SWARTZ CREEK DDA

Agenda

Downtown Development Authority, Thursday, December 8, 2022, 6:00 P.M.
City Hall 8083 Civic Drive, Swartz Creek Michigan 48473
Virtual (Zoom) Meeting Available for General Public

1. **CALL TO ORDER:**

2. **PLEDGE OF ALLEGIANCE:**

3. **ROLL CALL:**

4. **APPROVE AGENDA:**
   4A. Proposed or Amended Agenda, December 8, 2022

5. **MOTION TO APPROVE MINUTES:**
   5A. Board Meeting, November 10, 2022

6. **REPORTS & COMMUNICATIONS:** **Page No:**

7. **MEETING OPENED TO THE PUBLIC:**
   7A. General Public Comments

8. **BUSINESS:**
   8A. Downtown Statue Crowdfunding Concept
   8B. On-street Parking for Miller Resurfacing

9. **MEETING OPENED TO THE PUBLIC:**
   9A.General Public Comments

10. **REMARKS BY MEMBERS:**

11. **ADJOURNMENT:**

CITY OF SWARTZ CREEK

DOWNTOWN DEVELOPMENT AUTHORITY
RESOLUTIONS
THURSDAY, DECEMBER 8, 2022

Resolution No. 221208-01 **AGENDA – December 8, 2022**

Motion by Board Member: _____

I Move the Swartz Creek Downtown Development Authority approves the agenda for the December 8, 2022 Downtown Development Authority meeting.

Second by Board Member: _____

Voting For: _____
Voting Against: _____

Resolution No. 221208-02 **MINUTES – November 10, 2022**

Motion by Board Member: _____

I Move the Swartz Creek Downtown Development Authority approves the Minutes for the November 10, 2022 Downtown Development Authority meeting.

Second by Board Member: _____

Voting For: _____
Voting Against: _____

Resolution No. 221208-04 **ADJOURN**

Motion by Board Commission Member: _____

I Move the Swartz Creek Downtown Development Authority adjourns the December 8, 2022 Downtown Development Authority meeting.

Second by Board Member: _____

Voting For: _____
Voting Against: _____

CITY OF SWARTZ CREEK
VIRTUAL DOWNTOWN DEVELOPMENT AUTHORITY MEETING ACCESS INSTRUCTIONS
THURSDAY, DECEMBER 8, 2022, 6:00 P.M.

The regular virtual meeting of the City of Swartz Creek park board is scheduled for **December 8, 2022** starting at 6:00 p.m. and will be conducted virtually (online and/or by phone), due to health concerns surrounding Coronavirus/COVID-19 and rules promulgated by the Michigan Department of Health and Human Services.

To comply with the **Americans with Disabilities Act (ADA),** any citizen requesting accommodation to attend this meeting, and/or to obtain the notice in alternate formats, please contact Connie Olger, 810-429-2766 48 hours prior to meeting,

Zoom Instructions for Participants

To join the conference by phone:

1. On your phone, dial the teleconferencing number provided below.
2. Enter the **Meeting ID** number (also provided below) when prompted using your touch-tone (DTMF) keypad.

Before a videoconference:

1. You will need a computer, tablet, or smartphone with speaker or headphones. You will have the opportunity to check your audio immediately upon joining a meeting.
2. Details, phone numbers, and links to videoconference or conference call is provide below. The details include a link to **"Join via computer**" as well as phone numbers for a conference call option. It will also include the 9-digit Meeting ID.

To join the videoconference:

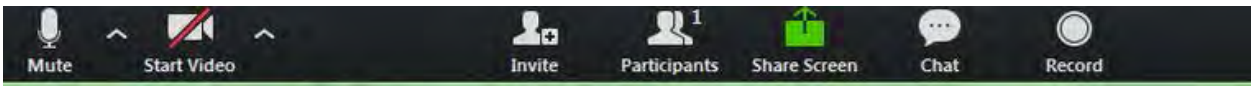
1. At the start time of your meeting, enter the link to join via computer. You may be instructed to download the Zoom application.
2. You have an opportunity to test your audio at this point by clicking on "Test Computer Audio." Once you are satisfied that your audio works, click on "Join audio by computer."

