2	33.9		22.8	22.7			22.5
Level of Service		C		C	C		C	C			C
Approach Delay (s)		24.4		32.1			22.7			22.5	
Approach LOS		C		C			C			C	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			27.1			HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.32								
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			18.3		
Intersection Capacity Utilization			63.8%			ICU Level of Service				B	
Analysis Period (min)			15								
c	Critical Lane Group										

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2022 OP Peak Hour



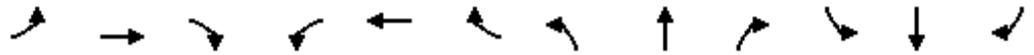
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕		↕	↕	
Traffic Volume (vph)	19	706	11	14	561	40	38	37	46	33	21	35
Future Volume (vph)	19	706	11	14	561	40	38	37	46	33	21	35
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.97		1.00	0.97	
Flpb, ped/bikes		1.00			1.00		0.98	1.00		0.97	1.00	
Frt		1.00			0.99		1.00	0.92		1.00	0.91	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3463			3462		1853	1514		1798	1471	
Flt Permitted		0.93			0.93		0.71	1.00		0.69	1.00	
Satd. Flow (perm)		3229			3232		1394	1514		1298	1471	
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.76	0.76	0.76	0.86	0.86	0.86
Adj. Flow (vph)	20	759	12	16	630	45	50	49	61	38	24	41
RTOR Reduction (vph)	0	1	0	0	6	0	0	50	0	0	34	0
Lane Group Flow (vph)	0	790	0	0	685	0	50	60	0	38	31	0
Confl. Peds. (#/hr)	18		24	24		18	26		39	39		26
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	2%	2%	2%
Parking (#/hr)		10			10			10			10	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2215			2217		243	264		227	257	
v/s Ratio Prot								c0.04				0.02
v/s Ratio Perm		c0.24			0.21		0.04			0.03		
v/c Ratio		0.36			0.31		0.21	0.23		0.17	0.12	
Uniform Delay, d1		5.2			5.0		28.2	28.3		28.0	27.8	
Progression Factor		0.71			0.24		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			0.4		1.9	2.0		1.6	1.0	
Delay (s)		4.1			1.5		30.2	30.3		29.6	28.8	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		4.1			1.5			30.3			29.1	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
2005: Washington St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2022 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Volume (vph)	12	770	36	25	575	20	19	31	31	40	32	30
Future Volume (vph)	12	770	36	25	575	20	19	31	31	40	32	30
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			0.99			0.98	
Frt		0.99			1.00			0.95			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		3476			3445			1541			1818	
Flt Permitted		0.94			0.90			0.90			0.86	
Satd. Flow (perm)		3285			3099			1410			1594	
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.81	0.81	0.81	0.92	0.92	0.92
Adj. Flow (vph)	13	865	40	27	612	21	23	38	38	43	35	33
RTOR Reduction (vph)	0	4	0	0	3	0	0	28	0	0	19	0
Lane Group Flow (vph)	0	914	0	0	657	0	0	71	0	0	92	0
Confl. Peds. (#/hr)	32		30	30		32	46		43	43		46
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10				
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		55.0			55.0			14.0			14.0	
Effective Green, g (s)		55.0			55.0			14.0			14.0	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2258			2130			246			278	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.21			0.05			c0.06	
v/c Ratio		0.40			0.31			0.29			0.33	
Uniform Delay, d1		5.4			5.0			28.7			28.9	
Progression Factor		0.25			0.43			1.00			1.00	
Incremental Delay, d2		0.5			0.3			2.9			3.2	
Delay (s)		1.9			2.5			31.6			32.1	
Level of Service		A			A			C			C	
Approach Delay (s)		1.9			2.5			31.6			32.1	
Approach LOS		A			A			C			C	

Intersection Summary		
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.39	A
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	60.0%	11.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		B

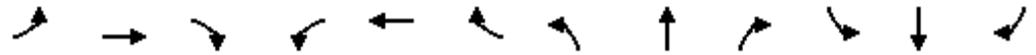
HCM Signalized Intersection Capacity Analysis  
3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
Background 2022 OP Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			  					
Traffic Volume (vph)	40	174	0	0	297	27	172	820	228	0	0	0	
Future Volume (vph)	40	174	0	0	297	27	172	820	228	0	0	0	
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1				
Lane Util. Factor	1.00	0.95			0.95			0.91	1.00				
Frbp, ped/bikes	1.00	1.00			1.00			1.00	0.99				
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00				
Frt	1.00	1.00			0.99			1.00	0.85				
Flt Protected	0.95	1.00			1.00			0.99	1.00				
Satd. Flow (prot)	1893	3800			3748			5390	1678				
Flt Permitted	0.55	1.00			1.00			0.99	1.00				
Satd. Flow (perm)	1090	3800			3748			5390	1678				
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	44	193	0	0	313	28	181	863	240	0	0	0	
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	114	0	0	0	
Lane Group Flow (vph)	44	193	0	0	333	0	0	1044	126	0	0	0	
Confl. Peds. (#/hr)	5					5	2		1				
Confl. Bikes (#/hr)									1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Perm				
Protected Phases		4			8			2					
Permitted Phases	4						2		2				
Actuated Green, G (s)	25.4	25.4			25.4			41.9	41.9				
Effective Green, g (s)	25.4	25.4			25.4			41.9	41.9				
Actuated g/C Ratio	0.32	0.32			0.32			0.52	0.52				
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1				
Lane Grp Cap (vph)	346	1206			1189			2823	878				
v/s Ratio Prot		0.05			0.09								
v/s Ratio Perm	0.04							0.19	0.07				
v/c Ratio	0.13	0.16			0.28			0.37	0.14				
Uniform Delay, d1	19.4	19.6			20.4			11.3	9.8				
Progression Factor	0.98	0.96			1.00			0.77	0.92				
Incremental Delay, d2	0.7	0.3			0.6			0.3	0.3				
Delay (s)	19.7	19.1			21.0			9.0	9.3				
Level of Service	B	B			C			A	A				
Approach Delay (s)		19.2			21.0			9.1			0.0		
Approach LOS		B			C			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			12.5									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.34										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	12.7
Intersection Capacity Utilization			66.4%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
Background 2022 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	139	112	262	202	0	0	0	0	78	854	41
Future Volume (vph)	0	139	112	262	202	0	0	0	0	78	854	41
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.91	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.93		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3518		1896	3800					1881	5341	
Flt Permitted		1.00		0.58	1.00					0.95	1.00	
Satd. Flow (perm)		3518		1152	3800					1881	5341	
Peak-hour factor, PHF	0.88	0.88	0.88	0.87	0.87	0.87	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	0	158	127	301	232	0	0	0	0	90	982	47
RTOR Reduction (vph)	0	92	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	193	0	301	232	0	0	0	0	90	1022	0
Confl. Peds. (#/hr)			5	5								5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		42.2	42.2					26.4	26.4	
Effective Green, g (s)		22.2		42.2	42.2					26.4	26.4	
Actuated g/C Ratio		0.28		0.53	0.53					0.33	0.33	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		976		739	2004					620	1762	
v/s Ratio Prot		0.05		c0.07	0.06						c0.19	
v/s Ratio Perm				c0.14						0.05		
v/c Ratio		0.20		0.41	0.12					0.15	0.58	
Uniform Delay, d1		22.1		12.1	9.5					18.9	22.2	
Progression Factor		1.00		0.86	0.69					0.66	0.73	
Incremental Delay, d2		0.5		0.5	0.0					0.4	1.3	
Delay (s)		22.5		10.9	6.6					12.9	17.5	
Level of Service		C		B	A					B	B	
Approach Delay (s)		22.5			9.0			0.0			17.1	
Approach LOS		C			A			A			B	

Intersection Summary		
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.51	B
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	65.6%	17.2
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		C

# HCM Signalized Intersection Capacity Analysis

## 3004: Huron St & Catherine St (PB)

# Road Diet Capacity Analysis

## Background 2022 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖			↗			↖↗↘				
Traffic Volume (vph)	12	18	0	0	1	49	9	880	7	0	0	0
Future Volume (vph)	12	18	0	0	1	49	9	880	7	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.91				
Frbp, ped/bikes		1.00			0.98			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.87			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1956			1699			5374				
Flt Permitted		0.84			1.00			1.00				
Satd. Flow (perm)		1684			1699			5374				
Peak-hour factor, PHF	0.60	0.60	0.60	0.88	0.88	0.88	0.91	0.91	0.91	0.92	0.92	0.92
Adj. Flow (vph)	20	30	0	0	1	56	10	967	8	0	0	0
RTOR Reduction (vph)	0	0	0	0	51	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	50	0	0	6	0	0	984	0	0	0	0
Confl. Peds. (#/hr)	5					5	3		1			
Confl. Bikes (#/hr)						1			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		7.8			7.8			61.6				
Effective Green, g (s)		7.8			7.8			61.6				
Actuated g/C Ratio		0.10			0.10			0.77				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		164			165			4137				
v/s Ratio Prot					0.00							
v/s Ratio Perm		c0.03						0.18				
v/c Ratio		0.30			0.04			0.24				
Uniform Delay, d1		33.6			32.7			2.6				
Progression Factor		1.00			1.00			1.49				
Incremental Delay, d2		1.1			0.1			0.1				
Delay (s)		34.6			32.8			4.0				
Level of Service		C			C			A				
Approach Delay (s)		34.6			32.8			4.0			0.0	
Approach LOS		C			C			A			A	

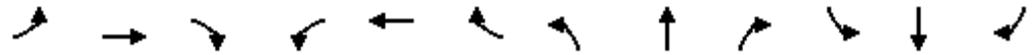
### Intersection Summary

HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2022 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑								↑↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	172	634	0	0	0	0	0	0	29	405	0
Future Volume (vph)	0	172	634	0	0	0	0	0	0	29	405	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	0	202	746	0	0	0	0	0	0	32	450	0

Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2
Volume Total (vph)	101	101	746	182	300
Volume Left (vph)	0	0	0	32	0
Volume Right (vph)	0	0	746	0	0
Hadj (s)	0.00	0.00	-0.70	0.12	0.03
Departure Headway (s)	5.7	5.7	3.2	5.2	5.1
Degree Utilization, x	0.16	0.16	0.66	0.26	0.43
Capacity (veh/h)	597	599	1119	675	689
Control Delay (s)	8.5	8.5	11.1	8.8	10.6
Approach Delay (s)	10.5			9.9	
Approach LOS	B			A	

Intersection Summary

Delay	10.3
Level of Service	B
Intersection Capacity Utilization	55.8%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St & Pearl St

Road Diet Capacity Analysis  
 Background 2022 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	22	98	88	0	0	0	0	0	1038	15
Future Volume (Veh/h)	0	0	22	98	88	0	0	0	0	0	1038	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.60	0.60	0.60	0.75	0.75	0.75	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	37	131	117	0	0	0	0	0	1153	17
Pedestrians								9				
Lane Width (ft)								0.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	1220	1162	402	430	1170	0	1170			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1220	1162	402	430	1170	0	1170			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	94	73	40	100	100			100		
cM capacity (veh/h)	72	197	604	482	195	1091	604			1629		

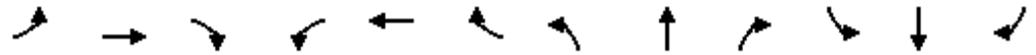
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	SB 3
Volume Total	37	87	161	461	461	248
Volume Left	0	87	44	0	0	0
Volume Right	37	0	0	0	0	17
cSH	604	482	232	1700	1700	1700
Volume to Capacity	0.06	0.18	0.69	0.27	0.27	0.15
Queue Length 95th (ft)	5	16	112	0	0	0
Control Delay (s)	11.4	14.1	49.4	0.0	0.0	0.0
Lane LOS	B	B	E			
Approach Delay (s)	11.4	36.9		0.0		
Approach LOS	B	E				

Intersection Summary

Average Delay	6.6
Intersection Capacity Utilization	40.1%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2022 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻					↻	↻↻↻	
Traffic Volume (veh/h)	0	22	30	32	13	0	0	0	0	96	923	19
Future Volume (Veh/h)	0	22	30	32	13	0	0	0	0	96	923	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.92	0.92	0.92	0.93	0.93	0.93
Hourly flow rate (vph)	0	23	32	38	15	0	0	0	0	103	992	20
Pedestrians		5			3			7				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.88	0.88	0.88	0.88	0.88		0.88					
vC, conflicting volume	1220	1216	353	590	1226	3	1017			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	758	753	0	39	764	3	526			3		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	92	97	95	94	100	100			94		
cM capacity (veh/h)	237	278	952	721	271	1077	917			1628		
Direction, Lane #	EB 1	WB 1	SB 1	SB 2	SB 3	SB 4						
Volume Total	55	53	103	397	397	218						
Volume Left	0	38	103	0	0	0						
Volume Right	32	0	0	0	0	20						
cSH	473	490	1628	1700	1700	1700						
Volume to Capacity	0.12	0.11	0.06	0.23	0.23	0.13						
Queue Length 95th (ft)	10	9	5	0	0	0						
Control Delay (s)	13.6	13.2	7.4	0.0	0.0	0.0						
Lane LOS	B	B	A									
Approach Delay (s)	13.6	13.2	0.7									
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utilization			33.0%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2022 OP Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	0	40	894	0	0
Future Volume (Veh/h)	39	0	40	894	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	49	0	43	951	0	0
Pedestrians	5				1	
Lane Width (ft)	12.0				0.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.99					
vC, conflicting volume	409	5	5			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	384	5	5			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	100	97			
cM capacity (veh/h)	575	1078	1615			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3		
Volume Total	49	233	380	380		
Volume Left	49	43	0	0		
Volume Right	0	0	0	0		
cSH	575	1615	1700	1700		
Volume to Capacity	0.09	0.03	0.22	0.22		
Queue Length 95th (ft)	7	2	0	0		
Control Delay (s)	11.8	1.5	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	11.8	0.4				
Approach LOS	B					
Intersection Summary						
Average Delay	0.9					
Intersection Capacity Utilization	27.2%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

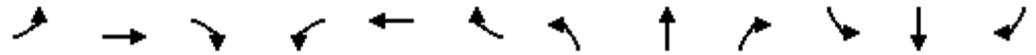
Road Diet Capacity Analysis  
 Background 2022 OP Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	111	957	0	0
Future Volume (Veh/h)	0	0	111	957	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	0	126	1088	0	0
Pedestrians	8					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.82					
vC, conflicting volume	804	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	306	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	92			
cM capacity (veh/h)	502	1078	1625			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	489	725				
Volume Left	126	0				
Volume Right	0	0				
cSH	1625	1700				
Volume to Capacity	0.08	0.43				
Queue Length 95th (ft)	6	0				
Control Delay (s)	2.4	0.0				
Lane LOS	A					
Approach Delay (s)	1.0					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			1.0			
Intersection Capacity Utilization			31.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis  
 1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2022 PM Peak Hour



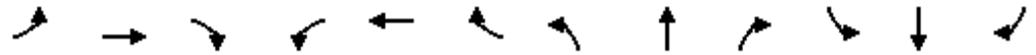
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑						↑			↑	
Traffic Volume (vph)	8	1752	85	0	0	0	0	65	26	37	40	0
Future Volume (vph)	8	1752	85	0	0	0	0	65	26	37	40	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.4						10.8			10.8	
Lane Util. Factor		0.91						1.00			1.00	
Frbp, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		0.99						0.96			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		5413						1612			1925	
Flt Permitted		1.00						1.00			0.79	
Satd. Flow (perm)		5413						1612			1562	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.82	0.82	0.82	0.67	0.67	0.67
Adj. Flow (vph)	9	1991	97	0	0	0	0	79	32	55	60	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	2090	0	0	0	0	0	103	0	0	115	0
Confl. Peds. (#/hr)	4		5						24	24		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)								10				
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		46.6						17.2			17.2	
Effective Green, g (s)		46.6						17.2			17.2	
Actuated g/C Ratio		0.58						0.21			0.21	
Clearance Time (s)		5.4						10.8			10.8	
Lane Grp Cap (vph)		3153						346			335	
v/s Ratio Prot								0.06				
v/s Ratio Perm		0.39									c0.07	
v/c Ratio		0.66						0.30			0.34	
Uniform Delay, d1		11.4						26.3			26.6	
Progression Factor		1.00						1.00			1.30	
Incremental Delay, d2		1.1						2.2			2.8	
Delay (s)		12.5						28.5			37.4	
Level of Service		B						C			D	
Approach Delay (s)		12.5			0.0			28.5			37.4	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.2
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2022 PM Peak Hour

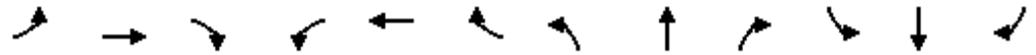


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑						↑		↑	↑	
Traffic Volume (vph)	32	1404	29	0	0	0	0	53	14	16	40	0
Future Volume (vph)	32	1404	29	0	0	0	0	53	14	16	40	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3						5.7		5.7	5.7	
Lane Util. Factor		0.91						1.00		1.00	1.00	
Frbp, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.99	1.00	
Frt		1.00						0.97		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		5412						1936		1889	2000	
Flt Permitted		1.00						1.00		0.71	1.00	
Satd. Flow (perm)		5412						1936		1405	2000	
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.87	0.87	0.87	0.72	0.72	0.72
Adj. Flow (vph)	34	1494	31	0	0	0	0	61	16	22	56	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	13	0	0	0	0
Lane Group Flow (vph)	0	1557	0	0	0	0	0	64	0	22	56	0
Confl. Peds. (#/hr)	7		6						8	8		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	3	0	0	0	0	0	0	0	0	0	0
Turn Type	custom	NA						NA		Perm	NA	
Protected Phases	1	1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		61.3						7.7		7.7	7.7	
Effective Green, g (s)		61.3						7.7		7.7	7.7	
Actuated g/C Ratio		0.77						0.10		0.10	0.10	
Clearance Time (s)		5.3						5.7		5.7	5.7	
Vehicle Extension (s)		0.2						3.0		3.0	3.0	
Lane Grp Cap (vph)		4146						186		135	192	
v/s Ratio Prot		c0.29						c0.03			0.03	
v/s Ratio Perm										0.02		
v/c Ratio		0.38						0.35		0.16	0.29	
Uniform Delay, d1		3.1						33.8		33.2	33.6	
Progression Factor		0.09						1.00		1.00	1.00	
Incremental Delay, d2		0.2						1.1		0.6	0.8	
Delay (s)		0.5						34.9		33.8	34.5	
Level of Service		A						C		C	C	
Approach Delay (s)		0.5			0.0			34.9			34.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	3.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Background 2022 PM Peak Hour

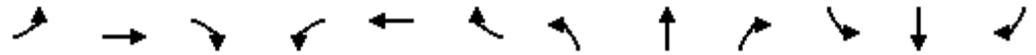


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	470	134	286	529	0	0	0	0	531	1196	39
Future Volume (vph)	0	470	134	286	529	0	0	0	0	531	1196	39
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					0.86	0.86	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	1.00	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3652		1898	3515					1634	5115	
Flt Permitted		1.00		0.29	1.00					0.95	1.00	
Satd. Flow (perm)		3652		587	3515					1634	5115	
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	0	516	147	304	563	0	0	0	0	590	1329	43
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	663	0	304	563	0	0	0	0	478	1481	0
Confl. Peds. (#/hr)			12	12						10		9
Confl. Bikes (#/hr)			1									1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom	NA	
Protected Phases		1		2	1 2					3	3	
Permitted Phases				1 2						3		
Actuated Green, G (s)		27.8		36.6	41.8					26.2	26.2	
Effective Green, g (s)		27.8		36.6	41.8					26.2	26.2	
Actuated g/C Ratio		0.35		0.46	0.52					0.33	0.33	
Clearance Time (s)		5.2		5.2						6.8	6.8	
Lane Grp Cap (vph)		1269		412	1836					535	1675	
v/s Ratio Prot		0.18		c0.08	0.16					c0.29	0.29	
v/s Ratio Perm				c0.26								
v/c Ratio		0.52		0.74	0.31					0.89	0.88	
Uniform Delay, d1		20.8		23.1	10.9					25.6	25.5	
Progression Factor		1.00		0.51	0.57					1.00	1.00	
Incremental Delay, d2		1.5		10.7	0.4					19.9	7.2	
Delay (s)		22.3		22.4	6.6					45.5	32.7	
Level of Service		C		C	A					D	C	
Approach Delay (s)		22.3			12.1			0.0			35.8	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Background 2022 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					↑	↗		↑↑	↗				
Traffic Volume (vph)	0	0	0	0	259	16	0	396	372	0	0	0	
Future Volume (vph)	0	0	0	0	259	16	0	396	372	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)					5.5	5.5		5.6	5.6				
Lane Util. Factor					1.00	1.00		0.95	1.00				
Frbp, ped/bikes					1.00	1.00		1.00	1.00				
Flpb, ped/bikes					1.00	1.00		1.00	1.00				
Frt					1.00	0.85		1.00	0.85				
Flt Protected					1.00	1.00		1.00	1.00				
Satd. Flow (prot)					2000	1700		3800	1700				
Flt Permitted					1.00	1.00		1.00	1.00				
Satd. Flow (perm)					2000	1700		3800	1700				
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	0	298	18	0	417	392	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	10	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	298	8	0	417	392	0	0	0	
Confl. Peds. (#/hr)						19			3				
Confl. Bikes (#/hr)						1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type					NA	custom		NA	custom				
Protected Phases					2	2		8	8				
Permitted Phases						2			8				
Actuated Green, G (s)					36.5	36.5		32.4	32.4				
Effective Green, g (s)					36.5	36.5		32.4	32.4				
Actuated g/C Ratio					0.46	0.46		0.40	0.40				
Clearance Time (s)					5.5	5.5		5.6	5.6				
Lane Grp Cap (vph)					912	775		1539	688				
v/s Ratio Prot					c0.15	0.00		0.11	c0.23				
v/s Ratio Perm													
v/c Ratio					0.33	0.01		0.27	0.57				
Uniform Delay, d1					13.9	11.9		15.9	18.4				
Progression Factor					1.00	1.00		1.32	1.30				
Incremental Delay, d2					1.0	0.0		0.4	2.8				
Delay (s)					14.9	11.9		21.4	26.7				
Level of Service					B	B		C	C				
Approach Delay (s)		0.0			14.7			24.0			0.0		
Approach LOS		A			B			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			21.4		HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.44										
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				11.1				
Intersection Capacity Utilization			55.4%		ICU Level of Service				B				
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2022 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Traffic Volume (vph)	154	1002	0	0	670	372	128	761	194	0	0	0
Future Volume (vph)	154	1002	0	0	670	372	128	761	194	0	0	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6				
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95				
Frbp, ped/bikes	1.00	1.00			1.00	0.94	1.00	1.00				
Flpb, ped/bikes	1.00	1.00			1.00	1.00	0.98	1.00				
Frt	1.00	1.00			0.99	0.85	1.00	0.97				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1897	3515			3311	1241	1867	3666				
Flt Permitted	0.20	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	398	3515			3311	1241	1867	3666				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	164	1066	0	0	713	396	139	827	211	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	164	1066	0	0	776	333	139	1038	0	0	0	0
Confl. Peds. (#/hr)	37					37	19		13			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10	10						
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	2	1 2			1			3				
Permitted Phases	1 2					1	3					
Actuated Green, G (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Effective Green, g (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Actuated g/C Ratio	0.44	0.50			0.34	0.34	0.37	0.37				
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6				
Lane Grp Cap (vph)	324	1757			1117	418	686	1347				
v/s Ratio Prot	0.05	c0.30			0.23			c0.28				
v/s Ratio Perm	0.17					c0.27	0.07					
v/c Ratio	0.51	0.61			0.69	0.80	0.20	0.77				
Uniform Delay, d1	25.5	14.4			22.9	24.0	17.3	22.3				
Progression Factor	0.57	0.45			1.00	1.00	0.49	0.56				
Incremental Delay, d2	4.9	1.4			3.6	14.6	0.7	4.3				
Delay (s)	19.5	7.9			26.5	38.6	9.2	16.7				
Level of Service	B	A			C	D	A	B				
Approach Delay (s)		9.4			30.1			15.8			0.0	
Approach LOS		A			C			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			18.1		HCM 2000 Level of Service				B			
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				15.6			
Intersection Capacity Utilization			69.1%		ICU Level of Service				C			
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis  
2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
Background 2022 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕			↕
Traffic Volume (vph)	17	115	0	582	252	38	33	24	11	0	581
Future Volume (vph)	17	115	0	582	252	38	33	24	11	0	581
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00			0.88
Frbp, ped/bikes		1.00		1.00	0.99		1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00
Frt		1.00		1.00	0.99		1.00	0.85			0.85
Flt Protected		0.99		0.95	0.98		0.95	1.00			1.00
Satd. Flow (prot)		1987		1805	1555		1900	1700			2962
Flt Permitted		0.99		0.95	0.98		0.95	1.00			1.00
Satd. Flow (perm)		1987		1805	1555		1900	1700			2962
Peak-hour factor, PHF	0.81	0.81	0.81	0.93	0.93	0.93	0.60	0.60	0.60	0.95	0.95
Adj. Flow (vph)	21	142	0	626	271	41	55	40	18	0	612
RTOR Reduction (vph)	0	0	0	0	2	0	0	48	0	0	297
Lane Group Flow (vph)	0	163	0	463	473	0	55	10	0	0	315
Confl. Peds. (#/hr)	16		5	5		16	1		3		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)					10						
Turn Type	Split	NA		Split	NA		Prot	Prot			Over
Protected Phases	3	3		1	1		2	2			1
Permitted Phases											
Actuated Green, G (s)		20.0		61.7	61.7		20.0	20.0			61.7
Effective Green, g (s)		20.0		61.7	61.7		20.0	20.0			61.7
Actuated g/C Ratio		0.17		0.51	0.51		0.17	0.17			0.51
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		331		928	799		316	283			1522
v/s Ratio Prot		c0.08		0.26	c0.30		c0.03	0.01			0.11
v/s Ratio Perm											
v/c Ratio		0.49		0.50	0.59		0.17	0.03			0.21
Uniform Delay, d1		45.4		19.0	20.4		42.9	41.9			15.8
Progression Factor		1.00		1.00	1.00		1.00	1.00			1.00
Incremental Delay, d2		1.2		1.9	3.2		0.3	0.0			0.3
Delay (s)		46.5		21.0	23.6		43.2	42.0			16.2
Level of Service		D		C	C		D	D			B
Approach Delay (s)		46.5			22.3		42.5			16.2	
Approach LOS		D			C		D			B	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			23.6			HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.49								
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			18.3		
Intersection Capacity Utilization			73.1%			ICU Level of Service				D	
Analysis Period (min)			15								
c Critical Lane Group											

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2022 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↖	↗		↖	↗	
Traffic Volume (vph)	2	1052	9	7	731	30	17	33	37	52	29	39
Future Volume (vph)	2	1052	9	7	731	30	17	33	37	52	29	39
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.97		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		0.96	1.00	
Frt		1.00			0.99		1.00	0.92		1.00	0.91	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3509			3449		1877	1519		1827	1531	
Flt Permitted		0.95			0.94		0.70	1.00		0.69	1.00	
Satd. Flow (perm)		3349			3259		1382	1519		1334	1531	
Peak-hour factor, PHF	0.95	0.95	0.95	0.91	0.91	0.91	0.71	0.71	0.71	0.77	0.77	0.77
Adj. Flow (vph)	2	1107	9	8	803	33	24	46	52	68	38	51
RTOR Reduction (vph)	0	1	0	0	4	0	0	43	0	0	42	0
Lane Group Flow (vph)	0	1117	0	0	840	0	24	55	0	68	47	0
Confl. Peds. (#/hr)	20		14	14		20	13		42	42		13
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10				10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2				2
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2298			2236		241	265		233	267	
v/s Ratio Prot								0.04			0.03	
v/s Ratio Perm		c0.33			0.26		0.02			c0.05		
v/c Ratio		0.49			0.38		0.10	0.21		0.29	0.18	
Uniform Delay, d1		5.9			5.3		27.7	28.3		28.7	28.1	
Progression Factor		0.48			0.15		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.5		0.8	1.8		3.2	1.4	
Delay (s)		3.4			1.2		28.5	30.0		31.8	29.5	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		3.4			1.2			29.7			30.5	
Approach LOS		A			A			C			C	

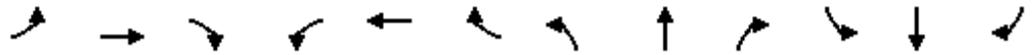
Intersection Summary

HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 2005: Washington St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Background 2022 PM Peak Hour

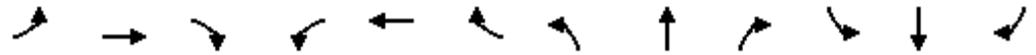


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Volume (vph)	0	1065	50	0	771	28	15	36	35	83	29	38
Future Volume (vph)	0	1065	50	0	771	28	15	36	35	83	29	38
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			0.98			0.97	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		0.99			0.99			0.95			0.97	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		3478			3486			1549			1806	
Flt Permitted		1.00			1.00			0.93			0.77	
Satd. Flow (perm)		3478			3486			1446			1438	
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.68	0.68	0.68	0.87	0.87	0.87
Adj. Flow (vph)	0	1145	54	0	812	29	22	53	51	95	33	44
RTOR Reduction (vph)	0	4	0	0	3	0	0	31	0	0	16	0
Lane Group Flow (vph)	0	1195	0	0	838	0	0	95	0	0	156	0
Confl. Peds. (#/hr)	35		31	31		35	76		28	28		76
Confl. Bikes (#/hr)			1			1						1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10				
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		55.0			55.0			14.0			14.0	
Effective Green, g (s)		55.0			55.0			14.0			14.0	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2391			2396			253			251	
v/s Ratio Prot		c0.34			0.24							
v/s Ratio Perm								0.07			c0.11	
v/c Ratio		0.50			0.35			0.38			0.62	
Uniform Delay, d1		6.0			5.1			29.2			30.6	
Progression Factor		0.19			0.43			1.00			1.00	
Incremental Delay, d2		0.7			0.3			4.2			11.1	
Delay (s)		1.8			2.5			33.4			41.7	
Level of Service		A			A			C			D	
Approach Delay (s)		1.8			2.5			33.4			41.7	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
Background 2022 PM Peak Hour



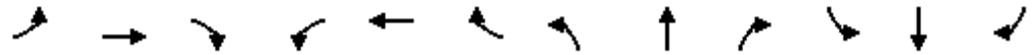
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑			↙↙↙	↘			
Traffic Volume (vph)	32	306	0	0	453	36	192	959	349	0	0	0
Future Volume (vph)	32	306	0	0	453	36	192	959	349	0	0	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Util. Factor	1.00	0.95			0.95			0.91	1.00			
Frbp, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1898	3800			3754			5391	1700			
Flt Permitted	0.38	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	762	3800			3754			5391	1700			
Peak-hour factor, PHF	0.83	0.83	0.83	0.86	0.86	0.86	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	39	369	0	0	527	42	202	1009	367	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	145	0	0	0
Lane Group Flow (vph)	39	369	0	0	562	0	0	1211	222	0	0	0
Confl. Peds. (#/hr)	2					2	3					
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	28.4	28.4			28.4			38.9	38.9			
Effective Green, g (s)	28.4	28.4			28.4			38.9	38.9			
Actuated g/C Ratio	0.35	0.35			0.35			0.49	0.49			
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Grp Cap (vph)	270	1349			1332			2621	826			
v/s Ratio Prot		0.10			c0.15							
v/s Ratio Perm	0.05							0.22	0.13			
v/c Ratio	0.14	0.27			0.42			0.46	0.27			
Uniform Delay, d1	17.5	18.4			19.6			13.6	12.1			
Progression Factor	0.97	0.96			1.00			0.62	0.33			
Incremental Delay, d2	1.1	0.5			1.0			0.5	0.7			
Delay (s)	18.1	18.2			20.6			8.9	4.7			
Level of Service	B	B			C			A	A			
Approach Delay (s)		18.2			20.6			7.9			0.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
Background 2022 PM Peak Hour



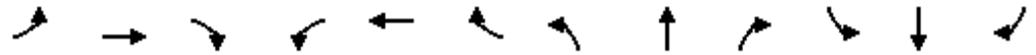
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	222	160	370	296	0	0	0	0	158	1467	39
Future Volume (vph)	0	222	160	370	296	0	0	0	0	158	1467	39
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.91	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.94		1.00	1.00					1.00	1.00	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3519		1893	3800					1898	5414	
Flt Permitted		1.00		0.46	1.00					0.95	1.00	
Satd. Flow (perm)		3519		912	3800					1898	5414	
Peak-hour factor, PHF	0.89	0.89	0.89	0.82	0.82	0.82	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	0	249	180	451	361	0	0	0	0	166	1544	41
RTOR Reduction (vph)	0	64	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	365	0	451	361	0	0	0	0	166	1582	0
Confl. Peds. (#/hr)			14	14						1		2
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		44.2	44.2					24.4	24.4	
Effective Green, g (s)		22.2		44.2	44.2					24.4	24.4	
Actuated g/C Ratio		0.28		0.55	0.55					0.30	0.30	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		976		702	2099					578	1651	
v/s Ratio Prot		0.10		c0.13	0.10						c0.29	
v/s Ratio Perm				c0.22						0.09		
v/c Ratio		0.37		0.64	0.17					0.29	0.96	
Uniform Delay, d1		23.3		15.5	8.9					21.2	27.3	
Progression Factor		1.00		0.93	0.64					0.70	0.79	
Incremental Delay, d2		1.1		2.1	0.1					0.9	11.1	
Delay (s)		24.4		16.5	5.7					15.7	32.5	
Level of Service		C		B	A					B	C	
Approach Delay (s)		24.4			11.7			0.0			30.9	
Approach LOS		C			B			A			C	

Intersection Summary		
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.81	
Actuated Cycle Length (s)	80.0	Sum of lost time (s) 17.2
Intersection Capacity Utilization	79.1%	ICU Level of Service D
Analysis Period (min)	15	

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3004: Huron St & Catherine St (PB)

Road Diet Capacity Analysis  
Background 2022 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖			↗			↖↗↘				
Traffic Volume (vph)	14	27	0	0	8	40	4	995	6	0	0	0
Future Volume (vph)	14	27	0	0	8	40	4	995	6	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.91				
Frbp, ped/bikes		1.00			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.89			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1966			1755			5377				
Flt Permitted		0.86			1.00			1.00				
Satd. Flow (perm)		1721			1755			5377				
Peak-hour factor, PHF	0.77	0.77	0.77	0.73	0.73	0.73	0.89	0.89	0.89	0.92	0.92	0.92
Adj. Flow (vph)	18	35	0	0	11	55	4	1118	7	0	0	0
RTOR Reduction (vph)	0	0	0	0	50	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	53	0	0	16	0	0	1129	0	0	0	0
Confl. Peds. (#/hr)	1						1	1	5			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		7.8			7.8			61.6				
Effective Green, g (s)		7.8			7.8			61.6				
Actuated g/C Ratio		0.10			0.10			0.77				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		167			171			4140				
v/s Ratio Prot					0.01							
v/s Ratio Perm		c0.03						0.21				
v/c Ratio		0.32			0.10			0.27				
Uniform Delay, d1		33.6			32.9			2.7				
Progression Factor		1.00			1.00			1.42				
Incremental Delay, d2		1.1			0.2			0.1				
Delay (s)		34.7			33.1			3.9				
Level of Service		C			C			A				
Approach Delay (s)		34.7			33.1			3.9			0.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	36.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2022 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑								↑↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	350	1086	0	0	0	0	0	0	31	657	0
Future Volume (vph)	0	350	1086	0	0	0	0	0	0	31	657	0
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	0	368	1143	0	0	0	0	0	0	36	773	0

Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2
Volume Total (vph)	184	184	1143	294	515
Volume Left (vph)	0	0	0	36	0
Volume Right (vph)	0	0	1143	0	0
Hadj (s)	0.00	0.00	-0.70	0.06	0.00
Departure Headway (s)	6.5	6.5	3.2	5.7	5.6
Degree Utilization, x	0.33	0.33	1.02	0.46	0.81
Capacity (veh/h)	529	529	1130	619	627
Control Delay (s)	11.5	11.5	47.0	12.3	26.6
Approach Delay (s)	38.4			21.4	
Approach LOS	E			C	

Intersection Summary	
Delay	32.5
Level of Service	D
Intersection Capacity Utilization	88.9%
ICU Level of Service	E
Analysis Period (min)	15

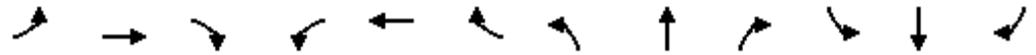
HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St & Pearl St

Road Diet Capacity Analysis  
 Background 2022 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	26	51	55	0	0	0	0	0	1760	12
Future Volume (Veh/h)	0	0	26	51	55	0	0	0	0	0	1760	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.65	0.65	0.79	0.79	0.79	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	40	65	70	0	0	0	0	0	1913	13
Pedestrians		6						3				
Lane Width (ft)		12.0						0.0				
Walking Speed (ft/s)		4.0						4.0				
Percent Blockage		1						0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	1960	1926	653	681	1932	0	1932			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1960	1926	653	681	1932	0	1932			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	90	79	0	100	100			100		
cM capacity (veh/h)	0	67	413	306	67	1091	307			1636		
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	SB 3						
Volume Total	40	43	92	765	765	396						
Volume Left	0	43	22	0	0	0						
Volume Right	40	0	0	0	0	13						
cSH	413	306	82	1700	1700	1700						
Volume to Capacity	0.10	0.14	1.12	0.45	0.45	0.23						
Queue Length 95th (ft)	8	12	163	0	0	0						
Control Delay (s)	14.7	18.7	228.7	0.0	0.0	0.0						
Lane LOS	B	C	F									
Approach Delay (s)	14.7	161.3	0.0									
Approach LOS	B	F										
Intersection Summary												
Average Delay			10.6									
Intersection Capacity Utilization			50.2%			ICU Level of Service			A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2022 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻					↻	↻↻↻	
Traffic Volume (veh/h)	0	23	29	49	26	0	0	0	0	107	1418	19
Future Volume (Veh/h)	0	23	29	49	26	0	0	0	0	107	1418	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.69	0.69	0.69	0.76	0.76	0.76	0.92	0.92	0.92	0.93	0.93	0.93
Hourly flow rate (vph)	0	33	42	64	34	0	0	0	0	115	1525	20
Pedestrians		4			3			7				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.76	0.76	0.76	0.76	0.76		0.76					
vC, conflicting volume	1786	1772	529	807	1782	3	1549			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	907	888	0	0	902	3	593			3		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	83	95	89	83	100	100			93		
cM capacity (veh/h)	144	199	821	605	195	1083	747			1628		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>	<b>SB 4</b>						
Volume Total	75	98	115	610	610	325						
Volume Left	0	64	115	0	0	0						
Volume Right	42	0	0	0	0	20						
cSH	345	350	1628	1700	1700	1700						
Volume to Capacity	0.22	0.28	0.07	0.36	0.36	0.19						
Queue Length 95th (ft)	20	28	6	0	0	0						
Control Delay (s)	18.3	19.2	7.4	0.0	0.0	0.0						
Lane LOS	C	C	A									
Approach Delay (s)	18.3	19.2	0.5									
Approach LOS	C	C										
<b>Intersection Summary</b>												
Average Delay			2.2									
Intersection Capacity Utilization			43.6%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2022 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	0	25	1308	0	0
Future Volume (Veh/h)	33	0	25	1308	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	55	0	26	1377	0	0
Pedestrians	8				1	
Lane Width (ft)	12.0				0.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.98					
vC, conflicting volume	520	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	437	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	100	98			
cM capacity (veh/h)	529	1071	1615			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3		
Volume Total	55	301	551	551		
Volume Left	55	26	0	0		
Volume Right	0	0	0	0		
cSH	529	1615	1700	1700		
Volume to Capacity	0.10	0.02	0.32	0.32		
Queue Length 95th (ft)	9	1	0	0		
Control Delay (s)	12.6	0.8	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	12.6	0.2				
Approach LOS	B					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			34.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

Road Diet Capacity Analysis  
 Background 2022 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	142	1127	0	0
Future Volume (Veh/h)	0	0	142	1127	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	0	161	1281	0	0
Pedestrians	8					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.77					
vC, conflicting volume	970	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	371	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	90			
cM capacity (veh/h)	423	1078	1625			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	588	854				
Volume Left	161	0				
Volume Right	0	0				
cSH	1625	1700				
Volume to Capacity	0.10	0.50				
Queue Length 95th (ft)	8	0				
Control Delay (s)	2.8	0.0				
Lane LOS	A					
Approach Delay (s)	1.1					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			1.1			
Intersection Capacity Utilization			36.8%	ICU Level of Service	A	
Analysis Period (min)			15			

*Appendix J*  
*Background 2038 Condition Synchro Reports*

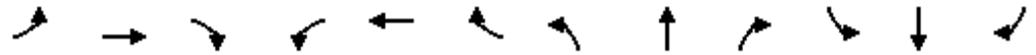
HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
Background 2038 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  						 				
Traffic Volume (vph)	3	756	19	0	0	0	0	153	35	12	11	0
Future Volume (vph)	3	756	19	0	0	0	0	153	35	12	11	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.4						10.8			10.8	
Lane Util. Factor		0.91						1.00			1.00	
Frbp, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		1.00						0.98			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		5436						1643			1921	
Flt Permitted		1.00						1.00			0.73	
Satd. Flow (perm)		5436						1643			1448	
Peak-hour factor, PHF	0.87	0.87	0.87	0.92	0.92	0.92	0.91	0.91	0.91	0.75	0.75	0.75
Adj. Flow (vph)	3	869	22	0	0	0	0	168	38	16	15	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	891	0	0	0	0	0	196	0	0	31	0
Confl. Peds. (#/hr)			2						26	26		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)								10				
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		46.6						17.2			17.2	
Effective Green, g (s)		46.6						17.2			17.2	
Actuated g/C Ratio		0.58						0.21			0.21	
Clearance Time (s)		5.4						10.8			10.8	
Lane Grp Cap (vph)		3166						353			311	
v/s Ratio Prot								c0.12				
v/s Ratio Perm		0.16									0.02	
v/c Ratio		0.28						0.55			0.10	
Uniform Delay, d1		8.3						28.0			25.2	
Progression Factor		1.00						1.00			1.32	
Incremental Delay, d2		0.2						6.2			0.6	
Delay (s)		8.6						34.1			33.9	
Level of Service		A						C			C	
Approach Delay (s)		8.6			0.0			34.1			33.9	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.9					HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			80.0					Sum of lost time (s)		16.2		
Intersection Capacity Utilization			45.6%					ICU Level of Service		A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2038 AM Peak Hour



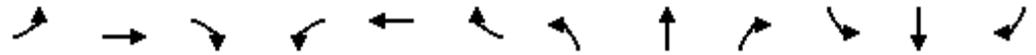
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑						↑		↑	↑	
Traffic Volume (vph)	17	589	7	0	0	0	0	41	9	10	23	0
Future Volume (vph)	17	589	7	0	0	0	0	41	9	10	23	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3						5.7		5.7	5.7	
Lane Util. Factor		0.91						1.00		1.00	1.00	
Frbp, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.99	1.00	
Frt		1.00						0.98		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		5420						1946		1887	2000	
Flt Permitted		1.00						1.00		0.71	1.00	
Satd. Flow (perm)		5420						1946		1416	2000	
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.91	0.91	0.91
Adj. Flow (vph)	19	654	8	0	0	0	0	56	12	11	25	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	680	0	0	0	0	0	57	0	11	25	0
Confl. Peds. (#/hr)	2		1						9	9		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	3	0	0	0	0	0	0	0	0	0	0
Turn Type	custom	NA						NA		Perm	NA	
Protected Phases	1	1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		61.4						7.6		7.6	7.6	
Effective Green, g (s)		61.4						7.6		7.6	7.6	
Actuated g/C Ratio		0.77						0.09		0.09	0.09	
Clearance Time (s)		5.3						5.7		5.7	5.7	
Vehicle Extension (s)		0.2						3.0		3.0	3.0	
Lane Grp Cap (vph)		4159						184		134	190	
v/s Ratio Prot		c0.13						c0.03			0.01	
v/s Ratio Perm										0.01		
v/c Ratio		0.16						0.31		0.08	0.13	
Uniform Delay, d1		2.5						33.8		33.0	33.2	
Progression Factor		0.55						1.00		1.00	1.00	
Incremental Delay, d2		0.1						1.0		0.3	0.3	
Delay (s)		1.4						34.7		33.3	33.5	
Level of Service		A						C		C	C	
Approach Delay (s)		1.4			0.0			34.7			33.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	36.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Background 2038 AM Peak Hour



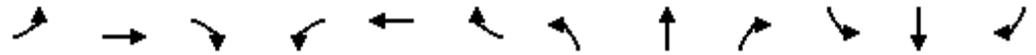
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	316	87	161	758	0	0	0	0	212	502	43
Future Volume (vph)	0	316	87	161	758	0	0	0	0	212	502	43
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					0.86	0.86	
Frbp, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3662		1879	3480					1618	5033	
Flt Permitted		1.00		0.43	1.00					0.95	1.00	
Satd. Flow (perm)		3662		841	3480					1618	5033	
Peak-hour factor, PHF	0.84	0.84	0.84	0.83	0.83	0.83	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	0	376	104	194	913	0	0	0	0	233	552	47
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	480	0	194	913	0	0	0	0	203	618	0
Confl. Peds. (#/hr)			6	6						5		6
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Parking (#/hr)				10								
Turn Type		NA		pm+pt	NA					custom	NA	
Protected Phases		1		2	1 2					3	3	
Permitted Phases				1 2						3		
Actuated Green, G (s)		28.8		37.6	42.8					25.2	25.2	
Effective Green, g (s)		28.8		37.6	42.8					25.2	25.2	
Actuated g/C Ratio		0.36		0.47	0.53					0.31	0.31	
Clearance Time (s)		5.2		5.2						6.8	6.8	
Lane Grp Cap (vph)		1318		509	1861					509	1585	
v/s Ratio Prot		0.13		0.04	c0.26					c0.13	0.12	
v/s Ratio Perm				0.14								
v/c Ratio		0.36		0.38	0.49					0.40	0.39	
Uniform Delay, d1		18.9		16.3	11.7					21.5	21.4	
Progression Factor		1.00		0.81	0.76					1.00	1.00	
Incremental Delay, d2		0.8		2.0	0.9					2.3	0.7	
Delay (s)		19.6		15.2	9.8					23.8	22.1	
Level of Service		B		B	A					C	C	
Approach Delay (s)		19.6			10.7			0.0			22.5	
Approach LOS		B			B			A			C	

Intersection Summary		
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.49	B
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	57.8%	17.2
Analysis Period (min)	15	ICU Level of Service
		B

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Background 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					↑	↗		↑↑	↗				
Traffic Volume (vph)	0	0	0	0	465	29	0	588	148	0	0	0	
Future Volume (vph)	0	0	0	0	465	29	0	588	148	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)					5.5	5.5		5.6	5.6				
Lane Util. Factor					1.00	1.00		0.95	1.00				
Frbp, ped/bikes					1.00	1.00		1.00	1.00				
Flpb, ped/bikes					1.00	1.00		1.00	1.00				
Frt					1.00	0.85		1.00	0.85				
Flt Protected					1.00	1.00		1.00	1.00				
Satd. Flow (prot)					2000	1700		3800	1700				
Flt Permitted					1.00	1.00		1.00	1.00				
Satd. Flow (perm)					2000	1700		3800	1700				
Peak-hour factor, PHF	0.92	0.92	0.92	0.81	0.81	0.81	0.94	0.94	0.94	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	0	574	36	0	626	157	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	18	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	574	18	0	626	157	0	0	0	
Confl. Peds. (#/hr)						11			3				
Confl. Bikes (#/hr)						4							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type					NA	custom		NA	custom				
Protected Phases					2	2		8	8				
Permitted Phases						2			8				
Actuated Green, G (s)					38.5	38.5		30.4	30.4				
Effective Green, g (s)					38.5	38.5		30.4	30.4				
Actuated g/C Ratio					0.48	0.48		0.38	0.38				
Clearance Time (s)					5.5	5.5		5.6	5.6				
Lane Grp Cap (vph)					962	818		1444	646				
v/s Ratio Prot					c0.29	0.01		c0.16	0.09				
v/s Ratio Perm													
v/c Ratio					0.60	0.02		0.43	0.24				
Uniform Delay, d1					15.1	10.9		18.4	16.9				
Progression Factor					1.00	1.00		1.52	1.50				
Incremental Delay, d2					2.7	0.0		0.3	0.3				
Delay (s)					17.8	10.9		28.4	25.7				
Level of Service					B	B		C	C				
Approach Delay (s)		0.0			17.4			27.9			0.0		
Approach LOS		A			B			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			23.3		HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				11.1				
Intersection Capacity Utilization			57.8%		ICU Level of Service				B				
Analysis Period (min)			15										
c Critical Lane Group													

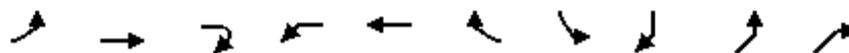
HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2038 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Traffic Volume (vph)	86	490	0	0	771	619	96	1222	80	0	0	0
Future Volume (vph)	86	490	0	0	771	619	96	1222	80	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6				
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95				
Frbp, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00				
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00				
Frt	1.00	1.00			0.97	0.85	1.00	0.99				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1881	3480			3218	1271	1873	3725				
Flt Permitted	0.15	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	305	3480			3218	1271	1873	3725				
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	92	527	0	0	866	696	101	1286	84	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	92	527	0	0	1082	480	101	1370	0	0	0	0
Confl. Peds. (#/hr)	10					10	5		2			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Parking (#/hr)		10			10	10						
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	2	1 2			1			3				
Permitted Phases	1 2					1	3					
Actuated Green, G (s)	34.0	39.0			26.0	26.0	30.4	30.4				
Effective Green, g (s)	34.0	39.0			26.0	26.0	30.4	30.4				
Actuated g/C Ratio	0.42	0.49			0.32	0.32	0.38	0.38				
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6				
Lane Grp Cap (vph)	287	1696			1045	413	711	1415				
v/s Ratio Prot	0.03	c0.15			0.34			c0.37				
v/s Ratio Perm	0.10					c0.38	0.05					
v/c Ratio	0.32	0.31			1.04	1.16	0.14	0.97				
Uniform Delay, d1	30.1	12.4			27.0	27.0	16.3	24.3				
Progression Factor	0.52	0.46			1.00	1.00	0.15	0.29				
Incremental Delay, d2	2.8	0.5			37.4	96.6	0.4	16.8				
Delay (s)	18.5	6.2			64.4	123.6	2.8	23.7				
Level of Service	B	A			E	F	A	C				
Approach Delay (s)		8.0			82.6			22.3			0.0	
Approach LOS		A			F			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			45.7				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			15.6		
Intersection Capacity Utilization			80.1%				ICU Level of Service				D	
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis  
2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
Background 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕		↕
Traffic Volume (vph)	9	84	1	423	162	36	11	55	0	339
Future Volume (vph)	9	84	1	423	162	36	11	55	0	339
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3		6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00		0.88
Frbp, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00
Frt		1.00		1.00	0.98		1.00	0.85		0.85
Flt Protected		1.00		0.95	0.98		0.95	1.00		1.00
Satd. Flow (prot)		1988		1787	1538		1900	1700		2992
Flt Permitted		1.00		0.95	0.98		0.95	1.00		1.00
Satd. Flow (perm)		1988		1787	1538		1900	1700		2992
Peak-hour factor, PHF	0.82	0.82	0.82	0.94	0.94	0.94	0.60	0.60	0.93	0.93
Adj. Flow (vph)	11	102	1	450	172	38	18	92	0	365
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	177
Lane Group Flow (vph)	0	114	0	328	329	0	18	92	0	188
Confl. Peds. (#/hr)	2		1	1		2	1			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%
Parking (#/hr)				10						
Turn Type	Split	NA		Split	NA		Prot	Prot		Over
Protected Phases	3	3		1	1		2	2		1
Permitted Phases										
Actuated Green, G (s)		20.0		61.7	61.7		20.0	20.0		61.7
Effective Green, g (s)		20.0		61.7	61.7		20.0	20.0		61.7
Actuated g/C Ratio		0.17		0.51	0.51		0.17	0.17		0.51
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3		6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		331		918	790		316	283		1538
v/s Ratio Prot		c0.06		0.18	c0.21		0.01	c0.05		0.06
v/s Ratio Perm										
v/c Ratio		0.34		0.36	0.42		0.06	0.33		0.12
Uniform Delay, d1		44.2		17.3	18.0		42.1	44.1		15.1
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2		0.6		1.1	1.6		0.1	0.7		0.2
Delay (s)		44.8		18.4	19.6		42.1	44.7		15.3
Level of Service		D		B	B		D	D		B
Approach Delay (s)		44.8		19.0			44.3		15.3	
Approach LOS		D		B			D		B	
<b>Intersection Summary</b>										
HCM 2000 Control Delay			22.5			HCM 2000 Level of Service				C
HCM 2000 Volume to Capacity ratio			0.38							
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			18.3	
Intersection Capacity Utilization			66.6%			ICU Level of Service				C
Analysis Period (min)			15							
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↗	↘		↗	↘	
Traffic Volume (vph)	0	608	7	0	860	33	49	45	13	23	11	21
Future Volume (vph)	0	608	7	0	860	33	49	45	13	23	11	21
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		0.99	1.00	
Frt		1.00			0.99		1.00	0.97		1.00	0.90	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3473			3457		1894	1633		1879	1519	
Flt Permitted		1.00			1.00		0.73	1.00		0.69	1.00	
Satd. Flow (perm)		3473			3457		1454	1633		1373	1519	
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.60	0.60	0.60	0.75	0.75	0.75
Adj. Flow (vph)	0	647	7	0	966	37	82	75	22	31	15	28
RTOR Reduction (vph)	0	1	0	0	3	0	0	13	0	0	23	0
Lane Group Flow (vph)	0	653	0	0	1000	0	82	84	0	31	20	0
Confl. Peds. (#/hr)	6		8	8		6	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10			10	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2383			2372		254	285		240	265	
v/s Ratio Prot		0.19			c0.29			0.05			0.01	
v/s Ratio Perm							c0.06			0.02		
v/c Ratio		0.27			0.42		0.32	0.29		0.13	0.08	
Uniform Delay, d1		4.8			5.5		28.9	28.7		27.9	27.6	
Progression Factor		0.42			0.37		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			0.5		3.3	2.6		1.1	0.6	
Delay (s)		2.3			2.6		32.2	31.3		29.0	28.1	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		2.3			2.6			31.7			28.5	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 2005: Washington St (PB) & Michigan Ave

# Road Diet Capacity Analysis

## Background 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Volume (vph)	0	607	14	0	800	16	46	101	25	16	6	10
Future Volume (vph)	0	607	14	0	800	16	46	101	25	16	6	10
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			0.99			1.00	
Frt		1.00			1.00			0.98			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		3501			3467			1629			1774	
Flt Permitted		1.00			1.00			0.90			0.67	
Satd. Flow (perm)		3501			3467			1480			1221	
Peak-hour factor, PHF	0.86	0.86	0.86	0.94	0.94	0.94	0.60	0.60	0.60	0.88	0.88	0.88
Adj. Flow (vph)	0	706	16	0	851	17	77	168	42	18	7	11
RTOR Reduction (vph)	0	2	0	0	2	0	0	7	0	0	9	0
Lane Group Flow (vph)	0	720	0	0	866	0	0	280	0	0	27	0
Confl. Peds. (#/hr)	10		3	3		10	22		9	9		22
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	4%	4%	4%
Parking (#/hr)		10			10			10				
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		55.0			55.0			14.0			14.0	
Effective Green, g (s)		55.0			55.0			14.0			14.0	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2406			2383			259			213	
v/s Ratio Prot		0.21			c0.25							
v/s Ratio Perm								c0.19			0.02	
v/c Ratio		0.30			0.36			1.08			0.13	
Uniform Delay, d1		4.9			5.2			33.0			27.8	
Progression Factor		0.31			0.21			1.00			1.00	
Incremental Delay, d2		0.3			0.1			78.7			1.2	
Delay (s)		1.8			1.2			111.7			29.1	
Level of Service		A			A			F			C	
Approach Delay (s)		1.8			1.2			111.7			29.1	
Approach LOS		A			A			F			C	

### Intersection Summary

HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
Background 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑			↑↑↑	↘			
Traffic Volume (vph)	17	136	0	0	477	35	405	1606	385	0	0	0
Future Volume (vph)	17	136	0	0	477	35	405	1606	385	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Util. Factor	1.00	0.95			0.95			0.91	1.00			
Frbp, ped/bikes	1.00	1.00			1.00			1.00	0.99			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1880	3762			3758			5384	1675			
Flt Permitted	0.33	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	648	3762			3758			5384	1675			
Peak-hour factor, PHF	0.68	0.68	0.68	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	200	0	0	548	40	440	1746	418	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	183	0	0	0
Lane Group Flow (vph)	25	200	0	0	582	0	0	2186	235	0	0	0
Confl. Peds. (#/hr)	1						1		4			
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	22.4	22.4			22.4			44.9	44.9			
Effective Green, g (s)	22.4	22.4			22.4			44.9	44.9			
Actuated g/C Ratio	0.28	0.28			0.28			0.56	0.56			
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Grp Cap (vph)	181	1053			1052			3021	940			
v/s Ratio Prot		0.05			c0.15							
v/s Ratio Perm	0.04							0.41	0.14			
v/c Ratio	0.14	0.19			0.55			0.72	0.25			
Uniform Delay, d1	21.6	21.9			24.5			13.0	9.0			
Progression Factor	1.01	1.00			1.00			0.92	1.55			
Incremental Delay, d2	1.6	0.4			2.1			0.1	0.1			
Delay (s)	23.5	22.3			26.6			12.1	14.0			
Level of Service	C	C			C			B	B			
Approach Delay (s)		22.4			26.6			12.4			0.0	
Approach LOS		C			C			B			A	

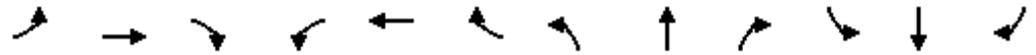
Intersection Summary

HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
Background 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	115	112	265	541	0	0	0	0	47	571	50
Future Volume (vph)	0	115	112	265	541	0	0	0	0	47	571	50
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.91	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.93		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3494		1898	3800					1881	5319	
Flt Permitted		1.00		0.57	1.00					0.95	1.00	
Satd. Flow (perm)		3494		1130	3800					1881	5319	
Peak-hour factor, PHF	0.74	0.74	0.74	0.95	0.95	0.95	0.93	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	155	151	279	569	0	0	0	0	51	614	54
RTOR Reduction (vph)	0	109	0	0	0	0	0	0	0	0	13	0
Lane Group Flow (vph)	0	197	0	279	569	0	0	0	0	51	655	0
Confl. Peds. (#/hr)			2	2								
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		42.2	42.2					26.4	26.4	
Effective Green, g (s)		22.2		42.2	42.2					26.4	26.4	
Actuated g/C Ratio		0.28		0.53	0.53					0.33	0.33	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		969		732	2004					620	1755	
v/s Ratio Prot		0.06		c0.07	0.15						c0.12	
v/s Ratio Perm				c0.13						0.03		
v/c Ratio		0.20		0.38	0.28					0.08	0.37	
Uniform Delay, d1		22.1		11.9	10.5					18.5	20.5	
Progression Factor		1.00		0.89	0.82					0.73	0.76	
Incremental Delay, d2		0.5		0.4	0.1					0.2	0.6	
Delay (s)		22.6		10.9	8.7					13.7	16.0	
Level of Service		C		B	A					B	B	
Approach Delay (s)		22.6			9.4			0.0			15.9	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3004: Huron St & Catherine St (PB)

Road Diet Capacity Analysis  
Background 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕↕				
Traffic Volume (vph)	9	10	0	0	29	47	90	1489	19	0	0	0
Future Volume (vph)	9	10	0	0	29	47	90	1489	19	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.91				
Frbp, ped/bikes		1.00			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.92			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1952			1819			5357				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1594			1819			5357				
Peak-hour factor, PHF	0.71	0.71	0.71	0.77	0.77	0.77	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	13	14	0	0	38	61	96	1584	20	0	0	0
RTOR Reduction (vph)	0	0	0	0	41	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	27	0	0	58	0	0	1699	0	0	0	0
Confl. Peds. (#/hr)	1						1	1	2			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		7.1			7.1			62.3				
Effective Green, g (s)		7.1			7.1			62.3				
Actuated g/C Ratio		0.09			0.09			0.78				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		141			161			4171				
v/s Ratio Prot					c0.03							
v/s Ratio Perm		0.02						0.32				
v/c Ratio		0.19			0.36			0.41				
Uniform Delay, d1		33.8			34.3			2.9				
Progression Factor		1.00			1.00			1.24				
Incremental Delay, d2		0.7			1.4			0.2				
Delay (s)		34.5			35.7			3.8				
Level of Service		C			D			A				
Approach Delay (s)		34.5			35.7			3.8			0.0	
Approach LOS		C			D			A			A	

Intersection Summary

HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2038 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑								↑↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	119	530	0	0	0	0	0	0	29	274	0
Future Volume (vph)	0	119	530	0	0	0	0	0	0	29	274	0
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.91	0.91	0.91
Hourly flow rate (vph)	0	134	596	0	0	0	0	0	0	32	301	0
Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2							
Volume Total (vph)	67	67	596	132	201							
Volume Left (vph)	0	0	0	32	0							
Volume Right (vph)	0	0	596	0	0							
Hadj (s)	0.00	0.00	-0.70	0.14	0.02							
Departure Headway (s)	5.3	5.3	3.2	5.0	4.9							
Degree Utilization, x	0.10	0.10	0.53	0.18	0.27							
Capacity (veh/h)	640	643	1117	701	719							
Control Delay (s)	7.7	7.7	8.5	7.9	8.5							
Approach Delay (s)	8.4				8.3							
Approach LOS	A				A							
Intersection Summary												
Delay			8.3									
Level of Service			A									
Intersection Capacity Utilization			46.1%	ICU Level of Service	A							
Analysis Period (min)			15									

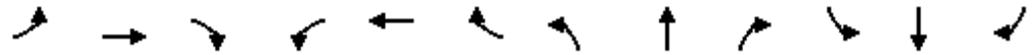
HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St & Pearl St

Road Diet Capacity Analysis  
 Background 2038 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	24	20	14	0	0	0	0	0	800	7
Future Volume (Veh/h)	0	0	24	20	14	0	0	0	0	0	800	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.66	0.66	0.66	0.83	0.83	0.83	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	36	24	17	0	0	0	0	0	870	8
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		4.0										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	884	875	295	326	879	0	879			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	884	875	295	326	879	0	879			0		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	95	96	94	100	100			100		
cM capacity (veh/h)	224	281	692	577	288	1091	777			1629		
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	SB 3						
Volume Total	36	16	25	348	348	182						
Volume Left	0	16	8	0	0	0						
Volume Right	36	0	0	0	0	8						
cSH	692	577	343	1700	1700	1700						
Volume to Capacity	0.05	0.03	0.07	0.20	0.20	0.11						
Queue Length 95th (ft)	4	2	6	0	0	0						
Control Delay (s)	10.5	11.4	16.3	0.0	0.0	0.0						
Lane LOS	B	B	C									
Approach Delay (s)	10.5	14.4		0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			31.5%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗			↖					↘	↕	↙
Traffic Volume (veh/h)	0	16	29	23	15	0	0	0	0	62	615	10
Future Volume (Veh/h)	0	16	29	23	15	0	0	0	0	62	615	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.69	0.69	0.69	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	21	38	33	22	0	0	0	0	65	647	11
Pedestrians		1			4			1				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.96	0.96	0.96	0.96	0.96		0.96					
vC, conflicting volume	794	788	223	399	793	4	659			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	654	647	61	244	653	4	514			4		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	94	96	94	94	100	100			96		
cM capacity (veh/h)	315	361	960	592	359	1081	1023			1618		
Direction, Lane #	EB 1	WB 1	SB 1	SB 2	SB 3	SB 4						
Volume Total	59	55	65	259	259	140						
Volume Left	0	33	65	0	0	0						
Volume Right	38	0	0	0	0	11						
cSH	604	470	1618	1700	1700	1700						
Volume to Capacity	0.10	0.12	0.04	0.15	0.15	0.08						
Queue Length 95th (ft)	8	10	3	0	0	0						
Control Delay (s)	11.6	13.7	7.3	0.0	0.0	0.0						
Lane LOS	B	B	A									
Approach Delay (s)	11.6	13.7	0.7									
Approach LOS	B	B										
Intersection Summary												
Average Delay			2.3									
Intersection Capacity Utilization			26.9%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2038 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶			↷↷↷		
Traffic Volume (veh/h)	20	0	59	1403	0	0
Future Volume (Veh/h)	20	0	59	1403	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	27	0	63	1493	0	0
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.92					
vC, conflicting volume	627	3	3			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	311	3	3			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	96			
cM capacity (veh/h)	587	1083	1628			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3		
Volume Total	27	362	597	597		
Volume Left	27	63	0	0		
Volume Right	0	0	0	0		
cSH	587	1628	1700	1700		
Volume to Capacity	0.05	0.04	0.35	0.35		
Queue Length 95th (ft)	4	3	0	0		
Control Delay (s)	11.4	1.6	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	11.4	0.4				
Approach LOS	B					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			36.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

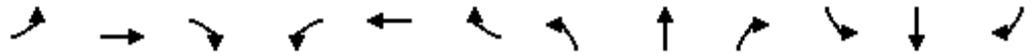
Road Diet Capacity Analysis  
 Background 2038 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	99	1846	0	0
Future Volume (Veh/h)	0	0	99	1846	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	0	0	104	1943	0	0
Pedestrians	2					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.64					
vC, conflicting volume	1182	2	2			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	172	2	2			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	94			
cM capacity (veh/h)	486	1088	1634			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	752	1295				
Volume Left	104	0				
Volume Right	0	0				
cSH	1634	1700				
Volume to Capacity	0.06	0.76				
Queue Length 95th (ft)	5	0				
Control Delay (s)	1.7	0.0				
Lane LOS	A					
Approach Delay (s)	0.6					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay				0.6		
Intersection Capacity Utilization	54.5%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
Background 2038 OP Peak Hour



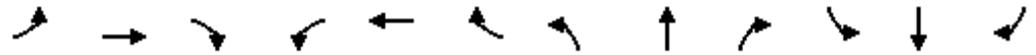
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔						↔			↔	
Traffic Volume (vph)	14	1054	43	0	0	0	0	74	23	36	20	0
Future Volume (vph)	14	1054	43	0	0	0	0	74	23	36	20	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.4						10.8			10.8	
Lane Util. Factor		0.91						1.00			1.00	
Frbp, ped/bikes		1.00						0.98			1.00	
Flpb, ped/bikes		1.00						1.00			0.97	
Frt		0.99						0.97			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		5418						1615			1872	
Flt Permitted		1.00						1.00			0.71	
Satd. Flow (perm)		5418						1615			1376	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.61	0.61	0.61	0.74	0.74	0.74
Adj. Flow (vph)	15	1146	47	0	0	0	0	121	38	49	27	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	1203	0	0	0	0	0	145	0	0	76	0
Confl. Peds. (#/hr)			8						45	45		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)								10				
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		46.6						17.2			17.2	
Effective Green, g (s)		46.6						17.2			17.2	
Actuated g/C Ratio		0.58						0.21			0.21	
Clearance Time (s)		5.4						10.8			10.8	
Lane Grp Cap (vph)		3155						347			295	
v/s Ratio Prot								c0.09				
v/s Ratio Perm		0.22									0.06	
v/c Ratio		0.38						0.42			0.26	
Uniform Delay, d1		9.0						27.1			26.1	
Progression Factor		1.00						1.00			1.34	
Incremental Delay, d2		0.4						3.7			2.1	
Delay (s)		9.3						30.7			37.1	
Level of Service		A						C			D	
Approach Delay (s)		9.3			0.0			30.7			37.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.2
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2038 OP Peak Hour



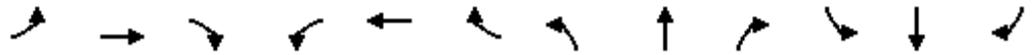
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑→						↑		↘	↑	
Traffic Volume (vph)	21	831	25	0	0	0	0	96	17	17	28	0
Future Volume (vph)	21	831	25	0	0	0	0	96	17	17	28	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3						5.7		5.7	5.7	
Lane Util. Factor		0.91						1.00		1.00	1.00	
Frbp, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.99	1.00	
Frt		1.00						0.98		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		5404						1954		1890	2000	
Flt Permitted		1.00						1.00		0.63	1.00	
Satd. Flow (perm)		5404						1954		1258	2000	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.76	0.76	0.76	0.67	0.67	0.67
Adj. Flow (vph)	24	944	28	0	0	0	0	126	22	25	42	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	993	0	0	0	0	0	139	0	25	42	0
Confl. Peds. (#/hr)	11		7						8	8		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	3	0	0	0	0	0	0	0	0	0	0
Turn Type	custom	NA						NA		Perm	NA	
Protected Phases	1	1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		58.2						10.8		10.8	10.8	
Effective Green, g (s)		58.2						10.8		10.8	10.8	
Actuated g/C Ratio		0.73						0.14		0.14	0.14	
Clearance Time (s)		5.3						5.7		5.7	5.7	
Vehicle Extension (s)		0.2						3.0		3.0	3.0	
Lane Grp Cap (vph)		3931						263		169	270	
v/s Ratio Prot		c0.18						c0.07			0.02	
v/s Ratio Perm										0.02		
v/c Ratio		0.25						0.53		0.15	0.16	
Uniform Delay, d1		3.6						32.2		30.5	30.6	
Progression Factor		0.20						1.00		1.00	1.00	
Incremental Delay, d2		0.1						1.9		0.4	0.3	
Delay (s)		0.9						34.2		30.9	30.8	
Level of Service		A						C		C	C	
Approach Delay (s)		0.9			0.0			34.2			30.9	
Approach LOS		A			A			C			C	

Intersection Summary		
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.30	A
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	36.0%	11.0
Analysis Period (min)	15	ICU Level of Service
		A

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2038 OP Peak Hour

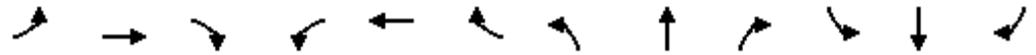


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	436	117	209	514	0	0	0	0	406	831	45
Future Volume (vph)	0	436	117	209	514	0	0	0	0	406	831	45
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					0.86	0.86	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3647		1874	3480					1618	5043	
Flt Permitted		1.00		0.35	1.00					0.95	1.00	
Satd. Flow (perm)		3647		696	3480					1618	5043	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	459	123	220	541	0	0	0	0	437	894	48
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	582	0	220	541	0	0	0	0	336	1037	0
Confl. Peds. (#/hr)				27	27					24		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom	NA	
Protected Phases		1		2	1 2					3	3	
Permitted Phases				1 2						3		
Actuated Green, G (s)		28.8		37.6	42.8					25.2	25.2	
Effective Green, g (s)		28.8		37.6	42.8					25.2	25.2	
Actuated g/C Ratio		0.36		0.47	0.53					0.31	0.31	
Clearance Time (s)		5.2		5.2						6.8	6.8	
Lane Grp Cap (vph)		1312		456	1861					509	1588	
v/s Ratio Prot		0.16		c0.05	0.16					c0.21	0.21	
v/s Ratio Perm				c0.17								
v/c Ratio		0.44		0.48	0.29					0.66	0.65	
Uniform Delay, d1		19.5		19.2	10.2					23.7	23.6	
Progression Factor		0.95		0.71	0.74					1.00	1.00	
Incremental Delay, d2		1.1		3.5	0.4					6.6	2.1	
Delay (s)		19.5		17.2	7.9					30.3	25.7	
Level of Service		B		B	A					C	C	
Approach Delay (s)		19.5			10.6			0.0			26.8	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Background 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑	↗		↑↑	↗			
Traffic Volume (vph)	0	0	0	0	231	14	0	391	237	0	0	0
Future Volume (vph)	0	0	0	0	231	14	0	391	237	0	0	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)					5.5	5.5		5.6	5.6			
Lane Util. Factor					1.00	1.00		0.95	1.00			
Frbp, ped/bikes					1.00	1.00		1.00	1.00			
Flpb, ped/bikes					1.00	1.00		1.00	1.00			
Frt					1.00	0.85		1.00	0.85			
Flt Protected					1.00	1.00		1.00	1.00			
Satd. Flow (prot)					2000	1700		3762	1683			
Flt Permitted					1.00	1.00		1.00	1.00			
Satd. Flow (perm)					2000	1700		3762	1683			
Peak-hour factor, PHF	0.92	0.92	0.92	0.84	0.84	0.84	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	275	17	0	412	249	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	9	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	275	8	0	412	249	0	0	0
Confl. Peds. (#/hr)						9			1			
Confl. Bikes (#/hr)						4						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type					NA	custom		NA	custom			
Protected Phases					2	2		8	8			
Permitted Phases						2			8			
Actuated Green, G (s)					35.5	35.5		33.4	33.4			
Effective Green, g (s)					35.5	35.5		33.4	33.4			
Actuated g/C Ratio					0.44	0.44		0.42	0.42			
Clearance Time (s)					5.5	5.5		5.6	5.6			
Lane Grp Cap (vph)					887	754		1570	702			
v/s Ratio Prot					c0.14	0.00		0.11	c0.15			
v/s Ratio Perm												
v/c Ratio					0.31	0.01		0.26	0.35			
Uniform Delay, d1					14.4	12.4		15.2	15.9			
Progression Factor					1.00	1.00		1.41	1.41			
Incremental Delay, d2					0.9	0.0		0.3	1.1			
Delay (s)					15.3	12.5		21.8	23.7			
Level of Service					B	B		C	C			
Approach Delay (s)		0.0			15.1			22.5			0.0	
Approach LOS		A			B			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			20.2		HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio			0.33									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				11.1			
Intersection Capacity Utilization			56.3%		ICU Level of Service				B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2038 OP Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 					
Traffic Volume (vph)	130	784	0	0	582	367	107	684	167	0	0	0	
Future Volume (vph)	130	784	0	0	582	367	107	684	167	0	0	0	
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6					
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95					
Frbp, ped/bikes	1.00	1.00			0.99	0.94	1.00	1.00					
Flpb, ped/bikes	1.00	1.00			1.00	1.00	0.99	1.00					
Frt	1.00	1.00			0.98	0.85	1.00	0.97					
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00					
Satd. Flow (prot)	1894	3515			3247	1219	1857	3638					
Flt Permitted	0.24	1.00			1.00	1.00	0.95	1.00					
Satd. Flow (perm)	480	3515			3247	1219	1857	3638					
Peak-hour factor, PHF	0.93	0.93	0.93	0.94	0.94	0.94	0.86	0.86	0.86	0.92	0.92	0.92	
Adj. Flow (vph)	140	843	0	0	619	390	124	795	194	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	140	843	0	0	705	304	124	989	0	0	0	0	
Confl. Peds. (#/hr)	44					44	14		7				
Confl. Bikes (#/hr)									1				
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%	
Parking (#/hr)		10			10	10							
Turn Type	pm+pt	NA			NA	Perm	Perm	NA					
Protected Phases	2	1 2			1			3					
Permitted Phases	1 2					1	3						
Actuated Green, G (s)	35.0	40.0			27.0	27.0	29.4	29.4					
Effective Green, g (s)	35.0	40.0			27.0	27.0	29.4	29.4					
Actuated g/C Ratio	0.44	0.50			0.34	0.34	0.37	0.37					
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6					
Lane Grp Cap (vph)	351	1757			1095	411	682	1336					
v/s Ratio Prot	0.04	c0.24			0.22			c0.27					
v/s Ratio Perm	0.13					c0.25	0.07						
v/c Ratio	0.40	0.48			0.64	0.74	0.18	0.74					
Uniform Delay, d1	22.9	13.2			22.4	23.4	17.1	22.0					
Progression Factor	0.39	0.32			1.00	1.00	0.36	0.44					
Incremental Delay, d2	3.1	0.9			2.9	11.3	0.6	3.7					
Delay (s)	12.0	5.0			25.3	34.7	6.7	13.3					
Level of Service	B	A			C	C	A	B					
Approach Delay (s)		6.0			28.2			12.5			0.0		
Approach LOS		A			C			B			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			15.6									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.73										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	15.6
Intersection Capacity Utilization			62.6%									ICU Level of Service	B
Analysis Period (min)			15										
c	Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 2000: Michigan Ave & Congress St & Ballard St

# Road Diet Capacity Analysis

## Background 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕			↕
Traffic Volume (vph)	10	102	5	418	121	31	18	22	11	0	438
Future Volume (vph)	10	102	5	418	121	31	18	22	11	0	438
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00			0.88
Frbp, ped/bikes		1.00		1.00	0.99		1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00
Frt		0.99		1.00	0.98		1.00	0.85			0.85
Flt Protected		1.00		0.95	0.98		0.95	1.00			1.00
Satd. Flow (prot)		1978		1805	1532		1900	1700			2962
Flt Permitted		1.00		0.95	0.98		0.95	1.00			1.00
Satd. Flow (perm)		1978		1805	1532		1900	1700			2962
Peak-hour factor, PHF	0.80	0.80	0.80	0.95	0.95	0.95	0.66	0.66	0.66	0.89	0.89
Adj. Flow (vph)	12	128	6	440	127	33	27	33	17	0	492
RTOR Reduction (vph)	0	2	0	0	6	0	0	38	0	0	359
Lane Group Flow (vph)	0	145	0	299	295	0	27	13	0	0	133
Confl. Peds. (#/hr)	32		11	11		32	1		9		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)					10						
Turn Type	Split	NA		Split	NA		Prot	Prot			Over
Protected Phases	3	3		1	1		2	2			1
Permitted Phases											
Actuated Green, G (s)		20.0		21.7	21.7		20.0	20.0			21.7
Effective Green, g (s)		20.0		21.7	21.7		20.0	20.0			21.7
Actuated g/C Ratio		0.25		0.27	0.27		0.25	0.25			0.27
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		494		489	415		475	425			803
v/s Ratio Prot		c0.07		0.17	c0.19		c0.01	0.01			0.05
v/s Ratio Perm											
v/c Ratio		0.29		0.61	0.71		0.06	0.03			0.17
Uniform Delay, d1		24.3		25.5	26.3		22.8	22.7			22.2
Progression Factor		1.00		0.99	1.00		1.00	1.00			1.00
Incremental Delay, d2		0.3		5.4	9.6		0.1	0.0			0.4
Delay (s)		24.6		30.6	35.8		22.9	22.7			22.7
Level of Service		C		C	D		C	C			C
Approach Delay (s)		24.6			33.2		22.8			22.7	
Approach LOS		C			C		C			C	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			27.7			HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.36								
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			18.3		
Intersection Capacity Utilization			65.4%			ICU Level of Service				C	
Analysis Period (min)			15								
c	Critical Lane Group										

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕		↕	↕	
Traffic Volume (vph)	21	790	13	16	628	45	43	41	52	37	23	39
Future Volume (vph)	21	790	13	16	628	45	43	41	52	37	23	39
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.97		1.00	0.98	
Flpb, ped/bikes		1.00			1.00		0.98	1.00		0.97	1.00	
Frt		1.00			0.99		1.00	0.92		1.00	0.91	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3462			3462		1853	1513		1799	1473	
Flt Permitted		0.93			0.93		0.71	1.00		0.68	1.00	
Satd. Flow (perm)		3208			3215		1385	1513		1285	1473	
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.76	0.76	0.76	0.86	0.86	0.86
Adj. Flow (vph)	23	849	14	18	706	51	57	54	68	43	27	45
RTOR Reduction (vph)	0	1	0	0	6	0	0	56	0	0	37	0
Lane Group Flow (vph)	0	885	0	0	769	0	57	66	0	43	35	0
Confl. Peds. (#/hr)	18		24	24		18	26		39	39		26
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	2%	2%	2%
Parking (#/hr)		10			10			10			10	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2201			2206		242	264		224	257	
v/s Ratio Prot								c0.04				0.02
v/s Ratio Perm		c0.28			0.24		0.04			0.03		
v/c Ratio		0.40			0.35		0.24	0.25		0.19	0.14	
Uniform Delay, d1		5.4			5.2		28.4	28.5		28.2	27.9	
Progression Factor		0.67			0.23		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.4		2.3	2.3		1.9	1.1	
Delay (s)		4.1			1.6		30.7	30.7		30.1	29.0	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		4.1			1.6			30.7			29.4	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
2005: Washington St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Volume (vph)	14	861	40	28	643	22	21	34	34	45	36	33
Future Volume (vph)	14	861	40	28	643	22	21	34	34	45	36	33
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			0.99			0.98	
Frt		0.99			1.00			0.95			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		3475			3446			1542			1820	
Flt Permitted		0.94			0.89			0.91			0.85	
Satd. Flow (perm)		3272			3060			1423			1575	
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.81	0.81	0.81	0.92	0.92	0.92
Adj. Flow (vph)	16	967	45	30	684	23	26	42	42	49	39	36
RTOR Reduction (vph)	0	4	0	0	3	0	0	28	0	0	18	0
Lane Group Flow (vph)	0	1024	0	0	734	0	0	82	0	0	106	0
Confl. Peds. (#/hr)	32		30	30		32	46		43	43		46
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10				
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		55.0			55.0			14.0			14.0	
Effective Green, g (s)		55.0			55.0			14.0			14.0	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2249			2103			249			275	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.24			0.06			c0.07	
v/c Ratio		0.46			0.35			0.33			0.38	
Uniform Delay, d1		5.7			5.1			28.9			29.2	
Progression Factor		0.24			0.40			1.00			1.00	
Incremental Delay, d2		0.6			0.4			3.5			4.0	
Delay (s)		2.0			2.5			32.4			33.2	
Level of Service		A			A			C			C	
Approach Delay (s)		2.0			2.5			32.4			33.2	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
Background 2038 OP Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	44	192	0	0	327	29	189	903	251	0	0	0	
Future Volume (vph)	44	192	0	0	327	29	189	903	251	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1				
Lane Util. Factor	1.00	0.95			0.95			0.91	1.00				
Frbp, ped/bikes	1.00	1.00			1.00			1.00	0.99				
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00				
Frt	1.00	1.00			0.99			1.00	0.85				
Flt Protected	0.95	1.00			1.00			0.99	1.00				
Satd. Flow (prot)	1894	3800			3747			5390	1678				
Flt Permitted	0.53	1.00			1.00			0.99	1.00				
Satd. Flow (perm)	1049	3800			3747			5390	1678				
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	49	213	0	0	344	31	199	951	264	0	0	0	
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	126	0	0	0	
Lane Group Flow (vph)	49	213	0	0	367	0	0	1150	138	0	0	0	
Confl. Peds. (#/hr)	5					5	2		1				
Confl. Bikes (#/hr)									1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Perm				
Protected Phases		4			8			2					
Permitted Phases	4						2		2				
Actuated Green, G (s)	25.4	25.4			25.4			41.9	41.9				
Effective Green, g (s)	25.4	25.4			25.4			41.9	41.9				
Actuated g/C Ratio	0.32	0.32			0.32			0.52	0.52				
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1				
Lane Grp Cap (vph)	333	1206			1189			2823	878				
v/s Ratio Prot		0.06			c0.10								
v/s Ratio Perm	0.05							0.21	0.08				
v/c Ratio	0.15	0.18			0.31			0.41	0.16				
Uniform Delay, d1	19.5	19.7			20.7			11.5	9.9				
Progression Factor	0.98	0.96			1.00			0.82	1.05				
Incremental Delay, d2	0.9	0.3			0.7			0.4	0.3				
Delay (s)	20.1	19.3			21.3			9.8	10.7				
Level of Service	C	B			C			A	B				
Approach Delay (s)		19.5			21.3			10.0			0.0		
Approach LOS		B			C			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			13.3									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.37										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	12.7
Intersection Capacity Utilization			66.4%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
Background 2038 OP Peak Hour



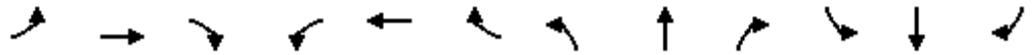
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	153	123	289	222	0	0	0	0	86	940	45
Future Volume (vph)	0	153	123	289	222	0	0	0	0	86	940	45
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.91	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.93		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3518		1896	3800					1881	5340	
Flt Permitted		1.00		0.56	1.00					0.95	1.00	
Satd. Flow (perm)		3518		1118	3800					1881	5340	
Peak-hour factor, PHF	0.88	0.88	0.88	0.87	0.87	0.87	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	0	174	140	332	255	0	0	0	0	99	1080	52
RTOR Reduction (vph)	0	95	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	219	0	332	255	0	0	0	0	99	1125	0
Confl. Peds. (#/hr)			5	5								5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		42.2	42.2					26.4	26.4	
Effective Green, g (s)		22.2		42.2	42.2					26.4	26.4	
Actuated g/C Ratio		0.28		0.53	0.53					0.33	0.33	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		976		727	2004					620	1762	
v/s Ratio Prot		0.06		c0.08	0.07						c0.21	
v/s Ratio Perm				c0.16						0.05		
v/c Ratio		0.22		0.46	0.13					0.16	0.64	
Uniform Delay, d1		22.3		12.7	9.6					19.0	22.8	
Progression Factor		1.00		0.84	0.65					0.67	0.75	
Incremental Delay, d2		0.5		0.6	0.0					0.5	1.5	
Delay (s)		22.8		11.2	6.2					13.2	18.6	
Level of Service		C		B	A					B	B	
Approach Delay (s)		22.8			9.1			0.0			18.2	
Approach LOS		C			A			A			B	

Intersection Summary

HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3004: Huron St & Catherine St (PB)