You may also join a meeting without the link by going to join.zoom.us on any browser and entering the Meeting ID provided below.

If you are having trouble hearing the meeting, you can join via telephone while remaining on the video conference:

1. On your phone, dial the teleconferencing number provided below.
2. Enter the **Meeting ID number** (also provided below) when prompted using your touchtone (DMTF) keypad.
3. If you have already joined the meeting via computer, you will have the option to enter your participant ID to be associated with your computer.

Participant controls in the lower left corner of the Zoom screen:



Using the icons in the lower left corner of the Zoom screen you can:

- Mute/Unmute your microphone (far left)
- Turn on/off camera ("Start/Stop Video")
- Invite other participants
- View participant list-opens a pop-out screen that includes a "Raise Hand" icon that you may use to raise a virtual hand during Call to the Public
- Change your screen name that is seen in the participant list and video window
- Share your screen

Somewhere (usually upper right corner on your computer screen) on your Zoom screen you will also see a choice to toggle between "speaker" and "gallery" view. "Speaker view" show the active speaker.

Connie Olger is inviting you to a scheduled Zoom meeting.

Topic: DDA- Downtown Development Authority Meeting
Time: December 8, 2022 06:00 PM Eastern Time (US and Canada)

Join Zoom Meeting
https://us02web.zoom.us/j/83096401128

Meeting ID: 830 9640 1128

One tap mobile
+13017158592,,83096401128# US (Washington DC)
+13126266799,,83096401128# US (Chicago)

Dial by your location
+1 301 715 8592 US (Washington DC)
+1 312 626 6799 US (Chicago)
+1 929 205 6099 US (New York)
+1 253 215 8782 US (Tacoma)
+1 346 248 7799 US (Houston)
+1 669 900 6833 US (San Jose)

Meeting ID: 830 9640 1128

Find your local number: https://us02web.zoom.us/u/kz4Jb4etg

If you have any further questions or concern, please contact 810-429-2766 or email colger@cityofswartzcreek.org.

A copy of this notice will be posted at City Hall, 8083 Civic Drive, Swartz Creek, Michigan.

CITY OF SWARTZ CREEK
VIRTUAL (ELECTRONIC) MEETING RULES AND PROCEDURES

In order to conduct an effective, open, accessible, and professional meeting, the following protocols shall apply. These protocols are derived from the standard practices of Swartz Creek public meetings, Roberts Rules of Order, and city board & commission procedures. These procedures are adopted to govern participation by staff, councilpersons and members of the public in all City meetings held electronically pursuant to PA 228 of 2020. Note that these protocols do not replace or eliminate established procedures or practices. Their purpose is to augment standing expectations so that practices can be adapted to a virtual meeting format.

The following shall apply to virtual meetings of the city's public bodies that are held in accordance with the Open Meetings Act.

1. Meetings of the City Council, Planning Commission, Zoning Board of Appeals, Downtown Development Authority, Park Board, or committees thereunder may meet electronically or permit electronic participation in such meetings insofar as (1) the Michigan Department of Health and Human Services restricts the number of persons who can gather indoors due to the COVID-19 pandemic; (2) persons have an illness, injury, disability or other health-related condition that poses a risk to the personal health or safety of members of the public or the public body if they were to participate in person; or (3) there is in place a statewide or local state of emergency or state of disaster declared pursuant to law or charter by the governor or other person authorized to declare a state of emergency or disaster.

2. All meetings held hereunder must provide for two-way communication so that members of the public body can hear and respond to members of the general public, and vice versa.

3. Members of the public body who participate remotely must announce at the outset of the meeting that he/she is in fact attending the meeting remotely and by further identifying the specific physical location (by county, township, village and state) where he/she is located. The meeting minutes must include this information.