Road Diet Capacity Analysis  
Background 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖			↗			↖↗↘				
Traffic Volume (vph)	14	20	0	0	1	54	10	968	8	0	0	0
Future Volume (vph)	14	20	0	0	1	54	10	968	8	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.91				
Frbp, ped/bikes		1.00			0.98			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.87			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1955			1699			5374				
Flt Permitted		0.84			1.00			1.00				
Satd. Flow (perm)		1672			1699			5374				
Peak-hour factor, PHF	0.60	0.60	0.60	0.88	0.88	0.88	0.91	0.91	0.91	0.92	0.92	0.92
Adj. Flow (vph)	23	33	0	0	1	61	11	1064	9	0	0	0
RTOR Reduction (vph)	0	0	0	0	55	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	56	0	0	7	0	0	1083	0	0	0	0
Confl. Peds. (#/hr)	5					5	3		1			
Confl. Bikes (#/hr)						1			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		7.9			7.9			61.5				
Effective Green, g (s)		7.9			7.9			61.5				
Actuated g/C Ratio		0.10			0.10			0.77				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		165			167			4131				
v/s Ratio Prot					0.00							
v/s Ratio Perm		c0.03						0.20				
v/c Ratio		0.34			0.04			0.26				
Uniform Delay, d1		33.6			32.6			2.7				
Progression Factor		1.00			1.00			1.54				
Incremental Delay, d2		1.2			0.1			0.1				
Delay (s)		34.8			32.7			4.3				
Level of Service		C			C			A				
Approach Delay (s)		34.8			32.7			4.3			0.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2038 OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗								↖↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	189	698	0	0	0	0	0	0	32	445	0
Future Volume (vph)	0	189	698	0	0	0	0	0	0	32	445	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	0	222	821	0	0	0	0	0	0	36	494	0
Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2							
Volume Total (vph)	111	111	821	201	329							
Volume Left (vph)	0	0	0	36	0							
Volume Right (vph)	0	0	821	0	0							
Hadj (s)	0.00	0.00	-0.70	0.12	0.03							
Departure Headway (s)	5.8	5.8	3.2	5.3	5.2							
Degree Utilization, x	0.18	0.18	0.73	0.29	0.47							
Capacity (veh/h)	585	587	1120	667	681							
Control Delay (s)	8.8	8.8	13.1	9.2	11.5							
Approach Delay (s)	12.2				10.6							
Approach LOS	B											
Intersection Summary												
Delay			11.7									
Level of Service			B									
Intersection Capacity Utilization			60.7%			ICU Level of Service		B				
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 9001: Hamilton St & Pearl St

Road Diet Capacity Analysis  
Background 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	24	108	97	0	0	0	0	0	1142	17
Future Volume (Veh/h)	0	0	24	108	97	0	0	0	0	0	1142	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.60	0.60	0.60	0.75	0.75	0.75	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	40	144	129	0	0	0	0	0	1269	19
Pedestrians								9				
Lane Width (ft)								0.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	1343	1278	442	472	1288	0	1288			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1343	1278	442	472	1288	0	1288			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	93	68	22	100	100			100		
cM capacity (veh/h)	40	168	569	446	165	1091	545			1629		

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	SB 3
Volume Total	40	96	177	508	508	273
Volume Left	0	96	48	0	0	0
Volume Right	40	0	0	0	0	19
cSH	569	446	199	1700	1700	1700
Volume to Capacity	0.07	0.22	0.89	0.30	0.30	0.16
Queue Length 95th (ft)	6	20	172	0	0	0
Control Delay (s)	11.8	15.3	86.3	0.0	0.0	0.0
Lane LOS	B	C	F			
Approach Delay (s)	11.8	61.3		0.0		
Approach LOS	B	F				

### Intersection Summary

Average Delay	10.8
Intersection Capacity Utilization	42.5%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻					↻	↻↻↻	
Traffic Volume (veh/h)	0	24	33	35	15	0	0	0	0	106	1016	21
Future Volume (Veh/h)	0	24	33	35	15	0	0	0	0	106	1016	21
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.92	0.92	0.92	0.93	0.93	0.93
Hourly flow rate (vph)	0	25	35	41	18	0	0	0	0	114	1092	23
Pedestrians		5			3			7				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.86	0.86	0.86	0.86	0.86		0.86					
vC, conflicting volume	1346	1340	388	650	1351	3	1120			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	816	809	0	3	822	3	552			3		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	90	96	94	93	100	100			93		
cM capacity (veh/h)	206	251	930	729	243	1077	876			1628		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>	<b>SB 4</b>						
Volume Total	60	59	114	437	437	241						
Volume Left	0	41	114	0	0	0						
Volume Right	35	0	0	0	0	23						
cSH	437	453	1628	1700	1700	1700						
Volume to Capacity	0.14	0.13	0.07	0.26	0.26	0.14						
Queue Length 95th (ft)	12	11	6	0	0	0						
Control Delay (s)	14.6	14.1	7.4	0.0	0.0	0.0						
Lane LOS	B	B	A									
Approach Delay (s)	14.6	14.1	0.7									
Approach LOS	B	B										
<b>Intersection Summary</b>												
Average Delay			1.9									
Intersection Capacity Utilization			35.0%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2038 OP Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	0	44	984	0	0
Future Volume (Veh/h)	43	0	44	984	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	54	0	47	1047	0	0
Pedestrians	5				1	
Lane Width (ft)	12.0				0.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.98					
vC, conflicting volume	449	5	5			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	372	5	5			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	100	97			
cM capacity (veh/h)	576	1078	1615			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3		
Volume Total	54	256	419	419		
Volume Left	54	47	0	0		
Volume Right	0	0	0	0		
cSH	576	1615	1700	1700		
Volume to Capacity	0.09	0.03	0.25	0.25		
Queue Length 95th (ft)	8	2	0	0		
Control Delay (s)	11.9	1.5	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	11.9	0.4				
Approach LOS	B					
Intersection Summary						
Average Delay	0.9					
Intersection Capacity Utilization	28.9%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

Road Diet Capacity Analysis  
 Background 2038 OP Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↑↑		
Traffic Volume (veh/h)	0	0	122	1053	0	0
Future Volume (Veh/h)	0	0	122	1053	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	0	139	1197	0	0
Pedestrians	8					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.79					
vC, conflicting volume	884	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	308	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	91			
cM capacity (veh/h)	478	1078	1625			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	538	798				
Volume Left	139	0				
Volume Right	0	0				
cSH	1625	1700				
Volume to Capacity	0.09	0.47				
Queue Length 95th (ft)	7	0				
Control Delay (s)	2.5	0.0				
Lane LOS	A					
Approach Delay (s)	1.0					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			1.0			
Intersection Capacity Utilization			34.4%	ICU Level of Service		A
Analysis Period (min)			15			

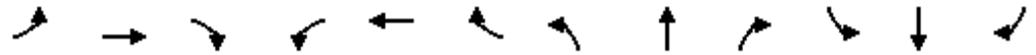
HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
Background 2038 PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  						 			 		
Traffic Volume (vph)	9	1928	94	0	0	0	0	71	28	41	44	0	
Future Volume (vph)	9	1928	94	0	0	0	0	71	28	41	44	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.4						10.8			10.8		
Lane Util. Factor		0.91						1.00			1.00		
Frbp, ped/bikes		1.00						0.99			1.00		
Flpb, ped/bikes		1.00						1.00			0.99		
Frt		0.99						0.96			1.00		
Flt Protected		1.00						1.00			0.98		
Satd. Flow (prot)		5413						1614			1925		
Flt Permitted		1.00						1.00			0.79		
Satd. Flow (perm)		5413						1614			1551		
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.82	0.82	0.82	0.67	0.67	0.67	
Adj. Flow (vph)	10	2191	107	0	0	0	0	87	34	61	66	0	
RTOR Reduction (vph)	0	7	0	0	0	0	0	5	0	0	0	0	
Lane Group Flow (vph)	0	2301	0	0	0	0	0	116	0	0	127	0	
Confl. Peds. (#/hr)	4		5						24	24			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Parking (#/hr)								10					
Turn Type	Perm	NA						NA		Perm	NA		
Protected Phases		1						2			2		
Permitted Phases	1									2			
Actuated Green, G (s)		46.6						17.2			17.2		
Effective Green, g (s)		46.6						17.2			17.2		
Actuated g/C Ratio		0.58						0.21			0.21		
Clearance Time (s)		5.4						10.8			10.8		
Lane Grp Cap (vph)		3153						347			333		
v/s Ratio Prot								0.07					
v/s Ratio Perm		0.43									c0.08		
v/c Ratio		0.73						0.34			0.38		
Uniform Delay, d1		12.1						26.6			26.9		
Progression Factor		1.00						1.00			1.30		
Incremental Delay, d2		1.5						2.6			3.3		
Delay (s)		13.7						29.2			38.1		
Level of Service		B						C			D		
Approach Delay (s)		13.7			0.0			29.2			38.1		
Approach LOS		B			A			C			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			15.6									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.64										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	16.2
Intersection Capacity Utilization			64.8%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

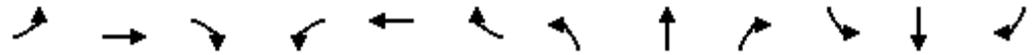
Road Diet Capacity Analysis  
 Background 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑						↑		↑	↑		
Traffic Volume (vph)	35	1545	32	0	0	0	0	59	16	18	44	0	
Future Volume (vph)	35	1545	32	0	0	0	0	59	16	18	44	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.3						5.7		5.7	5.7		
Lane Util. Factor		0.91						1.00		1.00	1.00		
Frbp, ped/bikes		1.00						1.00		1.00	1.00		
Flpb, ped/bikes		1.00						1.00		0.99	1.00		
Frt		1.00						0.97		1.00	1.00		
Flt Protected		1.00						1.00		0.95	1.00		
Satd. Flow (prot)		5412						1936		1889	2000		
Flt Permitted		1.00						1.00		0.70	1.00		
Satd. Flow (perm)		5412						1936		1394	2000		
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.87	0.87	0.87	0.72	0.72	0.72	
Adj. Flow (vph)	37	1644	34	0	0	0	0	68	18	25	61	0	
RTOR Reduction (vph)	0	2	0	0	0	0	0	14	0	0	0	0	
Lane Group Flow (vph)	0	1713	0	0	0	0	0	72	0	25	61	0	
Confl. Peds. (#/hr)	7		6						8	8			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	3	0	0	0	0	0	0	0	0	0	0	
Turn Type	custom	NA						NA		Perm	NA		
Protected Phases	1	1						2			2		
Permitted Phases	1									2			
Actuated Green, G (s)		61.2						7.8		7.8	7.8		
Effective Green, g (s)		61.2						7.8		7.8	7.8		
Actuated g/C Ratio		0.77						0.10		0.10	0.10		
Clearance Time (s)		5.3						5.7		5.7	5.7		
Vehicle Extension (s)		0.2						3.0		3.0	3.0		
Lane Grp Cap (vph)		4140						188		135	195		
v/s Ratio Prot		c0.32						c0.04			0.03		
v/s Ratio Perm										0.02			
v/c Ratio		0.41						0.39		0.19	0.31		
Uniform Delay, d1		3.2						33.9		33.2	33.6		
Progression Factor		0.09						1.00		1.00	1.00		
Incremental Delay, d2		0.2						1.3		0.7	0.9		
Delay (s)		0.5						35.2		33.8	34.5		
Level of Service		A						D		C	C		
Approach Delay (s)		0.5			0.0			35.2			34.3		
Approach LOS		A			A			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			3.6									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.41										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	11.0
Intersection Capacity Utilization			49.0%									ICU Level of Service	A
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Background 2038 PM Peak Hour

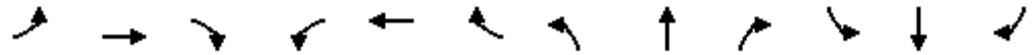


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	525	149	320	591	0	0	0	0	584	1316	43
Future Volume (vph)	0	525	149	320	591	0	0	0	0	584	1316	43
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					0.86	0.86	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	1.00	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3653		1898	3515					1634	5114	
Flt Permitted		1.00		0.25	1.00					0.95	1.00	
Satd. Flow (perm)		3653		494	3515					1634	5114	
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	0	577	164	340	629	0	0	0	0	649	1462	48
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	741	0	340	629	0	0	0	0	526	1630	0
Confl. Peds. (#/hr)			12	12						10		9
Confl. Bikes (#/hr)			1									1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom	NA	
Protected Phases		1		2	1 2					3	3	
Permitted Phases				1 2						3		
Actuated Green, G (s)		27.8		36.6	41.8					26.2	26.2	
Effective Green, g (s)		27.8		36.6	41.8					26.2	26.2	
Actuated g/C Ratio		0.35		0.46	0.52					0.33	0.33	
Clearance Time (s)		5.2		5.2						6.8	6.8	
Lane Grp Cap (vph)		1269		380	1836					535	1674	
v/s Ratio Prot		0.20		c0.10	0.18					c0.32	0.32	
v/s Ratio Perm				c0.31								
v/c Ratio		0.58		0.89	0.34					0.98	0.97	
Uniform Delay, d1		21.4		24.8	11.1					26.7	26.6	
Progression Factor		1.00		0.55	0.64					1.00	1.00	
Incremental Delay, d2		2.0		25.0	0.5					35.0	16.5	
Delay (s)		23.3		38.7	7.5					61.7	43.1	
Level of Service		C		D	A					E	D	
Approach Delay (s)		23.3			18.5			0.0			47.6	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Background 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					↑	↗		↑↑	↗				
Traffic Volume (vph)	0	0	0	0	285	18	0	436	409	0	0	0	
Future Volume (vph)	0	0	0	0	285	18	0	436	409	0	0	0	
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)					5.5	5.5		5.6	5.6				
Lane Util. Factor					1.00	1.00		0.95	1.00				
Frbp, ped/bikes					1.00	1.00		1.00	1.00				
Flpb, ped/bikes					1.00	1.00		1.00	1.00				
Frt					1.00	0.85		1.00	0.85				
Flt Protected					1.00	1.00		1.00	1.00				
Satd. Flow (prot)					2000	1700		3800	1700				
Flt Permitted					1.00	1.00		1.00	1.00				
Satd. Flow (perm)					2000	1700		3800	1700				
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	0	328	21	0	459	431	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	11	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	328	10	0	459	431	0	0	0	
Confl. Peds. (#/hr)						19			3				
Confl. Bikes (#/hr)						1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type					NA	custom		NA	custom				
Protected Phases					2	2		8	8				
Permitted Phases						2			8				
Actuated Green, G (s)					36.5	36.5		32.4	32.4				
Effective Green, g (s)					36.5	36.5		32.4	32.4				
Actuated g/C Ratio					0.46	0.46		0.40	0.40				
Clearance Time (s)					5.5	5.5		5.6	5.6				
Lane Grp Cap (vph)					912	775		1539	688				
v/s Ratio Prot					c0.16	0.01		0.12	c0.25				
v/s Ratio Perm													
v/c Ratio					0.36	0.01		0.30	0.63				
Uniform Delay, d1					14.1	11.9		16.1	19.0				
Progression Factor					1.00	1.00		1.31	1.28				
Incremental Delay, d2					1.1	0.0		0.4	3.2				
Delay (s)					15.3	11.9		21.5	27.5				
Level of Service					B	B		C	C				
Approach Delay (s)		0.0			15.1			24.4			0.0		
Approach LOS		A			B			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			21.8		HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.48										
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				11.1				
Intersection Capacity Utilization			55.4%		ICU Level of Service				B				
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2038 PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 					
Traffic Volume (vph)	172	1120	0	0	750	416	141	837	213	0	0	0	
Future Volume (vph)	172	1120	0	0	750	416	141	837	213	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6					
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95					
Frbp, ped/bikes	1.00	1.00			1.00	0.94	1.00	1.00					
Flpb, ped/bikes	1.00	1.00			1.00	1.00	0.98	1.00					
Frt	1.00	1.00			0.99	0.85	1.00	0.97					
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00					
Satd. Flow (prot)	1898	3515			3310	1241	1867	3666					
Flt Permitted	0.15	1.00			1.00	1.00	0.95	1.00					
Satd. Flow (perm)	299	3515			3310	1241	1867	3666					
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	183	1191	0	0	798	443	153	910	232	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	183	1191	0	0	869	372	153	1142	0	0	0	0	
Confl. Peds. (#/hr)	37					37	19		13				
Confl. Bikes (#/hr)						1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Parking (#/hr)		10			10	10							
Turn Type	pm+pt	NA			NA	Perm	Perm	NA					
Protected Phases	2	1 2			1			3					
Permitted Phases	1 2					1	3						
Actuated Green, G (s)	35.0	40.0			27.0	27.0	29.4	29.4					
Effective Green, g (s)	35.0	40.0			27.0	27.0	29.4	29.4					
Actuated g/C Ratio	0.44	0.50			0.34	0.34	0.37	0.37					
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6					
Lane Grp Cap (vph)	290	1757			1117	418	686	1347					
v/s Ratio Prot	0.06	c0.34			0.26			c0.31					
v/s Ratio Perm	0.21					c0.30	0.08						
v/c Ratio	0.63	0.68			0.78	0.89	0.22	0.85					
Uniform Delay, d1	27.2	15.1			23.8	25.1	17.4	23.2					
Progression Factor	0.67	0.51			1.00	1.00	0.48	0.55					
Incremental Delay, d2	8.4	1.8			5.4	23.6	0.7	6.7					
Delay (s)	26.5	9.5			29.2	48.7	9.1	19.6					
Level of Service	C	A			C	D	A	B					
Approach Delay (s)		11.8			35.0			18.4			0.0		
Approach LOS		B			D			B			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			21.3									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.87										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	15.6
Intersection Capacity Utilization			75.2%									ICU Level of Service	D
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
Background 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕			↕
Traffic Volume (vph)	20	129	0	651	282	43	37	26	12	0	650
Future Volume (vph)	20	129	0	651	282	43	37	26	12	0	650
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00			0.88
Frbp, ped/bikes		1.00		1.00	0.99		1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00
Frt		1.00		1.00	0.99		1.00	0.85			0.85
Flt Protected		0.99		0.95	0.98		0.95	1.00			1.00
Satd. Flow (prot)		1987		1805	1555		1900	1700			2962
Flt Permitted		0.99		0.95	0.98		0.95	1.00			1.00
Satd. Flow (perm)		1987		1805	1555		1900	1700			2962
Peak-hour factor, PHF	0.81	0.81	0.81	0.93	0.93	0.93	0.60	0.60	0.60	0.95	0.95
Adj. Flow (vph)	25	159	0	700	303	46	62	43	20	0	684
RTOR Reduction (vph)	0	0	0	0	2	0	0	53	0	0	332
Lane Group Flow (vph)	0	184	0	518	529	0	62	11	0	0	352
Confl. Peds. (#/hr)	16		5	5		16	1		3		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)					10						
Turn Type	Split	NA		Split	NA		Prot	Prot			Over
Protected Phases	3	3		1	1		2	2			1
Permitted Phases											
Actuated Green, G (s)		20.0		61.7	61.7		20.0	20.0			61.7
Effective Green, g (s)		20.0		61.7	61.7		20.0	20.0			61.7
Actuated g/C Ratio		0.17		0.51	0.51		0.17	0.17			0.51
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		331		928	799		316	283			1522
v/s Ratio Prot		c0.09		0.29	c0.34		c0.03	0.01			0.12
v/s Ratio Perm											
v/c Ratio		0.56		0.56	0.66		0.20	0.04			0.23
Uniform Delay, d1		45.9		19.9	21.5		43.1	41.9			16.1
Progression Factor		1.00		1.00	1.00		1.00	1.00			1.00
Incremental Delay, d2		2.0		2.4	4.3		0.3	0.1			0.4
Delay (s)		47.9		22.3	25.7		43.4	42.0			16.4
Level of Service		D		C	C		D	D			B
Approach Delay (s)		47.9			24.0		42.7			16.4	
Approach LOS		D			C		D			B	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			24.8			HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.55								
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			18.3		
Intersection Capacity Utilization			90.7%			ICU Level of Service				E	
Analysis Period (min)			15								
c Critical Lane Group											

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↖	↗		↖	↗	
Traffic Volume (vph)	0	1176	10	0	817	33	20	37	41	59	32	44
Future Volume (vph)	0	1176	10	0	817	33	20	37	41	59	32	44
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.97		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		0.96	1.00	
Frt		1.00			0.99		1.00	0.92		1.00	0.91	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3509			3452		1878	1520		1829	1531	
Flt Permitted		1.00			1.00		0.69	1.00		0.69	1.00	
Satd. Flow (perm)		3509			3452		1370	1520		1321	1531	
Peak-hour factor, PHF	0.95	0.95	0.95	0.91	0.91	0.91	0.71	0.71	0.71	0.77	0.77	0.77
Adj. Flow (vph)	0	1238	11	0	898	36	28	52	58	77	42	57
RTOR Reduction (vph)	0	1	0	0	3	0	0	48	0	0	47	0
Lane Group Flow (vph)	0	1248	0	0	931	0	28	62	0	77	52	0
Confl. Peds. (#/hr)	20		14	14		20	13		42	42		13
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10			10	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2408			2368		239	266		231	267	
v/s Ratio Prot		c0.36			0.27			0.04			0.03	
v/s Ratio Perm							0.02			c0.06		
v/c Ratio		0.52			0.39		0.12	0.23		0.33	0.19	
Uniform Delay, d1		6.1			5.4		27.8	28.4		28.9	28.2	
Progression Factor		0.46			0.21		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.5		1.0	2.1		3.8	1.6	
Delay (s)		3.3			1.6		28.8	30.4		32.8	29.8	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		3.3			1.6			30.1			31.1	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
2005: Washington St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Background 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕				↕
Traffic Volume (vph)	0	1191	56	0	862	31	17	40	39	93	32	43
Future Volume (vph)	0	1191	56	0	862	31	17	40	39	93	32	43
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		0.99			0.99			0.95			0.97	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		3478			3485			1549			1808	
Flt Permitted		1.00			1.00			0.91			0.74	
Satd. Flow (perm)		3478			3485			1427			1384	
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.68	0.68	0.68	0.87	0.87	0.87
Adj. Flow (vph)	0	1281	60	0	907	33	25	59	57	107	37	49
RTOR Reduction (vph)	0	4	0	0	3	0	0	31	0	0	16	0
Lane Group Flow (vph)	0	1337	0	0	937	0	0	110	0	0	177	0
Confl. Peds. (#/hr)	35		31	31		35	76		28	28		76
Confl. Bikes (#/hr)			1			1						1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10				
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		55.0			55.0			14.0			14.0	
Effective Green, g (s)		55.0			55.0			14.0			14.0	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2391			2395			249			242	
v/s Ratio Prot		c0.38			0.27							
v/s Ratio Perm								0.08			c0.13	
v/c Ratio		0.56			0.39			0.44			0.73	
Uniform Delay, d1		6.3			5.3			29.5			31.2	
Progression Factor		0.22			0.39			1.00			1.00	
Incremental Delay, d2		0.8			0.3			5.6			17.8	
Delay (s)		2.2			2.4			35.2			49.0	
Level of Service		A			A			D			D	
Approach Delay (s)		2.2			2.4			35.2			49.0	
Approach LOS		A			A			D			D	

Intersection Summary

HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
Background 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑			↑↑↑	↘			
Traffic Volume (vph)	35	337	0	0	498	39	211	1055	384	0	0	0
Future Volume (vph)	35	337	0	0	498	39	211	1055	384	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Util. Factor	1.00	0.95			0.95			0.91	1.00			
Frbp, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1898	3800			3755			5391	1700			
Flt Permitted	0.34	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	686	3800			3755			5391	1700			
Peak-hour factor, PHF	0.83	0.83	0.83	0.86	0.86	0.86	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	42	406	0	0	579	45	222	1111	404	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	126	0	0	0
Lane Group Flow (vph)	42	406	0	0	617	0	0	1333	278	0	0	0
Confl. Peds. (#/hr)	2					2	3					
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	28.4	28.4			28.4			38.9	38.9			
Effective Green, g (s)	28.4	28.4			28.4			38.9	38.9			
Actuated g/C Ratio	0.35	0.35			0.35			0.49	0.49			
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Grp Cap (vph)	243	1349			1333			2621	826			
v/s Ratio Prot		0.11			c0.16							
v/s Ratio Perm	0.06							0.25	0.16			
v/c Ratio	0.17	0.30			0.46			0.51	0.34			
Uniform Delay, d1	17.7	18.6			19.9			14.0	12.6			
Progression Factor	1.00	0.99			1.00			0.61	0.36			
Incremental Delay, d2	1.5	0.5			1.2			0.6	0.9			
Delay (s)	19.2	18.9			21.1			9.2	5.5			
Level of Service	B	B			C			A	A			
Approach Delay (s)		18.9			21.1			8.3			0.0	
Approach LOS		B			C			A			A	

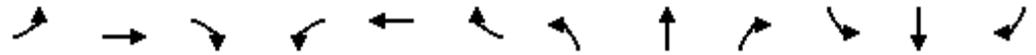
Intersection Summary

HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
Background 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑↑	
Traffic Volume (vph)	0	245	176	407	326	0	0	0	0	174	1614	43
Future Volume (vph)	0	245	176	407	326	0	0	0	0	174	1614	43
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.91	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.94		1.00	1.00					1.00	1.00	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3520		1894	3800					1898	5414	
Flt Permitted		1.00		0.42	1.00					0.95	1.00	
Satd. Flow (perm)		3520		840	3800					1898	5414	
Peak-hour factor, PHF	0.89	0.89	0.89	0.82	0.82	0.82	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	0	275	198	496	398	0	0	0	0	183	1699	45
RTOR Reduction (vph)	0	51	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	422	0	496	398	0	0	0	0	183	1741	0
Confl. Peds. (#/hr)			14	14						1		2
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		44.2	44.2					24.4	24.4	
Effective Green, g (s)		22.2		44.2	44.2					24.4	24.4	
Actuated g/C Ratio		0.28		0.55	0.55					0.30	0.30	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		976		677	2099					578	1651	
v/s Ratio Prot		0.12		c0.15	0.10						c0.32	
v/s Ratio Perm				c0.26						0.10		
v/c Ratio		0.43		0.73	0.19					0.32	1.05	
Uniform Delay, d1		23.7		16.4	8.9					21.4	27.8	
Progression Factor		1.00		0.93	0.63					0.71	0.79	
Incremental Delay, d2		1.4		4.0	0.1					0.9	33.7	
Delay (s)		25.1		19.3	5.7					16.0	55.7	
Level of Service		C		B	A					B	E	
Approach Delay (s)		25.1			13.3			0.0			51.9	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 3004: Huron St & Catherine St (PB)

Road Diet Capacity Analysis  
 Background 2038 PM Peak Hour



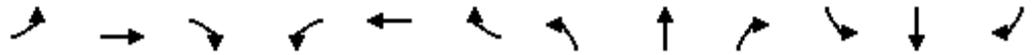
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖			↗			↖↗↘				
Traffic Volume (vph)	16	29	0	0	9	44	5	1094	7	0	0	0
Future Volume (vph)	16	29	0	0	9	44	5	1094	7	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.91				
Frb, ped/bikes		1.00			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.89			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1964			1755			5377				
Flt Permitted		0.85			1.00			1.00				
Satd. Flow (perm)		1705			1755			5377				
Peak-hour factor, PHF	0.77	0.77	0.77	0.73	0.73	0.73	0.89	0.89	0.89	0.92	0.92	0.92
Adj. Flow (vph)	21	38	0	0	12	60	6	1229	8	0	0	0
RTOR Reduction (vph)	0	0	0	0	54	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	59	0	0	18	0	0	1243	0	0	0	0
Confl. Peds. (#/hr)	1						1	1	5			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	0	0	0	0
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		8.0			8.0			61.4				
Effective Green, g (s)		8.0			8.0			61.4				
Actuated g/C Ratio		0.10			0.10			0.77				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		170			175			4126				
v/s Ratio Prot					0.01							
v/s Ratio Perm		c0.03						0.23				
v/c Ratio		0.35			0.10			0.30				
Uniform Delay, d1		33.6			32.7			2.8				
Progression Factor		1.00			1.00			1.41				
Incremental Delay, d2		1.2			0.3			0.2				
Delay (s)		34.8			33.0			4.1				
Level of Service		C			C			A				
Approach Delay (s)		34.8			33.0			4.1			0.0	
Approach LOS		C			C			A			A	

Intersection Summary

HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	38.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Background 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑								↑↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	385	1195	0	0	0	0	0	0	34	722	0
Future Volume (vph)	0	385	1195	0	0	0	0	0	0	34	722	0
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	0	405	1258	0	0	0	0	0	0	40	849	0

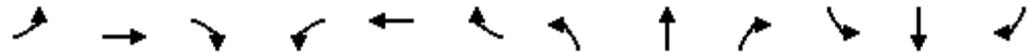
Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2
Volume Total (vph)	203	203	1258	323	566
Volume Left (vph)	0	0	0	40	0
Volume Right (vph)	0	0	1258	0	0
Hadj (s)	0.00	0.00	-0.70	0.06	0.00
Departure Headway (s)	6.7	6.7	3.2	5.8	5.8
Degree Utilization, x	0.38	0.38	1.12	0.52	0.91
Capacity (veh/h)	524	524	1133	607	619
Control Delay (s)	12.4	12.4	79.7	13.8	39.2
Approach Delay (s)	63.4			30.0	
Approach LOS	F			D	

Intersection Summary

Delay	51.7
Level of Service	F
Intersection Capacity Utilization	97.1%
ICU Level of Service	F
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St (PB)/Hamilton St & Pearl St

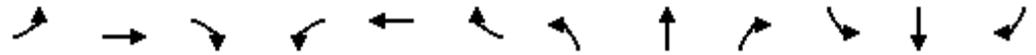
Road Diet Capacity Analysis  
 Background 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	28	56	61	0	0	0	0	0	1936	14
Future Volume (Veh/h)	0	0	28	56	61	0	0	0	0	0	1936	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.65	0.65	0.79	0.79	0.79	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	43	71	77	0	0	0	0	0	2104	15
Pedestrians		6						3				
Lane Width (ft)		12.0						0.0				
Walking Speed (ft/s)		4.0						4.0				
Percent Blockage		1						0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	2156	2118	718	747	2125	0	2125			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2156	2118	718	747	2125	0	2125			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	89	74	0	100	100			100		
cM capacity (veh/h)	0	51	374	269	50	1091	259			1636		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>WB 2</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>						
Volume Total	43	47	101	842	842	436						
Volume Left	0	47	24	0	0	0						
Volume Right	43	0	0	0	0	15						
cSH	374	269	62	1700	1700	1700						
Volume to Capacity	0.11	0.18	1.62	0.50	0.50	0.26						
Queue Length 95th (ft)	10	16	225	0	0	0						
Control Delay (s)	15.9	21.2	449.7	0.0	0.0	0.0						
Lane LOS	C	C	F									
Approach Delay (s)	15.9	312.6		0.0								
Approach LOS	C	F										
<b>Intersection Summary</b>												
Average Delay			20.3									
Intersection Capacity Utilization			53.5%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻					↻	↻↻↻	
Traffic Volume (veh/h)	0	25	32	54	28	0	0	0	0	117	1560	21
Future Volume (Veh/h)	0	25	32	54	28	0	0	0	0	117	1560	21
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.69	0.69	0.69	0.76	0.76	0.76	0.92	0.92	0.92	0.93	0.93	0.93
Hourly flow rate (vph)	0	36	46	71	37	0	0	0	0	126	1677	23
Pedestrians		4			3			7				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.72	0.72	0.72	0.72	0.72		0.72					
vC, conflicting volume	1963	1948	582	885	1959	3	1704			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	953	932	0	0	948	3	591			3		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	80	94	87	79	100	100			92		
cM capacity (veh/h)	121	176	778	546	173	1083	709			1628		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>	<b>SB 4</b>						
Volume Total	82	108	126	671	671	358						
Volume Left	0	71	126	0	0	0						
Volume Right	46	0	0	0	0	23						
cSH	311	314	1628	1700	1700	1700						
Volume to Capacity	0.26	0.34	0.08	0.39	0.39	0.21						
Queue Length 95th (ft)	26	37	6	0	0	0						
Control Delay (s)	20.6	22.4	7.4	0.0	0.0	0.0						
Lane LOS	C	C	A									
Approach Delay (s)	20.6	22.4	0.5									
Approach LOS	C	C										
<b>Intersection Summary</b>												
Average Delay			2.5									
Intersection Capacity Utilization			46.7%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Background 2038 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	36	0	27	1439	0	0
Future Volume (Veh/h)	36	0	27	1439	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	60	0	28	1515	0	0
Pedestrians	8				1	
Lane Width (ft)	12.0				0.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.97					
vC, conflicting volume	570	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	428	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	100	98			
cM capacity (veh/h)	528	1071	1615			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3
Volume Total	60	331	606	606
Volume Left	60	28	0	0
Volume Right	0	0	0	0
cSH	528	1615	1700	1700
Volume to Capacity	0.11	0.02	0.36	0.36
Queue Length 95th (ft)	10	1	0	0
Control Delay (s)	12.7	0.8	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	12.7	0.2		
Approach LOS	B			

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

Road Diet Capacity Analysis  
 Background 2038 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	157	1240	0	0
Future Volume (Veh/h)	0	0	157	1240	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	0	178	1409	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.73					
vC, conflicting volume	1060	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	89			
cM capacity (veh/h)	405	1091	1636			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	648	939				
Volume Left	178	0				
Volume Right	0	0				
cSH	1636	1700				
Volume to Capacity	0.11	0.55				
Queue Length 95th (ft)	9	0				
Control Delay (s)	2.9	0.0				
Lane LOS	A					
Approach Delay (s)	1.2					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization			40.2%	ICU Level of Service	A	
Analysis Period (min)			15			

*Appendix K*  
*Road Diet 2038 Condition Synchro Reports*

HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

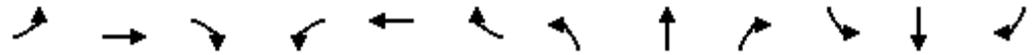
Road Diet Capacity Analysis  
Road Diet 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑						↑			↑	
Traffic Volume (vph)	3	756	19	0	0	0	0	153	35	12	11	0
Future Volume (vph)	3	756	19	0	0	0	0	153	35	12	11	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.4						10.8			10.8	
Lane Util. Factor		0.91						1.00			1.00	
Frbp, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		1.00						0.98			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		5436						1643			1921	
Flt Permitted		1.00						1.00			0.73	
Satd. Flow (perm)		5436						1643			1448	
Peak-hour factor, PHF	0.87	0.87	0.87	0.92	0.92	0.92	0.91	0.91	0.91	0.75	0.75	0.75
Adj. Flow (vph)	3	869	22	0	0	0	0	168	38	16	15	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	891	0	0	0	0	0	196	0	0	31	0
Confl. Peds. (#/hr)			2						26	26		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)								10				
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		46.6						17.2			17.2	
Effective Green, g (s)		46.6						17.2			17.2	
Actuated g/C Ratio		0.58						0.21			0.21	
Clearance Time (s)		5.4						10.8			10.8	
Lane Grp Cap (vph)		3166						353			311	
v/s Ratio Prot								c0.12				
v/s Ratio Perm		0.16									0.02	
v/c Ratio		0.28						0.55			0.10	
Uniform Delay, d1		8.3						28.0			25.2	
Progression Factor		1.00						1.00			1.32	
Incremental Delay, d2		0.2						6.2			0.6	
Delay (s)		8.6						34.1			33.9	
Level of Service		A						C			C	
Approach Delay (s)		8.6			0.0			34.1			33.9	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.9					HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			80.0					Sum of lost time (s)		16.2		
Intersection Capacity Utilization			45.6%					ICU Level of Service		A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

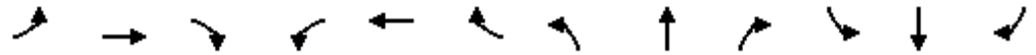
Road Diet Capacity Analysis  
 Road Diet 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↕↕						↔		↕	↕			
Traffic Volume (vph)	17	589	7	0	0	0	0	41	9	10	23	0		
Future Volume (vph)	17	589	7	0	0	0	0	41	9	10	23	0		
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000		
Total Lost time (s)		5.3						5.7		5.7	5.7			
Lane Util. Factor		0.95						1.00		1.00	1.00			
Frbp, ped/bikes		1.00						1.00		1.00	1.00			
Flpb, ped/bikes		1.00						1.00		0.99	1.00			
Frt		1.00						0.98		1.00	1.00			
Flt Protected		1.00						1.00		0.95	1.00			
Satd. Flow (prot)		3787						1946		1887	2000			
Flt Permitted		1.00						1.00		0.71	1.00			
Satd. Flow (perm)		3787						1946		1416	2000			
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.91	0.91	0.91		
Adj. Flow (vph)	19	654	8	0	0	0	0	56	12	11	25	0		
RTOR Reduction (vph)	0	1	0	0	0	0	0	11	0	0	0	0		
Lane Group Flow (vph)	0	680	0	0	0	0	0	57	0	11	25	0		
Confl. Peds. (#/hr)	2		1						9	9				
Confl. Bikes (#/hr)			1											
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	0%	0%	0%		
Turn Type	custom	NA						NA		Perm	NA			
Protected Phases	1	1						2			2			
Permitted Phases	1									2				
Actuated Green, G (s)		61.4						7.6		7.6	7.6			
Effective Green, g (s)		61.4						7.6		7.6	7.6			
Actuated g/C Ratio		0.77						0.09		0.09	0.09			
Clearance Time (s)		5.3						5.7		5.7	5.7			
Vehicle Extension (s)		0.2						3.0		3.0	3.0			
Lane Grp Cap (vph)		2906						184		134	190			
v/s Ratio Prot		c0.18						c0.03			0.01			
v/s Ratio Perm										0.01				
v/c Ratio		0.23						0.31		0.08	0.13			
Uniform Delay, d1		2.6						33.8		33.0	33.2			
Progression Factor		0.72						1.00		1.00	1.00			
Incremental Delay, d2		0.2						1.0		0.3	0.3			
Delay (s)		2.1						34.7		33.3	33.5			
Level of Service		A						C		C	C			
Approach Delay (s)		2.1			0.0			34.7			33.4			
Approach LOS		A			A			C			C			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			6.4									HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio			0.24											
Actuated Cycle Length (s)			80.0								11.0			
Intersection Capacity Utilization			36.4%										ICU Level of Service	A
Analysis Period (min)			15											
c	Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Road Diet 2038 AM Peak Hour



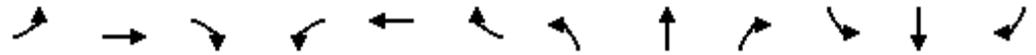
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	
Traffic Volume (vph)	0	316	87	161	758	0	0	0	0	212	502	43
Future Volume (vph)	0	316	87	161	758	0	0	0	0	212	502	43
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3662		1879	3480					1881	3713	
Flt Permitted		1.00		0.43	1.00					0.95	1.00	
Satd. Flow (perm)		3662		841	3480					1881	3713	
Peak-hour factor, PHF	0.84	0.84	0.84	0.83	0.83	0.83	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	0	376	104	194	913	0	0	0	0	233	552	47
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	480	0	194	913	0	0	0	0	233	591	0
Confl. Peds. (#/hr)			6	6						5		6
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Parking (#/hr)				10								
Turn Type		NA		pm+pt	NA					custom	NA	
Protected Phases		1		2	1 2					3	3	
Permitted Phases				1 2						3		
Actuated Green, G (s)		28.8		37.6	42.8					25.2	25.2	
Effective Green, g (s)		28.8		37.6	42.8					25.2	25.2	
Actuated g/C Ratio		0.36		0.47	0.53					0.31	0.31	
Clearance Time (s)		5.2		5.2						6.8	6.8	
Lane Grp Cap (vph)		1318		509	1861					592	1169	
v/s Ratio Prot		0.13		0.04	c0.26					0.12	c0.16	
v/s Ratio Perm				0.14								
v/c Ratio		0.36		0.38	0.49					0.39	0.51	
Uniform Delay, d1		18.9		16.3	11.7					21.4	22.3	
Progression Factor		1.00		0.81	0.76					1.00	1.00	
Incremental Delay, d2		0.8		2.0	0.9					2.0	1.6	
Delay (s)		19.6		15.2	9.8					23.4	23.9	
Level of Service		B		B	A					C	C	
Approach Delay (s)		19.6			10.7			0.0			23.7	
Approach LOS		B			B			A			C	

Intersection Summary		
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.54	B
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	57.8%	17.2
Analysis Period (min)	15	ICU Level of Service
		B

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

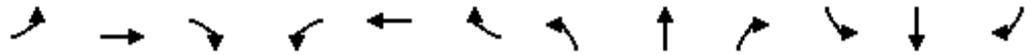
Road Diet Capacity Analysis  
 Road Diet 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑	↗		↑↑				
Traffic Volume (vph)	0	0	0	0	465	29	0	588	148	0	0	0
Future Volume (vph)	0	0	0	0	465	29	0	588	148	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)					5.5	5.5		5.6				
Lane Util. Factor					1.00	1.00		0.95				
Frbp, ped/bikes					1.00	1.00		1.00				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					1.00	0.85		0.97				
Flt Protected					1.00	1.00		1.00				
Satd. Flow (prot)					2000	1700		3668				
Flt Permitted					1.00	1.00		1.00				
Satd. Flow (perm)					2000	1700		3668				
Peak-hour factor, PHF	0.92	0.92	0.92	0.81	0.81	0.81	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	574	36	0	626	157	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	18	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	574	18	0	783	0	0	0	0
Confl. Peds. (#/hr)						11		3				
Confl. Bikes (#/hr)						4						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type					NA	custom		NA				
Protected Phases					2	2		8				
Permitted Phases						2						
Actuated Green, G (s)					38.5	38.5		30.4				
Effective Green, g (s)					38.5	38.5		30.4				
Actuated g/C Ratio					0.48	0.48		0.38				
Clearance Time (s)					5.5	5.5		5.6				
Lane Grp Cap (vph)					962	818		1393				
v/s Ratio Prot					c0.29	0.01		c0.21				
v/s Ratio Perm												
v/c Ratio					0.60	0.02		0.56				
Uniform Delay, d1					15.1	10.9		19.6				
Progression Factor					1.00	1.00		1.53				
Incremental Delay, d2					2.7	0.0		0.6				
Delay (s)					17.8	10.9		30.4				
Level of Service					B	B		C				
Approach Delay (s)		0.0			17.4			30.4			0.0	
Approach LOS		A			B			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			24.7		HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				11.1			
Intersection Capacity Utilization			57.8%		ICU Level of Service				B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Road Diet 2038 AM Peak Hour



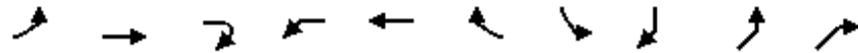
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘	↑↑				
Traffic Volume (vph)	86	490	0	0	771	619	96	1222	80	0	0	0
Future Volume (vph)	86	490	0	0	771	619	96	1222	80	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6				
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95				
Frbp, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00				
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00				
Frt	1.00	1.00			0.97	0.85	1.00	0.99				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1881	3480			3218	1271	1873	3725				
Flt Permitted	0.15	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	305	3480			3218	1271	1873	3725				
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	92	527	0	0	866	696	101	1286	84	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	92	527	0	0	1082	480	101	1370	0	0	0	0
Confl. Peds. (#/hr)	10					10	5		2			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Parking (#/hr)		10			10	10						
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	2	1 2			1			3				
Permitted Phases	1 2					1	3					
Actuated Green, G (s)	34.0	39.0			26.0	26.0	30.4	30.4				
Effective Green, g (s)	34.0	39.0			26.0	26.0	30.4	30.4				
Actuated g/C Ratio	0.42	0.49			0.32	0.32	0.38	0.38				
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6				
Lane Grp Cap (vph)	287	1696			1045	413	711	1415				
v/s Ratio Prot	0.03	c0.15			0.34			c0.37				
v/s Ratio Perm	0.10					c0.38	0.05					
v/c Ratio	0.32	0.31			1.04	1.16	0.14	0.97				
Uniform Delay, d1	30.1	12.4			27.0	27.0	16.3	24.3				
Progression Factor	0.52	0.46			1.00	1.00	0.58	0.47				
Incremental Delay, d2	2.8	0.5			37.4	96.6	0.4	15.7				
Delay (s)	18.5	6.2			64.4	123.6	9.7	27.1				
Level of Service	B	A			E	F	A	C				
Approach Delay (s)		8.0			82.6			25.9			0.0	
Approach LOS		A			F			C			A	

Intersection Summary			
HCM 2000 Control Delay	47.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
 Road Diet 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕		↕
Traffic Volume (vph)	9	84	1	423	162	36	11	55	0	339
Future Volume (vph)	9	84	1	423	162	36	11	55	0	339
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3		6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00		0.88
Frbp, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00
Frt		1.00		1.00	0.98		1.00	0.85		0.85
Flt Protected		1.00		0.95	0.98		0.95	1.00		1.00
Satd. Flow (prot)		1988		1787	1538		1900	1700		2992
Flt Permitted		1.00		0.95	0.98		0.95	1.00		1.00
Satd. Flow (perm)		1988		1787	1538		1900	1700		2992
Peak-hour factor, PHF	0.82	0.82	0.82	0.94	0.94	0.94	0.60	0.60	0.93	0.93
Adj. Flow (vph)	11	102	1	450	172	38	18	92	0	365
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	177
Lane Group Flow (vph)	0	114	0	328	329	0	18	92	0	188
Confl. Peds. (#/hr)	2		1	1		2	1			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%
Parking (#/hr)				10						
Turn Type	Split	NA		Split	NA		Prot	Prot		Over
Protected Phases	3	3		1	1		2	2		1
Permitted Phases										
Actuated Green, G (s)		20.0		61.7	61.7		20.0	20.0		61.7
Effective Green, g (s)		20.0		61.7	61.7		20.0	20.0		61.7
Actuated g/C Ratio		0.17		0.51	0.51		0.17	0.17		0.51
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3		6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		331		918	790		316	283		1538
v/s Ratio Prot		c0.06		0.18	c0.21		0.01	c0.05		0.06
v/s Ratio Perm										
v/c Ratio		0.34		0.36	0.42		0.06	0.33		0.12
Uniform Delay, d1		44.2		17.3	18.0		42.1	44.1		15.1
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2		0.6		1.1	1.6		0.1	0.7		0.2
Delay (s)		44.8		18.4	19.6		42.1	44.7		15.3
Level of Service		D		B	B		D	D		B
Approach Delay (s)		44.8		19.0			44.3		15.3	
Approach LOS		D		B			D		B	
<b>Intersection Summary</b>										
HCM 2000 Control Delay			22.5			HCM 2000 Level of Service				C
HCM 2000 Volume to Capacity ratio			0.38							
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			18.3	
Intersection Capacity Utilization			66.6%			ICU Level of Service				C
Analysis Period (min)			15							
c Critical Lane Group										

# HCM Signalized Intersection Capacity Analysis

## 2004: Adams St (PB) & Michigan Ave

# Road Diet Capacity Analysis

## Road Diet 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↖	↗		↖	↗	
Traffic Volume (vph)	0	608	7	0	860	33	49	45	13	23	11	21
Future Volume (vph)	0	608	7	0	860	33	49	45	13	23	11	21
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		0.99	1.00	
Frt		1.00			0.99		1.00	0.97		1.00	0.90	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3473			3457		1894	1633		1879	1519	
Flt Permitted		1.00			1.00		0.73	1.00		0.69	1.00	
Satd. Flow (perm)		3473			3457		1454	1633		1373	1519	
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.60	0.60	0.60	0.75	0.75	0.75
Adj. Flow (vph)	0	647	7	0	966	37	82	75	22	31	15	28
RTOR Reduction (vph)	0	1	0	0	3	0	0	13	0	0	23	0
Lane Group Flow (vph)	0	653	0	0	1000	0	82	84	0	31	20	0
Confl. Peds. (#/hr)	6		8	8		6	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10			10	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2383			2372		254	285		240	265	
v/s Ratio Prot		0.19			c0.29			0.05			0.01	
v/s Ratio Perm							c0.06			0.02		
v/c Ratio		0.27			0.42		0.32	0.29		0.13	0.08	
Uniform Delay, d1		4.8			5.5		28.9	28.7		27.9	27.6	
Progression Factor		0.43			0.37		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			0.5		3.3	2.6		1.1	0.6	
Delay (s)		2.3			2.6		32.2	31.3		29.0	28.1	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		2.3			2.6			31.7			28.5	
Approach LOS		A			A			C			C	

### Intersection Summary

HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
2005: Washington St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Road Diet 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Volume (vph)	0	607	14	0	800	16	46	101	25	16	6	10
Future Volume (vph)	0	607	14	0	800	16	46	101	25	16	6	10
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			0.99			1.00	
Frt		1.00			1.00			0.98			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		3501			3467			1629			1774	
Flt Permitted		1.00			1.00			0.90			0.67	
Satd. Flow (perm)		3501			3467			1480			1221	
Peak-hour factor, PHF	0.86	0.86	0.86	0.94	0.94	0.94	0.60	0.60	0.60	0.88	0.88	0.88
Adj. Flow (vph)	0	706	16	0	851	17	77	168	42	18	7	11
RTOR Reduction (vph)	0	2	0	0	2	0	0	7	0	0	9	0
Lane Group Flow (vph)	0	720	0	0	866	0	0	280	0	0	27	0
Confl. Peds. (#/hr)	10		3	3		10	22		9	9		22
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	4%	4%	4%
Parking (#/hr)		10			10			10				
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		55.0			55.0			14.0			14.0	
Effective Green, g (s)		55.0			55.0			14.0			14.0	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2406			2383			259			213	
v/s Ratio Prot		0.21			c0.25							
v/s Ratio Perm								c0.19			0.02	
v/c Ratio		0.30			0.36			1.08			0.13	
Uniform Delay, d1		4.9			5.2			33.0			27.8	
Progression Factor		0.31			0.19			1.00			1.00	
Incremental Delay, d2		0.3			0.1			78.7			1.2	
Delay (s)		1.8			1.1			111.7			29.1	
Level of Service		A			A			F			C	
Approach Delay (s)		1.8			1.1			111.7			29.1	
Approach LOS		A			A			F			C	

Intersection Summary

HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
Road Diet 2038 AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 					
Traffic Volume (vph)	17	136	0	0	477	35	405	1606	385	0	0	0	
Future Volume (vph)	17	136	0	0	477	35	405	1606	385	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1				
Lane Util. Factor	1.00	0.95			0.95			0.95	1.00				
Frbp, ped/bikes	1.00	1.00			1.00			1.00	0.99				
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00				
Frt	1.00	1.00			0.99			1.00	0.85				
Flt Protected	0.95	1.00			1.00			0.99	1.00				
Satd. Flow (prot)	1880	3762			3758			3762	1675				
Flt Permitted	0.33	1.00			1.00			0.99	1.00				
Satd. Flow (perm)	648	3762			3758			3762	1675				
Peak-hour factor, PHF	0.68	0.68	0.68	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	25	200	0	0	548	40	440	1746	418	0	0	0	
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	180	0	0	0	
Lane Group Flow (vph)	25	200	0	0	582	0	0	2186	238	0	0	0	
Confl. Peds. (#/hr)	1					1			4				
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type	Perm	NA			NA		Perm	NA	Perm				
Protected Phases		4			8			2					
Permitted Phases	4						2		2				
Actuated Green, G (s)	22.4	22.4			22.4			44.9	44.9				
Effective Green, g (s)	22.4	22.4			22.4			44.9	44.9				
Actuated g/C Ratio	0.28	0.28			0.28			0.56	0.56				
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1				
Lane Grp Cap (vph)	181	1053			1052			2111	940				
v/s Ratio Prot		0.05			c0.15								
v/s Ratio Perm	0.04							0.58	0.14				
v/c Ratio	0.14	0.19			0.55			1.04	0.25				
Uniform Delay, d1	21.6	21.9			24.5			17.6	9.0				
Progression Factor	1.01	1.00			1.00			0.98	1.49				
Incremental Delay, d2	1.6	0.4			2.1			18.0	0.1				
Delay (s)	23.5	22.3			26.6			35.3	13.4				
Level of Service	C	C			C			D	B				
Approach Delay (s)		22.4			26.6			31.8			0.0		
Approach LOS		C			C			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			30.3									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.87										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	12.7
Intersection Capacity Utilization			81.8%									ICU Level of Service	D
Analysis Period (min)			15										
c	Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
 Road Diet 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	
Traffic Volume (vph)	0	115	112	265	541	0	0	0	0	47	571	50
Future Volume (vph)	0	115	112	265	541	0	0	0	0	47	571	50
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.93		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3494		1898	3800					1881	3717	
Flt Permitted		1.00		0.57	1.00					0.95	1.00	
Satd. Flow (perm)		3494		1130	3800					1881	3717	
Peak-hour factor, PHF	0.74	0.74	0.74	0.95	0.95	0.95	0.93	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	155	151	279	569	0	0	0	0	51	614	54
RTOR Reduction (vph)	0	109	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	197	0	279	569	0	0	0	0	51	660	0
Confl. Peds. (#/hr)			2	2								
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		42.2	42.2					26.4	26.4	
Effective Green, g (s)		22.2		42.2	42.2					26.4	26.4	
Actuated g/C Ratio		0.28		0.53	0.53					0.33	0.33	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		969		732	2004					620	1226	
v/s Ratio Prot		0.06		c0.07	0.15						c0.18	
v/s Ratio Perm				c0.13						0.03		
v/c Ratio		0.20		0.38	0.28					0.08	0.54	
Uniform Delay, d1		22.1		11.9	10.5					18.5	21.8	
Progression Factor		1.00		1.09	1.02					0.70	0.75	
Incremental Delay, d2		0.5		0.3	0.1					0.2	1.6	
Delay (s)		22.6		13.2	10.8					13.1	17.9	
Level of Service		C		B	B					B	B	
Approach Delay (s)		22.6			11.6			0.0			17.6	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3004: Huron St & Catherine St (PB)

Road Diet Capacity Analysis  
Road Diet 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4				
Traffic Volume (vph)	9	10	0	0	29	47	90	1489	19	0	0	0
Future Volume (vph)	9	10	0	0	29	47	90	1489	19	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.95				
Frb, ped/bikes		1.00			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.92			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1952			1819			3744				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1594			1819			3744				
Peak-hour factor, PHF	0.71	0.71	0.71	0.77	0.77	0.77	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	13	14	0	0	38	61	96	1584	20	0	0	0
RTOR Reduction (vph)	0	0	0	0	41	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	27	0	0	58	0	0	1699	0	0	0	0
Confl. Peds. (#/hr)	1						1	1	2			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		7.1			7.1			62.3				
Effective Green, g (s)		7.1			7.1			62.3				
Actuated g/C Ratio		0.09			0.09			0.78				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		141			161			2915				
v/s Ratio Prot					c0.03							
v/s Ratio Perm		0.02						0.45				
v/c Ratio		0.19			0.36			0.58				
Uniform Delay, d1		33.8			34.3			3.6				
Progression Factor		1.00			1.00			1.15				
Incremental Delay, d2		0.7			1.4			0.1				
Delay (s)		34.5			35.7			4.2				
Level of Service		C			D			A				
Approach Delay (s)		34.5			35.7			4.2			0.0	
Approach LOS		C			D			A			A	

Intersection Summary

HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Road Diet 2038 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗								↖↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	119	530	0	0	0	0	0	0	29	274	0
Future Volume (vph)	0	119	530	0	0	0	0	0	0	29	274	0
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.91	0.91	0.91
Hourly flow rate (vph)	0	134	596	0	0	0	0	0	0	32	301	0
Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2							
Volume Total (vph)	67	67	596	132	201							
Volume Left (vph)	0	0	0	32	0							
Volume Right (vph)	0	0	596	0	0							
Hadj (s)	0.00	0.00	-0.70	0.14	0.02							
Departure Headway (s)	5.3	5.3	3.2	5.0	4.9							
Degree Utilization, x	0.10	0.10	0.53	0.18	0.27							
Capacity (veh/h)	640	643	1117	701	719							
Control Delay (s)	7.7	7.7	8.5	7.9	8.5							
Approach Delay (s)	8.4				8.3							
Approach LOS	A				A							
Intersection Summary												
Delay			8.3									
Level of Service			A									
Intersection Capacity Utilization			46.1%	ICU Level of Service	A							
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 9001: Hamilton St & Pearl St

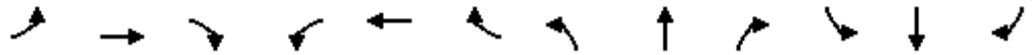
# Road Diet Capacity Analysis

## Road Diet 2038 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	24	20	14	0	0	0	0	0	800	7
Future Volume (Veh/h)	0	0	24	20	14	0	0	0	0	0	800	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.66	0.66	0.66	0.83	0.83	0.83	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	36	24	17	0	0	0	0	0	870	8
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		4.0										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	880	871	436	471	879	0	879			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	880	871	436	471	879	0	879			0		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	94	95	94	100	100			100		
cM capacity (veh/h)	226	282	560	449	288	1091	777			1629		
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	SB 3						
Volume Total	36	16	25	435	435	8						
Volume Left	0	16	8	0	0	0						
Volume Right	36	0	0	0	0	8						
cSH	560	449	325	1700	1700	1700						
Volume to Capacity	0.06	0.04	0.08	0.26	0.26	0.00						
Queue Length 95th (ft)	5	3	6	0	0	0						
Control Delay (s)	11.9	13.3	17.0	0.0	0.0	0.0						
Lane LOS	B	B	C									
Approach Delay (s)	11.9	15.5	0.0									
Approach LOS	B	C										
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			37.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Road Diet 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	16	29	23	15	0	0	0	0	62	615	10
Future Volume (Veh/h)	0	16	29	23	15	0	0	0	0	62	615	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.69	0.69	0.69	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	21	38	33	22	0	0	0	0	65	647	11
Pedestrians		1			4			1				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.89	0.89	0.89	0.89	0.89		0.89					
vC, conflicting volume	794	788	331	507	793	4	659			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	522	514	2	199	521	4	370			4		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	95	96	94	94	100	100			96		
cM capacity (veh/h)	364	397	968	591	394	1081	1067			1618		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>	<b>SB 2</b>								
Volume Total	59	55	388	334								
Volume Left	0	33	65	0								
Volume Right	38	0	0	11								
cSH	640	492	1618	1700								
Volume to Capacity	0.09	0.11	0.04	0.20								
Queue Length 95th (ft)	8	9	3	0								
Control Delay (s)	11.2	13.2	1.5	0.0								
Lane LOS	B	B	A									
Approach Delay (s)	11.2	13.2	0.8									
Approach LOS	B	B										
<b>Intersection Summary</b>												
Average Delay			2.4									
Intersection Capacity Utilization			33.5%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Road Diet 2038 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	0	59	1403	0	0
Future Volume (Veh/h)	20	0	59	1403	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	27	0	63	1493	0	0
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.80					
vC, conflicting volume	876	3	3			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	355	3	3			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	100	96			
cM capacity (veh/h)	479	1083	1628			
Direction, Lane #	EB 1	NB 1	NB 2			
Volume Total	27	561	995			
Volume Left	27	63	0			
Volume Right	0	0	0			
cSH	479	1628	1700			
Volume to Capacity	0.06	0.04	0.59			
Queue Length 95th (ft)	4	3	0			
Control Delay (s)	13.0	1.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	13.0	0.4				
Approach LOS	B					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			48.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

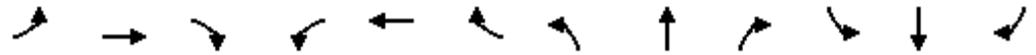
Road Diet Capacity Analysis  
 Road Diet 2038 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	99	1846	0	0
Future Volume (Veh/h)	0	0	99	1846	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	0	0	104	1943	0	0
Pedestrians	2					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.64					
vC, conflicting volume	1182	2	2			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	172	2	2			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	94			
cM capacity (veh/h)	486	1088	1634			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	752	1295				
Volume Left	104	0				
Volume Right	0	0				
cSH	1634	1700				
Volume to Capacity	0.06	0.76				
Queue Length 95th (ft)	5	0				
Control Delay (s)	1.7	0.0				
Lane LOS	A					
Approach Delay (s)	0.6					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			54.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis  
 1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
 Road Diet 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↕↔						↔			↕↔	
Traffic Volume (vph)	14	1054	43	0	0	0	0	74	23	36	20	0
Future Volume (vph)	14	1054	43	0	0	0	0	74	23	36	20	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.4						10.8			10.8	
Lane Util. Factor		0.91						1.00			1.00	
Frbp, ped/bikes		1.00						0.98			1.00	
Flpb, ped/bikes		1.00						1.00			0.97	
Frt		0.99						0.97			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		5418						1615			1872	
Flt Permitted		1.00						1.00			0.71	
Satd. Flow (perm)		5418						1615			1376	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.61	0.61	0.61	0.74	0.74	0.74
Adj. Flow (vph)	15	1146	47	0	0	0	0	121	38	49	27	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	1203	0	0	0	0	0	145	0	0	76	0
Confl. Peds. (#/hr)			8						45	45		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)								10				
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		46.6						17.2			17.2	
Effective Green, g (s)		46.6						17.2			17.2	
Actuated g/C Ratio		0.58						0.21			0.21	
Clearance Time (s)		5.4						10.8			10.8	
Lane Grp Cap (vph)		3155						347			295	
v/s Ratio Prot								c0.09				
v/s Ratio Perm		0.22									0.06	
v/c Ratio		0.38						0.42			0.26	
Uniform Delay, d1		9.0						27.1			26.1	
Progression Factor		1.00						1.00			1.34	
Incremental Delay, d2		0.4						3.7			2.1	
Delay (s)		9.3						30.7			37.1	
Level of Service		A						C			D	
Approach Delay (s)		9.3			0.0			30.7			37.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.2
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

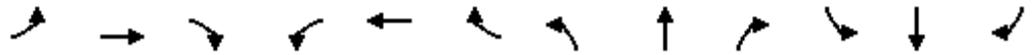
HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Road Diet 2038 OP Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	21	831	25	0	0	0	0	96	17	17	28	0		
Future Volume (vph)	21	831	25	0	0	0	0	96	17	17	28	0		
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000		
Total Lost time (s)		5.3						5.7		5.7	5.7			
Lane Util. Factor		0.95						1.00		1.00	1.00			
Frbp, ped/bikes		1.00						1.00		1.00	1.00			
Flpb, ped/bikes		1.00						1.00		0.99	1.00			
Frt		1.00						0.98		1.00	1.00			
Flt Protected		1.00						1.00		0.95	1.00			
Satd. Flow (prot)		3776						1954		1890	2000			
Flt Permitted		1.00						1.00		0.63	1.00			
Satd. Flow (perm)		3776						1954		1258	2000			
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.76	0.76	0.76	0.67	0.67	0.67		
Adj. Flow (vph)	24	944	28	0	0	0	0	126	22	25	42	0		
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	0	0		
Lane Group Flow (vph)	0	994	0	0	0	0	0	139	0	25	42	0		
Confl. Peds. (#/hr)	11		7						8	8				
Confl. Bikes (#/hr)			1											
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Turn Type	custom	NA						NA		Perm	NA			
Protected Phases	1	1						2			2			
Permitted Phases	1									2				
Actuated Green, G (s)		58.2						10.8		10.8	10.8			
Effective Green, g (s)		58.2						10.8		10.8	10.8			
Actuated g/C Ratio		0.73						0.14		0.14	0.14			
Clearance Time (s)		5.3						5.7		5.7	5.7			
Vehicle Extension (s)		0.2						3.0		3.0	3.0			
Lane Grp Cap (vph)		2747						263		169	270			
v/s Ratio Prot		c0.26						c0.07			0.02			
v/s Ratio Perm										0.02				
v/c Ratio		0.36						0.53		0.15	0.16			
Uniform Delay, d1		4.0						32.2		30.5	30.6			
Progression Factor		0.35						1.00		1.00	1.00			
Incremental Delay, d2		0.4						1.9		0.4	0.3			
Delay (s)		1.8						34.2		30.9	30.8			
Level of Service		A						C		C	C			
Approach Delay (s)		1.8			0.0			34.2			30.9			
Approach LOS		A			A			C			C			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			7.3									HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio			0.39											
Actuated Cycle Length (s)			80.0								11.0			
Intersection Capacity Utilization			42.5%										ICU Level of Service	A
Analysis Period (min)			15											
c	Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Road Diet 2038 OP Peak Hour

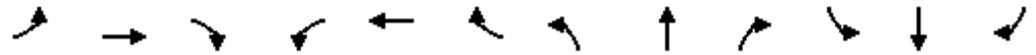


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	
Traffic Volume (vph)	0	436	117	209	514	0	0	0	0	406	831	45
Future Volume (vph)	0	436	117	209	514	0	0	0	0	406	831	45
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3647		1874	3480					1881	3728	
Flt Permitted		1.00		0.35	1.00					0.95	1.00	
Satd. Flow (perm)		3647		696	3480					1881	3728	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	459	123	220	541	0	0	0	0	437	894	48
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	582	0	220	541	0	0	0	0	437	937	0
Confl. Peds. (#/hr)			27	27						24		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom		NA
Protected Phases		1		2	1 2					3		3
Permitted Phases				1 2						3		
Actuated Green, G (s)		28.8		37.6	42.8					25.2		25.2
Effective Green, g (s)		28.8		37.6	42.8					25.2		25.2
Actuated g/C Ratio		0.36		0.47	0.53					0.31		0.31
Clearance Time (s)		5.2		5.2						6.8		6.8
Lane Grp Cap (vph)		1312		456	1861					592		1174
v/s Ratio Prot		0.16		c0.05	0.16					0.23		c0.25
v/s Ratio Perm				c0.17								
v/c Ratio		0.44		0.48	0.29					0.74		0.80
Uniform Delay, d1		19.5		19.2	10.2					24.5		25.1
Progression Factor		0.95		0.71	0.74					1.00		1.00
Incremental Delay, d2		1.1		3.5	0.4					8.0		5.7
Delay (s)		19.5		17.2	7.9					32.5		30.8
Level of Service		B		B	A					C		C
Approach Delay (s)		19.5			10.6			0.0				31.3
Approach LOS		B			B			A				C

Intersection Summary		
HCM 2000 Control Delay	23.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.61	C
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	66.1%	17.2
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		C

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Road Diet 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑	↗		↑↑				
Traffic Volume (vph)	0	0	0	0	231	14	0	391	237	0	0	0
Future Volume (vph)	0	0	0	0	231	14	0	391	237	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)					5.5	5.5		5.6				
Lane Util. Factor					1.00	1.00		0.95				
Frbp, ped/bikes					1.00	1.00		0.99				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					1.00	0.85		0.94				
Flt Protected					1.00	1.00		1.00				
Satd. Flow (prot)					2000	1700		3521				
Flt Permitted					1.00	1.00		1.00				
Satd. Flow (perm)					2000	1700		3521				
Peak-hour factor, PHF	0.92	0.92	0.92	0.84	0.84	0.84	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	275	17	0	412	249	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	9	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	275	8	0	661	0	0	0	0
Confl. Peds. (#/hr)						9			1			
Confl. Bikes (#/hr)						4						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type					NA	custom		NA				
Protected Phases					2	2		8				
Permitted Phases						2						
Actuated Green, G (s)					35.5	35.5		33.4				
Effective Green, g (s)					35.5	35.5		33.4				
Actuated g/C Ratio					0.44	0.44		0.42				
Clearance Time (s)					5.5	5.5		5.6				
Lane Grp Cap (vph)					887	754		1470				
v/s Ratio Prot					c0.14	0.00		c0.19				
v/s Ratio Perm												
v/c Ratio					0.31	0.01		0.45				
Uniform Delay, d1					14.4	12.4		16.7				
Progression Factor					1.00	1.00		1.43				
Incremental Delay, d2					0.9	0.0		0.8				
Delay (s)					15.3	12.5		24.7				
Level of Service					B	B		C				
Approach Delay (s)		0.0			15.1			24.7			0.0	
Approach LOS		A			B			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.8		HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				11.1			
Intersection Capacity Utilization			56.3%		ICU Level of Service				B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Road Diet 2038 OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Traffic Volume (vph)	130	784	0	0	582	367	107	684	167	0	0	0
Future Volume (vph)	130	784	0	0	582	367	107	684	167	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6				
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95				
Frbp, ped/bikes	1.00	1.00			0.99	0.94	1.00	1.00				
Flpb, ped/bikes	1.00	1.00			1.00	1.00	0.99	1.00				
Frt	1.00	1.00			0.98	0.85	1.00	0.97				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1894	3515			3247	1219	1857	3638				
Flt Permitted	0.24	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	480	3515			3247	1219	1857	3638				
Peak-hour factor, PHF	0.93	0.93	0.93	0.94	0.94	0.94	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	140	843	0	0	619	390	124	795	194	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	140	843	0	0	705	304	124	989	0	0	0	0
Confl. Peds. (#/hr)	44					44	14		7			
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Parking (#/hr)		10			10	10						
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	2	1 2			1			3				
Permitted Phases	1 2					1	3					
Actuated Green, G (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Effective Green, g (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Actuated g/C Ratio	0.44	0.50			0.34	0.34	0.37	0.37				
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6				
Lane Grp Cap (vph)	351	1757			1095	411	682	1336				
v/s Ratio Prot	0.04	c0.24			0.22			c0.27				
v/s Ratio Perm	0.13					c0.25	0.07					
v/c Ratio	0.40	0.48			0.64	0.74	0.18	0.74				
Uniform Delay, d1	22.9	13.2			22.4	23.4	17.1	22.0				
Progression Factor	0.39	0.32			1.00	1.00	0.40	0.43				
Incremental Delay, d2	3.1	0.9			2.9	11.3	0.6	3.6				
Delay (s)	12.1	5.0			25.3	34.7	7.4	13.0				
Level of Service	B	A			C	C	A	B				
Approach Delay (s)		6.0			28.2			12.4			0.0	
Approach LOS		A			C			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			15.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)		15.6			
Intersection Capacity Utilization			62.6%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
Road Diet 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕			↕
Traffic Volume (vph)	10	102	5	418	121	31	18	22	11	0	438
Future Volume (vph)	10	102	5	418	121	31	18	22	11	0	438
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00			0.88
Frbp, ped/bikes		1.00		1.00	0.99		1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00
Frt		0.99		1.00	0.98		1.00	0.85			0.85
Flt Protected		1.00		0.95	0.98		0.95	1.00			1.00
Satd. Flow (prot)		1978		1805	1532		1900	1700			2962
Flt Permitted		1.00		0.95	0.98		0.95	1.00			1.00
Satd. Flow (perm)		1978		1805	1532		1900	1700			2962
Peak-hour factor, PHF	0.80	0.80	0.80	0.95	0.95	0.95	0.66	0.66	0.66	0.89	0.89
Adj. Flow (vph)	12	128	6	440	127	33	27	33	17	0	492
RTOR Reduction (vph)	0	2	0	0	6	0	0	38	0	0	359
Lane Group Flow (vph)	0	145	0	299	295	0	27	13	0	0	133
Confl. Peds. (#/hr)	32		11	11		32	1		9		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)					10						
Turn Type	Split	NA		Split	NA		Prot	Prot			Over
Protected Phases	3	3		1	1		2	2			1
Permitted Phases											
Actuated Green, G (s)		20.0		21.7	21.7		20.0	20.0			21.7
Effective Green, g (s)		20.0		21.7	21.7		20.0	20.0			21.7
Actuated g/C Ratio		0.25		0.27	0.27		0.25	0.25			0.27
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		494		489	415		475	425			803
v/s Ratio Prot		c0.07		0.17	c0.19		c0.01	0.01			0.05
v/s Ratio Perm											
v/c Ratio		0.29		0.61	0.71		0.06	0.03			0.17
Uniform Delay, d1		24.3		25.5	26.3		22.8	22.7			22.2
Progression Factor		1.00		0.98	0.99		1.00	1.00			1.00
Incremental Delay, d2		0.3		5.4	9.6		0.1	0.0			0.4
Delay (s)		24.6		30.5	35.6		22.9	22.7			22.7
Level of Service		C		C	D		C	C			C
Approach Delay (s)		24.6			33.1		22.8			22.7	
Approach LOS		C			C		C			C	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			27.6			HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.36								
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			18.3		
Intersection Capacity Utilization			65.4%			ICU Level of Service				C	
Analysis Period (min)			15								
c	Critical Lane Group										

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Road Diet 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↖	↗		↖	↗	
Traffic Volume (vph)	21	790	13	16	628	45	43	41	52	37	23	39
Future Volume (vph)	21	790	13	16	628	45	43	41	52	37	23	39
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.97		1.00	0.98	
Flpb, ped/bikes		1.00			1.00		0.98	1.00		0.97	1.00	
Frt		1.00			0.99		1.00	0.92		1.00	0.91	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3462			3462		1853	1513		1799	1473	
Flt Permitted		0.93			0.93		0.71	1.00		0.68	1.00	
Satd. Flow (perm)		3208			3215		1385	1513		1285	1473	
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.76	0.76	0.76	0.86	0.86	0.86
Adj. Flow (vph)	23	849	14	18	706	51	57	54	68	43	27	45
RTOR Reduction (vph)	0	1	0	0	6	0	0	56	0	0	37	0
Lane Group Flow (vph)	0	885	0	0	769	0	57	66	0	43	35	0
Confl. Peds. (#/hr)	18		24	24		18	26		39	39		26
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	2%	2%	2%
Parking (#/hr)		10			10			10				10
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2				2
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2201			2206		242	264		224	257	
v/s Ratio Prot								c0.04				0.02
v/s Ratio Perm		c0.28			0.24		0.04			0.03		
v/c Ratio		0.40			0.35		0.24	0.25		0.19	0.14	
Uniform Delay, d1		5.4			5.2		28.4	28.5		28.2	27.9	
Progression Factor		0.61			0.23		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.4		2.3	2.3		1.9	1.1	
Delay (s)		3.8			1.6		30.7	30.7		30.1	29.0	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		3.8			1.6			30.7			29.4	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 2005: Washington St (PB) & Michigan Ave

# Road Diet Capacity Analysis

## Road Diet 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Volume (vph)	14	861	40	28	643	22	21	34	34	45	36	33
Future Volume (vph)	14	861	40	28	643	22	21	34	34	45	36	33
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			0.99			0.98	
Frt		0.99			1.00			0.95			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		3475			3446			1542			1820	
Flt Permitted		0.94			0.89			0.91			0.85	
Satd. Flow (perm)		3272			3060			1423			1575	
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.81	0.81	0.81	0.92	0.92	0.92
Adj. Flow (vph)	16	967	45	30	684	23	26	42	42	49	39	36
RTOR Reduction (vph)	0	4	0	0	3	0	0	28	0	0	18	0
Lane Group Flow (vph)	0	1024	0	0	734	0	0	82	0	0	106	0
Confl. Peds. (#/hr)	32		30	30		32	46		43	43		46
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10				
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		55.0			55.0			14.0			14.0	
Effective Green, g (s)		55.0			55.0			14.0			14.0	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2249			2103			249			275	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.24			0.06			c0.07	
v/c Ratio		0.46			0.35			0.33			0.38	
Uniform Delay, d1		5.7			5.1			28.9			29.2	
Progression Factor		0.24			0.36			1.00			1.00	
Incremental Delay, d2		0.6			0.4			3.5			4.0	
Delay (s)		2.0			2.2			32.4			33.2	
Level of Service		A			A			C			C	
Approach Delay (s)		2.0			2.2			32.4			33.2	
Approach LOS		A			A			C			C	

### Intersection Summary

HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 3001: Huron St & Harriet St/Spring St

# Road Diet Capacity Analysis

## Road Diet 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑			↑↑			↕↑	↗			
Traffic Volume (vph)	44	192	0	0	327	29	189	903	251	0	0	0
Future Volume (vph)	44	192	0	0	327	29	189	903	251	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Util. Factor	1.00	0.95			0.95			0.95	1.00			
Frbp, ped/bikes	1.00	1.00			1.00			1.00	0.99			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1894	3800			3747			3766	1678			
Flt Permitted	0.53	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	1049	3800			3747			3766	1678			
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	49	213	0	0	344	31	199	951	264	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	126	0	0	0
Lane Group Flow (vph)	49	213	0	0	367	0	0	1150	138	0	0	0
Confl. Peds. (#/hr)	5					5	2		1			
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	25.4	25.4			25.4			41.9	41.9			
Effective Green, g (s)	25.4	25.4			25.4			41.9	41.9			
Actuated g/C Ratio	0.32	0.32			0.32			0.52	0.52			
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Grp Cap (vph)	333	1206			1189			1972	878			
v/s Ratio Prot		0.06			c0.10							
v/s Ratio Perm	0.05							0.31	0.08			
v/c Ratio	0.15	0.18			0.31			0.58	0.16			
Uniform Delay, d1	19.5	19.7			20.7			13.1	9.9			
Progression Factor	0.98	0.96			1.00			0.82	1.05			
Incremental Delay, d2	0.9	0.3			0.7			1.1	0.3			
Delay (s)	20.0	19.3			21.3			11.8	10.7			
Level of Service	B	B			C			B	B			
Approach Delay (s)		19.4			21.3			11.6			0.0	
Approach LOS		B			C			B			A	

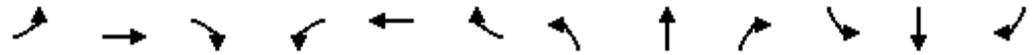
### Intersection Summary

HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
Road Diet 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	
Traffic Volume (vph)	0	153	123	289	222	0	0	0	0	86	940	45
Future Volume (vph)	0	153	123	289	222	0	0	0	0	86	940	45
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.93		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3518		1896	3800					1881	3732	
Flt Permitted		1.00		0.56	1.00					0.95	1.00	
Satd. Flow (perm)		3518		1118	3800					1881	3732	
Peak-hour factor, PHF	0.88	0.88	0.88	0.87	0.87	0.87	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	0	174	140	332	255	0	0	0	0	99	1080	52
RTOR Reduction (vph)	0	95	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	219	0	332	255	0	0	0	0	99	1128	0
Confl. Peds. (#/hr)			5	5								5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		42.2	42.2					26.4	26.4	
Effective Green, g (s)		22.2		42.2	42.2					26.4	26.4	
Actuated g/C Ratio		0.28		0.53	0.53					0.33	0.33	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		976		727	2004					620	1231	
v/s Ratio Prot		0.06		c0.08	0.07						c0.30	
v/s Ratio Perm				c0.16						0.05		
v/c Ratio		0.22		0.46	0.13					0.16	0.92	
Uniform Delay, d1		22.3		12.7	9.6					19.0	25.7	
Progression Factor		1.00		0.91	0.72					0.62	0.74	
Incremental Delay, d2		0.5		0.6	0.0					0.4	9.9	
Delay (s)		22.8		12.2	7.0					12.2	29.0	
Level of Service		C		B	A					B	C	
Approach Delay (s)		22.8			9.9			0.0			27.6	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

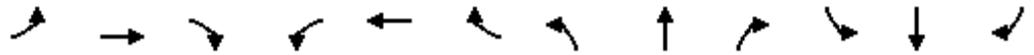
HCM Signalized Intersection Capacity Analysis  
3004: Huron St & Catherine St (PB)

Road Diet Capacity Analysis  
Road Diet 2038 OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	20	0	0	1	54	10	968	8	0	0	0
Future Volume (vph)	14	20	0	0	1	54	10	968	8	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.95				
Frbp, ped/bikes		1.00			0.98			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.87			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1955			1699			3755				
Flt Permitted		0.84			1.00			1.00				
Satd. Flow (perm)		1672			1699			3755				
Peak-hour factor, PHF	0.60	0.60	0.60	0.88	0.88	0.88	0.91	0.91	0.91	0.92	0.92	0.92
Adj. Flow (vph)	23	33	0	0	1	61	11	1064	9	0	0	0
RTOR Reduction (vph)	0	0	0	0	55	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	56	0	0	7	0	0	1084	0	0	0	0
Confl. Peds. (#/hr)	5					5	3		1			
Confl. Bikes (#/hr)						1			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		7.9			7.9			61.5				
Effective Green, g (s)		7.9			7.9			61.5				
Actuated g/C Ratio		0.10			0.10			0.77				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		165			167			2886				
v/s Ratio Prot					0.00							
v/s Ratio Perm		c0.03						0.29				
v/c Ratio		0.34			0.04			0.38				
Uniform Delay, d1		33.6			32.6			3.0				
Progression Factor		1.00			1.00			1.46				
Incremental Delay, d2		1.2			0.1			0.3				
Delay (s)		34.8			32.7			4.7				
Level of Service		C			C			A				
Approach Delay (s)		34.8			32.7			4.7			0.0	
Approach LOS		C			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			7.6					HCM 2000 Level of Service		A		
HCM 2000 Volume to Capacity ratio			0.37									
Actuated Cycle Length (s)			80.0					Sum of lost time (s)		10.6		
Intersection Capacity Utilization			43.2%					ICU Level of Service		A		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Road Diet 2038 OP Peak Hour



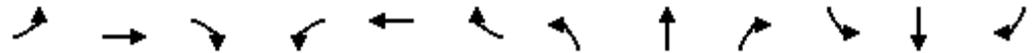
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑								↑↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	189	698	0	0	0	0	0	0	32	445	0
Future Volume (vph)	0	189	698	0	0	0	0	0	0	32	445	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	0	222	821	0	0	0	0	0	0	36	494	0

Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2
Volume Total (vph)	111	111	821	201	329
Volume Left (vph)	0	0	0	36	0
Volume Right (vph)	0	0	821	0	0
Hadj (s)	0.00	0.00	-0.70	0.12	0.03
Departure Headway (s)	5.8	5.8	3.2	5.3	5.2
Degree Utilization, x	0.18	0.18	0.73	0.29	0.47
Capacity (veh/h)	585	587	1120	667	681
Control Delay (s)	8.8	8.8	13.1	9.2	11.5
Approach Delay (s)	12.2			10.6	
Approach LOS	B			B	

Intersection Summary	
Delay	11.7
Level of Service	B
Intersection Capacity Utilization	60.7%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St & Pearl St

Road Diet Capacity Analysis  
 Road Diet 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↖						↕	↗
Traffic Volume (veh/h)	0	0	24	108	97	0	0	0	0	0	1142	17
Future Volume (Veh/h)	0	0	24	108	97	0	0	0	0	0	1142	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.60	0.60	0.60	0.75	0.75	0.75	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	40	144	129	0	0	0	0	0	1269	19
Pedestrians								9				
Lane Width (ft)								0.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	1334	1269	644	684	1288	0	1288			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1334	1269	644	684	1288	0	1288			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	90	53	22	100	100			100		
cM capacity (veh/h)	41	170	421	307	165	1091	545			1629		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>WB 2</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>						
Volume Total	40	96	177	634	634	19						
Volume Left	0	96	48	0	0	0						
Volume Right	40	0	0	0	0	19						
cSH	421	307	189	1700	1700	1700						
Volume to Capacity	0.10	0.31	0.94	0.37	0.37	0.01						
Queue Length 95th (ft)	8	33	186	0	0	0						
Control Delay (s)	14.5	22.0	100.4	0.0	0.0	0.0						
Lane LOS	B	C	F									
Approach Delay (s)	14.5	72.9		0.0								
Approach LOS	B	F										
<b>Intersection Summary</b>												
Average Delay			12.8									
Intersection Capacity Utilization			51.2%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Road Diet 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔↔	
Traffic Volume (veh/h)	0	24	33	35	15	0	0	0	0	106	1016	21
Future Volume (Veh/h)	0	24	33	35	15	0	0	0	0	106	1016	21
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.92	0.92	0.92	0.93	0.93	0.93
Hourly flow rate (vph)	0	25	35	41	18	0	0	0	0	114	1092	23
Pedestrians		5			3			7				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.77	0.77	0.77	0.77	0.77		0.77					
vC, conflicting volume	1346	1340	570	832	1351	3	1120			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	845	837	0	176	852	3	551			3		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	88	96	92	91	100	100			93		
cM capacity (veh/h)	175	216	834	486	209	1077	786			1628		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>	<b>SB 2</b>								
Volume Total	60	59	660	569								
Volume Left	0	41	114	0								
Volume Right	35	0	0	23								
cSH	381	346	1628	1700								
Volume to Capacity	0.16	0.17	0.07	0.33								
Queue Length 95th (ft)	14	15	6	0								
Control Delay (s)	16.2	17.5	1.9	0.0								
Lane LOS	C	C	A									
Approach Delay (s)	16.2	17.5	1.0									
Approach LOS	C	C										
<b>Intersection Summary</b>												
Average Delay			2.4									
Intersection Capacity Utilization			46.2%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Road Diet 2038 OP Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↵			↕↕		
Traffic Volume (veh/h)	43	0	44	984	0	0
Future Volume (Veh/h)	43	0	44	984	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	54	0	47	1047	0	0
Pedestrians	5				1	
Lane Width (ft)	12.0				0.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.92					
vC, conflicting volume	624	5	5			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	406	5	5			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	100	97			
cM capacity (veh/h)	512	1078	1615			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>			
Volume Total	54	396	698			
Volume Left	54	47	0			
Volume Right	0	0	0			
cSH	512	1615	1700			
Volume to Capacity	0.11	0.03	0.41			
Queue Length 95th (ft)	9	2	0			
Control Delay (s)	12.9	1.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.9	0.4				
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			1.0			
Intersection Capacity Utilization			37.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

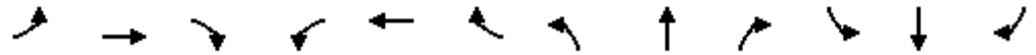
Road Diet Capacity Analysis  
 Road Diet 2038 OP Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↑↑		
Traffic Volume (veh/h)	0	0	122	1053	0	0
Future Volume (Veh/h)	0	0	122	1053	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	0	139	1197	0	0
Pedestrians	8					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.79					
vC, conflicting volume	884	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	308	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	91			
cM capacity (veh/h)	478	1078	1625			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	538	798				
Volume Left	139	0				
Volume Right	0	0				
cSH	1625	1700				
Volume to Capacity	0.09	0.47				
Queue Length 95th (ft)	7	0				
Control Delay (s)	2.5	0.0				
Lane LOS	A					
Approach Delay (s)	1.0					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			1.0			
Intersection Capacity Utilization			34.4%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis  
 1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
 Road Diet 2038 PM Peak Hour



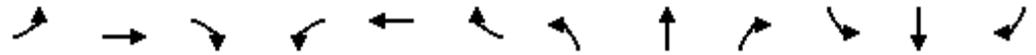
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔						↔			↔	
Traffic Volume (vph)	9	1928	94	0	0	0	0	71	28	41	44	0
Future Volume (vph)	9	1928	94	0	0	0	0	71	28	41	44	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.4						10.8			10.8	
Lane Util. Factor		0.91						1.00			1.00	
Frbp, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		0.99						0.96			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		5413						1614			1925	
Flt Permitted		1.00						1.00			0.79	
Satd. Flow (perm)		5413						1614			1551	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.82	0.82	0.82	0.67	0.67	0.67
Adj. Flow (vph)	10	2191	107	0	0	0	0	87	34	61	66	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	2301	0	0	0	0	0	116	0	0	127	0
Confl. Peds. (#/hr)	4		5						24	24		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)								10				
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		46.6						17.2			17.2	
Effective Green, g (s)		46.6						17.2			17.2	
Actuated g/C Ratio		0.58						0.21			0.21	
Clearance Time (s)		5.4						10.8			10.8	
Lane Grp Cap (vph)		3153						347			333	
v/s Ratio Prot								0.07				
v/s Ratio Perm		0.43									c0.08	
v/c Ratio		0.73						0.34			0.38	
Uniform Delay, d1		12.1						26.6			26.9	
Progression Factor		1.00						1.00			1.30	
Incremental Delay, d2		1.5						2.6			3.3	
Delay (s)		13.7						29.2			38.1	
Level of Service		B						C			D	
Approach Delay (s)		13.7			0.0			29.2			38.1	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.2
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Road Diet 2038 PM Peak Hour