4. Notice of any meeting held electronically must be posted at the City Offices at least 18 hours before the meeting begins and must clearly explain the following:

   (a) why the public body is meeting electronically;

   (b) how members of the public may participate in the meeting electronically, including the specific telephone number, internet address or similar log-in information needed to participate in the meeting;

   (c) how members of the public may contact members of the public body to provide input or ask questions on any business that will come before the public body at the meeting;

   (d) how persons with disabilities may participate in the meeting.

5. The notice identified above must also be posted on the City's website homepage or on a separate webpage dedicated to public notices for non-regularly scheduled or electronic public meetings that is accessible through a prominent and conspicuous link on the website's homepage that clearly describes the meeting's purpose.

6. The City must also post on the City website an agenda of the meeting at least 2 hours before the meeting begins.

7. Members of the public may offer comment only when the Chair recognizes them and under rules established by the City.

8. Members of the public who participate in a meeting held electronically may be excluded from participation in a closed session that is convened and held in compliance with the Open Meetings Act.

MAINTAINING ORDER

Public body members and all individuals participating shall preserve order and shall do nothing to interrupt or delay the proceedings of public body.

All speakers shall identify themselves prior to each comment that follows another speaker, and they shall also indicate termination of their comment. For example, “Adam Zettel speaking. There were no new water main breaks to report last month. That is all.”

Any participants found to disrupt a meeting shall be promptly removed by the city clerk or by order of the Mayor. Profanity in visual or auditory form is prohibited.

The public body members, participating staff, and recognized staff/consultants/presenters shall be the only participants not muted by default. All other members must request to speak by raising their digital hand on the meeting application or by dialing *9 on their phone.

MOTIONS & RESOLUTIONS

All Motions and Resolutions, whenever possible, shall be pre-written and in the positive, meaning yes is approved and no is defeated. All motions shall require support. A public body member whom reads/moves for a motion may oppose, argue against or vote no on the motion.

PUBLIC ADDRESS OF BOARD OR COMMISSION

The public shall be allowed to address a public body under the following conditions:

1. Each person who wishes to address the public body will be first recognized by the Mayor or Chair and requested to state his / her name and address. This applies to staff, petitioners, consultants, and similar participants.
2. Individuals shall seek to be recognized by raising their digital hand as appropriate on the digital application.
3. Petitioners are encouraged to appropriately identify their digital presence so they can be easily recognized during business. If you intend to call in only, please notify the clerk in advance of your phone number.
4. The city clerk shall unmute participants and the members of the public based upon the direction of the mayor or chair. Participants not recognized for this purpose shall be muted by default, including staff, petitioners, and consultants.
5. Individuals shall be allowed five (5) minutes to address the public body, unless special permission is otherwise requested and granted by the Mayor or Chair.
6. There shall be no questioning of speakers by the audience; however, the public body, upon recognition of the Mayor or Chair, may question the speaker.

7. No one shall be allowed to address the public body more than once unless special permission is requested, and granted by the Mayor or Chair.
8. One spokesperson for a group attending together will be allowed five (5) minutes to address the public body unless special permission has been requested, and granted by the Mayor or Chair.
9. Those addressing the public body shall refrain from being repetitive of information already presented.
10. All comments and / or questions shall be directed to and through the Mayor or Chair.
11. Public comments (those not on the agenda as speakers, petitioners, staff, and consultants) are reserved for the two “Public Comment” sections of the agenda and public hearings.

VOTING RECORD OF PUBLIC BODIES

All motions, ordinances, and resolutions shall be taken by "YES" and "NO" voice vote and the vote of each member entered upon the journal.

CITY OF SWARTZ CREEK
SWARTZ CREEK, MICHIGAN
MINUTES OF THE DOWNTOWN DEVELOPMENT AUTHORITY MEETING
November 10, 2022

The meeting was called to order at 6:01 p.m. by Board Member Ryan in the Swartz Creek Council Chambers with a virtual (Zoom) meeting available for the general public.

Board Members Present: Beedy, Ryan, King, Krueger, Barclay, Toms, Whittey.

Board Members Absent: Jamison.

Staff Present: Adam Zettel.

Others Present: Nate Henry, George Hicks, Lania Rocha, Rae Lynn Hicks.

APPROVAL OF AGENDA:

Resolution No. 221110-01 **(Carried)**

Motion by Board Member Beedy
Second by Board Member King

I Move the Swartz Creek City Downtown Development Authority approves the agenda for the November 10, 2022 Downtown Development Meeting.

Unanimous affirmative voice vote: Motion declared carried.

APPROVAL OF MINUTES:

Resolution No. 221110-02 **(Carried)**

Motion by Board Member Krueger
Second by Board Member Beedy

I Move the Swartz Creek City Downtown Development Authority approves the minutes for the September 8, 2022 Downtown Development Authority meeting.

Unanimous affirmative voice vote: Motion declared carried.

MEETING OPEN TO PUBLIC:

None.

TIF INCENTIVE PROGRAM

With the DDA plan being amended Mr. Zettel discussed a new tool available for reimbursement to a project. Mr. Zettel is going to bring more information about this to another meeting.

DOWNTOWN STATUE CROWDFUNDING CONCEPT

Mr. Zettel explained the crowdfunding opportunity where the community can raise $50,000 and the MEDC will match it for a community-oriented investment. There was a discussion regarding an ice skating rink, a dragon scale arch, a metal-work dragon statue and signage. Getting a welding class and students involved were talked about. More information and details will be gathered.

ON-STREET PARKING FOR MILLER RESURFACING

Mr. Zettel talked about the possibility of having limited on street parking on Miller Road between Morrish and Hayes. There was a discussion regarding some of the pros and cons.

DOWNTOWN TREE ADDITION PURCHASE

Resolution No. 221110-03 **(Carried)**

Motion by Board Member Beedy
Second by Board Member Ryan

WHEREAS, the Swartz Creek Downtown Development Authority previously purchased a synthetic Christmas Tree to display in the downtown, said tree being purchased from Wintergreen Corporation at a height of 14'; and

WHEREAS, the tree can be incrementally added on to increase its height; and

WHEREAS, the DDA planned to continue purchases from this supplier as funds permitted to enhance the presence of the decoration; and

THEREFORE, BE IT RESOLVED, the Swartz Creek Downtown Development Authority approves the purchase of the Christmas Tree section purchase from Wintergreen Corporation, as quoted in the November 10, 2022 packet, in the amount of $3,628.21, delivered.

BE IT FURTHER RESOLVED, the Swartz Creek DDA hereby authorizes the Treasurer to amend the budget accordingly.

Unanimous affirmative vote: Motion declared carried.

MEETING OPEN TO PUBLIC:

None.

REMARKS BY BOARD MEMBERS:

None.

ADJOURNMENT:

Resolution No. 221110-04 **(Carried)**

Motion by Board Member Beedy
Second by Board Member Krueger

I Move the Swartz Creek Downtown Development Authority adjourns the November 10, 2022 Downtown Development Authority meeting at 7:20 p.m.

Unanimous affirmative voice vote: Motion declared carried.

_____
Connie King

Swartz Creek DDA
Swartz Creek City Offices
8083 Civic Dr.
Swartz Creek, MI 48473

Phone: 810-635-4464
Fax: 810-635-2887

Date: December 1, 2022

To: **DDA Board Members**
From: **Adam Zettel**
RE: **December 8, 2022 DDA Meeting**

Hello everyone,

There will be a meeting of the DDA at 6:00 p.m. on Thursday, December 8, 2022. All board members must now attend in person to participate. This will also be broadcast virtually via Zoom for the general public. Instructions and guidelines for the virtual meeting are in the packet.

The council approve services to move forward on the Tax Increment Financing incentive guidelines. The consultant will not have anything before we meet, so this will become a January business item.