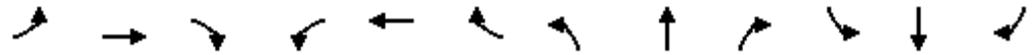
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕		↕	↕	
Traffic Volume (vph)	35	1545	32	0	0	0	0	59	16	18	44	0
Future Volume (vph)	35	1545	32	0	0	0	0	59	16	18	44	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3						5.7		5.7	5.7	
Lane Util. Factor		0.95						1.00		1.00	1.00	
Frbp, ped/bikes		1.00						1.00		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.99	1.00	
Frt		1.00						0.97		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3782						1936		1889	2000	
Flt Permitted		1.00						1.00		0.70	1.00	
Satd. Flow (perm)		3782						1936		1394	2000	
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.87	0.87	0.87	0.72	0.72	0.72
Adj. Flow (vph)	37	1644	34	0	0	0	0	68	18	25	61	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	1714	0	0	0	0	0	72	0	25	61	0
Confl. Peds. (#/hr)	7		6						8	8		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	custom	NA						NA		Perm	NA	
Protected Phases	1	1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		61.2						7.8		7.8	7.8	
Effective Green, g (s)		61.2						7.8		7.8	7.8	
Actuated g/C Ratio		0.77						0.10		0.10	0.10	
Clearance Time (s)		5.3						5.7		5.7	5.7	
Vehicle Extension (s)		0.2						3.0		3.0	3.0	
Lane Grp Cap (vph)		2893						188		135	195	
v/s Ratio Prot		c0.45						c0.04			0.03	
v/s Ratio Perm										0.02		
v/c Ratio		0.59						0.39		0.19	0.31	
Uniform Delay, d1		4.0						33.9		33.2	33.6	
Progression Factor		0.24						1.00		1.00	1.00	
Incremental Delay, d2		0.6						1.3		0.7	0.9	
Delay (s)		1.6						35.2		33.8	34.5	
Level of Service		A						D		C	C	
Approach Delay (s)		1.6			0.0			35.2			34.3	
Approach LOS		A			A			D			C	

Intersection Summary		
HCM 2000 Control Delay	4.6	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.57	A
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	61.8%	11.0
Analysis Period (min)	15	ICU Level of Service
		B

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Road Diet 2038 PM Peak Hour

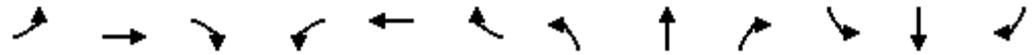


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	
Traffic Volume (vph)	0	525	149	320	591	0	0	0	0	584	1316	43
Future Volume (vph)	0	525	149	320	591	0	0	0	0	584	1316	43
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	1.00	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3653		1898	3515					1900	3779	
Flt Permitted		1.00		0.25	1.00					0.95	1.00	
Satd. Flow (perm)		3653		494	3515					1900	3779	
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	0	577	164	340	629	0	0	0	0	649	1462	48
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	741	0	340	629	0	0	0	0	649	1507	0
Confl. Peds. (#/hr)			12	12						10		9
Confl. Bikes (#/hr)			1									1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom		NA
Protected Phases		1		2	1 2					3		3
Permitted Phases				1 2						3		
Actuated Green, G (s)		27.8		36.6	41.8					26.2		26.2
Effective Green, g (s)		27.8		36.6	41.8					26.2		26.2
Actuated g/C Ratio		0.35		0.46	0.52					0.33		0.33
Clearance Time (s)		5.2		5.2						6.8		6.8
Lane Grp Cap (vph)		1269		380	1836					622		1237
v/s Ratio Prot		0.20		c0.10	0.18					0.34		c0.40
v/s Ratio Perm				c0.31								
v/c Ratio		0.58		0.89	0.34					1.04		1.22
Uniform Delay, d1		21.4		24.8	11.1					26.9		26.9
Progression Factor		1.00		0.55	0.64					1.00		1.00
Incremental Delay, d2		2.0		25.0	0.5					47.9		105.9
Delay (s)		23.3		38.7	7.5					74.8		132.8
Level of Service		C		D	A					E		F
Approach Delay (s)		23.3			18.5			0.0				115.3
Approach LOS		C			B			A				F

Intersection Summary			
HCM 2000 Control Delay	73.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Road Diet 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑	↗		↑↑				
Traffic Volume (vph)	0	0	0	0	285	18	0	436	409	0	0	0
Future Volume (vph)	0	0	0	0	285	18	0	436	409	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)					5.5	5.5		5.6				
Lane Util. Factor					1.00	1.00		0.95				
Frbp, ped/bikes					1.00	1.00		0.99				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					1.00	0.85		0.93				
Flt Protected					1.00	1.00		1.00				
Satd. Flow (prot)					2000	1700		3484				
Flt Permitted					1.00	1.00		1.00				
Satd. Flow (perm)					2000	1700		3484				
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	328	21	0	459	431	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	11	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	328	10	0	890	0	0	0	0
Confl. Peds. (#/hr)						19		3				
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type					NA	custom		NA				
Protected Phases					2	2		8				
Permitted Phases						2						
Actuated Green, G (s)					36.5	36.5		32.4				
Effective Green, g (s)					36.5	36.5		32.4				
Actuated g/C Ratio					0.46	0.46		0.40				
Clearance Time (s)					5.5	5.5		5.6				
Lane Grp Cap (vph)					912	775		1411				
v/s Ratio Prot					c0.16	0.01		c0.26				
v/s Ratio Perm												
v/c Ratio					0.36	0.01		0.63				
Uniform Delay, d1					14.1	11.9		19.0				
Progression Factor					1.00	1.00		1.29				
Incremental Delay, d2					1.1	0.0		1.6				
Delay (s)					15.3	11.9		26.1				
Level of Service					B	B		C				
Approach Delay (s)		0.0			15.1			26.1			0.0	
Approach LOS		A			B			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			23.0		HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				11.1			
Intersection Capacity Utilization			55.4%		ICU Level of Service				B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Road Diet 2038 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	1120	0	0	750	416	141	837	213	0	0	0
Future Volume (vph)	172	1120	0	0	750	416	141	837	213	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6				
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95				
Frbp, ped/bikes	1.00	1.00			1.00	0.94	1.00	1.00				
Flpb, ped/bikes	1.00	1.00			1.00	1.00	0.98	1.00				
Frt	1.00	1.00			0.99	0.85	1.00	0.97				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1898	3515			3310	1241	1867	3666				
Flt Permitted	0.15	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	299	3515			3310	1241	1867	3666				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	183	1191	0	0	798	443	153	910	232	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	183	1191	0	0	869	372	153	1142	0	0	0	0
Confl. Peds. (#/hr)	37					37	19		13			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10	10						
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	2	1 2			1			3				
Permitted Phases	1 2					1	3					
Actuated Green, G (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Effective Green, g (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Actuated g/C Ratio	0.44	0.50			0.34	0.34	0.37	0.37				
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6				
Lane Grp Cap (vph)	290	1757			1117	418	686	1347				
v/s Ratio Prot	0.06	c0.34			0.26			c0.31				
v/s Ratio Perm	0.21					c0.30	0.08					
v/c Ratio	0.63	0.68			0.78	0.89	0.22	0.85				
Uniform Delay, d1	27.2	15.1			23.8	25.1	17.4	23.2				
Progression Factor	0.67	0.51			1.00	1.00	0.61	0.60				
Incremental Delay, d2	8.4	1.8			5.4	23.6	0.7	6.6				
Delay (s)	26.5	9.5			29.2	48.7	11.4	20.5				
Level of Service	C	A			C	D	B	C				
Approach Delay (s)		11.8			35.0			19.4			0.0	
Approach LOS		B			D			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.7				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)		15.6			
Intersection Capacity Utilization			75.2%				ICU Level of Service		D			
Analysis Period (min)			15									
c	Critical Lane Group											

# HCM Signalized Intersection Capacity Analysis

## 2000: Michigan Ave & Congress St & Ballard St

# Road Diet Capacity Analysis

## Road Diet 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕			↕
Traffic Volume (vph)	20	129	0	651	282	43	37	26	12	0	650
Future Volume (vph)	20	129	0	651	282	43	37	26	12	0	650
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00			0.88
Frbp, ped/bikes		1.00		1.00	0.99		1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00
Frt		1.00		1.00	0.99		1.00	0.85			0.85
Flt Protected		0.99		0.95	0.98		0.95	1.00			1.00
Satd. Flow (prot)		1987		1805	1555		1900	1700			2962
Flt Permitted		0.99		0.95	0.98		0.95	1.00			1.00
Satd. Flow (perm)		1987		1805	1555		1900	1700			2962
Peak-hour factor, PHF	0.81	0.81	0.81	0.93	0.93	0.93	0.60	0.60	0.60	0.95	0.95
Adj. Flow (vph)	25	159	0	700	303	46	62	43	20	0	684
RTOR Reduction (vph)	0	0	0	0	2	0	0	53	0	0	332
Lane Group Flow (vph)	0	184	0	518	529	0	62	11	0	0	352
Confl. Peds. (#/hr)	16		5	5		16	1		3		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)					10						
Turn Type	Split	NA		Split	NA		Prot	Prot			Over
Protected Phases	3	3		1	1		2	2			1
Permitted Phases											
Actuated Green, G (s)		20.0		61.7	61.7		20.0	20.0			61.7
Effective Green, g (s)		20.0		61.7	61.7		20.0	20.0			61.7
Actuated g/C Ratio		0.17		0.51	0.51		0.17	0.17			0.51
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		331		928	799		316	283			1522
v/s Ratio Prot		c0.09		0.29	c0.34		c0.03	0.01			0.12
v/s Ratio Perm											
v/c Ratio		0.56		0.56	0.66		0.20	0.04			0.23
Uniform Delay, d1		45.9		19.9	21.5		43.1	41.9			16.1
Progression Factor		1.00		1.00	1.00		1.00	1.00			1.00
Incremental Delay, d2		2.0		2.4	4.3		0.3	0.1			0.4
Delay (s)		47.9		22.3	25.7		43.4	42.0			16.4
Level of Service		D		C	C		D	D			B
Approach Delay (s)		47.9			24.0		42.7			16.4	
Approach LOS		D			C		D			B	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			24.8			HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.55								
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			18.3		
Intersection Capacity Utilization			90.7%			ICU Level of Service				E	
Analysis Period (min)			15								
c Critical Lane Group											

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Road Diet 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔		↔	↔	
Traffic Volume (vph)	0	1176	10	0	817	33	20	37	41	59	32	44
Future Volume (vph)	0	1176	10	0	817	33	20	37	41	59	32	44
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.97		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		0.96	1.00	
Frt		1.00			0.99		1.00	0.92		1.00	0.91	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3509			3452		1878	1520		1829	1531	
Flt Permitted		1.00			1.00		0.69	1.00		0.69	1.00	
Satd. Flow (perm)		3509			3452		1370	1520		1321	1531	
Peak-hour factor, PHF	0.95	0.95	0.95	0.91	0.91	0.91	0.71	0.71	0.71	0.77	0.77	0.77
Adj. Flow (vph)	0	1238	11	0	898	36	28	52	58	77	42	57
RTOR Reduction (vph)	0	1	0	0	3	0	0	48	0	0	47	0
Lane Group Flow (vph)	0	1248	0	0	931	0	28	62	0	77	52	0
Confl. Peds. (#/hr)	20		14	14		20	13		42	42		13
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10			10	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2408			2368		239	266		231	267	
v/s Ratio Prot		c0.36			0.27			0.04			0.03	
v/s Ratio Perm							0.02			c0.06		
v/c Ratio		0.52			0.39		0.12	0.23		0.33	0.19	
Uniform Delay, d1		6.1			5.4		27.8	28.4		28.9	28.2	
Progression Factor		0.44			0.20		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.5		1.0	2.1		3.8	1.6	
Delay (s)		3.2			1.6		28.8	30.4		32.8	29.8	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		3.2			1.6			30.1			31.1	
Approach LOS		A			A			C			C	

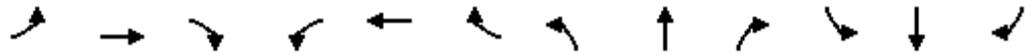
Intersection Summary

HCM 2000 Control Delay	6.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
2005: Washington St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Road Diet 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕				↕
Traffic Volume (vph)	0	1191	56	0	862	31	17	40	39	93	32	43
Future Volume (vph)	0	1191	56	0	862	31	17	40	39	93	32	43
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		0.99			0.99			0.95			0.97	
Flt Protected		1.00			1.00			0.99			0.97	
Satd. Flow (prot)		3478			3485			1549			1808	
Flt Permitted		1.00			1.00			0.91			0.74	
Satd. Flow (perm)		3478			3485			1427			1384	
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.68	0.68	0.68	0.87	0.87	0.87
Adj. Flow (vph)	0	1281	60	0	907	33	25	59	57	107	37	49
RTOR Reduction (vph)	0	4	0	0	3	0	0	31	0	0	16	0
Lane Group Flow (vph)	0	1337	0	0	937	0	0	110	0	0	177	0
Confl. Peds. (#/hr)	35		31	31		35	76		28	28		76
Confl. Bikes (#/hr)			1			1						1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10				
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		55.0			55.0			14.0			14.0	
Effective Green, g (s)		55.0			55.0			14.0			14.0	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2391			2395			249			242	
v/s Ratio Prot		c0.38			0.27							
v/s Ratio Perm								0.08			c0.13	
v/c Ratio		0.56			0.39			0.44			0.73	
Uniform Delay, d1		6.3			5.3			29.5			31.2	
Progression Factor		0.22			0.37			1.00			1.00	
Incremental Delay, d2		0.8			0.3			5.6			17.8	
Delay (s)		2.2			2.3			35.2			49.0	
Level of Service		A			A			D			D	
Approach Delay (s)		2.2			2.3			35.2			49.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 3001: Huron St & Harriet St/Spring St

# Road Diet Capacity Analysis

## Road Diet 2038 PM Peak Hour



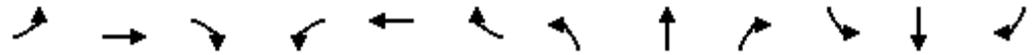
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑			↑↑			↑↑	↗			
Traffic Volume (vph)	35	337	0	0	498	39	211	1055	384	0	0	0
Future Volume (vph)	35	337	0	0	498	39	211	1055	384	0	0	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Util. Factor	1.00	0.95			0.95			0.95	1.00			
Frbp, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1898	3800			3755			3767	1700			
Flt Permitted	0.34	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	686	3800			3755			3767	1700			
Peak-hour factor, PHF	0.83	0.83	0.83	0.86	0.86	0.86	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	42	406	0	0	579	45	222	1111	404	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	126	0	0	0
Lane Group Flow (vph)	42	406	0	0	617	0	0	1333	278	0	0	0
Confl. Peds. (#/hr)	2					2	3					
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	28.4	28.4			28.4			38.9	38.9			
Effective Green, g (s)	28.4	28.4			28.4			38.9	38.9			
Actuated g/C Ratio	0.35	0.35			0.35			0.49	0.49			
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Grp Cap (vph)	243	1349			1333			1831	826			
v/s Ratio Prot		0.11			0.16							
v/s Ratio Perm	0.06							0.35	0.16			
v/c Ratio	0.17	0.30			0.46			0.73	0.34			
Uniform Delay, d1	17.7	18.6			19.9			16.3	12.6			
Progression Factor	1.00	0.99			1.00			0.67	0.36			
Incremental Delay, d2	1.5	0.5			1.2			2.2	0.9			
Delay (s)	19.2	18.9			21.1			13.1	5.5			
Level of Service	B	B			C			B	A			
Approach Delay (s)		18.9			21.1			11.4			0.0	
Approach LOS		B			C			B			A	

### Intersection Summary

HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
Road Diet 2038 PM Peak Hour



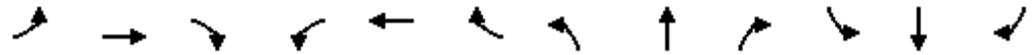
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	
Traffic Volume (vph)	0	245	176	407	326	0	0	0	0	174	1614	43
Future Volume (vph)	0	245	176	407	326	0	0	0	0	174	1614	43
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.94		1.00	1.00					1.00	1.00	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3520		1894	3800					1898	3783	
Flt Permitted		1.00		0.42	1.00					0.95	1.00	
Satd. Flow (perm)		3520		840	3800					1898	3783	
Peak-hour factor, PHF	0.89	0.89	0.89	0.82	0.82	0.82	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	0	275	198	496	398	0	0	0	0	183	1699	45
RTOR Reduction (vph)	0	51	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	422	0	496	398	0	0	0	0	183	1742	0
Confl. Peds. (#/hr)			14	14						1		2
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		22.2		44.2	44.2					24.4	24.4	
Effective Green, g (s)		22.2		44.2	44.2					24.4	24.4	
Actuated g/C Ratio		0.28		0.55	0.55					0.30	0.30	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		976		677	2099					578	1153	
v/s Ratio Prot		0.12		c0.15	0.10						c0.46	
v/s Ratio Perm				c0.26						0.10		
v/c Ratio		0.43		0.73	0.19					0.32	1.51	
Uniform Delay, d1		23.7		16.4	8.9					21.4	27.8	
Progression Factor		1.00		1.04	0.77					0.70	0.78	
Incremental Delay, d2		1.4		3.9	0.1					0.5	231.5	
Delay (s)		25.1		21.0	6.9					15.5	253.1	
Level of Service		C		C	A					B	F	
Approach Delay (s)		25.1			14.8			0.0			230.5	
Approach LOS		C			B			A			F	

Intersection Summary

HCM 2000 Control Delay	142.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 3004: Huron St & Catherine St (PB)

Road Diet Capacity Analysis  
 Road Diet 2038 PM Peak Hour



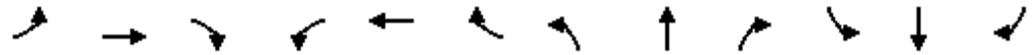
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖			↗			↖↗				
Traffic Volume (vph)	16	29	0	0	9	44	5	1094	7	0	0	0
Future Volume (vph)	16	29	0	0	9	44	5	1094	7	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.95				
Frbp, ped/bikes		1.00			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.89			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1964			1755			3757				
Flt Permitted		0.85			1.00			1.00				
Satd. Flow (perm)		1705			1755			3757				
Peak-hour factor, PHF	0.77	0.77	0.77	0.73	0.73	0.73	0.89	0.89	0.89	0.92	0.92	0.92
Adj. Flow (vph)	21	38	0	0	12	60	6	1229	8	0	0	0
RTOR Reduction (vph)	0	0	0	0	54	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	59	0	0	18	0	0	1243	0	0	0	0
Confl. Peds. (#/hr)	1						1	1	5			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		8.0			8.0			61.4				
Effective Green, g (s)		8.0			8.0			61.4				
Actuated g/C Ratio		0.10			0.10			0.77				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		170			175			2883				
v/s Ratio Prot					0.01							
v/s Ratio Perm		c0.03						0.33				
v/c Ratio		0.35			0.10			0.43				
Uniform Delay, d1		33.6			32.7			3.2				
Progression Factor		1.00			1.00			1.25				
Incremental Delay, d2		1.2			0.3			0.3				
Delay (s)		34.8			33.0			4.4				
Level of Service		C			C			A				
Approach Delay (s)		34.8			33.0			4.4			0.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Road Diet 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑								↑↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	385	1195	0	0	0	0	0	0	34	722	0
Future Volume (vph)	0	385	1195	0	0	0	0	0	0	34	722	0
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	0	405	1258	0	0	0	0	0	0	40	849	0

Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2
Volume Total (vph)	203	203	1258	323	566
Volume Left (vph)	0	0	0	40	0
Volume Right (vph)	0	0	1258	0	0
Hadj (s)	0.00	0.00	-0.70	0.06	0.00
Departure Headway (s)	6.7	6.7	3.2	5.8	5.8
Degree Utilization, x	0.38	0.38	1.12	0.52	0.91
Capacity (veh/h)	524	524	1133	607	619
Control Delay (s)	12.4	12.4	79.7	13.8	39.2
Approach Delay (s)	63.4			30.0	
Approach LOS	F			D	

Intersection Summary	
Delay	51.7
Level of Service	F
Intersection Capacity Utilization	97.1%
ICU Level of Service	F
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St (PB)/Hamilton St & Pearl St

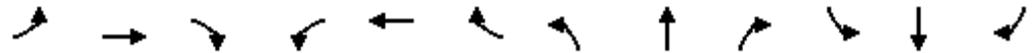
Road Diet Capacity Analysis  
 Road Diet 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	28	56	61	0	0	0	0	0	1936	14
Future Volume (Veh/h)	0	0	28	56	61	0	0	0	0	0	1936	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.65	0.65	0.79	0.79	0.79	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	43	71	77	0	0	0	0	0	2104	15
Pedestrians		6						3				
Lane Width (ft)		12.0						0.0				
Walking Speed (ft/s)		4.0						4.0				
Percent Blockage		1						0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	2148	2110	1061	1098	2125	0	2125			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2148	2110	1061	1098	2125	0	2125			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	81	48	0	100	100			100		
cM capacity (veh/h)	0	51	222	136	50	1091	259			1636		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>WB 2</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>						
Volume Total	43	47	101	1052	1052	15						
Volume Left	0	47	24	0	0	0						
Volume Right	43	0	0	0	0	15						
cSH	222	136	59	1700	1700	1700						
Volume to Capacity	0.19	0.35	1.70	0.62	0.62	0.01						
Queue Length 95th (ft)	17	35	232	0	0	0						
Control Delay (s)	25.1	44.8	491.9	0.0	0.0	0.0						
Lane LOS	D	E	F									
Approach Delay (s)	25.1	348.9		0.0								
Approach LOS	D	F										
<b>Intersection Summary</b>												
Average Delay			22.8									
Intersection Capacity Utilization			68.5%		ICU Level of Service					C		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Road Diet 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻						↻↻	
Traffic Volume (veh/h)	0	25	32	54	28	0	0	0	0	117	1560	21
Future Volume (Veh/h)	0	25	32	54	28	0	0	0	0	117	1560	21
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.69	0.69	0.69	0.76	0.76	0.76	0.92	0.92	0.92	0.93	0.93	0.93
Hourly flow rate (vph)	0	36	46	71	37	0	0	0	0	126	1677	23
Pedestrians		4			3			7				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.68	0.68	0.68	0.68	0.68		0.68					
vC, conflicting volume	1963	1948	861	1164	1959	3	1704			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1466	1443	0	285	1460	3	1083			3		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	56	94	72	54	100	100			92		
cM capacity (veh/h)	37	83	735	255	81	1083	439			1628		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>	<b>SB 2</b>								
Volume Total	82	108	964	862								
Volume Left	0	71	126	0								
Volume Right	46	0	0	23								
cSH	165	147	1628	1700								
Volume to Capacity	0.50	0.74	0.08	0.51								
Queue Length 95th (ft)	60	110	6	0								
Control Delay (s)	46.8	78.1	1.9	0.0								
Lane LOS	E	F	A									
Approach Delay (s)	46.8	78.1	1.0									
Approach LOS	E	F										
<b>Intersection Summary</b>												
Average Delay			7.0									
Intersection Capacity Utilization			62.4%	ICU Level of Service		B						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Road Diet 2038 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	36	0	27	1439	0	0
Future Volume (Veh/h)	36	0	27	1439	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	60	0	28	1515	0	0
Pedestrians	8				1	
Lane Width (ft)	12.0				0.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.89					
vC, conflicting volume	822	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	551	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	100	98			
cM capacity (veh/h)	407	1071	1615			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>			
Volume Total	60	533	1010			
Volume Left	60	28	0			
Volume Right	0	0	0			
cSH	407	1615	1700			
Volume to Capacity	0.15	0.02	0.59			
Queue Length 95th (ft)	13	1	0			
Control Delay (s)	15.4	0.6	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.4	0.2				
Approach LOS	C					
<b>Intersection Summary</b>						
Average Delay			0.8			
Intersection Capacity Utilization			48.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

Road Diet Capacity Analysis  
 Road Diet 2038 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	157	1240	0	0
Future Volume (Veh/h)	0	0	157	1240	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	0	178	1409	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				430		
pX, platoon unblocked	0.73					
vC, conflicting volume	1060	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	89			
cM capacity (veh/h)	405	1091	1636			
<b>Direction, Lane #</b>						
	NB 1	NB 2				
Volume Total	648	939				
Volume Left	178	0				
Volume Right	0	0				
cSH	1636	1700				
Volume to Capacity	0.11	0.55				
Queue Length 95th (ft)	9	0				
Control Delay (s)	2.9	0.0				
Lane LOS	A					
Approach Delay (s)	1.2					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization			40.2%	ICU Level of Service		A
Analysis Period (min)			15			

*Appendix L*

*Road Diet 2038 with Mitigation Condition Synchro Reports*

HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
Road Diet Mitigated 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕						↕			↕	
Traffic Volume (vph)	3	756	19	0	0	0	0	153	35	12	11	0
Future Volume (vph)	3	756	19	0	0	0	0	153	35	12	11	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.4						10.8			10.8	
Lane Util. Factor		0.91						1.00			1.00	
Frbp, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		1.00						0.98			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		5436						1643			1921	
Flt Permitted		1.00						1.00			0.73	
Satd. Flow (perm)		5436						1643			1448	
Peak-hour factor, PHF	0.87	0.87	0.87	0.92	0.92	0.92	0.91	0.91	0.91	0.75	0.75	0.75
Adj. Flow (vph)	3	869	22	0	0	0	0	168	38	16	15	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	891	0	0	0	0	0	196	0	0	31	0
Confl. Peds. (#/hr)			2						26	26		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)								10				
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		46.6						17.2			17.2	
Effective Green, g (s)		46.6						17.2			17.2	
Actuated g/C Ratio		0.58						0.21			0.21	
Clearance Time (s)		5.4						10.8			10.8	
Lane Grp Cap (vph)		3166						353			311	
v/s Ratio Prot								c0.12				
v/s Ratio Perm		0.16									0.02	
v/c Ratio		0.28						0.55			0.10	
Uniform Delay, d1		8.3						28.0			25.2	
Progression Factor		1.00						1.00			1.32	
Incremental Delay, d2		0.2						6.2			0.6	
Delay (s)		8.6						34.1			33.9	
Level of Service		A						C			C	
Approach Delay (s)		8.6			0.0			34.1			33.9	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.9					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			80.0					Sum of lost time (s)		16.2		
Intersection Capacity Utilization			45.6%					ICU Level of Service		A		
Analysis Period (min)			15									
c	Critical Lane Group											

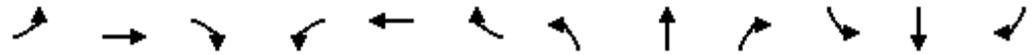
HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 AM Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	17	589	7	0	0	0	0	41	9	10	23	0		
Future Volume (vph)	17	589	7	0	0	0	0	41	9	10	23	0		
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000		
Total Lost time (s)		5.3						5.7		5.7	5.7			
Lane Util. Factor		0.95						1.00		1.00	1.00			
Frbp, ped/bikes		1.00						1.00		1.00	1.00			
Flpb, ped/bikes		1.00						1.00		0.99	1.00			
Frt		1.00						0.98		1.00	1.00			
Flt Protected		1.00						1.00		0.95	1.00			
Satd. Flow (prot)		3787						1946		1887	2000			
Flt Permitted		1.00						1.00		0.71	1.00			
Satd. Flow (perm)		3787						1946		1416	2000			
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.73	0.73	0.73	0.91	0.91	0.91		
Adj. Flow (vph)	19	654	8	0	0	0	0	56	12	11	25	0		
RTOR Reduction (vph)	0	1	0	0	0	0	0	11	0	0	0	0		
Lane Group Flow (vph)	0	680	0	0	0	0	0	57	0	11	25	0		
Confl. Peds. (#/hr)	2		1						9	9				
Confl. Bikes (#/hr)			1											
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	0%	0%	0%		
Turn Type	custom	NA						NA		Perm	NA			
Protected Phases	1	1						2			2			
Permitted Phases	1									2				
Actuated Green, G (s)		61.4						7.6		7.6	7.6			
Effective Green, g (s)		61.4						7.6		7.6	7.6			
Actuated g/C Ratio		0.77						0.09		0.09	0.09			
Clearance Time (s)		5.3						5.7		5.7	5.7			
Vehicle Extension (s)		0.2						3.0		3.0	3.0			
Lane Grp Cap (vph)		2906						184		134	190			
v/s Ratio Prot		c0.18						c0.03			0.01			
v/s Ratio Perm										0.01				
v/c Ratio		0.23						0.31		0.08	0.13			
Uniform Delay, d1		2.6						33.8		33.0	33.2			
Progression Factor		0.72						1.00		1.00	1.00			
Incremental Delay, d2		0.2						1.0		0.3	0.3			
Delay (s)		2.1						34.7		33.3	33.5			
Level of Service		A						C		C	C			
Approach Delay (s)		2.1			0.0			34.7			33.4			
Approach LOS		A			A			C			C			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			6.4									HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio			0.24											
Actuated Cycle Length (s)			80.0								11.0			
Intersection Capacity Utilization			36.4%										ICU Level of Service	A
Analysis Period (min)			15											
c	Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

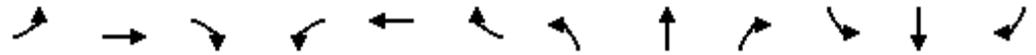
Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	
Traffic Volume (vph)	0	316	87	161	758	0	0	0	0	212	502	43
Future Volume (vph)	0	316	87	161	758	0	0	0	0	212	502	43
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3662		1879	3480					1881	3713	
Flt Permitted		1.00		0.41	1.00					0.95	1.00	
Satd. Flow (perm)		3662		819	3480					1881	3713	
Peak-hour factor, PHF	0.84	0.84	0.84	0.83	0.83	0.83	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	0	376	104	194	913	0	0	0	0	233	552	47
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	480	0	194	913	0	0	0	0	233	591	0
Confl. Peds. (#/hr)			6	6						5		6
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Parking (#/hr)				10								
Turn Type		NA		pm+pt	NA					custom	NA	
Protected Phases		1		2	1 2					3	3	
Permitted Phases				1 2						3		
Actuated Green, G (s)		26.5		35.3	40.5					27.5	27.5	
Effective Green, g (s)		26.5		35.3	40.5					27.5	27.5	
Actuated g/C Ratio		0.33		0.44	0.51					0.34	0.34	
Clearance Time (s)		5.2		5.2						6.8	6.8	
Vehicle Extension (s)		3.0		3.0						0.2	0.2	
Lane Grp Cap (vph)		1213		477	1761					646	1276	
v/s Ratio Prot		0.13		0.04	c0.26					0.12	c0.16	
v/s Ratio Perm				0.13								
v/c Ratio		0.40		0.41	0.52					0.36	0.46	
Uniform Delay, d1		20.6		18.3	13.2					19.7	20.5	
Progression Factor		1.00		0.89	0.90					1.00	1.00	
Incremental Delay, d2		0.2		0.5	0.2					1.6	1.2	
Delay (s)		20.8		16.7	12.2					21.2	21.7	
Level of Service		C		B	B					C	C	
Approach Delay (s)		20.8			13.0			0.0			21.6	
Approach LOS		C			B			A			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			17.5		HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				17.2			
Intersection Capacity Utilization			52.5%		ICU Level of Service				A			
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					↑	↗		↑↑					
Traffic Volume (vph)	0	0	0	0	465	29	0	588	148	0	0	0	
Future Volume (vph)	0	0	0	0	465	29	0	588	148	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)					5.5	5.5		5.6					
Lane Util. Factor					1.00	1.00		0.95					
Frbp, ped/bikes					1.00	1.00		1.00					
Flpb, ped/bikes					1.00	1.00		1.00					
Frt					1.00	0.85		0.97					
Flt Protected					1.00	1.00		1.00					
Satd. Flow (prot)					2000	1700		3668					
Flt Permitted					1.00	1.00		1.00					
Satd. Flow (perm)					2000	1700		3668					
Peak-hour factor, PHF	0.92	0.92	0.92	0.81	0.81	0.81	0.94	0.94	0.94	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	0	574	36	0	626	157	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	18	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	574	18	0	783	0	0	0	0	
Confl. Peds. (#/hr)						11		3					
Confl. Bikes (#/hr)						4							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type					NA	custom		NA					
Protected Phases					2	2		8					
Permitted Phases						2							
Actuated Green, G (s)					38.5	38.5		30.4					
Effective Green, g (s)					38.5	38.5		30.4					
Actuated g/C Ratio					0.48	0.48		0.38					
Clearance Time (s)					5.5	5.5		5.6					
Lane Grp Cap (vph)					962	818		1393					
v/s Ratio Prot					c0.29	0.01		c0.21					
v/s Ratio Perm													
v/c Ratio					0.60	0.02		0.56					
Uniform Delay, d1					15.1	10.9		19.6					
Progression Factor					1.00	1.00		1.52					
Incremental Delay, d2					2.7	0.0		0.6					
Delay (s)					17.8	10.9		30.4					
Level of Service					B	B		C					
Approach Delay (s)		0.0			17.4			30.4			0.0		
Approach LOS		A			B			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			24.7		HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.58										
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				11.1				
Intersection Capacity Utilization			57.8%		ICU Level of Service				B				
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Road Diet Mitigated 2038 AM Peak Hour

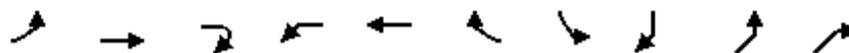
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	490	0	0	771	619	96	1222	80	0	0	0
Future Volume (vph)	86	490	0	0	771	619	96	1222	80	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6				
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95				
Frbp, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00				
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00				
Frt	1.00	1.00			0.97	0.85	1.00	0.99				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1881	3480			3218	1271	1873	3725				
Flt Permitted	0.15	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	305	3480			3218	1271	1873	3725				
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	92	527	0	0	866	696	101	1286	84	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	92	527	0	0	1082	480	101	1370	0	0	0	0
Confl. Peds. (#/hr)	10					10	5		2			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Parking (#/hr)		10			10	10						
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	2	1 2			1			3				
Permitted Phases	1 2					1	3					
Actuated Green, G (s)	34.0	39.0			26.0	26.0	30.4	30.4				
Effective Green, g (s)	34.0	39.0			26.0	26.0	30.4	30.4				
Actuated g/C Ratio	0.42	0.49			0.32	0.32	0.38	0.38				
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6				
Lane Grp Cap (vph)	287	1696			1045	413	711	1415				
v/s Ratio Prot	0.03	c0.15			0.34			c0.37				
v/s Ratio Perm	0.10					c0.38	0.05					
v/c Ratio	0.32	0.31			1.04	1.16	0.14	0.97				
Uniform Delay, d1	30.1	12.4			27.0	27.0	16.3	24.3				
Progression Factor	0.49	0.40			1.00	1.00	0.58	0.47				
Incremental Delay, d2	2.8	0.5			37.4	96.6	0.4	15.7				
Delay (s)	17.4	5.4			64.4	123.6	9.7	27.0				
Level of Service	B	A			E	F	A	C				
Approach Delay (s)		7.2			82.6			25.9			0.0	
Approach LOS		A			F			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			47.0									D
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			80.0								15.6	
Intersection Capacity Utilization			80.1%									D
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 2000: Michigan Ave & Congress St & Ballard St

# Road Diet Capacity Analysis

## Road Diet Mitigated 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕		↕
Traffic Volume (vph)	9	84	1	423	162	36	11	55	0	339
Future Volume (vph)	9	84	1	423	162	36	11	55	0	339
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3		6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00		0.88
Frbp, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00
Frt		1.00		1.00	0.98		1.00	0.85		0.85
Flt Protected		1.00		0.95	0.98		0.95	1.00		1.00
Satd. Flow (prot)		1988		1787	1538		1900	1700		2992
Flt Permitted		1.00		0.95	0.98		0.95	1.00		1.00
Satd. Flow (perm)		1988		1787	1538		1900	1700		2992
Peak-hour factor, PHF	0.82	0.82	0.82	0.94	0.94	0.94	0.60	0.60	0.93	0.93
Adj. Flow (vph)	11	102	1	450	172	38	18	92	0	365
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	177
Lane Group Flow (vph)	0	114	0	328	329	0	18	92	0	188
Confl. Peds. (#/hr)	2		1	1		2	1			1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%
Parking (#/hr)				10						
Turn Type	Split	NA		Split	NA		Prot	Prot		Over
Protected Phases	3	3		1	1		2	2		1
Permitted Phases										
Actuated Green, G (s)		20.0		61.7	61.7		20.0	20.0		61.7
Effective Green, g (s)		20.0		61.7	61.7		20.0	20.0		61.7
Actuated g/C Ratio		0.17		0.51	0.51		0.17	0.17		0.51
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3		6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		331		918	790		316	283		1538
v/s Ratio Prot		c0.06		0.18	c0.21		0.01	c0.05		0.06
v/s Ratio Perm										
v/c Ratio		0.34		0.36	0.42		0.06	0.33		0.12
Uniform Delay, d1		44.2		17.3	18.0		42.1	44.1		15.1
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2		0.6		1.1	1.6		0.1	0.7		0.2
Delay (s)		44.8		18.4	19.6		42.1	44.7		15.3
Level of Service		D		B	B		D	D		B
Approach Delay (s)		44.8		19.0			44.3		15.3	
Approach LOS		D		B			D		B	
<b>Intersection Summary</b>										
HCM 2000 Control Delay			22.5			HCM 2000 Level of Service			C	
HCM 2000 Volume to Capacity ratio			0.38							
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		18.3		
Intersection Capacity Utilization			66.6%			ICU Level of Service			C	
Analysis Period (min)			15							
c	Critical Lane Group									

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Road Diet Mitigated 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↖	↗		↖	↗	
Traffic Volume (vph)	0	608	7	0	860	33	49	45	13	23	11	21
Future Volume (vph)	0	608	7	0	860	33	49	45	13	23	11	21
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		0.99	1.00	
Frt		1.00			0.99		1.00	0.97		1.00	0.90	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3473			3457		1894	1633		1879	1519	
Flt Permitted		1.00			1.00		0.73	1.00		0.69	1.00	
Satd. Flow (perm)		3473			3457		1454	1633		1373	1519	
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.60	0.60	0.60	0.75	0.75	0.75
Adj. Flow (vph)	0	647	7	0	966	37	82	75	22	31	15	28
RTOR Reduction (vph)	0	1	0	0	3	0	0	13	0	0	23	0
Lane Group Flow (vph)	0	653	0	0	1000	0	82	84	0	31	20	0
Confl. Peds. (#/hr)	6		8	8		6	3		12	12		3
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10			10	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2383			2372		254	285		240	265	
v/s Ratio Prot		0.19			c0.29			0.05			0.01	
v/s Ratio Perm							c0.06			0.02		
v/c Ratio		0.27			0.42		0.32	0.29		0.13	0.08	
Uniform Delay, d1		4.8			5.5		28.9	28.7		27.9	27.6	
Progression Factor		0.51			0.41		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			0.5		3.3	2.6		1.1	0.6	
Delay (s)		2.7			2.8		32.2	31.3		29.0	28.1	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		2.7			2.8			31.7			28.5	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 2005: Washington St (PB) & Michigan Ave

# Road Diet Capacity Analysis

## Road Diet Mitigated 2038 AM Peak Hour



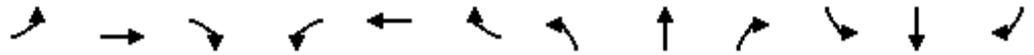
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (vph)	0	607	14	0	800	16	46	101	25	16	6	10
Future Volume (vph)	0	607	14	0	800	16	46	101	25	16	6	10
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			0.99			1.00	
Frt		1.00			1.00			0.98			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		3501			3467			1629			1774	
Flt Permitted		1.00			1.00			0.90			0.79	
Satd. Flow (perm)		3501			3467			1480			1429	
Peak-hour factor, PHF	0.86	0.86	0.86	0.94	0.94	0.94	0.60	0.60	0.60	0.88	0.88	0.88
Adj. Flow (vph)	0	706	16	0	851	17	77	168	42	18	7	11
RTOR Reduction (vph)	0	2	0	0	2	0	0	8	0	0	9	0
Lane Group Flow (vph)	0	720	0	0	866	0	0	279	0	0	27	0
Confl. Peds. (#/hr)	10		3	3		10	22		9	9		22
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	4%	4%	4%
Parking (#/hr)		10			10			10				
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		51.0			51.0			18.0			18.0	
Effective Green, g (s)		51.0			51.0			18.0			18.0	
Actuated g/C Ratio		0.64			0.64			0.22			0.22	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Lane Grp Cap (vph)		2231			2210			333			321	
v/s Ratio Prot		0.21			c0.25							
v/s Ratio Perm								c0.19			0.02	
v/c Ratio		0.32			0.39			0.84			0.09	
Uniform Delay, d1		6.6			7.0			29.6			24.5	
Progression Factor		0.34			0.14			1.00			1.00	
Incremental Delay, d2		0.4			0.2			21.6			0.5	
Delay (s)		2.6			1.2			51.2			25.0	
Level of Service		A			A			D			C	
Approach Delay (s)		2.6			1.2			51.2			25.0	
Approach LOS		A			A			D			C	

### Intersection Summary

HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 AM Peak Hour

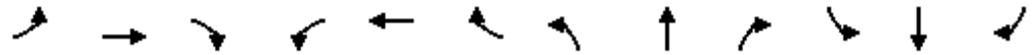


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑			↑↑			↖↖	↗			
Traffic Volume (vph)	17	136	0	0	477	35	405	1606	385	0	0	0
Future Volume (vph)	17	136	0	0	477	35	405	1606	385	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Util. Factor	1.00	0.95			0.95			0.95	1.00			
Frbp, ped/bikes	1.00	1.00			1.00			1.00	0.99			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1880	3762			3758			3762	1675			
Flt Permitted	0.33	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	648	3762			3758			3762	1675			
Peak-hour factor, PHF	0.68	0.68	0.68	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	200	0	0	548	40	440	1746	418	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	180	0	0	0
Lane Group Flow (vph)	25	200	0	0	582	0	0	2186	238	0	0	0
Confl. Peds. (#/hr)	1						1		4			
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	22.4	22.4			22.4			44.9	44.9			
Effective Green, g (s)	22.4	22.4			22.4			44.9	44.9			
Actuated g/C Ratio	0.28	0.28			0.28			0.56	0.56			
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Grp Cap (vph)	181	1053			1052			2111	940			
v/s Ratio Prot		0.05			c0.15							
v/s Ratio Perm	0.04							0.58	0.14			
v/c Ratio	0.14	0.19			0.55			1.04	0.25			
Uniform Delay, d1	21.6	21.9			24.5			17.6	9.0			
Progression Factor	1.04	1.02			1.00			0.98	1.49			
Incremental Delay, d2	1.6	0.4			2.1			18.0	0.1			
Delay (s)	23.9	22.8			26.6			35.3	13.4			
Level of Service	C	C			C			D	B			
Approach Delay (s)		23.0			26.6			31.8			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 AM Peak Hour