Back on the agenda is the crowdfunding opportunity. I couple DDA members and myself have been contacting some folks that might help us conceptualize, price, and illustrate some ideas. I do not have anything at the moment, but I should before we meet. Again, this is a priority, but based on the timelines I do not expect completion before spring or even summer.d

I am also returning the report from our traffic engineer on the viability of adding parking in a very limited fashion to Miller Road Downtown. We are currently looking at this section because the city will be resurfacing Miller (Morrish to Seymour) in 2023. On-street parking has a lot of benefits. It slows traffic (this can be considered a negative attribute by some), it adds parking to the district, it quiets traffic, and it improves the perception of safety for pedestrians. Best practice also suggests that this commodity improves retail sales.

In short, this concept is going to be a council decision. However, this is clearly a DDA issue that impacts many businesses in that area, as well as the flow of traffic on Miller Road generally. I am including the study and would like the formal or informal thoughts/recommendation of the board for council to consider prior to bidding this project this winter.

Contact me directly with any questions, comments, or agenda items. Please see the city council packets for updates of other downtown and community projects! **Please let us know if you can attend or not.** We have struggled to get a quorum recently.

Sincerely,

Adam Zettel, AICP
City Manager
azettel@cityofswartzcreek.org

memorandum

Date: October 31, 2022

To: Adam Zettel, AICP
cc: Steven Loveland, PE, PTOE; Rob Merinsky, PE; Andy Harris, PE
From: Stephan Maxe, PE

Re: Parking and Traffic Study on Miller Road from Hayes Street to Morrish Road

Background

The City of Swartz Creek desires to create a downtown atmosphere along Miller Road by providing parking, slowing traffic, and maintaining pedestrian and bicycle facilities. Miller Road currently exists as a 3-lane cross section between bike lanes in the study area, with one lane in each direction and a continuous center left turn lane. The city is looking for concepts that will add on-street parking to this area while maintaining satisfactory left turn operations and bicycle facilities (either on Miller Road or via an alternative route). This memo details the operations at the Miller and Morrish intersection, explores alternatives and presents a recommended design concept.

Traffic Information

Traffic data was obtained from a previous study “Miller Road and Morrish Road Traffic Study” prepared by OHM Advisors in December 2015. The Synchro traffic model prepared for this study was used to analyze the operations of Miller Road and Morrish Road if the eastbound left turn lane was removed and an option for a shortened left turn lane.

Proposed Lane Configuration

The existing cross section consists of three 12-foot vehicular lanes and two 4-foot bike lanes with curb and gutter. In order to add parking, the vehicular lanes would be reduced to 11 feet and the center lane would be removed. Parking lanes are required to be 7 feet to 9 feet in width and bike lanes adjacent to parking are required to be 5 feet. The bike lane is dashed across the driveways to indicate that it is not a parking lane while still delineating the bike lane. With the parking lanes adjacent to the curb the 1.5 foot gutter would be included in the parking lane width which provides approximately 7.5’ parking lanes on both sides of Miller Road. This alternative will preserve the existing pedestrian crossing and refuge island just west of Hayes Street, while removing the existing island between Holland Street and Hayes Street. A pedestrian crossing is proposed at the west side of Holland Street to replace the removed island and crossing.

Intersection Alternatives

Two different intersection alternatives for the west leg of the Miller Road and Morrish Road intersection were reviewed.

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Two Lane

This concept would have a single eastbound lane and a single westbound lane on the west leg of the intersection. The eastbound approach would have a single shared lane for left turn, right turn and thru movements.

Shortened Left Turn Lane

This concept would have a shared eastbound thru/right turn lane, an eastbound left turn lane and a single westbound lane on the west leg of the intersection. The left turn lane would be limited to the 50' of storage, 75' lane opening and an 85' taper back to the 2-lane cross section for the rest of the downtown study area to Hayes Street.

Operational Analysis

The study intersection was analyzed according to the methodologies published in the Highway Capacity Manual, 2010 edition. For this project, Synchro Version 11 software was used to conduct the analysis for traditional intersections. Rodel software was used to conduct the analysis of the roundabout alternatives. Software printouts for the evaluations of intersections have been included in Appendix B. These software packages compute delay values based on factors such as number and type of lanes, intersection controls such as STOP signs or traffic signals, traffic volumes, pedestrian volumes, signal timing characteristics, roadway grade, speed limit, etc. This analysis determines the average delay experienced by vehicles. This value is an average across the entire peak hour, vehicles arriving during the busiest portion of the peak hour or arriving in a clustered group of vehicles instead of in a random pattern could experience longer delays. On the other hand, vehicles arriving during a lighter portion of the peak hour could experience a shorter delay. The average delay is used to determine the corresponding level of service (LOS) values for each intersection movement as well as the intersection as a whole.

The LOS of an intersection is based on factors such as number and types of lanes, intersection controls such as STOP signs or traffic signals, traffic volumes, pedestrian volumes, etc. LOS is expressed as a letter grade, in a range from A through F. In this context, 'A' represents the best conditions, with very little or no average delay to vehicles. LOS 'F' is the worst of conditions, equated with very large average delays and few gaps of acceptable length. The following tables identify level of service criteria for signalized intersections.

Table 1: Level of Service Criteria For Signalized Intersections

Level of Service	Average Delay/Vehicle (seconds)	Description
A	Less than or equal to 10	Most vehicles do not stop at all. Most arrive during the green phase. Little or no delay.
B	> 10 to 20	More vehicles stop than for LOS A. Still good progression thru lights. Short traffic delays.
C	> 20 to 35	Significant numbers of vehicles stop, although many pass thru without stopping.
D	> 35 to 55	Many vehicles stop. Individual signal cycle failures are noticeable. Progression is intermittent.
E	> 55 to 80	Considered to be the limit of acceptable delay. Individual cycle failures are frequent and progression is poor.
F	>80	Extreme and unacceptable traffic delays.

SOURCE: Transportation Research Board, Highway Capacity Manual 2010.

An intersection LOS 'D' is considered by many traffic safety professionals to be the minimum acceptable condition in an urban/suburban area. For rural areas, most highway agencies consider LOS 'C' the minimum. Given the location of the study intersections, within an urbanized boundary, LOS 'D' was utilized as the study goal.

The intersection was evaluated for the two concepts during each of the peak hour periods. Table 2 shows the intersection LOS and delays during the AM Peak hour. Table 3 shows the intersection LOS and delays during the PM Peak hour.

Table 2: AM Peak Delay and Level of Service

	LOS (Avg Delay in sec./veh)				
	NB	SB	EB	WB	Intersection
2-Lane	C (27.4)	C (27.1)	B (11.9)	A (6.7)	B (17.2)
Short Left-Turn Lane	B (19.8)	C (20.0)	B (12.8)	B (10.4)	B (15.3)

Table 3: PM Peak Delay and Level of Service

	LOS (Avg Delay in sec./veh)				
	NB	SB	EB	WB	Intersection
2-Lane	C (23.8)	C (34.3)	B (17.7)	B (11.1)	C (20.7)
Short Left-Turn Lane	B (17.7)	C (21.5)	B (17.3)	B (16.8)	B (18.2)

Under both configurations the intersection operates and LOS C or better but the delays are higher in the 2-lane configuration. The results of the capacity analysis are attached as Appendix A.

The intersection operations were simulated using Simtraffic during the busier PM peak to determine the EB queue length. The results are below in Table 4.

Table 4: EB Miller Queue Lengths

	Average EB Queue Length in ft.
2-Lane	309
Short Left-Turn Lane	137

The queue length on Miller Road is more than doubled if the left turn lane is removed. A 309 foot queue would extend to the intersection of Holland Drive. The results of the Simtraffic analysis are attached as Appendix B.

Concept Discussion and Conclusion

While the 2-lane intersection configuration operates with an adequate LOS it does not operate nearly as well as providing a shortened left turn lane. In addition, without the left turn lane the lanes would not line up with the east leg of the intersection which could lead to crashes due to the lane shift and visibility issues with left turning vehicles. OHM is recommending a shortened left turn lane with 50 feet of storage be maintained.