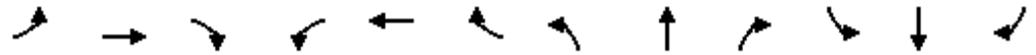
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	
Traffic Volume (vph)	0	115	112	265	541	0	0	0	0	47	571	50
Future Volume (vph)	0	115	112	265	541	0	0	0	0	47	571	50
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.93		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3494		1899	3800					1881	3717	
Flt Permitted		1.00		0.53	1.00					0.95	1.00	
Satd. Flow (perm)		3494		1056	3800					1881	3717	
Peak-hour factor, PHF	0.74	0.74	0.74	0.95	0.95	0.95	0.93	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	155	151	279	569	0	0	0	0	51	614	54
RTOR Reduction (vph)	0	132	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	174	0	279	569	0	0	0	0	51	662	0
Confl. Peds. (#/hr)			2	2								
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		10.3		27.6	27.6					41.0	41.0	
Effective Green, g (s)		10.3		27.6	27.6					41.0	41.0	
Actuated g/C Ratio		0.13		0.35	0.35					0.51	0.51	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		449		485	1311					964	1904	
v/s Ratio Prot		0.05		c0.08	0.15						c0.18	
v/s Ratio Perm				c0.12						0.03		
v/c Ratio		0.39		0.58	0.43					0.05	0.35	
Uniform Delay, d1		32.0		23.0	20.2					9.8	11.6	
Progression Factor		1.00		0.99	0.95					0.51	0.56	
Incremental Delay, d2		0.8		1.2	0.2					0.1	0.5	
Delay (s)		32.7		24.0	19.4					5.1	6.9	
Level of Service		C		C	B					A	A	
Approach Delay (s)		32.7			20.9			0.0			6.8	
Approach LOS		C			C			A			A	

Intersection Summary		
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.47	B
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	52.0%	17.2
Analysis Period (min)	15	ICU Level of Service
		A

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
3004: Huron St & Catherine St (PB)

Road Diet Capacity Analysis  
Road Diet Mitigated 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕				
Traffic Volume (vph)	9	10	0	0	29	47	90	1489	19	0	0	0
Future Volume (vph)	9	10	0	0	29	47	90	1489	19	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.95				
Frbp, ped/bikes		1.00			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.92			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1952			1819			3744				
Flt Permitted		0.80			1.00			1.00				
Satd. Flow (perm)		1594			1819			3744				
Peak-hour factor, PHF	0.71	0.71	0.71	0.77	0.77	0.77	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	13	14	0	0	38	61	96	1584	20	0	0	0
RTOR Reduction (vph)	0	0	0	0	41	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	27	0	0	58	0	0	1699	0	0	0	0
Confl. Peds. (#/hr)	1						1	1	2			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		7.1			7.1			62.3				
Effective Green, g (s)		7.1			7.1			62.3				
Actuated g/C Ratio		0.09			0.09			0.78				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		141			161			2915				
v/s Ratio Prot					c0.03							
v/s Ratio Perm		0.02						0.45				
v/c Ratio		0.19			0.36			0.58				
Uniform Delay, d1		33.8			34.3			3.6				
Progression Factor		1.00			1.00			1.14				
Incremental Delay, d2		0.7			1.4			0.1				
Delay (s)		34.5			35.7			4.2				
Level of Service		C			D			A				
Approach Delay (s)		34.5			35.7			4.2			0.0	
Approach LOS		C			D			A			A	

Intersection Summary		
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.56	A
Actuated Cycle Length (s)	80.0	Sum of lost time (s)
Intersection Capacity Utilization	58.6%	10.6
Analysis Period (min)	15	ICU Level of Service
		B

c Critical Lane Group

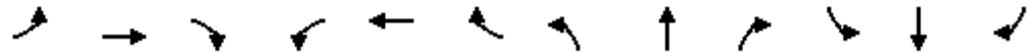
HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗								↖↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	119	530	0	0	0	0	0	0	29	274	0
Future Volume (vph)	0	119	530	0	0	0	0	0	0	29	274	0
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.91	0.91	0.91
Hourly flow rate (vph)	0	134	596	0	0	0	0	0	0	32	301	0
Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2							
Volume Total (vph)	67	67	596	132	201							
Volume Left (vph)	0	0	0	32	0							
Volume Right (vph)	0	0	596	0	0							
Hadj (s)	0.00	0.00	-0.70	0.14	0.02							
Departure Headway (s)	5.3	5.3	3.2	5.0	4.9							
Degree Utilization, x	0.10	0.10	0.53	0.18	0.27							
Capacity (veh/h)	640	643	1117	701	719							
Control Delay (s)	7.7	7.7	8.5	7.9	8.5							
Approach Delay (s)	8.4				8.3							
Approach LOS	A				A							
Intersection Summary												
Delay			8.3									
Level of Service			A									
Intersection Capacity Utilization			46.1%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St & Pearl St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↖						↕	↗
Traffic Volume (veh/h)	0	0	24	20	14	0	0	0	0	0	800	7
Future Volume (Veh/h)	0	0	24	20	14	0	0	0	0	0	800	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.66	0.66	0.66	0.83	0.83	0.83	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	36	24	17	0	0	0	0	0	870	8
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		4.0										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	880	871	436	471	879	0	879			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	880	871	436	471	879	0	879			0		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	94	95	94	100	100			100		
cM capacity (veh/h)	226	282	560	449	288	1091	777			1629		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>WB 2</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>						
Volume Total	36	16	25	435	435	8						
Volume Left	0	16	8	0	0	0						
Volume Right	36	0	0	0	0	8						
cSH	560	449	325	1700	1700	1700						
Volume to Capacity	0.06	0.04	0.08	0.26	0.26	0.00						
Queue Length 95th (ft)	5	3	6	0	0	0						
Control Delay (s)	11.9	13.3	17.0	0.0	0.0	0.0						
Lane LOS	B	B	C									
Approach Delay (s)	11.9	15.5		0.0								
Approach LOS	B	C										
<b>Intersection Summary</b>												
Average Delay			1.1									
Intersection Capacity Utilization			37.7%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻						↻↻	
Traffic Volume (veh/h)	0	16	29	23	15	0	0	0	0	62	615	10
Future Volume (Veh/h)	0	16	29	23	15	0	0	0	0	62	615	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.69	0.69	0.69	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	21	38	33	22	0	0	0	0	65	647	11
Pedestrians		1			4			1				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.90	0.90	0.90	0.90	0.90		0.90					
vC, conflicting volume	794	788	331	507	793	4	659			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	538	530	20	217	536	4	387			4		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	95	96	94	94	100	100			96		
cM capacity (veh/h)	356	392	948	577	388	1081	1059			1618		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>	<b>SB 2</b>								
Volume Total	59	55	388	334								
Volume Left	0	33	65	0								
Volume Right	38	0	0	11								
cSH	629	483	1618	1700								
Volume to Capacity	0.09	0.11	0.04	0.20								
Queue Length 95th (ft)	8	10	3	0								
Control Delay (s)	11.3	13.4	1.5	0.0								
Lane LOS	B	B	A									
Approach Delay (s)	11.3	13.4	0.8									
Approach LOS	B	B										
<b>Intersection Summary</b>												
Average Delay			2.4									
Intersection Capacity Utilization			33.5%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙			↕		
Traffic Volume (veh/h)	20	0	59	1403	0	0
Future Volume (Veh/h)	20	0	59	1403	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	27	0	63	1493	0	0
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.80					
vC, conflicting volume	876	3	3			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	355	3	3			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	100	96			
cM capacity (veh/h)	479	1083	1628			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>			
Volume Total	27	561	995			
Volume Left	27	63	0			
Volume Right	0	0	0			
cSH	479	1628	1700			
Volume to Capacity	0.06	0.04	0.59			
Queue Length 95th (ft)	4	3	0			
Control Delay (s)	13.0	1.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	13.0	0.4				
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			48.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	99	1846	0	0
Future Volume (Veh/h)	0	0	99	1846	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	0	0	104	1943	0	0
Pedestrians	2					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.64					
vC, conflicting volume	1182	2	2			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	172	2	2			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	94			
cM capacity (veh/h)	486	1088	1634			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	752	1295				
Volume Left	104	0				
Volume Right	0	0				
cSH	1634	1700				
Volume to Capacity	0.06	0.76				
Queue Length 95th (ft)	5	0				
Control Delay (s)	1.7	0.0				
Lane LOS	A					
Approach Delay (s)	0.6					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			54.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
Road Diet Mitigated 2038 OP Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  						 			 		
Traffic Volume (vph)	14	1054	43	0	0	0	0	74	23	36	20	0	
Future Volume (vph)	14	1054	43	0	0	0	0	74	23	36	20	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.4						10.8			10.8		
Lane Util. Factor		0.91						1.00			1.00		
Frbp, ped/bikes		1.00						0.98			1.00		
Flpb, ped/bikes		1.00						1.00			0.97		
Frt		0.99						0.97			1.00		
Flt Protected		1.00						1.00			0.97		
Satd. Flow (prot)		5418						1615			1872		
Flt Permitted		1.00						1.00			0.71		
Satd. Flow (perm)		5418						1615			1376		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.61	0.61	0.61	0.74	0.74	0.74	
Adj. Flow (vph)	15	1146	47	0	0	0	0	121	38	49	27	0	
RTOR Reduction (vph)	0	5	0	0	0	0	0	14	0	0	0	0	
Lane Group Flow (vph)	0	1203	0	0	0	0	0	145	0	0	76	0	
Confl. Peds. (#/hr)			8						45	45			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Parking (#/hr)								10					
Turn Type	Perm	NA						NA		Perm	NA		
Protected Phases		1						2			2		
Permitted Phases	1									2			
Actuated Green, G (s)		46.6						17.2			17.2		
Effective Green, g (s)		46.6						17.2			17.2		
Actuated g/C Ratio		0.58						0.21			0.21		
Clearance Time (s)		5.4						10.8			10.8		
Lane Grp Cap (vph)		3155						347			295		
v/s Ratio Prot								c0.09					
v/s Ratio Perm		0.22									0.06		
v/c Ratio		0.38						0.42			0.26		
Uniform Delay, d1		9.0						27.1			26.1		
Progression Factor		1.00						1.00			1.34		
Incremental Delay, d2		0.4						3.7			2.1		
Delay (s)		9.3						30.7			37.1		
Level of Service		A						C			D		
Approach Delay (s)		9.3			0.0			30.7			37.1		
Approach LOS		A			A			C			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			13.1									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.39										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	16.2
Intersection Capacity Utilization			47.8%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

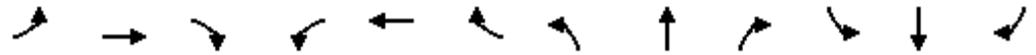
HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 OP Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	21	831	25	0	0	0	0	96	17	17	28	0		
Future Volume (vph)	21	831	25	0	0	0	0	96	17	17	28	0		
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000		
Total Lost time (s)		5.3						5.7		5.7	5.7			
Lane Util. Factor		0.95						1.00		1.00	1.00			
Frbp, ped/bikes		1.00						1.00		1.00	1.00			
Flpb, ped/bikes		1.00						1.00		0.99	1.00			
Frt		1.00						0.98		1.00	1.00			
Flt Protected		1.00						1.00		0.95	1.00			
Satd. Flow (prot)		3776						1954		1890	2000			
Flt Permitted		1.00						1.00		0.63	1.00			
Satd. Flow (perm)		3776						1954		1258	2000			
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.76	0.76	0.76	0.67	0.67	0.67		
Adj. Flow (vph)	24	944	28	0	0	0	0	126	22	25	42	0		
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	0	0		
Lane Group Flow (vph)	0	994	0	0	0	0	0	139	0	25	42	0		
Confl. Peds. (#/hr)	11		7						8	8				
Confl. Bikes (#/hr)			1											
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		
Turn Type	custom	NA						NA		Perm	NA			
Protected Phases	1	1						2			2			
Permitted Phases	1									2				
Actuated Green, G (s)		58.2						10.8		10.8	10.8			
Effective Green, g (s)		58.2						10.8		10.8	10.8			
Actuated g/C Ratio		0.73						0.14		0.14	0.14			
Clearance Time (s)		5.3						5.7		5.7	5.7			
Vehicle Extension (s)		0.2						3.0		3.0	3.0			
Lane Grp Cap (vph)		2747						263		169	270			
v/s Ratio Prot		c0.26						c0.07			0.02			
v/s Ratio Perm										0.02				
v/c Ratio		0.36						0.53		0.15	0.16			
Uniform Delay, d1		4.0						32.2		30.5	30.6			
Progression Factor		0.35						1.00		1.00	1.00			
Incremental Delay, d2		0.4						1.9		0.4	0.3			
Delay (s)		1.8						34.2		30.9	30.8			
Level of Service		A						C		C	C			
Approach Delay (s)		1.8			0.0			34.2			30.9			
Approach LOS		A			A			C			C			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			7.3									HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio			0.39											
Actuated Cycle Length (s)			80.0								11.0			
Intersection Capacity Utilization			42.5%										ICU Level of Service	A
Analysis Period (min)			15											
c	Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	
Traffic Volume (vph)	0	436	117	209	514	0	0	0	0	406	831	45
Future Volume (vph)	0	436	117	209	514	0	0	0	0	406	831	45
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3647		1875	3480					1881	3728	
Flt Permitted		1.00		0.30	1.00					0.95	1.00	
Satd. Flow (perm)		3647		602	3480					1881	3728	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	459	123	220	541	0	0	0	0	437	894	48
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	582	0	220	541	0	0	0	0	437	938	0
Confl. Peds. (#/hr)			27	27						24		13
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom		NA
Protected Phases		1		2	1 2					3		3
Permitted Phases				1 2						3		
Actuated Green, G (s)		22.4		30.8	36.0					32.0		32.0
Effective Green, g (s)		22.4		30.8	36.0					32.0		32.0
Actuated g/C Ratio		0.28		0.39	0.45					0.40		0.40
Clearance Time (s)		5.2		5.2						6.8		6.8
Vehicle Extension (s)		3.0		3.0						0.2		0.2
Lane Grp Cap (vph)		1021		365	1566					752		1491
v/s Ratio Prot		0.16		c0.06	0.16					0.23		c0.25
v/s Ratio Perm				c0.17								
v/c Ratio		0.57		0.60	0.35					0.58		0.63
Uniform Delay, d1		24.7		25.2	14.3					18.8		19.2
Progression Factor		0.92		1.01	1.26					1.00		1.00
Incremental Delay, d2		0.8		2.7	0.1					3.3		2.0
Delay (s)		23.4		28.2	18.2					22.0		21.3
Level of Service		C		C	B					C		C
Approach Delay (s)		23.4			21.1			0.0				21.5
Approach LOS		C			C			A				C
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)				17.2		
Intersection Capacity Utilization			65.3%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 OP Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					↑	↗		↑↑	↘				
Traffic Volume (vph)	0	0	0	0	231	14	0	391	237	0	0	0	
Future Volume (vph)	0	0	0	0	231	14	0	391	237	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)					5.5	5.5		5.6					
Lane Util. Factor					1.00	1.00		0.95					
Frbp, ped/bikes					1.00	1.00		0.99					
Flpb, ped/bikes					1.00	1.00		1.00					
Frt					1.00	0.85		0.94					
Flt Protected					1.00	1.00		1.00					
Satd. Flow (prot)					2000	1700		3521					
Flt Permitted					1.00	1.00		1.00					
Satd. Flow (perm)					2000	1700		3521					
Peak-hour factor, PHF	0.92	0.92	0.92	0.84	0.84	0.84	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	0	275	17	0	412	249	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	9	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	275	8	0	661	0	0	0	0	
Confl. Peds. (#/hr)						9		1					
Confl. Bikes (#/hr)						4							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	
Turn Type					NA	custom		NA					
Protected Phases					2	2		8					
Permitted Phases						2							
Actuated Green, G (s)					35.5	35.5		33.4					
Effective Green, g (s)					35.5	35.5		33.4					
Actuated g/C Ratio					0.44	0.44		0.42					
Clearance Time (s)					5.5	5.5		5.6					
Lane Grp Cap (vph)					887	754		1470					
v/s Ratio Prot					c0.14	0.00		c0.19					
v/s Ratio Perm													
v/c Ratio					0.31	0.01		0.45					
Uniform Delay, d1					14.4	12.4		16.7					
Progression Factor					1.00	1.00		1.43					
Incremental Delay, d2					0.9	0.0		0.8					
Delay (s)					15.3	12.5		24.7					
Level of Service					B	B		C					
Approach Delay (s)		0.0			15.1			24.7			0.0		
Approach LOS		A			B			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			21.8		HCM 2000 Level of Service						C		
HCM 2000 Volume to Capacity ratio			0.38										
Actuated Cycle Length (s)			80.0		Sum of lost time (s)						11.1		
Intersection Capacity Utilization			56.3%		ICU Level of Service						B		
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Road Diet Mitigated 2038 OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Traffic Volume (vph)	130	784	0	0	582	367	107	684	167	0	0	0
Future Volume (vph)	130	784	0	0	582	367	107	684	167	0	0	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6				
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95				
Frbp, ped/bikes	1.00	1.00			0.99	0.94	1.00	1.00				
Flpb, ped/bikes	1.00	1.00			1.00	1.00	0.99	1.00				
Frt	1.00	1.00			0.98	0.85	1.00	0.97				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1894	3515			3247	1219	1857	3638				
Flt Permitted	0.24	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	480	3515			3247	1219	1857	3638				
Peak-hour factor, PHF	0.93	0.93	0.93	0.94	0.94	0.94	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	140	843	0	0	619	390	124	795	194	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	140	843	0	0	705	304	124	989	0	0	0	0
Confl. Peds. (#/hr)	44					44	14		7			
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Parking (#/hr)		10			10	10						
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	2	1 2			1			3				
Permitted Phases	1 2					1	3					
Actuated Green, G (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Effective Green, g (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Actuated g/C Ratio	0.44	0.50			0.34	0.34	0.37	0.37				
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6				
Lane Grp Cap (vph)	351	1757			1095	411	682	1336				
v/s Ratio Prot	0.04	c0.24			0.22			c0.27				
v/s Ratio Perm	0.13					c0.25	0.07					
v/c Ratio	0.40	0.48			0.64	0.74	0.18	0.74				
Uniform Delay, d1	22.9	13.2			22.4	23.4	17.1	22.0				
Progression Factor	0.36	0.26			1.00	1.00	0.41	0.43				
Incremental Delay, d2	3.1	0.9			2.9	11.3	0.6	3.6				
Delay (s)	11.2	4.3			25.3	34.7	7.5	13.1				
Level of Service	B	A			C	C	A	B				
Approach Delay (s)		5.3			28.2			12.5			0.0	
Approach LOS		A			C			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			15.3									B
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			80.0								15.6	
Intersection Capacity Utilization			62.6%									B
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
Road Diet Mitigated 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕			↕
Traffic Volume (vph)	10	102	5	418	121	31	18	22	11	0	438
Future Volume (vph)	10	102	5	418	121	31	18	22	11	0	438
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00			0.88
Frbp, ped/bikes		1.00		1.00	0.99		1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00
Frt		0.99		1.00	0.98		1.00	0.85			0.85
Flt Protected		1.00		0.95	0.98		0.95	1.00			1.00
Satd. Flow (prot)		1978		1805	1532		1900	1700			2962
Flt Permitted		1.00		0.95	0.98		0.95	1.00			1.00
Satd. Flow (perm)		1978		1805	1532		1900	1700			2962
Peak-hour factor, PHF	0.80	0.80	0.80	0.95	0.95	0.95	0.66	0.66	0.66	0.89	0.89
Adj. Flow (vph)	12	128	6	440	127	33	27	33	17	0	492
RTOR Reduction (vph)	0	2	0	0	6	0	0	38	0	0	359
Lane Group Flow (vph)	0	145	0	299	295	0	27	13	0	0	133
Confl. Peds. (#/hr)	32		11	11		32	1		9		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)				10							
Turn Type	Split	NA		Split	NA		Prot	Prot			Over
Protected Phases	3	3		1	1		2	2			1
Permitted Phases											
Actuated Green, G (s)		20.0		21.7	21.7		20.0	20.0			21.7
Effective Green, g (s)		20.0		21.7	21.7		20.0	20.0			21.7
Actuated g/C Ratio		0.25		0.27	0.27		0.25	0.25			0.27
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		494		489	415		475	425			803
v/s Ratio Prot		c0.07		0.17	c0.19		c0.01	0.01			0.05
v/s Ratio Perm											
v/c Ratio		0.29		0.61	0.71		0.06	0.03			0.17
Uniform Delay, d1		24.3		25.5	26.3		22.8	22.7			22.2
Progression Factor		1.00		0.71	0.70		1.00	1.00			1.00
Incremental Delay, d2		0.3		5.3	9.5		0.1	0.0			0.4
Delay (s)		24.6		23.3	28.0		22.9	22.7			22.7
Level of Service		C		C	C		C	C			C
Approach Delay (s)		24.6		25.6			22.8			22.7	
Approach LOS		C		C			C			C	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			24.3			HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.36								
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			18.3		
Intersection Capacity Utilization			65.4%			ICU Level of Service				C	
Analysis Period (min)			15								
c	Critical Lane Group										

# HCM Signalized Intersection Capacity Analysis

## 2004: Adams St (PB) & Michigan Ave

# Road Diet Capacity Analysis

## Road Diet Mitigated 2038 OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	790	13	16	628	45	43	41	52	37	23	39
Future Volume (vph)	21	790	13	16	628	45	43	41	52	37	23	39
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.97		1.00	0.98	
Flpb, ped/bikes		1.00			1.00		0.98	1.00		0.97	1.00	
Frt		1.00			0.99		1.00	0.92		1.00	0.91	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3462			3462		1853	1513		1799	1473	
Flt Permitted		0.93			0.93		0.71	1.00		0.68	1.00	
Satd. Flow (perm)		3208			3215		1385	1513		1285	1473	
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.76	0.76	0.76	0.86	0.86	0.86
Adj. Flow (vph)	23	849	14	18	706	51	57	54	68	43	27	45
RTOR Reduction (vph)	0	1	0	0	6	0	0	56	0	0	37	0
Lane Group Flow (vph)	0	885	0	0	769	0	57	66	0	43	35	0
Confl. Peds. (#/hr)	18		24	24		18	26		39	39		26
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	2%	2%	2%
Parking (#/hr)		10			10			10			10	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2201			2206		242	264		224	257	
v/s Ratio Prot								c0.04				0.02
v/s Ratio Perm		c0.28			0.24		0.04			0.03		
v/c Ratio		0.40			0.35		0.24	0.25		0.19	0.14	
Uniform Delay, d1		5.4			5.2		28.4	28.5		28.2	27.9	
Progression Factor		0.93			0.23		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.4		2.3	2.3		1.9	1.1	
Delay (s)		5.5			1.6		30.7	30.7		30.1	29.0	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		5.5			1.6			30.7			29.4	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			7.7				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.37									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			11.1		
Intersection Capacity Utilization			64.0%				ICU Level of Service			B		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis  
2005: Washington St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Road Diet Mitigated 2038 OP Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	14	861	40	28	643	22	21	34	34	45	36	33	
Future Volume (vph)	14	861	40	28	643	22	21	34	34	45	36	33	
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.0			5.0			6.0			6.0		
Lane Util. Factor		0.95			0.95			1.00			1.00		
Frbp, ped/bikes		1.00			1.00			0.98			0.98		
Flpb, ped/bikes		1.00			1.00			0.99			0.98		
Frt		0.99			1.00			0.95			0.96		
Flt Protected		1.00			1.00			0.99			0.98		
Satd. Flow (prot)		3475			3446			1542			1820		
Flt Permitted		0.94			0.89			0.91			0.85		
Satd. Flow (perm)		3272			3060			1423			1575		
Peak-hour factor, PHF	0.89	0.89	0.89	0.94	0.94	0.94	0.81	0.81	0.81	0.92	0.92	0.92	
Adj. Flow (vph)	16	967	45	30	684	23	26	42	42	49	39	36	
RTOR Reduction (vph)	0	4	0	0	3	0	0	28	0	0	18	0	
Lane Group Flow (vph)	0	1024	0	0	734	0	0	82	0	0	106	0	
Confl. Peds. (#/hr)	32		30	30		32	46		43	43		46	
Confl. Bikes (#/hr)			1										
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	
Parking (#/hr)		10			10			10					
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		1			1			2			2		
Permitted Phases	1			1			2			2			
Actuated Green, G (s)		55.0			55.0			14.0			14.0		
Effective Green, g (s)		55.0			55.0			14.0			14.0		
Actuated g/C Ratio		0.69			0.69			0.18			0.18		
Clearance Time (s)		5.0			5.0			6.0			6.0		
Lane Grp Cap (vph)		2249			2103			249			275		
v/s Ratio Prot													
v/s Ratio Perm		c0.31			0.24			0.06			c0.07		
v/c Ratio		0.46			0.35			0.33			0.38		
Uniform Delay, d1		5.7			5.1			28.9			29.2		
Progression Factor		0.27			0.35			1.00			1.00		
Incremental Delay, d2		0.6			0.4			3.5			4.0		
Delay (s)		2.2			2.2			32.4			33.2		
Level of Service		A			A			C			C		
Approach Delay (s)		2.2			2.2			32.4			33.2		
Approach LOS		A			A			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			5.8									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.44										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	11.0
Intersection Capacity Utilization			63.9%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
3001: Huron St & Harriet St/Spring St

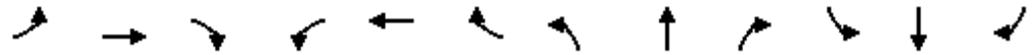
Road Diet Capacity Analysis  
Road Diet Mitigated 2038 OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Traffic Volume (vph)	44	192	0	0	327	29	189	903	251	0	0	0
Future Volume (vph)	44	192	0	0	327	29	189	903	251	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Util. Factor	1.00	0.95			0.95			0.95	1.00			
Frbp, ped/bikes	1.00	1.00			1.00			1.00	0.99			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1894	3800			3747			3766	1678			
Flt Permitted	0.53	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	1049	3800			3747			3766	1678			
Peak-hour factor, PHF	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	49	213	0	0	344	31	199	951	264	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	126	0	0	0
Lane Group Flow (vph)	49	213	0	0	367	0	0	1150	138	0	0	0
Confl. Peds. (#/hr)	5					5	2		1			
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	25.4	25.4			25.4			41.9	41.9			
Effective Green, g (s)	25.4	25.4			25.4			41.9	41.9			
Actuated g/C Ratio	0.32	0.32			0.32			0.52	0.52			
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Grp Cap (vph)	333	1206			1189			1972	878			
v/s Ratio Prot		0.06			c0.10							
v/s Ratio Perm	0.05							0.31	0.08			
v/c Ratio	0.15	0.18			0.31			0.58	0.16			
Uniform Delay, d1	19.5	19.7			20.7			13.1	9.9			
Progression Factor	1.02	1.03			1.00			0.82	1.05			
Incremental Delay, d2	0.9	0.3			0.7			1.1	0.3			
Delay (s)	20.9	20.6			21.3			11.8	10.7			
Level of Service	C	C			C			B	B			
Approach Delay (s)		20.7			21.3			11.6			0.0	
Approach LOS		C			C			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			14.5					HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			80.0					Sum of lost time (s)		12.7		
Intersection Capacity Utilization			68.7%					ICU Level of Service		C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑					↑	↑↑	
Traffic Volume (vph)	0	153	123	289	222	0	0	0	0	86	940	45
Future Volume (vph)	0	153	123	289	222	0	0	0	0	86	940	45
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.93		1.00	1.00					1.00	0.99	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3518		1897	3800					1881	3732	
Flt Permitted		1.00		0.52	1.00					0.95	1.00	
Satd. Flow (perm)		3518		1041	3800					1881	3732	
Peak-hour factor, PHF	0.88	0.88	0.88	0.87	0.87	0.87	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	0	174	140	332	255	0	0	0	0	99	1080	52
RTOR Reduction (vph)	0	109	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	205	0	332	255	0	0	0	0	99	1129	0
Confl. Peds. (#/hr)			5	5								5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		10.9		28.0	28.0					40.6	40.6	
Effective Green, g (s)		10.9		28.0	28.0					40.6	40.6	
Actuated g/C Ratio		0.14		0.35	0.35					0.51	0.51	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		479		485	1330					954	1893	
v/s Ratio Prot		0.06		c0.10	0.07						c0.30	
v/s Ratio Perm				c0.14						0.05		
v/c Ratio		0.43		0.68	0.19					0.10	0.60	
Uniform Delay, d1		31.7		23.3	18.1					10.2	13.9	
Progression Factor		1.00		0.95	0.84					0.58	0.74	
Incremental Delay, d2		0.8		4.1	0.1					0.2	1.2	
Delay (s)		32.5		26.1	15.3					6.1	11.5	
Level of Service		C		C	B					A	B	
Approach Delay (s)		32.5			21.4			0.0			11.1	
Approach LOS		C			C			A			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			17.1		HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				17.2			
Intersection Capacity Utilization			65.1%		ICU Level of Service					C		
Analysis Period (min)			15									

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 3004: Huron St & Catherine St (PB)

# Road Diet Capacity Analysis

## Road Diet Mitigated 2038 OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	20	0	0	1	54	10	968	8	0	0	0
Future Volume (vph)	14	20	0	0	1	54	10	968	8	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.95				
Frbp, ped/bikes		1.00			0.98			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.87			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1955			1699			3755				
Flt Permitted		0.84			1.00			1.00				
Satd. Flow (perm)		1672			1699			3755				
Peak-hour factor, PHF	0.60	0.60	0.60	0.88	0.88	0.88	0.91	0.91	0.91	0.92	0.92	0.92
Adj. Flow (vph)	23	33	0	0	1	61	11	1064	9	0	0	0
RTOR Reduction (vph)	0	0	0	0	55	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	56	0	0	7	0	0	1084	0	0	0	0
Confl. Peds. (#/hr)	5					5	3		1			
Confl. Bikes (#/hr)						1			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		7.9			7.9			61.5				
Effective Green, g (s)		7.9			7.9			61.5				
Actuated g/C Ratio		0.10			0.10			0.77				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		165			167			2886				
v/s Ratio Prot					0.00							
v/s Ratio Perm		c0.03						0.29				
v/c Ratio		0.34			0.04			0.38				
Uniform Delay, d1		33.6			32.6			3.0				
Progression Factor		1.00			1.00			1.46				
Incremental Delay, d2		1.2			0.1			0.3				
Delay (s)		34.8			32.7			4.7				
Level of Service		C			C			A				
Approach Delay (s)		34.8			32.7			4.7			0.0	
Approach LOS		C			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			7.6					HCM 2000 Level of Service		A		
HCM 2000 Volume to Capacity ratio			0.37									
Actuated Cycle Length (s)			80.0					Sum of lost time (s)		10.6		
Intersection Capacity Utilization			43.2%					ICU Level of Service		A		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗								↖↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	189	698	0	0	0	0	0	0	32	445	0
Future Volume (vph)	0	189	698	0	0	0	0	0	0	32	445	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	0	222	821	0	0	0	0	0	0	36	494	0
Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2							
Volume Total (vph)	111	111	821	201	329							
Volume Left (vph)	0	0	0	36	0							
Volume Right (vph)	0	0	821	0	0							
Hadj (s)	0.00	0.00	-0.70	0.12	0.03							
Departure Headway (s)	5.8	5.8	3.2	5.3	5.2							
Degree Utilization, x	0.18	0.18	0.73	0.29	0.47							
Capacity (veh/h)	585	587	1120	667	681							
Control Delay (s)	8.8	8.8	13.1	9.2	11.5							
Approach Delay (s)	12.2				10.6							
Approach LOS	B											
Intersection Summary												
Delay			11.7									
Level of Service			B									
Intersection Capacity Utilization			60.7%			ICU Level of Service		B				
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St & Pearl St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 OP Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	24	108	97	0	0	0	0	0	1142	17
Future Volume (Veh/h)	0	0	24	108	97	0	0	0	0	0	1142	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.60	0.60	0.60	0.75	0.75	0.75	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	40	144	129	0	0	0	0	0	1269	19
Pedestrians								9				
Lane Width (ft)								0.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	1334	1269	644	684	1288	0	1288			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1334	1269	644	684	1288	0	1288			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	90	53	22	100	100			100		
cM capacity (veh/h)	41	170	421	307	165	1091	545			1629		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>WB 2</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>						
Volume Total	40	96	177	634	634	19						
Volume Left	0	96	48	0	0	0						
Volume Right	40	0	0	0	0	19						
cSH	421	307	189	1700	1700	1700						
Volume to Capacity	0.10	0.31	0.94	0.37	0.37	0.01						
Queue Length 95th (ft)	8	33	186	0	0	0						
Control Delay (s)	14.5	22.0	100.4	0.0	0.0	0.0						
Lane LOS	B	C	F									
Approach Delay (s)	14.5	72.9		0.0								
Approach LOS	B	F										
<b>Intersection Summary</b>												
Average Delay			12.8									
Intersection Capacity Utilization			51.2%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 OP Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻						↻↻	
Traffic Volume (veh/h)	0	24	33	35	15	0	0	0	0	106	1016	21
Future Volume (Veh/h)	0	24	33	35	15	0	0	0	0	106	1016	21
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.92	0.92	0.92	0.93	0.93	0.93
Hourly flow rate (vph)	0	25	35	41	18	0	0	0	0	114	1092	23
Pedestrians		5			3			7				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.80	0.80	0.80	0.80	0.80		0.80					
vC, conflicting volume	1346	1340	570	832	1351	3	1120			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	923	915	0	278	930	3	640			3		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	88	96	90	91	100	100			93		
cM capacity (veh/h)	158	202	865	425	196	1077	757			1628		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>	<b>SB 2</b>								
Volume Total	60	59	660	569								
Volume Left	0	41	114	0								
Volume Right	35	0	0	23								
cSH	365	313	1628	1700								
Volume to Capacity	0.16	0.19	0.07	0.33								
Queue Length 95th (ft)	15	17	6	0								
Control Delay (s)	16.8	19.2	1.9	0.0								
Lane LOS	C	C	A									
Approach Delay (s)	16.8	19.2	1.0									
Approach LOS	C	C										
<b>Intersection Summary</b>												
Average Delay			2.5									
Intersection Capacity Utilization			46.2%	ICU Level of Service						A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 OP Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↕↕		
Traffic Volume (veh/h)	43	0	44	984	0	0
Future Volume (Veh/h)	43	0	44	984	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	54	0	47	1047	0	0
Pedestrians	5				1	
Lane Width (ft)	12.0				0.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.92					
vC, conflicting volume	624	5	5			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	406	5	5			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	100	97			
cM capacity (veh/h)	512	1078	1615			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>			
Volume Total	54	396	698			
Volume Left	54	47	0			
Volume Right	0	0	0			
cSH	512	1615	1700			
Volume to Capacity	0.11	0.03	0.41			
Queue Length 95th (ft)	9	2	0			
Control Delay (s)	12.9	1.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.9	0.4				
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			1.0			
Intersection Capacity Utilization			37.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

Road Diet Capacity Analysis  
 Road Diet Mitigated 2038 OP Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	122	1053	0	0
Future Volume (Veh/h)	0	0	122	1053	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	0	139	1197	0	0
Pedestrians	8					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.79					
vC, conflicting volume	884	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	308	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	91			
cM capacity (veh/h)	478	1078	1625			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	538	798				
Volume Left	139	0				
Volume Right	0	0				
cSH	1625	1700				
Volume to Capacity	0.09	0.47				
Queue Length 95th (ft)	7	0				
Control Delay (s)	2.5	0.0				
Lane LOS	A					
Approach Delay (s)	1.0					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			1.0			
Intersection Capacity Utilization			34.4%	ICU Level of Service		A
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis  
1002: Summit & Washtenaw Ave

Road Diet Capacity Analysis  
Future Mitigated 2038 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  						 			 	
Traffic Volume (vph)	9	1928	94	0	0	0	0	71	28	41	44	0
Future Volume (vph)	9	1928	94	0	0	0	0	71	28	41	44	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.4						10.8			10.8	
Lane Util. Factor		0.91						1.00			1.00	
Frbp, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		0.99						0.96			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		5413						1614			1925	
Flt Permitted		1.00						1.00			0.79	
Satd. Flow (perm)		5413						1614			1551	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.82	0.82	0.82	0.67	0.67	0.67
Adj. Flow (vph)	10	2191	107	0	0	0	0	87	34	61	66	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	2301	0	0	0	0	0	116	0	0	127	0
Confl. Peds. (#/hr)	4		5						24	24		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)								10				
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		1						2			2	
Permitted Phases	1									2		
Actuated Green, G (s)		46.6						17.2			17.2	
Effective Green, g (s)		46.6						17.2			17.2	
Actuated g/C Ratio		0.58						0.21			0.21	
Clearance Time (s)		5.4						10.8			10.8	
Lane Grp Cap (vph)		3153						347			333	
v/s Ratio Prot								0.07				
v/s Ratio Perm		0.43									c0.08	
v/c Ratio		0.73						0.34			0.38	
Uniform Delay, d1		12.1						26.6			26.9	
Progression Factor		1.00						1.00			1.30	
Incremental Delay, d2		1.5						2.6			3.3	
Delay (s)		13.7						29.2			38.1	
Level of Service		B						C			D	
Approach Delay (s)		13.7			0.0			29.2			38.1	
Approach LOS		B			A			C			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			15.6					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			80.0					Sum of lost time (s)		16.2		
Intersection Capacity Utilization			64.8%					ICU Level of Service		C		
Analysis Period (min)			15									

c Critical Lane Group

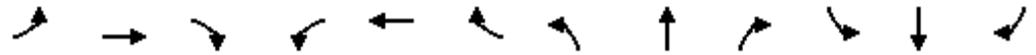
HCM Signalized Intersection Capacity Analysis  
 1004: Ballard St (PB) & Washtenaw Ave

Road Diet Capacity Analysis  
 Future Mitigated 2038 PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	35	1545	32	0	0	0	0	59	16	18	44	0	
Future Volume (vph)	35	1545	32	0	0	0	0	59	16	18	44	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.3						5.7		5.7	5.7		
Lane Util. Factor		0.95						1.00		1.00	1.00		
Frbp, ped/bikes		1.00						1.00		1.00	1.00		
Flpb, ped/bikes		1.00						1.00		0.99	1.00		
Frt		1.00						0.97		1.00	1.00		
Flt Protected		1.00						1.00		0.95	1.00		
Satd. Flow (prot)		3782						1936		1889	2000		
Flt Permitted		1.00						1.00		0.70	1.00		
Satd. Flow (perm)		3782						1936		1394	2000		
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.87	0.87	0.87	0.72	0.72	0.72	
Adj. Flow (vph)	37	1644	34	0	0	0	0	68	18	25	61	0	
RTOR Reduction (vph)	0	1	0	0	0	0	0	14	0	0	0	0	
Lane Group Flow (vph)	0	1714	0	0	0	0	0	72	0	25	61	0	
Confl. Peds. (#/hr)	7		6						8	8			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type	custom	NA						NA		Perm	NA		
Protected Phases	1	1						2			2		
Permitted Phases	1									2			
Actuated Green, G (s)		61.2						7.8		7.8	7.8		
Effective Green, g (s)		61.2						7.8		7.8	7.8		
Actuated g/C Ratio		0.77						0.10		0.10	0.10		
Clearance Time (s)		5.3						5.7		5.7	5.7		
Vehicle Extension (s)		0.2						3.0		3.0	3.0		
Lane Grp Cap (vph)		2893						188		135	195		
v/s Ratio Prot		c0.45						c0.04			0.03		
v/s Ratio Perm										0.02			
v/c Ratio		0.59						0.39		0.19	0.31		
Uniform Delay, d1		4.0						33.9		33.2	33.6		
Progression Factor		0.24						1.00		1.00	1.00		
Incremental Delay, d2		0.6						1.3		0.7	0.9		
Delay (s)		1.6						35.2		33.8	34.5		
Level of Service		A						D		C	C		
Approach Delay (s)		1.6			0.0			35.2			34.3		
Approach LOS		A			A			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			4.6									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.57										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	11.0
Intersection Capacity Utilization			61.8%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
 1013: Hamilton St (PB) & Michigan Ave

Road Diet Capacity Analysis  
 Future Mitigated 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	
Traffic Volume (vph)	0	525	149	320	591	0	0	0	0	584	1316	43
Future Volume (vph)	0	525	149	320	591	0	0	0	0	584	1316	43
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.2		5.2	5.2					6.8	6.8	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.97		1.00	1.00					1.00	1.00	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3653		1899	3515					1900	3779	
Flt Permitted		1.00		0.19	1.00					0.95	1.00	
Satd. Flow (perm)		3653		374	3515					1900	3779	
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	0	577	164	340	629	0	0	0	0	649	1462	48
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	741	0	340	629	0	0	0	0	649	1507	0
Confl. Peds. (#/hr)			12	12						10		9
Confl. Bikes (#/hr)			1									1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)					10							
Turn Type		NA		pm+pt	NA					custom		NA
Protected Phases		1		2	1 2					3		3
Permitted Phases				1 2						3		
Actuated Green, G (s)		21.4		32.2	37.4					30.6		30.6
Effective Green, g (s)		21.4		32.2	37.4					30.6		30.6
Actuated g/C Ratio		0.27		0.40	0.47					0.38		0.38
Clearance Time (s)		5.2		5.2						6.8		6.8
Vehicle Extension (s)		3.0		3.0						0.2		0.2
Lane Grp Cap (vph)		977		356	1643					726		1445
v/s Ratio Prot		0.20		c0.13	0.18					0.34		c0.40
v/s Ratio Perm				c0.26								
v/c Ratio		0.76		0.96	0.38					0.89		1.04
Uniform Delay, d1		26.9		28.3	13.8					23.2		24.7
Progression Factor		1.00		0.68	0.38					1.00		1.00
Incremental Delay, d2		3.4		34.5	0.1					15.7		35.7
Delay (s)		30.3		53.9	5.3					38.9		60.4
Level of Service		C		D	A					D		E
Approach Delay (s)		30.3			22.4			0.0				53.9
Approach LOS		C			C			A				D

Intersection Summary			
HCM 2000 Control Delay	41.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1016: Huron St (PB) & Cross St (PB)/Cross St