This recommended alternative would have a lane shift just west of Hayes Street going from a 3-lane cross section to a 2-lane cross section with parking provided. The bike lanes would remain on Miller Road positioned between the travel lanes and on street parking lanes. There would be another shift just west of Morrish Road

to return to the 3-lane configuration and the bike lanes would shift back to adjacent to the curb. This would provide 16 on-street parking spaces along Miller Road in the Swartz Creek downtown area. While the existing pedestrian crossing between Hayes Street and Holland Street would need to be removed, a new crossing at Holland Street is proposed. A drawing of the proposed plan is attached as Appendix C.

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APPENDIX A

Synchro Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	271	18	40	172	17	30	153	77	33	114	114
Future Volume (veh/h)	246	271	18	40	172	17	30	153	77	33	114	114
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1827	1827	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	246	271	18	40	172	17	30	153	77	33	114	114
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.77	0.77	0.77	0.60	0.60	0.60	0.69	0.69	0.69	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	4	4	4	2	2	2	2	2	2
Cap, veh/h	444	462	29	692	972	96	258	293	148	261	214	214
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	621	777	49	1065	1636	162	1144	1167	587	1142	852	852
Grp Volume(v), veh/h	535	0	0	40	0	189	30	0	230	33	0	228
Grp Sat Flow(s),veh/h/ln	1447	0	0	1065	0	1798	1144	0	1754	1142	0	1704
Q Serve(g_s), s	13.9	0.0	0.0	0.0	0.0	3.3	1.6	0.0	7.9	1.8	0.0	8.1
Cycle Q Clear(g_c), s	17.2	0.0	0.0	1.3	0.0	3.3	9.7	0.0	7.9	9.7	0.0	8.1
Prop In Lane	0.46		0.03	1.00		0.09	1.00		0.33	1.00		0.50
Lane Grp Cap(c), veh/h	935	0	0	692	0	1068	258	0	441	261	0	429
V/C Ratio(X)	0.57	0.00	0.00	0.06	0.00	0.18	0.12	0.00	0.52	0.13	0.00	0.53
Avail Cap(c_a), veh/h	935	0	0	692	0	1068	258	0	441	261	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.4	0.0	0.0	6.0	0.0	6.4	26.8	0.0	22.6	26.8	0.0	22.6
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.2	0.0	0.4	0.9	0.0	4.4	1.0	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.0	0.0	0.4	0.0	1.7	0.6	0.0	4.4	0.6	0.0	4.4
LnGrp Delay(d),s/veh	11.9	0.0	0.0	6.2	0.0	6.8	27.8	0.0	27.0	27.8	0.0	27.4
LnGrp LOS	B			A		A	C		C	C		C
Approach Vol, veh/h		535			229			260			261	
Approach Delay, s/veh		11.9			6.7			27.1			27.4	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		23.0		47.0		23.0		47.0
Change Period (Y+Rc), s		5.4		5.4		5.4		5.4
Max Green Setting (Gmax), s		17.6		41.6		17.6		41.6
Max Q Clear Time (g_c+I1), s		11.7		19.2		11.7		5.3
Green Ext Time (p_c), s		0.7		3.9		0.7		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	377	47	52	323	70	45	113	83	94	106	118
Future Volume (veh/h)	153	377	47	52	323	70	45	113	83	94	106	118
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1881	1881	1900	1863	1863	1900	1881	1881	1900
Adj Flow Rate, veh/h	153	377	47	52	323	70	45	113	83	94	106	118
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.78	0.78	0.78	0.91	0.91	0.91	0.75	0.75	0.75	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	1	1	1
Cap, veh/h	256	603	70	579	890	193	262	250	184	288	204	227
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	321	1014	118	969	1497	324	1148	995	731	1188	810	902
Grp Volume(v), veh/h	577	0	0	52	0	393	45	0	196	94	0	224
Grp Sat Flow(s),veh/h/ln	1453	0	0	969	0	1821	1148	0	1725	1188	0	1711
Q Serve(g_s), s	11.8	0.0	0.0	0.0	0.0	7.8	2.5	0.0	6.7	5.1	0.0	7.9
Cycle Q Clear(g_c), s	19.6	0.0	0.0	2.6	0.0	7.8	10.4	0.0	6.7	11.8	0.0	7.9
Prop In Lane	0.27		0.08	1.00		0.18	1.00		0.42	1.00		0.53
Lane Grp Cap(c), veh/h	929	0	0	579	0	1082	262	0	434	288	0	430
V/C Ratio(X)	0.62	0.00	0.00	0.09	0.00	0.36	0.17	0.00	0.45	0.33	0.00	0.52
Avail Cap(c_a), veh/h	929	0	0	579	0	1082	262	0	434	288	0	430
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	6.3	0.0	7.3	27.0	0.0	22.1	27.1	0.0	22.6
Incr Delay (d2), s/veh	3.2	0.0	0.0	0.3	0.0	0.9	1.4	0.0	3.4	3.0	0.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	0.0	0.5	0.0	4.2	0.9	0.0	3.6	1.9	0.0	4.3
LnGrp Delay(d),s/veh	12.8	0.0	0.0	6.6	0.0	8.3	28.4	0.0	25.5	30.1	0.0	27.1
LnGrp LOS	B			A		A	C		C	C		C
Approach Vol, veh/h		577			445			241			318	
Approach Delay, s/veh		12.8			8.1			26.1			28.0	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		23.0		47.0		23.0		47.0
Change Period (Y+Rc), s		5.4		5.4		5.4		5.4
Max Green Setting (Gmax), s		17.6		41.6		17.6		41.6
Max Q Clear Time (g_c+I1), s		12.4		21.6		13.8		9.8
Green Ext Time (p_c), s		0.6		4.3		0.6		3.0