Road Diet Capacity Analysis  
 Future Mitigated 2038 PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					↑	↗		↑↑	↘				
Traffic Volume (vph)	0	0	0	0	285	18	0	436	409	0	0	0	
Future Volume (vph)	0	0	0	0	285	18	0	436	409	0	0	0	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)					5.5	5.5		5.6					
Lane Util. Factor					1.00	1.00		0.95					
Frbp, ped/bikes					1.00	1.00		0.99					
Flpb, ped/bikes					1.00	1.00		1.00					
Frt					1.00	0.85		0.93					
Flt Protected					1.00	1.00		1.00					
Satd. Flow (prot)					2000	1700		3484					
Flt Permitted					1.00	1.00		1.00					
Satd. Flow (perm)					2000	1700		3484					
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	0	0	328	21	0	459	431	0	0	0	
RTOR Reduction (vph)	0	0	0	0	0	11	0	0	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	328	10	0	890	0	0	0	0	
Confl. Peds. (#/hr)						19		3					
Confl. Bikes (#/hr)						1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type					NA	custom		NA					
Protected Phases					2	2		8					
Permitted Phases						2							
Actuated Green, G (s)					36.5	36.5		32.4					
Effective Green, g (s)					36.5	36.5		32.4					
Actuated g/C Ratio					0.46	0.46		0.40					
Clearance Time (s)					5.5	5.5		5.6					
Lane Grp Cap (vph)					912	775		1411					
v/s Ratio Prot					c0.16	0.01		c0.26					
v/s Ratio Perm													
v/c Ratio					0.36	0.01		0.63					
Uniform Delay, d1					14.1	11.9		19.0					
Progression Factor					1.00	1.00		1.27					
Incremental Delay, d2					1.1	0.0		1.6					
Delay (s)					15.3	11.9		25.8					
Level of Service					B	B		C					
Approach Delay (s)		0.0			15.1			25.8			0.0		
Approach LOS		A			B			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			22.8		HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.49										
Actuated Cycle Length (s)			80.0		Sum of lost time (s)				11.1				
Intersection Capacity Utilization			55.4%		ICU Level of Service				B				
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
1023: Huron St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Future Mitigated 2038 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Traffic Volume (vph)	172	1120	0	0	750	416	141	837	213	0	0	0
Future Volume (vph)	172	1120	0	0	750	416	141	837	213	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.0	5.0			5.0	5.0	5.6	5.6				
Lane Util. Factor	1.00	0.95			0.91	0.91	1.00	0.95				
Frbp, ped/bikes	1.00	1.00			1.00	0.94	1.00	1.00				
Flpb, ped/bikes	1.00	1.00			1.00	1.00	0.98	1.00				
Frt	1.00	1.00			0.99	0.85	1.00	0.97				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1898	3515			3310	1241	1867	3666				
Flt Permitted	0.15	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	299	3515			3310	1241	1867	3666				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	183	1191	0	0	798	443	153	910	232	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	183	1191	0	0	869	372	153	1142	0	0	0	0
Confl. Peds. (#/hr)	37					37	19		13			
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10	10						
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	2	1 2			1			3				
Permitted Phases	1 2					1	3					
Actuated Green, G (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Effective Green, g (s)	35.0	40.0			27.0	27.0	29.4	29.4				
Actuated g/C Ratio	0.44	0.50			0.34	0.34	0.37	0.37				
Clearance Time (s)	5.0				5.0	5.0	5.6	5.6				
Lane Grp Cap (vph)	290	1757			1117	418	686	1347				
v/s Ratio Prot	0.06	c0.34			0.26			c0.31				
v/s Ratio Perm	0.21					c0.30	0.08					
v/c Ratio	0.63	0.68			0.78	0.89	0.22	0.85				
Uniform Delay, d1	27.2	15.1			23.8	25.1	17.4	23.2				
Progression Factor	0.74	0.63			1.00	1.00	1.22	1.08				
Incremental Delay, d2	8.4	1.8			5.4	23.6	0.7	6.6				
Delay (s)	28.6	11.4			29.2	48.7	21.9	31.6				
Level of Service	C	B			C	D	C	C				
Approach Delay (s)		13.6			35.0			30.5			0.0	
Approach LOS		B			D			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.0					HCM 2000 Level of Service			C	
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			80.0					Sum of lost time (s)		15.6		
Intersection Capacity Utilization			75.2%					ICU Level of Service			D	
Analysis Period (min)			15									
c	Critical Lane Group											

# HCM Signalized Intersection Capacity Analysis

## 2000: Michigan Ave & Congress St & Ballard St

Road Diet Capacity Analysis  
Future Mitigated 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL	NER
Lane Configurations		↕		↕	↕		↕	↕			↕
Traffic Volume (vph)	20	129	0	651	282	43	37	26	12	0	650
Future Volume (vph)	20	129	0	651	282	43	37	26	12	0	650
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00			0.88
Frbp, ped/bikes		1.00		1.00	0.99		1.00	1.00			1.00
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00
Frt		1.00		1.00	0.99		1.00	0.85			0.85
Flt Protected		0.99		0.95	0.98		0.95	1.00			1.00
Satd. Flow (prot)		1987		1805	1555		1900	1700			2962
Flt Permitted		0.99		0.95	0.98		0.95	1.00			1.00
Satd. Flow (perm)		1987		1805	1555		1900	1700			2962
Peak-hour factor, PHF	0.81	0.81	0.81	0.93	0.93	0.93	0.60	0.60	0.60	0.95	0.95
Adj. Flow (vph)	25	159	0	700	303	46	62	43	20	0	684
RTOR Reduction (vph)	0	0	0	0	2	0	0	53	0	0	332
Lane Group Flow (vph)	0	184	0	518	529	0	62	11	0	0	352
Confl. Peds. (#/hr)	16		5	5		16	1		3		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Parking (#/hr)					10						
Turn Type	Split	NA		Split	NA		Prot	Prot			Over
Protected Phases	3	3		1	1		2	2			1
Permitted Phases											
Actuated Green, G (s)		20.0		61.7	61.7		20.0	20.0			61.7
Effective Green, g (s)		20.0		61.7	61.7		20.0	20.0			61.7
Actuated g/C Ratio		0.17		0.51	0.51		0.17	0.17			0.51
Clearance Time (s)		5.9		6.1	6.1		6.3	6.3			6.1
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		331		928	799		316	283			1522
v/s Ratio Prot		c0.09		0.29	c0.34		c0.03	0.01			0.12
v/s Ratio Perm											
v/c Ratio		0.56		0.56	0.66		0.20	0.04			0.23
Uniform Delay, d1		45.9		19.9	21.5		43.1	41.9			16.1
Progression Factor		1.00		1.00	1.00		1.00	1.00			1.00
Incremental Delay, d2		2.0		2.4	4.3		0.3	0.1			0.4
Delay (s)		47.9		22.3	25.7		43.4	42.0			16.4
Level of Service		D		C	C		D	D			B
Approach Delay (s)		47.9			24.0		42.7			16.4	
Approach LOS		D			C		D			B	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			24.8			HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.55								
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			18.3		
Intersection Capacity Utilization			90.7%			ICU Level of Service				E	
Analysis Period (min)			15								
c Critical Lane Group											

HCM Signalized Intersection Capacity Analysis  
2004: Adams St (PB) & Michigan Ave

Road Diet Capacity Analysis  
Future Mitigated 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕		↕	↕	
Traffic Volume (vph)	0	1176	10	0	817	33	20	37	41	59	32	44
Future Volume (vph)	0	1176	10	0	817	33	20	37	41	59	32	44
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	0.97		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		0.96	1.00	
Frt		1.00			0.99		1.00	0.92		1.00	0.91	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3509			3452		1878	1520		1829	1531	
Flt Permitted		1.00			1.00		0.69	1.00		0.69	1.00	
Satd. Flow (perm)		3509			3452		1370	1520		1321	1531	
Peak-hour factor, PHF	0.95	0.95	0.95	0.91	0.91	0.91	0.71	0.71	0.71	0.77	0.77	0.77
Adj. Flow (vph)	0	1238	11	0	898	36	28	52	58	77	42	57
RTOR Reduction (vph)	0	1	0	0	3	0	0	48	0	0	47	0
Lane Group Flow (vph)	0	1248	0	0	931	0	28	62	0	77	52	0
Confl. Peds. (#/hr)	20		14	14		20	13		42	42		13
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		10			10			10			10	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Actuated Green, G (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Effective Green, g (s)		54.9			54.9		14.0	14.0		14.0	14.0	
Actuated g/C Ratio		0.69			0.69		0.18	0.18		0.18	0.18	
Clearance Time (s)		5.1			5.1		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		2408			2368		239	266		231	267	
v/s Ratio Prot		c0.36			0.27			0.04			0.03	
v/s Ratio Perm							0.02			c0.06		
v/c Ratio		0.52			0.39		0.12	0.23		0.33	0.19	
Uniform Delay, d1		6.1			5.4		27.8	28.4		28.9	28.2	
Progression Factor		0.67			0.15		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.5		1.0	2.1		3.8	1.6	
Delay (s)		4.6			1.2		28.8	30.4		32.8	29.8	
Level of Service		A			A		C	C		C	C	
Approach Delay (s)		4.6			1.2			30.1			31.1	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			6.6				HCM 2000 Level of Service				A	
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)				11.1	
Intersection Capacity Utilization			59.6%				ICU Level of Service				B	
Analysis Period (min)			15									

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 2005: Washington St (PB) & Michigan Ave

# Road Diet Capacity Analysis

## Future Mitigated 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕↕			↕↕			↕			↕		
Traffic Volume (vph)	0	1191	56	0	862	31	17	40	39	93	32	43	
Future Volume (vph)	0	1191	56	0	862	31	17	40	39	93	32	43	
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total Lost time (s)		5.0			5.0			6.0			6.0		
Lane Util. Factor		0.95			0.95			1.00			1.00		
Frbp, ped/bikes		1.00			1.00			0.98			0.98		
Flpb, ped/bikes		1.00			1.00			0.99			0.99		
Frt		0.99			0.99			0.95			0.97		
Flt Protected		1.00			1.00			0.99			0.97		
Satd. Flow (prot)		3478			3485			1549			1808		
Flt Permitted		1.00			1.00			0.91			0.74		
Satd. Flow (perm)		3478			3485			1427			1384		
Peak-hour factor, PHF	0.93	0.93	0.93	0.95	0.95	0.95	0.68	0.68	0.68	0.87	0.87	0.87	
Adj. Flow (vph)	0	1281	60	0	907	33	25	59	57	107	37	49	
RTOR Reduction (vph)	0	4	0	0	3	0	0	31	0	0	16	0	
Lane Group Flow (vph)	0	1337	0	0	937	0	0	110	0	0	177	0	
Confl. Peds. (#/hr)	35		31	31		35	76		28	28		76	
Confl. Bikes (#/hr)			1			1						1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Parking (#/hr)		10			10			10					
Turn Type		NA			NA		Perm	NA		Perm	NA		
Protected Phases		1			1			2			2		
Permitted Phases	1			1			2			2			
Actuated Green, G (s)		55.0			55.0			14.0			14.0		
Effective Green, g (s)		55.0			55.0			14.0			14.0		
Actuated g/C Ratio		0.69			0.69			0.18			0.18		
Clearance Time (s)		5.0			5.0			6.0			6.0		
Lane Grp Cap (vph)		2391			2395			249			242		
v/s Ratio Prot		c0.38			0.27								
v/s Ratio Perm								0.08			c0.13		
v/c Ratio		0.56			0.39			0.44			0.73		
Uniform Delay, d1		6.3			5.3			29.5			31.2		
Progression Factor		0.66			0.36			1.00			1.00		
Incremental Delay, d2		0.8			0.3			5.6			17.8		
Delay (s)		5.0			2.3			35.2			49.0		
Level of Service		A			A			D			D		
Approach Delay (s)		5.0			2.3			35.2			49.0		
Approach LOS		A			A			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			8.9									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.59										
Actuated Cycle Length (s)			80.0									Sum of lost time (s)	11.0
Intersection Capacity Utilization			59.8%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
3001: Huron St & Harriet St/Spring St

Road Diet Capacity Analysis  
Future Mitigated 2038 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Traffic Volume (vph)	35	337	0	0	498	39	211	1055	384	0	0	0
Future Volume (vph)	35	337	0	0	498	39	211	1055	384	0	0	0
Ideal Flow (vphp)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Util. Factor	1.00	0.95			0.95			0.95	1.00			
Frbp, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1898	3800			3755			3767	1700			
Flt Permitted	0.34	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	674	3800			3755			3767	1700			
Peak-hour factor, PHF	0.83	0.83	0.83	0.86	0.86	0.86	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	42	406	0	0	579	45	222	1111	404	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	116	0	0	0
Lane Group Flow (vph)	42	406	0	0	617	0	0	1333	288	0	0	0
Confl. Peds. (#/hr)	2					2	3					
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	27.4	27.4			27.4			39.9	39.9			
Effective Green, g (s)	27.4	27.4			27.4			39.9	39.9			
Actuated g/C Ratio	0.34	0.34			0.34			0.50	0.50			
Clearance Time (s)	6.6	6.6			6.6			6.1	6.1			
Lane Grp Cap (vph)	230	1301			1286			1878	847			
v/s Ratio Prot		0.11			c0.16							
v/s Ratio Perm	0.06							0.35	0.17			
v/c Ratio	0.18	0.31			0.48			0.71	0.34			
Uniform Delay, d1	18.4	19.4			20.7			15.6	12.1			
Progression Factor	1.40	1.42			1.00			1.04	1.40			
Incremental Delay, d2	1.7	0.6			1.3			2.0	0.9			
Delay (s)	27.5	28.0			22.0			18.2	17.9			
Level of Service	C	C			C			B	B			
Approach Delay (s)		28.0			22.0			18.1			0.0	
Approach LOS		C			C			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			20.5									C
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			80.0								12.7	
Intersection Capacity Utilization			71.7%									C
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
3003: Hamilton St & Harriet St

Road Diet Capacity Analysis  
Future Mitigated 2038 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↔	↑↑					↔	↑↑	
Traffic Volume (vph)	0	245	176	407	326	0	0	0	0	174	1614	43
Future Volume (vph)	0	245	176	407	326	0	0	0	0	174	1614	43
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.8		5.8	5.8					5.6	5.6	
Lane Util. Factor		0.95		1.00	0.95					1.00	0.95	
Frbp, ped/bikes		0.99		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		0.94		1.00	1.00					1.00	1.00	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3520		1895	3800					1898	3783	
Flt Permitted		1.00		0.39	1.00					0.95	1.00	
Satd. Flow (perm)		3520		781	3800					1898	3783	
Peak-hour factor, PHF	0.89	0.89	0.89	0.82	0.82	0.82	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	0	275	198	496	398	0	0	0	0	183	1699	45
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	460	0	496	398	0	0	0	0	183	1742	0
Confl. Peds. (#/hr)			14	14						1		2
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		4		3	8 3						2	
Permitted Phases				8 3						2		
Actuated Green, G (s)		17.2		31.2	31.2					37.4	37.4	
Effective Green, g (s)		17.2		31.2	31.2					37.4	37.4	
Actuated g/C Ratio		0.21		0.39	0.39					0.47	0.47	
Clearance Time (s)		5.8		5.8						5.6	5.6	
Vehicle Extension (s)		4.0		4.0						0.2	0.2	
Lane Grp Cap (vph)		756		418	1482					887	1768	
v/s Ratio Prot		0.13		c0.12	0.10						c0.46	
v/s Ratio Perm				c0.34						0.10		
v/c Ratio		0.61		1.19	0.27					0.21	0.99	
Uniform Delay, d1		28.4		25.4	16.6					12.6	21.0	
Progression Factor		1.00		0.66	0.56					0.50	0.52	
Incremental Delay, d2		1.6		103.6	0.1					0.3	12.2	
Delay (s)		30.0		120.5	9.3					6.5	23.2	
Level of Service		C		F	A					A	C	
Approach Delay (s)		30.0			71.0			0.0			21.6	
Approach LOS		C			E			A			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			36.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			1.15									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			17.2			
Intersection Capacity Utilization			93.7%			ICU Level of Service			F			
Analysis Period (min)			15									
c	Critical Lane Group											

# HCM Signalized Intersection Capacity Analysis

## 3004: Huron St & Catherine St (PB)

# Road Diet Capacity Analysis

## Future Mitigated 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕				
Traffic Volume (vph)	16	29	0	0	9	44	5	1094	7	0	0	0
Future Volume (vph)	16	29	0	0	9	44	5	1094	7	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)		5.3			5.3			5.3				
Lane Util. Factor		1.00			1.00			0.95				
Frbp, ped/bikes		1.00			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		1.00			0.89			1.00				
Flt Protected		0.98			1.00			1.00				
Satd. Flow (prot)		1964			1755			3757				
Flt Permitted		0.85			1.00			1.00				
Satd. Flow (perm)		1705			1755			3757				
Peak-hour factor, PHF	0.77	0.77	0.77	0.73	0.73	0.73	0.89	0.89	0.89	0.92	0.92	0.92
Adj. Flow (vph)	21	38	0	0	12	60	6	1229	8	0	0	0
RTOR Reduction (vph)	0	0	0	0	54	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	59	0	0	18	0	0	1243	0	0	0	0
Confl. Peds. (#/hr)	1						1	1	5			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		2			2			1				
Permitted Phases	2						1					
Actuated Green, G (s)		8.0			8.0			61.4				
Effective Green, g (s)		8.0			8.0			61.4				
Actuated g/C Ratio		0.10			0.10			0.77				
Clearance Time (s)		5.3			5.3			5.3				
Vehicle Extension (s)		3.0			3.0			0.2				
Lane Grp Cap (vph)		170			175			2883				
v/s Ratio Prot					0.01							
v/s Ratio Perm		c0.03						0.33				
v/c Ratio		0.35			0.10			0.43				
Uniform Delay, d1		33.6			32.7			3.2				
Progression Factor		1.00			1.00			0.22				
Incremental Delay, d2		1.2			0.3			0.4				
Delay (s)		34.8			33.0			1.1				
Level of Service		C			C			A				
Approach Delay (s)		34.8			33.0			1.1			0.0	
Approach LOS		C			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			4.2									A
HCM 2000 Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			80.0								10.6	
Intersection Capacity Utilization			46.9%									A
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis  
 9000: Hamilton St & Washtenaw Ave

Road Diet Capacity Analysis  
 Future Mitigated 2038 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑								↑↑	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	385	1195	0	0	0	0	0	0	34	722	0
Future Volume (vph)	0	385	1195	0	0	0	0	0	0	34	722	0
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	0	405	1258	0	0	0	0	0	0	40	849	0
Direction, Lane #	EB 1	EB 2	EB 3	SB 1	SB 2							
Volume Total (vph)	203	203	1258	323	566							
Volume Left (vph)	0	0	0	40	0							
Volume Right (vph)	0	0	1258	0	0							
Hadj (s)	0.00	0.00	-0.70	0.06	0.00							
Departure Headway (s)	6.7	6.7	3.2	5.8	5.8							
Degree Utilization, x	0.38	0.38	1.12	0.52	0.91							
Capacity (veh/h)	524	524	1133	607	619							
Control Delay (s)	12.4	12.4	79.7	13.8	39.2							
Approach Delay (s)	63.4				30.0							
Approach LOS	F				D							
Intersection Summary												
Delay			51.7									
Level of Service			F									
Intersection Capacity Utilization			97.1%	ICU Level of Service	F							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9001: Hamilton St (PB)/Hamilton St & Pearl St

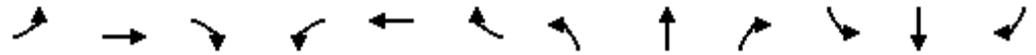
Road Diet Capacity Analysis  
 Future Mitigated 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	28	56	61	0	0	0	0	0	1936	14
Future Volume (Veh/h)	0	0	28	56	61	0	0	0	0	0	1936	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.65	0.65	0.79	0.79	0.79	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	43	71	77	0	0	0	0	0	2104	15
Pedestrians		6						3				
Lane Width (ft)		12.0						0.0				
Walking Speed (ft/s)		4.0						4.0				
Percent Blockage		1						0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								435				
pX, platoon unblocked												
vC, conflicting volume	2148	2110	1061	1098	2125	0	2125			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2148	2110	1061	1098	2125	0	2125			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	81	48	0	100	100			100		
cM capacity (veh/h)	0	51	222	136	50	1091	259			1636		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>WB 2</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>						
Volume Total	43	47	101	1052	1052	15						
Volume Left	0	47	24	0	0	0						
Volume Right	43	0	0	0	0	15						
cSH	222	136	59	1700	1700	1700						
Volume to Capacity	0.19	0.35	1.70	0.62	0.62	0.01						
Queue Length 95th (ft)	17	35	232	0	0	0						
Control Delay (s)	25.1	44.8	491.9	0.0	0.0	0.0						
Lane LOS	D	E	F									
Approach Delay (s)	25.1	348.9		0.0								
Approach LOS	D	F										
<b>Intersection Summary</b>												
Average Delay			22.8									
Intersection Capacity Utilization			68.5%		ICU Level of Service					C		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9002: Hamilton St/Hamilton St (PB) & Ferris St

Road Diet Capacity Analysis  
 Future Mitigated 2038 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻						↻↻	
Traffic Volume (veh/h)	0	25	32	54	28	0	0	0	0	117	1560	21
Future Volume (Veh/h)	0	25	32	54	28	0	0	0	0	117	1560	21
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.69	0.69	0.69	0.76	0.76	0.76	0.92	0.92	0.92	0.93	0.93	0.93
Hourly flow rate (vph)	0	36	46	71	37	0	0	0	0	126	1677	23
Pedestrians		4			3			7				
Lane Width (ft)		12.0			12.0			0.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											450	
pX, platoon unblocked	0.63	0.63	0.63	0.63	0.63		0.63					
vC, conflicting volume	1963	1948	861	1164	1959	3	1704			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1342	1317	0	65	1335	3	928			3		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	61	93	80	58	100	100			92		
cM capacity (veh/h)	45	91	680	351	89	1083	465			1628		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>	<b>SB 2</b>								
Volume Total	82	108	964	862								
Volume Left	0	71	126	0								
Volume Right	46	0	0	23								
cSH	177	175	1628	1700								
Volume to Capacity	0.46	0.62	0.08	0.51								
Queue Length 95th (ft)	55	86	6	0								
Control Delay (s)	41.7	54.2	1.9	0.0								
Lane LOS	E	F	A									
Approach Delay (s)	41.7	54.2	1.0									
Approach LOS	E	F										
<b>Intersection Summary</b>												
Average Delay			5.5									
Intersection Capacity Utilization			62.4%	ICU Level of Service						B		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9003: Huron St/Huron St (PB) & Ferris St

Road Diet Capacity Analysis  
 Future Mitigated 2038 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	36	0	27	1439	0	0
Future Volume (Veh/h)	36	0	27	1439	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.60	0.60	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	60	0	28	1515	0	0
Pedestrians	8				1	
Lane Width (ft)	12.0				0.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				857	448	
pX, platoon unblocked	0.89					
vC, conflicting volume	822	8	8			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	551	8	8			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	100	98			
cM capacity (veh/h)	407	1071	1615			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>			
Volume Total	60	533	1010			
Volume Left	60	28	0			
Volume Right	0	0	0			
cSH	407	1615	1700			
Volume to Capacity	0.15	0.02	0.59			
Queue Length 95th (ft)	13	1	0			
Control Delay (s)	15.4	0.6	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.4	0.2				
Approach LOS	C					
<b>Intersection Summary</b>						
Average Delay			0.8			
Intersection Capacity Utilization			48.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 9004: Huron St (PB)/Huron St & Pearl St

Road Diet Capacity Analysis  
 Future Mitigated 2038 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕↕		
Traffic Volume (veh/h)	0	0	157	1240	0	0
Future Volume (Veh/h)	0	0	157	1240	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	0	178	1409	0	0
<b>Pedestrians</b>						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	430					
pX, platoon unblocked	0.73					
vC, conflicting volume	1060	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	89			
cM capacity (veh/h)	405	1091	1636			
<b>Direction, Lane #</b>	<b>NB 1</b>	<b>NB 2</b>				
Volume Total	648	939				
Volume Left	178	0				
Volume Right	0	0				
cSH	1636	1700				
Volume to Capacity	0.11	0.55				
Queue Length 95th (ft)	9	0				
Control Delay (s)	2.9	0.0				
Lane LOS	A					
Approach Delay (s)	1.2					
Approach LOS						
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization			40.2%	ICU Level of Service	A	
Analysis Period (min)			15			

*Appendix M*  
*Signal Timing Permits*

# TRAFFIC SIGNAL TIMING PERMIT

APPROACH	PHASE	1	2	3	4	5	6	7	8				TIMING INSTALLED	
	EB	WB Left	SB										REMARKS CLEARANCE VALUES UPDATED BY WSP AS PART OF JN 201868OPS.	
MINIMUM GREEN		10	7	7										
PASSAGE		0.0	0.0	0.0										
MAXIMUM NO. 1		34	14	33										
MAXIMUM NO. 2		0	0	0										
YELLOW CHANGE		3.2	3.2	3.0										
RED CLEARANCE		2.0	2.0	3.8										
WALK		7	0	7										
PEDESTRIAN CLEARANCE		14	0	17										
EXTENDED PED. CLEARANCE		0	0	2										
REST IN WALK		0	0	0										
INITIALIZATION		4	1	1										
NON-ACT RESPONSE		0	0	0										
VEHICLE RECALL		3	3	3										
PEDESTRIAN RECALL		2	0	0										
NON-LOCK MEMORY		0	0	0										
DUAL ENTRY		0	0	0										
										O1	O2	O3	PREPARED BY: DBC	DATE: 07/11/18
DIAL 1	SPLIT 1	CYCLE 80	34	14	32					47			FLASH HOURS:	
DIAL 2	SPLIT 1	80	34	14	32					49			<input type="text"/> to <input type="text"/>	DAILY <input type="checkbox"/> NONE <input checked="" type="checkbox"/>
DIAL 3	SPLIT 1	80	33	14	33					42			<input type="text"/>	
DIAL	SPLIT													
DIAL	SPLIT													
DIAL	SPLIT													
		MODE	1	0	0								NIGHT FLASH:	
													FY = None	FR = None
PHASE			*Hours of Operation*										CONFLICT FLASH:	
1 EB US-12BR (Michigan Avenue)			D1/S1/O1: Normal										FY = US-12BR (Michigan) FR = M-17 (Hamilton St)	
2 WB US-12BR (Michigan Avenue) Left			D2/S1/O1: AM Peak 06:00 - 10:00 Monday - Friday											
3 SB M-17 (Hamilton Street)			D3/S1/O1: PM Peak 15:00 - 19:00 Monday - Friday											
4													CONTROLLER TYPE:	
5													<input checked="" type="checkbox"/> EPAC	PRE-EMPT <input type="checkbox"/>
6													<input type="checkbox"/> Other:	COUNTDOWN PEDS <input type="checkbox"/>
7													LOCATION:	
8													US-12BR (Michigan Ave) at M-17 (Hamilton St)	
													CITY/TWP: Ypsilanti	
													COUNTY : Washtenaw	
													MILE POINT	CONTROL SECTION-SPOT #
													3.63	81081-01-013
													Job # (If Applicable): 201868OPS	

## ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING							RING AND BARRIER STRUCTURE													
<b>Phase # / Description</b>  Phase #2 / WB US-12BR (Michigan Ave) Left  Controller Type: <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other:			<i>Permissive-Protected</i>		<i>Protected-Only</i>			B1			B2			B3			B4				
			Lead	Lag	Split	Lead	Lag	R1	1	2		3									
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R2													
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R3													
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R4													
System Type: <input checked="" type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 Address: <input type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other:  If TBC, Synch by: <input type="checkbox"/> TOD <input type="checkbox"/> Event  Interconnect Type: <input type="checkbox"/> Hardwire <input type="checkbox"/> Fiber-Optic <input type="checkbox"/> Radio <input type="checkbox"/> Phone Drop <input type="checkbox"/> None <input type="checkbox"/> Other:  If Phone Drop, Phone #  Controller Status: <input type="checkbox"/> Master <input type="checkbox"/> Slave <input type="checkbox"/> Isolated <input type="checkbox"/> TBC  If Slave, Master Location:  Master Spot # :	VEHICULAR AND PEDESTRIAN DETECTION												DISAPPEARING LEGEND CASE SIGNS								
			<i>Vehicular Detection</i>						<i>Pedestrian Detection</i>												
			Movements and Call Delay (s)			Type			Push-Button Crossing Locations												
			Left	Thru	Right	Loop	Video	Other													
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crossing W leg of US-12BR												
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crossing E leg of US-12BR												
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
ADDITIONAL DIAL SPLIT DATA													COORDINATION DATA								
		PHASE	1	2	3	4	5	6	7	8	O1	O2	O3	Operation Mode		1					
DIAL	SPLIT	CYCLE												Coordination Mode		0					
DIAL	SPLIT	CYCLE												Maximum Mode		0					
DIAL	SPLIT	CYCLE												Correction Mode		2					
DIAL	SPLIT	CYCLE												Offset Mode		0					
DIAL	SPLIT	CYCLE												Force Mode		0					
DIAL	SPLIT	CYCLE												Max Dwell		0					
DIAL	SPLIT	CYCLE												Yield Period		0					
REMARKS:							ADDITIONAL OVERLAP DATA														
														Overlap Phase	Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN
														=							
														=							
														=							
							PREPARED BY: DBC      DATE: 07/11/18					LOCATION: US-12BR (Michigan Ave) at M-17 (Hamilton St)									
							<input type="checkbox"/> MDOT <input type="checkbox"/> County <input type="checkbox"/> City <input checked="" type="checkbox"/> Consultant					CONTROL SECTION-SPOT # 81081-01-013									

CLEAR PAGE 2

### SOLID STATE TRAFFIC SIGNAL TIMING PERMIT

CYCLE LENGTH	OFF-SET	HOURS OF OPERATION	INTERVAL TIMING (SECONDS)																							
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SEC	SEC	MINIMUM TIME °	5.0	3.5	2.3	7.0	16.0	3.0	2.5	7.0	17.7	3.6	2.0	7.0	16.0	3.0	2.5	7.0	17.7	3.6	2.0					
80	52	Normal																								
			6.7	3.5	2.3	7.0	16.0	3.0	2.5	15.7	17.7	3.6	2.0	12.8	16.0	3.0	2.5	15.7	17.7	3.6	2.0					
		<b>D 1 S 1 SPLITS 41/39</b>																								
80	52	AM Peak 06:00 - 10:00 Monday - Friday	9.7	3.5	2.3	7.0	16.0	3.0	2.5	12.7	17.7	3.6	2.0	12.8	16.0	3.0	2.5	12.7	17.7	3.6	2.0					
		<b>D 2 S 1 SPLITS 44/36</b>																								
80	52	PM Peak 15:00 - 19:00 Monday - Friday	7.7	3.5	2.3	7.0	16.0	3.0	2.5	14.7	17.7	3.6	2.0	12.8	16.0	3.0	2.5	14.7	17.7	3.6	2.0					
		<b>D 3 S 1 SPLITS 42/38</b>																								
		<b>D S SPLITS</b>																								

LOAD SWITCH	DESCRIPTION	SIGNAL PLAN -- CYCLE SEQUENCE CHART																								FLASH
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
	WB M-17 (Cross Street)	G	G	G	G	G	Y	R	R	R	R	R	G	G	Y	R	R	R	R	R						R
	NB M-17 (Huron Street)	R	R	R	R	R	R	R	G	G	Y	R	R	R	R	G	G	Y	R							R
	WB M-17 (Cross Street) Peds	D	D	D	W	FD	D	D	D	D	D	D	W	FD	D	D	D	D	D	D						
	NB M-17 (Huron Street) Peds	D	D	D	D	D	D	D	W	FD	D	D	D	D	D	W	FD	D	D							
	NB M-17 (Huron Street) Lefts	GL	YL	R	R	R	R	R	R	R	R	R	GL													
	EB M-17 (Cross Street) Peds	D	D	D	W	FD	D	D	D	D	D	D	D	D	D	D	D	D	D	D						
	SB M-17 (Huron Street) Peds	D	D	D	D	D	D	D	W	FD	D	D	D	D	D	D	D	D	D	D						
	Both Calls	XX	X	X	X	X	X	X	X	X	X	X														
	No Calls	XX											X	X	X	X	X	X	X	X						
	C=Correction, I=Enter Flash, O=Exit Flash	C											I	CO							I					

<p>REMARKS 08/21/18 - Added correction, enter/exit flash &amp; conflict flash info.</p> <p>CLEARANCE VALUES UPDATED BY WSP AS PART OF JN 201868OPS.</p> <p>Conflict Flash = Red in ALL directions.</p>	<p>Controller Type:  <input checked="" type="checkbox"/> EPIC    <input type="checkbox"/> EF140    <input type="checkbox"/> Other:                  DATE TIMING INSTALLED                  JOB # (IF APPLICABLE): 201868OPS                  PREPARED BY: DBC      DATE: 07/11/18             </p>	<p>FLASH HOURS:                  None to None    DAILY <input type="checkbox"/> NONE <input checked="" type="checkbox"/>                  PRE-EMPT COUNTDOWN PEDS <input type="checkbox"/>                  LOCATION: M-17 (Cross Street) @ M-17 (Huron Street)                  CITY/TWP.: Ypsilanti      COUNTY: Washtenaw                  MILE POINT: 83.660      CONTROL SECTION - SPOT #  <span style="font-size: 1.2em; font-weight: bold;">81081-01-016</span> </p>
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## ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING						COORDINATION DATA		DISAPPEARING LEGEND CASE SIGNS											
<b>Controller Type:</b> <input checked="" type="checkbox"/> EPIC <input type="checkbox"/> EF140 <input type="checkbox"/> Other:	<i>Description</i>	<i>Permissive-Protected</i>		<i>Protected-Only</i>			Operation Mode	1												
		Lead	Lag	Split	Lead	Lag	Correction Mode	2												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Maximum Dwell (s)													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Min Duration (m)													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
<b>VEHICULAR AND PEDESTRIAN DETECTION</b>																				
<i>Vehicular Detection</i>														<i>Pedestrian Detection</i>						
<i>Approach</i>		<i>Movements and Call Delay (s)</i>						<i>Type</i>			<i>Push-Button Crossing Locations</i>									
		Left	Thru	Right	Loop	Video	Other													
SB M-17 (Huron Street)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crossing W leg of M-17 (Cross St)												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crossing S leg of M-17 (Huron St)												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>															

# TRAFFIC SIGNAL TIMING PERMIT

APPROACH	PHASE	1	2	3	4	5	6	7	8				TIMING INSTALLED		
		WB	EB Left	NB											
MINIMUM GREEN		10	7	10									REMARKS 11/16/18 - Revised splits for all dials.  CLEARANCE VALUES UPDATED BY WSP AS PART OF JN 201868OPS.		
PASSAGE		0.0	0.0	0.0											
MAXIMUM NO. 1		34	14	33											
MAXIMUM NO. 2		0	0	0											
YELLOW CHANGE		3.2	3.2	3.2											
RED CLEARANCE		1.8	1.8	2.4											
WALK		7	0	8											
PEDESTRIAN CLEARANCE		13	0	18											
EXTENDED PED. CLEARANCE		0	0	0											
REST IN WALK		0	0	0											
INITIALIZATION		4	1	1											
NON-ACT RESPONSE		0	0	0											
VEHICLE RECALL		3	3	3											
PEDESTRIAN RECALL		2	0	0											
NON-LOCK MEMORY		0	0	0											
DUAL ENTRY		0	0	0											
											O1	O2	O3	PREPARED BY: WRS	DATE: 11/16/18
DIAL 1	SPLIT 1	CYCLE 80	32	13	35						49			FLASH HOURS:	
DIAL 2	SPLIT 1	80	31	13	36						47			<input type="text"/> to <input type="text"/>	DAILY <input type="checkbox"/> NONE <input checked="" type="checkbox"/>
DIAL 3	SPLIT 1	80	32	13	35						40			<input type="text"/> to <input type="text"/>	
DIAL	SPLIT														
DIAL	SPLIT														
DIAL	SPLIT														
		MODE	1	0	0									NIGHT FLASH:	
														FY = None	FR = None
PHASE														CONFLICT FLASH:	
1 WB US-12BR / M-17 (Michigan)														FY = Michigan Avenue	FR = Huron Street
2 EB US-12BR / M-17 (Michigan) Left															
3 NB M-17 (Huron Street)														CONTROLLER TYPE:	
														<input checked="" type="checkbox"/> EPAC	PRE-EMPT <input type="checkbox"/>
														<input type="checkbox"/> Other:	COUNTDOWN PEDS <input type="checkbox"/>
														LOCATION:	
														US12BR/M17 (Mich) at US12BR/M17 (Huron)	
														CITY/TWP: Ypsilanti	
														COUNTY : Washtenaw	
														MILE POINT	CONTROL SECTION-SPOT #
														0.80	81081-01-023
														Job # (If Applicable):	

OVERLAPS							
Overlap Phase	Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN
A = EB US-12BR (Michigan) Thru		1 & 2	0.0	3.2	1.8		
=							
=							
=							

## ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING						RING AND BARRIER STRUCTURE												
<b>Controller Type:</b> <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other:	<i>Phase # / Description</i>	<i>Permissive-Protected</i>		<i>Protected-Only</i>			B1			B2			B3			B4			
		Lead	Lag	Split	Lead	Lag	R1	1	2		3								
	Phase #2 / EB US12BR/M17 (Michigan) Left	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R2												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R3												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R4												
<b>System Type:</b> <input checked="" type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 Address: <input type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other:  If TBC, Synch by: <input type="checkbox"/> TOD <input type="checkbox"/> Event  <b>Interconnect Type:</b> <input type="checkbox"/> Hardwire <input type="checkbox"/> Fiber-Optic <input checked="" type="checkbox"/> Radio <input type="checkbox"/> Phone Drop <input type="checkbox"/> None <input type="checkbox"/> Other:  If Phone Drop, Phone #  <b>Controller Status:</b> <input type="checkbox"/> Master <input type="checkbox"/> Slave <input type="checkbox"/> Isolated <input type="checkbox"/> TBC  If Slave, Master Location:  Master Spot # :	<b>VEHICULAR AND PEDESTRIAN DETECTION</b>												<b>DISAPPEARING LEGEND CASE SIGNS</b>						
	<i>Approach</i>		<i>Vehicular Detection</i>						<i>Pedestrian Detection</i>										
			<i>Movements and Call Delay (s)</i>			<i>Type</i>			<i>Push-Button Crossing Locations</i>										
			Left	Thru	Right	Loop	Video	Other											
	NB US12BR (Huron St)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crossing E leg of Michigan										
	SB US12BR (Huron) Peds		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crossing W leg of Michigan										
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
<b>ADDITIONAL DIAL SPLIT DATA</b>												<b>COORDINATION DATA</b>							
PHASE		1	2	3	4	5	6	7	8	O1	O2	O3	Operation Mode		1				
DIAL	SPLIT	CYCLE											Coordination Mode		0				
DIAL	SPLIT	CYCLE											Maximum Mode		0				
DIAL	SPLIT	CYCLE											Correction Mode		2				
DIAL	SPLIT	CYCLE											Offset Mode		0				
DIAL	SPLIT	CYCLE											Force Mode		0				
DIAL	SPLIT	CYCLE											Max Dwell		0				
DIAL	SPLIT	CYCLE											Yield Period		0				
REMARKS:						<b>ADDITIONAL OVERLAP DATA</b>													
						Overlap Phase						<i>Load Bays</i>	<i>Phases Overlapped</i>		<i>T.G. (s)</i>	<i>Y (s)</i>	<i>R (s)</i>	<i>-G/Y</i>	<i>+GRN</i>
						=													
						=													
						=													
						PREPARED BY: WRS      DATE: 11/16/18						LOCATION: US12BR/M17 (Mich) at US12BR/M17 (Huron)							
						<input checked="" type="checkbox"/> MDOT <input type="checkbox"/> County <input type="checkbox"/> City <input type="checkbox"/> Consultant						CONTROL SECTION-SPOT # 81081-01-023							

CLEAR PAGE 2

## TRAFFIC SIGNAL TIMING PERMIT

APPROACH	PHASE	1	2	3	4	5	6	7	8			
			SB	WB Left	EB				WB	TIMING INSTALLED		
MINIMUM GREEN PASSAGE			10	7	7				7	REMARKS		
MAXIMUM NO. 1			35	22	35				35	CLEARANCE VALUES UPDATED BY WSP AS PART OF JN 201868OPS.  16-Load-Switch, Mod 60, Base-Mounted Epac Type Controller. Equipped with WIRELESS loops in the Westbound Harriet Street Left-Turn Approach Lane.  This subject intersection is equipped with RADIO interconnect and is incorporated within a CLOSED-LOOP system.		
MAXIMUM NO. 2			35	22	35				35			
YELLOW CHANGE			3.9	3.2	3.2				3.2			
RED CLEARANCE			1.7	2.6	2.6				2.6			
WALK			7	0	7				7			
PEDESTRIAN CLEARANCE			17	0	14				14			
EXTENDED PED. CLEARANCE			0	0	0				0			
REST IN WALK			0	0	0				0			
INITIALIZATION			4	1	1				1			
NON-ACT RESPONSE			0	0	0				0			
VEHICLE RECALL			3	0	3				3			
PEDESTRIAN RECALL			2	0	2				2			
NON-LOCK MEMORY			0	1	1				1			
DUAL ENTRY			0	0	1				1			
		CYCLE								O1	O2	O3
DIAL 1	SPLIT 1	80	32	20	28				28	75		
DIAL 2	SPLIT 1	80	32	20	28				28	79		
DIAL 3	SPLIT 1	80	30	22	28				28	72		
DIAL	SPLIT											
DIAL	SPLIT											
DIAL	SPLIT											
		MODE	1	0	0				0			
PHASE		*Hours of Operation*										
1		D1/S1/O1: Normal										
2 SB US-12 BR (Hamilton Street)		D2/S1/O1: AM Peak 06:00 - 10:00 Monday - Friday										
3 WB Harriet Street Lefts		D3/S1/O1: PM Peak 15:00 - 19:00 Monday - Friday										
4 EB Harriet Street												
5												
6												
7												
8 WB Harriet Street												
<b>OVERLAPS</b>												
		<i>Overlap Phase</i>	<i>Load Bays</i>	<i>Phases Overlapped</i>	<i>T.G. (s)</i>	<i>Y (s)</i>	<i>R (s)</i>	<i>-G/Y</i>	<i>+GRN</i>			
		B = WB Harriet Street Lefts (FYA)	10		0.0	3.2	0.0	3	4			
		=										
		=										
		=										
PREPARED BY: DBC										DATE: 07/12/18		
FLASH HOURS:												
[ ] to [ ]										DAILY <input type="checkbox"/> NONE <input checked="" type="checkbox"/>		
NIGHT FLASH:												
FY = None				FR = None								
CONFLICT FLASH:												
FY = None				FR = All Directions								
CONTROLLER TYPE:										PRE-EMPT <input type="checkbox"/>		
<input checked="" type="checkbox"/> EPAC										COUNTDOWN PEDS <input checked="" type="checkbox"/>		
<input type="checkbox"/> Other:												
LOCATION:												
US-12 BR (Hamilton Street) at Harriet Street												
CITY/TWP: Ypsilanti City												
COUNTY : Washtenaw												
MILE POINT					CONTROL SECTION-SPOT #							
0.36					81083-01-003							
Job # (If Applicable): 201868OPS												

## ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING							RING AND BARRIER STRUCTURE											
<b>Controller Type:</b> <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other:	Phase # / Description		Permissive-Protected		Protected-Only			B1			B2			B3			B4		
			Lead	Lag	Split	Lead	Lag	R1	2		4	3							
	Phase #3 / Westbound Harriet Street Lefts		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R2				8							
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R3											
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R4											
<b>System Type:</b> <input checked="" type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 Address: <input type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other:  If TBC, Synch by: <input type="checkbox"/> TOD <input type="checkbox"/> Event  <b>Interconnect Type:</b> <input type="checkbox"/> Hardwire <input type="checkbox"/> Fiber-Optic <input checked="" type="checkbox"/> Radio <input type="checkbox"/> Phone Drop <input type="checkbox"/> None <input type="checkbox"/> Other:  If Phone Drop, Phone #  <b>Controller Status:</b> <input type="checkbox"/> Master <input checked="" type="checkbox"/> Slave <input type="checkbox"/> Isolated <input type="checkbox"/> TBC  If Slave, Master Location: US-12BR/M-17 at River  Master Spot # : 81132-01-007	VEHICULAR AND PEDESTRIAN DETECTION															DISAPPEARING LEGEND CASE SIGNS			
	Approach		Vehicular Detection					Pedestrian Detection					Push-Button Crossing Locations						
			Movements and Call Delay (s)			Type													
			Left	Thru	Right	Loop	Video	Other											
	Westbound Harriet Street		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
ADDITIONAL DIAL SPLIT DATA															COORDINATION DATA				
PHASE		1	2	3	4	5	6	7	8	O1	O2	O3	Operation Mode		1				
DIAL	SPLIT	CYCLE											Coordination Mode		0				
DIAL	SPLIT	CYCLE											Maximum Mode		0				
DIAL	SPLIT	CYCLE											Correction Mode		2				
DIAL	SPLIT	CYCLE											Offset Mode		0				
DIAL	SPLIT	CYCLE											Force Mode		0				
DIAL	SPLIT	CYCLE											Max Dwell		0				
DIAL	SPLIT	CYCLE											Yield Period		0				
REMARKS:							ADDITIONAL OVERLAP DATA												
This subject intersection is equipped with RADIO interconnect and is incorporated within a CLOSED-LOOP system.  The MASTER controller is located at the subject intersection of US-12BR/M-17 (Michigan Avenue) at River Street (81132-01-007).							Overlap Phase					Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN	
							=												
							=												
							=												
							=												
PREPARED BY: DBC      DATE: 07/12/18							LOCATION: US-12 BR (Hamilton Street) at Harriet Street												
<input type="checkbox"/> MDOT <input type="checkbox"/> County <input type="checkbox"/> City <input checked="" type="checkbox"/> Consultant							CONTROL SECTION-SPOT # 81083-01-003												

CLEAR PAGE 2

# TRAFFIC SIGNAL TIMING PERMIT

APPROACH	PHASE	1	2	3	4	5	6	7	8		TIMING INSTALLED
		NB	EB & WB								
MINIMUM GREEN		10	7								REMARKS CLEARANCE VALUES UPDATED BY WSP AS PART OF JN 201868OPS.
PASSAGE		0.0	3.0								
MAXIMUM NO. 1		59	21								
MAXIMUM NO. 2		0	0								
YELLOW CHANGE		3.9	3.0								
RED CLEARANCE		1.4	2.3								
WALK		7	7								
PEDESTRIAN CLEARANCE		11	11								
EXTENDED PED. CLEARANCE		0	0								
REST IN WALK		0	0								
INITIALIZATION		4	1								
NON-ACT RESPONSE		0	0								
VEHICLE RECALL		3	0								
PEDESTRIAN RECALL		2	0								
NON-LOCK MEMORY		0	0								
DUAL ENTRY		0	0								
	CYCLE							O1	O2	O3	PREPARED BY: DBC      DATE: 07/12/18
DIAL 1	SPLIT 1	80	59	21				74			FLASH HOURS:
DIAL 2	SPLIT 1	80	59	21				71			22:00 to 06:00    DAILY <input checked="" type="checkbox"/> NONE <input type="checkbox"/>
DIAL 3	SPLIT 1	80	59	21				67			
DIAL	SPLIT										
DIAL	SPLIT										
DIAL	SPLIT										
	MODE	1	0								NIGHT FLASH:
PHASE		*Hours of Operation*									FY = US-12 BR (Huron Street)    FR = Catherine Street
1 NB/SB US-12BR (Huron Street)		D1/S1/O1: Normal									CONFLICT FLASH:
2 EB/WB Catherine Street		D2/S1/O1: AM Peak 06:00 - 10:00 Monday - Friday									FY = US-12 BR (Huron Street)    FR = Catherine Street
3		D3/S1/O1: PM Peak 15:00 - 19:00 Monday - Friday									CONTROLLER TYPE:
4											<input checked="" type="checkbox"/> EPAC      PRE-EMPT <input type="checkbox"/>
5											<input type="checkbox"/> Other:      COUNTDOWN PEDS <input type="checkbox"/>
6											LOCATION:
7											US-12 Br (Huron) at Catherine Street
8											CITY/TWP: Ypsilanti
											COUNTY : Washtenaw
											MILE POINT      CONTROL SECTION-SPOT #
											0.64      81083-01-004
											Job # (If Applicable): 201868OPS

## ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING						RING AND BARRIER STRUCTURE												
<b>Controller Type:</b> <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other:	Phase # / Description	<i>Permissive-Protected</i>		<i>Protected-Only</i>			B1			B2			B3			B4			
		Lead	Lag	Split	Lead	Lag	R1	1			2								
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R2												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R3												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R4												
<b>System Type:</b> <input type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 Address: <input checked="" type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other:  If TBC, Synch by: <input checked="" type="checkbox"/> TOD <input type="checkbox"/> Event  <b>Interconnect Type:</b> <input type="checkbox"/> Hardwire <input type="checkbox"/> Fiber-Optic <input type="checkbox"/> Radio <input type="checkbox"/> Phone Drop <input checked="" type="checkbox"/> None <input type="checkbox"/> Other:  If Phone Drop, Phone #  <b>Controller Status:</b> <input type="checkbox"/> Master <input type="checkbox"/> Slave <input type="checkbox"/> Isolated <input checked="" type="checkbox"/> TBC  If Slave, Master Location:  Master Spot # :	<b>VEHICULAR AND PEDESTRIAN DETECTION</b>												<b>DISAPPEARING LEGEND CASE SIGNS</b>						
	Approach	<i>Vehicular Detection</i>						<i>Pedestrian Detection</i>											
		Movements and Call Delay (s)			Type			Push-Button Crossing Locations											
		Left	Thru	Right	Loop	Video	Other												
	WB Catherine Street	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crossing N leg of US-12BR											
	EB Catherine Street	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crossing S leg of US-12BR											
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
<b>ADDITIONAL DIAL SPLIT DATA</b>												<b>COORDINATION DATA</b>							
	PHASE	1	2	3	4	5	6	7	8	O1	O2	O3	Operation Mode	1					
DIAL	SPLIT	CYCLE											Coordination Mode	0					
DIAL	SPLIT	CYCLE											Maximum Mode	0					
DIAL	SPLIT	CYCLE											Correction Mode	2					
DIAL	SPLIT	CYCLE											Offset Mode	0					
DIAL	SPLIT	CYCLE											Force Mode	0					
DIAL	SPLIT	CYCLE											Max Dwell	0					
DIAL	SPLIT	CYCLE											Yield Period	0					
REMARKS:						<b>ADDITIONAL OVERLAP DATA</b>													
						Overlap Phase	Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN						
						=													
						=													
						=													
						=													
						PREPARED BY: DBC      DATE: 07/12/18  <input type="checkbox"/> MDOT <input type="checkbox"/> County <input type="checkbox"/> City <input checked="" type="checkbox"/> Consultant						LOCATION: US-12 Br (Huron) at Catherine Street  CONTROL SECTION-SPOT # 81083-01-004							

CLEAR PAGE 2



## ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING						RING AND BARRIER STRUCTURE													
<b>Controller Type:</b> <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other:	Phase # / Description	<i>Permissive-Protected</i>		<i>Protected-Only</i>		R1	B1			B2			B3			B4				
		Lead	Lag	Split	Lead		Lag	1			2									
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	R2												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	R3												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R4														
<b>System Type:</b> <input checked="" type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input checked="" type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 Address: <input type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other:  If TBC, Synch by: <input type="checkbox"/> TOD <input type="checkbox"/> Event  <b>Interconnect Type:</b> <input type="checkbox"/> Hardwire <input type="checkbox"/> Fiber-Optic <input type="checkbox"/> Radio <input type="checkbox"/> Phone Drop <input type="checkbox"/> None <input type="checkbox"/> Other:  If Phone Drop, Phone #  <b>Controller Status:</b> <input type="checkbox"/> Master <input type="checkbox"/> Slave <input type="checkbox"/> Isolated <input type="checkbox"/> TBC  If Slave, Master Location:  Master Spot # :	VEHICULAR AND PEDESTRIAN DETECTION												DISAPPEARING LEGEND CASE SIGNS							
	<i>Vehicular Detection</i>			<i>Pedestrian Detection</i>			Push-Button Crossing Locations													
	Approach	Movements and Call Delay (s)			Type															
		Left	Thru	Right	Loop	Video	Other													
	NB Adams Street	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crossing E leg of Michigan												
	SB Adams Street	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crossing W leg of Michigan												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
ADDITIONAL DIAL SPLIT DATA													COORDINATION DATA							
PHASE			1	2	3	4	5	6	7	8	O1	O2	O3	Operation Mode	1					
DIAL	SPLIT	CYCLE												Coordination Mode	0					
DIAL	SPLIT	CYCLE												Maximum Mode	0					
DIAL	SPLIT	CYCLE												Correction Mode	2					
DIAL	SPLIT	CYCLE												Offset Mode	0					
DIAL	SPLIT	CYCLE												Force Mode	0					
DIAL	SPLIT	CYCLE												Max Dwell	0					
DIAL	SPLIT	CYCLE												Yield Period	0					
REMARKS:							ADDITIONAL OVERLAP DATA													
							Overlap Phase							Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN
							=													
							=													
							=													
							PREPARED BY: DBC      DATE: 07/12/18				LOCATION: US-12Br/M-17 (Michigan) @ Adams Street									
							<input type="checkbox"/> MDOT <input type="checkbox"/> County <input type="checkbox"/> City <input checked="" type="checkbox"/> Consultant				CONTROL SECTION-SPOT # 81132-01-004									

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## ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING						RING AND BARRIER STRUCTURE																
<b>Controller Type:</b> <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other:	Phase # / Description	Permissive-Protected			Protected-Only			R1	B1			B2			B3			B4					
		Lead	Lag	Split	Lead	Lag	1				2												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R2																
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R3																
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R4																
<b>System Type:</b> <input checked="" type="checkbox"/> Closed Loop <input checked="" type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 Address: <input type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other:	<b>VEHICULAR AND PEDESTRIAN DETECTION</b>						<b>DISAPPEARING LEGEND CASE SIGNS</b>																
If TBC, Synch by: <input type="checkbox"/> TOD <input type="checkbox"/> Event  <b>Interconnect Type:</b> <input type="checkbox"/> Hardwire <input type="checkbox"/> Fiber-Optic <input type="checkbox"/> Radio <input type="checkbox"/> Phone Drop <input type="checkbox"/> None <input type="checkbox"/> Other:	Approach	Vehicular Detection						Pedestrian Detection															
		Movements and Call Delay (s)			Type			Push-Button Crossing Locations															
		Left	Thru	Right	Loop	Video	Other																
		NB Washington Street	<input type="checkbox"/>	<input type="checkbox"/>	Crossing E leg of Michigan																		
		SB Washington Street	<input type="checkbox"/>	<input type="checkbox"/>	Crossing W leg of Michigan																		
<b>ADDITIONAL DIAL SPLIT DATA</b>																		<b>COORDINATION DATA</b>					
		PHASE	1	2	3	4	5	6	7	8	O1	O2	O3	Operation Mode		1							
DIAL	SPLIT	CYCLE												Coordination Mode		0							
DIAL	SPLIT	CYCLE												Maximum Mode		0							
DIAL	SPLIT	CYCLE												Correction Mode		2							
DIAL	SPLIT	CYCLE												Offset Mode		0							
DIAL	SPLIT	CYCLE												Force Mode		0							
DIAL	SPLIT	CYCLE												Max Dwell		0							
DIAL	SPLIT	CYCLE												Yield Period		0							
REMARKS:							<b>ADDITIONAL OVERLAP DATA</b>																
							Overlap Phase							Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN			
							=																
							=																
							=																
							PREPARED BY: DBC      DATE: 07/12/18							LOCATION: US-12BR/M-17 (Michigan) @ Washington									
							<input type="checkbox"/> MDOT <input type="checkbox"/> County <input type="checkbox"/> City <input checked="" type="checkbox"/> Consultant							CONTROL SECTION-SPOT # 81132-01-005									
If Phone Drop, Phone # :  Master Location:  Master Spot # :																							

CLEAR PAGE 2

## TRAFFIC SIGNAL TIMING PERMIT

APPROACH	PHASE	1	2	3	4	5	6	7	8		TIMING INSTALLED	08/15/16
			NB		EB				WB		REMARKS	
MINIMUM GREEN			10		7				7		Traffic Signal Modernization in conjunction with Job Number 116265 A.  16-Load-Switch, Mod 60, Base-Mounted, Epac-Type Controller.  This subject intersection is equipped with RADIO interconnect and is incorporated within a CLOSED-LOOP system.  The MASTER controller is located at the subject intersection of US-12BR/M-17 (Michigan Av.) at River St. (81132-01-007).	
PASSAGE			0.0		4.0				4.0			
MAXIMUM NO. 1			51		35				35			
MAXIMUM NO. 2			51		35				35			
YELLOW CHANGE			4.0		3.6				3.6			
RED CLEARANCE			2.1		3.0				3.0			
WALK			7		7				7			
PEDESTRIAN CLEARANCE			25		18				18			
EXTENDED PED. CLEARANCE			0		2				2			
REST IN WALK			0		0				0			
INITIALIZATION			4		1				1			
NON-ACT RESPONSE			0		0				0			
VEHICLE RECALL			3		3				3			
PEDESTRIAN RECALL			2		2				2			
NON-LOCK MEMORY			0		0				0			
DUAL ENTRY			0		0				0			
	CYCLE									O1 O2 O3	PREPARED BY: HHH	DATE: 07/28/14
DIAL 1 SPLIT 1	80		48		32				32	34	FLASH HOURS:	
DIAL 2 SPLIT 1	80		51		29				29	31	00:01 to 06:00 DAILY <input checked="" type="checkbox"/> NONE <input type="checkbox"/>	
DIAL 3 SPLIT 1	80		45		35				35	29		
DIAL SPLIT											NIGHT FLASH:	
DIAL SPLIT											FY = US-12BR (Huron Street) FR = Harriet Street and Spring Street	
DIAL SPLIT											CONFLICT FLASH:	
	MODE		1		0				0		FY = US-12BR (Huron Street) FR = Harriet Street and Spring Street	
PHASE	D1/S1/O1: Normal D2/S1/O1: 06:00 - 10:00 Monday - Friday D3/S1/O1: 15:00 - 19:00 Monday - Friday 2 Northbound US-12 BR (Huron Street) The Pedestrian Clearance Times are based on a walking speed of 3.5 feet per second. The Calculated Pedestrian Clearance Time (CPCT) for the Harriet and Spring Streets Pedestrians is 21.0 seconds, but a value of 18.0 seconds [CPCT - Buffer Interval (3.0 seconds)] has been used in order to minimize impacts on US-12BR coordination.											
3												
4 Eastbound Harriet Street												
5												
6												
7												
8 Westbound Spring Street												
<b>OVERLAPS</b>												
	Overlap Phase	Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN				
	=											
	=											
	=											
	=											
LOCATION:		US-12 BR (Huron St.) at Harriet St./Spring St.										
CITY/TWP:		Ypsilanti City										
COUNTY :		Washtenaw										
MILE POINT		50.52										
CONTROL SECTION-SPOT #		81083-01-001										
Job # (If Applicable):		116265 A										

## ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING						RING AND BARRIER STRUCTURE																													
<b>Controller Type:</b> <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other:	Phase # / Description	<i>Permissive-Protected</i>		<i>Protected-Only</i>		R1	B1			B2			B3			B4																				
		Lead	Lag	Split	Lead		Lag	2			4																									
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	8																												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>																													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>																													
<b>System Type:</b> <input checked="" type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 Address: <input type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other:	<b>VEHICULAR AND PEDESTRIAN DETECTION</b>						<b>DISAPPEARING LEGEND CASE SIGNS</b>																													
<b>If TBC, Synch by:</b> <input type="checkbox"/> TOD <input type="checkbox"/> Event	Approach	<i>Vehicular Detection</i>						<i>Pedestrian Detection</i>																												
		Movements and Call Delay (s)			Type			Push-Button Crossing Locations																												
		Left	Thru	Right	Loop	Video	Other																													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																													
<b>ADDITIONAL DIAL SPLIT DATA</b>												<b>COORDINATION DATA</b>																								
PHASE			1	2	3	4	5	6	7	8	O1	O2	O3	Operation Mode	1																					
DIAL	SPLIT	CYCLE												Coordination Mode	0																					
DIAL	SPLIT	CYCLE												Maximum Mode	0																					
DIAL	SPLIT	CYCLE												Correction Mode	2																					
DIAL	SPLIT	CYCLE												Offset Mode	0																					
DIAL	SPLIT	CYCLE												Force Mode	0																					
DIAL	SPLIT	CYCLE												Max Dwell	0																					
DIAL	SPLIT	CYCLE												Yield Period	0																					
<b>Interconnect Type:</b> <input type="checkbox"/> Hardwire <input type="checkbox"/> Fiber-Optic <input checked="" type="checkbox"/> Radio <input type="checkbox"/> Phone Drop <input type="checkbox"/> None <input type="checkbox"/> Other:	<b>REMARKS:</b>  This subject intersection is equipped with RADIO interconnect and is incorporated within a CLOSED-LOOP system.  The MASTER controller is located at the subject intersection of US-12BR/M-17 (Michigan Avenue) at River Street (81132-01-007).												<b>ADDITIONAL OVERLAP DATA</b>																							
													Overlap Phase						Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN											
													=																							
													=																							
													=																							
<b>Controller Status:</b> <input type="checkbox"/> Master <input checked="" type="checkbox"/> Slave <input type="checkbox"/> Isolated <input type="checkbox"/> TBC	<b>If Phone Drop,</b> Phone #						PREPARED BY: HHH      DATE: 07/28/14						LOCATION: US-12 BR (Huron St.) at Harriet St./Spring St.																							
																			<b>If Slave,</b> Master Location: US-12BR/M-17 at River  Master Spot # : 81132-01-007						<input checked="" type="checkbox"/> MDOT <input type="checkbox"/> County <input type="checkbox"/> City <input type="checkbox"/> Consultant						CONTROL SECTION-SPOT # 81083-01-001					

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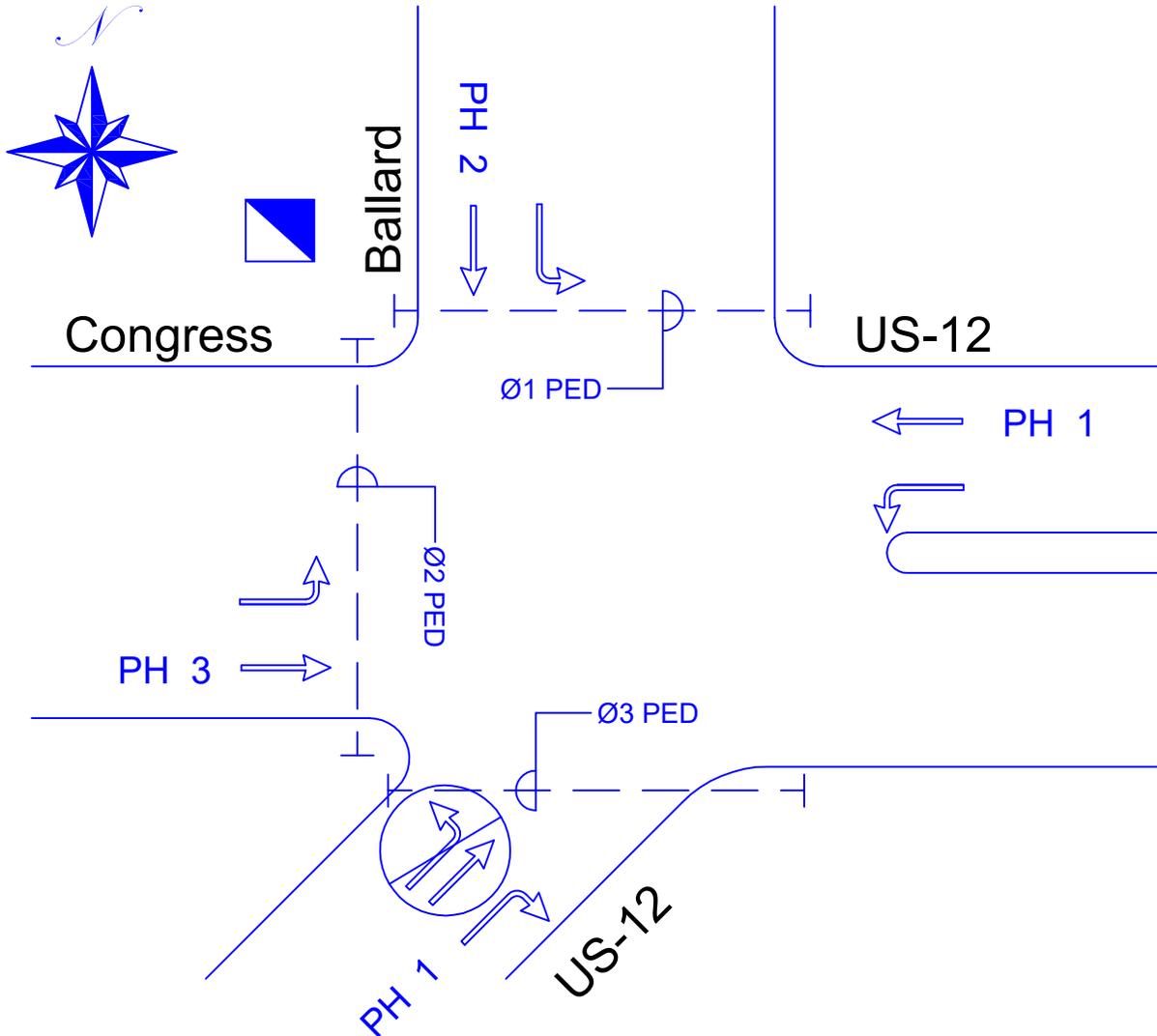




### ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING							RING AND BARRIER STRUCTURE																				
<b>Controller Type:</b> <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other:	Phase # / Description	Permissive-Protected			Protected-Only			R1	B1			B2			B3			B4										
		Lead	Lag	Split	Lead	Lag	1		2	3																		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R2																					
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R3																					
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R4																					
<b>System Type:</b> <input type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 Address: <input checked="" type="checkbox"/> TBC <input type="checkbox"/> None <input type="checkbox"/> Other:	<b>VEHICULAR AND PEDESTRIAN DETECTION</b>												<b>DISAPPEARING LEGEND CASE SIGNS</b>															
If TBC, Synch by: <input type="checkbox"/> TOD <input type="checkbox"/> Event  <b>Interconnect Type:</b> <input type="checkbox"/> Hardwire <input type="checkbox"/> Fiber-Optic <input type="checkbox"/> Radio <input type="checkbox"/> Phone Drop <input type="checkbox"/> None <input type="checkbox"/> Other:	Approach	Vehicular Detection						Pedestrian Detection																				
		Movements and Call Delay (s)						Type												Push-Button Crossing Locations								
		Left	Thru	Right	Loop	Video	Other																					
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																					
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																					
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																					
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																					
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																					
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																					
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																					
<b>ADDITIONAL DIAL SPLIT DATA</b>												<b>COORDINATION DATA</b>																
PHASE			1	2	3	4	5	6	7	8	O1	O2	O3	Operation Mode														
DIAL	SPLIT	CYCLE												Coordination Mode														
DIAL	SPLIT	CYCLE												Maximum Mode														
DIAL	SPLIT	CYCLE												Correction Mode														
DIAL	SPLIT	CYCLE												Offset Mode														
DIAL	SPLIT	CYCLE												Force Mode														
DIAL	SPLIT	CYCLE												Max Dwell														
DIAL	SPLIT	CYCLE												Yield Period														
REMARKS:							<b>ADDITIONAL OVERLAP DATA</b>																					
							Overlap Phase										Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN					
							=																					
							=																					
							=																					
If Phone Drop, Phone #  <b>Controller Status:</b> <input type="checkbox"/> Master <input type="checkbox"/> Slave <input type="checkbox"/> Isolated <input type="checkbox"/> TBC  If Slave, Master Location:  Master Spot # :							PREPARED BY: EY					DATE: 11/20/18					LOCATION: Michigan @ Congress & Ballard											
							<input type="checkbox"/> MDOT					<input type="checkbox"/> County					<input checked="" type="checkbox"/> City						<input type="checkbox"/> Consultant					
																			CONTROL SECTION-SPOT #									

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PHASE DIAGRAM



## ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING						RING AND BARRIER STRUCTURE															
<b>Controller Type:</b> <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other:	Phase # / Description	<i>Permissive-Protected</i>		<i>Protected-Only</i>		R1	B1			B2			B3			B4						
		Lead	Lag	Split	Lead		Lag	1			2											
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>															
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	R2														
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	R3														
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R4																
<b>System Type:</b> <input type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 Address: <input checked="" type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other:  If TBC, Synch by: <input checked="" type="checkbox"/> TOD <input type="checkbox"/> Event  <b>Interconnect Type:</b> <input type="checkbox"/> Hardwire <input type="checkbox"/> Fiber-Optic <input checked="" type="checkbox"/> Radio <input type="checkbox"/> Phone Drop <input type="checkbox"/> None <input type="checkbox"/> Other:  If Phone Drop, Phone #  <b>Controller Status:</b> <input type="checkbox"/> Master <input type="checkbox"/> Slave <input type="checkbox"/> Isolated <input checked="" type="checkbox"/> TBC  If Slave, Master Location:  Master Spot # :	<b>VEHICULAR AND PEDESTRIAN DETECTION</b>						<b>DISAPPEARING LEGEND CASE SIGNS</b>															
	Approach		<i>Vehicular Detection</i>			<i>Pedestrian Detection</i>																
			Movements and Call Delay (s)			Type																
				Left	Thru	Right	Loop	Video							Other	Push-Button Crossing Locations						
	NB Ballard Street			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10	<input checked="" type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>	M-17 (Washtenaw) at E. Leg					
	SB Ballard Street			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>	M-17 (Washtenaw) at W. Leg					
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>						
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>						
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>						
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>						
<b>ADDITIONAL DIAL SPLIT DATA</b>															<b>COORDINATION DATA</b>							
PHASE			1	2	3	4	5	6	7	8	O1	O2	O3	Operation Mode		1						
DIAL	SPLIT	CYCLE												Coordination Mode		0						
DIAL	SPLIT	CYCLE												Maximum Mode		0						
DIAL	SPLIT	CYCLE												Correction Mode		3						
DIAL	SPLIT	CYCLE												Offset Mode		0						
DIAL	SPLIT	CYCLE												Force Mode		0						
DIAL	SPLIT	CYCLE												Max Dwell		0						
DIAL	SPLIT	CYCLE												Yield Period		0						
<b>REMARKS:</b>  The Master Controller that had been located at the subject intersection of M-17 (Washtenaw Avenue) at Hewitt Road (81081-01-007) has undergone removal in conjunction with Job Number 118648 A.  This subject intersection is equipped with radio interconnect and is no longer incorporated within a closed-loop system.						<b>ADDITIONAL OVERLAP DATA</b>																
						Overlap Phase						Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN				
						=																
						=																
						=																
						PREPARED BY: HHH      DATE: 07/19/13						LOCATION: M-17 (Washtenaw Avenue) at Ballard Street										
						<input checked="" type="checkbox"/> MDOT <input type="checkbox"/> County <input type="checkbox"/> City <input type="checkbox"/> Consultant						CONTROL SECTION-SPOT # <b>81081-01-004</b>										

CLEAR PAGE 2

**PREEMPTION INFORMATION FORM**

Preemption Description:																			
Preempt # =	Time (s)	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
SEL Ped CI		Vehicle	Track																
SEL Yellow			Dwell																
SEL Red CI			Cycle																
TRACK Green		Ped	Exit																
TRACK Ped CI			Track																
TRACK Yellow			Dwell																
TRACK Red CL			Cycle																
DWELL Green		Overlap Vehicle	Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
RET Ped CI			Track																
RET Yellow			Dwell																
RET Red CI			Cycle																

Preemption Description:																			
Preempt # =	Time (s)	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
SEL Ped CI		Vehicle	Track																
SEL Yellow			Dwell																
SEL Red CI			Cycle																
TRACK Green		Ped	Exit																
TRACK Ped CI			Track																
TRACK Yellow			Dwell																
TRACK Red CL			Cycle																
DWELL Green		Overlap Vehicle	Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
RET Ped CI			Track																
RET Yellow			Dwell																
RET Red CI			Cycle																

Preemption Description:																			
Preempt # =	Time (s)	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
SEL Ped CI		Vehicle	Track																
SEL Yellow			Dwell																
SEL Red CI			Cycle																
TRACK Green		Ped	Exit																
TRACK Ped CI			Track																
TRACK Yellow			Dwell																
TRACK Red CL			Cycle																
DWELL Green		Overlap Vehicle	Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
RET Ped CI			Track																
RET Yellow			Dwell																
RET Red CI			Cycle																

Preemption Description:																			
Preempt # =	Time (s)	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
SEL Ped CI		Vehicle	Track																
SEL Yellow			Dwell																
SEL Red CI			Cycle																
TRACK Green		Ped	Exit																
TRACK Ped CI			Track																
TRACK Yellow			Dwell																
TRACK Red CL			Cycle																
DWELL Green		Overlap Vehicle	Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
RET Ped CI			Track																
RET Yellow			Dwell																
RET Red CI			Cycle																

Preempt System Data						
Ring	1	2	3	4		
MIN GRN/WLK (s)						
Priority	PE/FL	PE1/2	PE2/3	PE3/4	PE4/5	PE5/6
Status						

REMARKS :

PREPARED BY: HHH      DATE: 07/19/13

LOCATION:  
M-17 (Washtenaw Avenue) at Ballard Street

CONTROL SECTION-SPOT #  
**81081-01-004**

## TRAFFIC SIGNAL TIMING PERMIT

APPROACH	PHASE	1	2	3	4	5	6	7	8		TIMING INSTALLED		
		EB & WB	NB & SB										
MINIMUM GREEN		10	7								<b>REMARKS</b> Job Number 121185 A.  A Mod 50, Pole-Mounted Epac Type Controller with updated firmware has been installed in conjunction with this project.  The Master Controller that had been located at the subject intersection of M-17 (Washtenaw Avenue) at Hewitt Road (81081-01-007) has undergone removal in conjunction with Job Number 118648 A.  This subject intersection is equipped with radio interconnect and is no longer incorporated within a closed-loop system.		
PASSAGE		0.0	0.0										
MAXIMUM NO. 1		58	25										
MAXIMUM NO. 2		0	0										
YELLOW CHANGE		3.6	3.5										
RED CLEARANCE		1.8	7.3										
WALK		7	7										
PEDESTRIAN CLEARANCE		15	13										
EXTENDED PED. CLEARANCE		0	2										
REST IN WALK		0	0										
INITIALIZATION		4	1										
NON-ACT RESPONSE		0	0										
VEHICLE RECALL		3	3										
PEDESTRIAN RECALL		2	2										
NON-LOCK MEMORY		0	0										
DUAL ENTRY		0	0										
											PREPARED BY: HHH      DATE: 07/19/13		
DIAL 1	SPLIT 1	CYCLE								O1	O2	O3	FLASH HOURS:
		80	52	28						20			23:00 to 06:00
DIAL 2	SPLIT 1	80	52	28						15			DAILY <input checked="" type="checkbox"/> NONE <input type="checkbox"/>
DIAL 3	SPLIT 1	80	52	28						22			
DIAL	SPLIT												
DIAL	SPLIT												
DIAL	SPLIT												
		MODE	1	7									NIGHT FLASH:
													FY = M-17 (Washtenaw Avenue)    FR = Summit Street
PHASE			D1/S1/O1	NORMAL									CONFLICT FLASH:
1 M-17 (Washtenaw Avenue)			D2/S1/O1	06:00 - 10:00 MONDAY - FRIDAY									FY = M-17 (Washtenaw Avenue)    FR = Summit Street
2 Summit Street "Near"			D3/S1/O1	15:00 - 19:00 MONDAY - FRIDAY									CONTROLLER TYPE:
3													<input checked="" type="checkbox"/> EPAC      PRE-EMPT <input type="checkbox"/>
4													<input type="checkbox"/> Other:      COUNTDOWN PEDS <input type="checkbox"/>
5													LOCATION:
6													M-17 (Cross/Washtenaw) at Summit Street
7													CITY/TWP: Ypsilanti City
8													COUNTY : Washtenaw
													MILE POINT      CONTROL SECTION-SPOT #
													3.04      81081-01-002
													Job # (If Applicable): 121185 A

## ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING						RING AND BARRIER STRUCTURE												
<b>Controller Type:</b> <input checked="" type="checkbox"/> EPAC <input type="checkbox"/> Other:	Phase # / Description	Permissive-Protected		Protected-Only		R1	B1			B2			B3			B4			
		Lead	Lag	Split	Lead		Lag	1			2								
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	R2											
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	R3											
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R4													
<b>System Type:</b> <input type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 Address: <input checked="" type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other:	<b>VEHICULAR AND PEDESTRIAN DETECTION</b>						<b>DISAPPEARING LEGEND CASE SIGNS</b>												
	Approach	Vehicular Detection			Pedestrian Detection														
		Movements and Call Delay (s)			Type														
		Left	Thru	Right	Loop	Video	Other							Push-Button Crossing Locations					
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
<b>If TBC, Synch by:</b> <input checked="" type="checkbox"/> TOD <input type="checkbox"/> Event	<b>ADDITIONAL DIAL SPLIT DATA</b>												<b>COORDINATION DATA</b>						
		PHASE	1	2	3	4	5	6	7	8	O1	O2	O3	Operation Mode	1				
	DIAL	SPLIT	CYCLE											Coordination Mode	0				
	DIAL	SPLIT	CYCLE											Maximum Mode	0				
	DIAL	SPLIT	CYCLE											Correction Mode	3				
	DIAL	SPLIT	CYCLE											Offset Mode	0				
	DIAL	SPLIT	CYCLE											Force Mode	0				
	DIAL	SPLIT	CYCLE											Max Dwell	0				
	DIAL	SPLIT	CYCLE											Yield Period	0				
<b>Interconnect Type:</b> <input type="checkbox"/> Hardwire <input type="checkbox"/> Fiber-Optic <input checked="" type="checkbox"/> Radio <input type="checkbox"/> Phone Drop <input type="checkbox"/> None <input type="checkbox"/> Other:	<b>ADDITIONAL OVERLAP DATA</b>																		
<b>If Phone Drop,</b> Phone #	REMARKS:  The Master Controller that had been located at the subject intersection of M-17 (Washtenaw Avenue) at Hewitt Road (81081-01-007) has undergone removal in conjunction with Job Number 118648 A.  This subject intersection is equipped with radio interconnect and is no longer incorporated within a closed-loop system.						Overlap Phase			Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN			
													=						
													=						
													=						
<b>Controller Status:</b> <input type="checkbox"/> Master <input type="checkbox"/> Slave <input type="checkbox"/> Isolated <input checked="" type="checkbox"/> TBC							PREPARED BY: HHH			DATE: 07/19/13			LOCATION: M-17 (Cross/Washtenaw) at Summit Street						
<b>If Slave,</b> Master Location:													<input checked="" type="checkbox"/> MDOT <input type="checkbox"/> County <input type="checkbox"/> City <input type="checkbox"/> Consultant			CONTROL SECTION-SPOT # 81081-01-002			
Master Spot # :																			

CLEAR PAGE 2

# PREEMPTION INFORMATION FORM

Preemption Description:																	Preempt System Data												
Preempt # =	Time (s)	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Ring	1	2	3	4						
SEL Ped CI		Vehicle	Track																<input type="checkbox"/> Locking	MIN GRN/WLK (s)									
SEL Yellow			Dwell																										
SEL Red CI			Cycle																										
TRACK Green		Ped	Exit																Delay (s)		Priority	PE/FL	PE1/2	PE2/3	PE3/4	PE4/5	PE5/6		
TRACK Ped CI			Track																										
TRACK Yellow			Dwell																										
TRACK Red CL		Cycle																	Extend (s)										
DWELL Green		Overlap Vehicle	Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Duration (s)		REMARKS :							
RET Ped CI			Track																										
RET Yellow			Dwell																										
RET Red CI		Cycle																		Max Call (s)									
Preemption Description:																	<input type="checkbox"/> Locking												
Preemption Description:																	<input type="checkbox"/> Non-Locking												
Preemption Description:																	Delay (s)												
Preemption Description:																	Extend (s)												
Preemption Description:																	Duration (s)												
Preemption Description:																	Max Call (s)												
Preemption Description:																	Lockout (s)												
Preemption Description:																	Link PE #												
Preemption Description:																	Delay (s)												
Preemption Description:																	Extend (s)												
Preemption Description:																	Duration (s)												
Preemption Description:																	Max Call (s)												
Preemption Description:																	Lockout (s)												
Preemption Description:																	Link PE #												
Preemption Description:																	Delay (s)												
Preemption Description:																	Extend (s)												
Preemption Description:																	Duration (s)												
Preemption Description:																	Max Call (s)												
Preemption Description:																	Lockout (s)												
Preemption Description:																	Link PE #												

PREPARED BY: HHH      DATE: 07/19/13

LOCATION:  
M-17 (Cross/Washtenaw) at Summit Street

CONTROL SECTION-SPOT #  
**81081-01-002**

*Appendix N*  
*HSM Analysis Results*

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments																									Empirical Bayes Analysis										Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments																							
#	Roadway	Roadway Section	Jurisdiction	Roadway type (2U,5SE, 2U,5SL, 3T, 4U, 5T, 4D, 6D, 8D, 2D, 3D, 4C)	Length of segment, L (miles)	AADT (vehicles/day)	Commercial Vehicle Proportion	Type of on-street parking (none/parallel/angle)	Proportion of curb length with on-street parking	Median width (feet) - for divided only	Lighting (present / not present)	Auto speed enforcement (present / not present)	Commercial driveways (number)	Industrial driveways (number)	Residential driveways (number)	Other driveways (number)	Lane Width (feet)	Left Shoulder Width (feet)	Right Shoulder Width (feet)	County	Old MIDOT Region	New MIDOT Region	Economic Prosperity Region	Proportion Table Lookup Value - FI (Hidden)	Proportion Table Lookup Value - PDO (Hidden)	Roadside fixed object density (fixed objects / m)	Offset to roadside fixed objects (feet) [if greater than 30 or Not Present, Input 50]	Additional CMF - 1	Additional CMF - 2	Additional CMF - 3	Additional CMF - Numeric	Calibration Factor, Cr	Crashes Observed (N <sub>observed</sub> )	PDO Crashes Observed (N <sub>observed</sub> )	Oversedispersion Parameter for FI, k	Oversedispersion Parameter for PDO, k	Weighted Adjustment for FI, w (Equation A-5 from Part C Appendix)	Weighted Adjustment for PDO, w (Equation A-5 from Part C Appendix)	Expected Average Crash Frequency for FI, N <sub>expected</sub> (Equation A-4 from Part C Appendix)	Expected Average Crash Frequency for PDO, N <sub>expected</sub> (Equation A-4 from Part C Appendix)	Property Damage Only (PDO)		Fatal and Injury (FI)				Total											
																																									Predicted average crash frequency N <sub>predicted</sub> (crashes/year)	Roadway segment length, L (miles)	Crash rate (crashes/mile/year)	Predicted average crash frequency N <sub>predicted</sub> (crashes/year)	Roadway segment length, L (miles)	Crash rate (crashes/mile/year)	Predicted average crash frequency N <sub>predicted</sub> (crashes/year)	Roadway segment length, L (miles)	Crash rate (crashes/mile/year)	Predicted average crash frequency N <sub>predicted</sub> (crashes/year)	Roadway segment length, L (miles)	Crash rate (crashes/mile/year)						
1- Existing 3 Ln	Washtenaw	Normal to Ballard	Ypsilanti, MI	30	0.2	16,576	0.08	None	0.00	0	P	NP	0	0	10	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	3Q	3Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					0.282	0.408	2.179	2.304	1.000	1.000	1.000	1.000	0.11	0.03	0.14	0.646	0.128	0.774	0.64	0.20	3.18	0.17	0.20	0.86	0.81	0.20	4.04
1- Proposed 2 Ln	Washtenaw	Normal to Ballard	Ypsilanti, MI	20	0.2	16,576	0.08	Parallel	0.63	0	P	NP	0	0	10	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	2Q	2Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					1.783	0.420	0.249	0.754	1.000	1.000	1.000	1.000	0.06	0.01	0.07	0.547	0.090	0.637	0.24	0.20	1.20	0.07	0.20	0.36	0.31	0.20	1.56
2- Existing 3 Ln	Hamilton	Pearl to Michigan	Ypsilanti, MI	30	0.1	16,576	0.08	None	0.00	0	P	NP	3	0	2	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	3Q	3Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					0.282	0.408	2.179	2.304	1.000	1.000	1.000	1.000	0.06	0.02	0.08	0.390	0.078	0.468	0.38	0.08	4.80	0.10	0.08	1.30	0.49	0.08	6.10
2- Proposed 2 Ln	Hamilton	Pearl to Michigan	Ypsilanti, MI	20	0.1	16,576	0.08	None	0.00	0	P	NP	3	0	2	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	3Q	3Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					1.783	0.420	0.249	0.754	1.000	1.000	1.000	1.000	0.04	0.00	0.04	0.331	0.055	0.385	0.14	0.08	1.81	0.04	0.08	0.55	0.19	0.08	2.35
3- Existing 3 Ln	Hamilton	Michigan to Ferris	Ypsilanti, MI	30	0.1	13,134	0.08	None	0.00	0	P	NP	4	0	0	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	3Q	3Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					0.282	0.408	2.179	2.304	1.000	1.000	1.000	1.000	0.06	0.02	0.08	0.396	0.088	0.483	0.40	0.09	4.43	0.10	0.09	1.15	0.50	0.09	5.58
3- Proposed 2 Ln	Hamilton	Michigan to Ferris	Ypsilanti, MI	20	0.1	13,134	0.08	Parallel	0.63	0	P	NP	4	0	0	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	2Q	2Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					1.783	0.420	0.249	0.754	1.000	1.000	1.000	1.000	0.04	0.01	0.04	0.335	0.062	0.397	0.15	0.09	1.70	0.04	0.09	0.48	0.20	0.09	2.18
4- Existing 3 Ln	Hamilton	Ferris to Harriet	Ypsilanti, MI	30	0.4	13,134	0.08	None	0.00	0	P	NP	6	0	43	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	3Q	3Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					0.282	0.408	2.179	2.304	1.000	1.000	1.000	1.000	0.21	0.07	0.28	1.352	0.300	1.652	1.36	0.43	3.17	0.35	0.43	0.83	1.72	0.43	3.99
4- Proposed 2 Ln	Hamilton	Ferris to Harriet	Ypsilanti, MI	20	0.4	13,134	0.08	None	0.00	0	P	NP	6	0	43	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	2Q	2Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					1.783	0.420	0.249	0.754	1.000	1.000	1.000	1.000	0.13	0.02	0.15	1.145	0.211	1.356	0.52	0.43	1.22	0.15	0.43	0.34	0.67	0.43	1.56
5- Existing 3 Ln	Huron	Harriet to Ferris	Ypsilanti, MI	30	0.4	13,974	0.08	None	0.00	0	P	NP	10	0	24	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	3Q	3Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					0.282	0.408	2.179	2.304	1.000	1.000	1.000	1.000	0.25	0.08	0.33	1.571	0.339	1.910	1.57	0.43	3.66	0.41	0.43	0.96	1.99	0.43	4.62
5- Proposed 2 Ln	Huron	Harriet to Ferris	Ypsilanti, MI	20	0.4	13,974	0.08	None	0.00	0	P	NP	10	0	24	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	2Q	2Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					1.783	0.420	0.249	0.754	1.000	1.000	1.000	1.000	0.15	0.02	0.17	1.331	0.238	1.569	0.60	0.43	1.40	0.17	0.43	0.40	0.77	0.43	1.80
6- Existing 3 Ln	Huron	Pearl to Cross	Ypsilanti, MI	30	0.3	13,959	0.08	None	0.00	0	P	NP	13	0	5	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	3Q	3Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					0.282	0.408	2.179	2.304	1.000	1.000	1.000	1.000	0.20	0.06	0.26	1.252	0.270	1.522	1.25	0.25	5.01	0.33	0.25	1.32	1.58	0.25	6.33
6- Proposed 2 Ln	Huron	Pearl to Cross	Ypsilanti, MI	20	0.3	13,959	0.08	None	0.00	0	P	NP	13	0	5	0	12	0	0	Washtenaw	University	University	Michigan Prosperity	2Q	2Q	0	30	N/A (1,000)	N/A (1,000)	N/A (1,000)	1.000					1.783	0.420	0.249	0.754	1.000	1.000	1.000	1.000	0.12	0.02	0.14	1.061	0.190	1.250	0.48	0.25	1.92	0.14	0.25	0.55	0.62	0.25	2.47