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	359	17	55	430	72	40	159	48	57	149	240
Future Volume (veh/h)	138	359	17	55	430	72	40	159	48	57	149	240
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900	1881	1881	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	138	359	17	55	430	72	40	159	48	57	149	240
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.86	0.86	0.86	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	1	1	1	2	2	2	2	2	2
Cap, veh/h	214	528	23	506	866	145	184	404	122	338	189	305
Arrive On Green	0.55	0.55	0.55	0.55	0.55	0.55	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	270	957	42	1012	1571	263	991	1371	414	1166	643	1036
Grp Volume(v), veh/h	514	0	0	55	0	502	40	0	207	57	0	389
Grp Sat Flow(s),veh/h/ln	1269	0	0	1012	0	1834	991	0	1786	1166	0	1680
Q Serve(g_s), s	12.9	0.0	0.0	0.0	0.0	11.8	2.7	0.0	6.5	2.9	0.0	14.9
Cycle Q Clear(g_c), s	24.7	0.0	0.0	3.3	0.0	11.8	17.6	0.0	6.5	9.4	0.0	14.9
Prop In Lane	0.27		0.03	1.00		0.14	1.00		0.23	1.00		0.62
Lane Grp Cap(c), veh/h	765	0	0	506	0	1011	184	0	525	338	0	494
V/C Ratio(X)	0.67	0.00	0.00	0.11	0.00	0.50	0.22	0.00	0.39	0.17	0.00	0.79
Avail Cap(c_a), veh/h	765	0	0	506	0	1011	184	0	525	338	0	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.9	0.0	0.0	7.8	0.0	9.7	30.8	0.0	19.7	23.4	0.0	22.7
Incr Delay (d2), s/veh	4.8	0.0	0.0	0.4	0.0	1.8	2.7	0.0	2.2	1.1	0.0	13.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.0	0.0	0.6	0.0	6.3	0.9	0.0	3.5	1.0	0.0	8.6
LnGrp Delay(d),s/veh	17.7	0.0	0.0	8.2	0.0	11.4	33.5	0.0	21.9	24.5	0.0	35.7
LnGrp LOS	B			A		B	C		C	C		D
Approach Vol, veh/h		514			557			247			446	
Approach Delay, s/veh		17.7			11.1			23.8			34.3	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		26.0		44.0		26.0		44.0
Change Period (Y+Rc), s		5.4		5.4		5.4		5.4
Max Green Setting (Gmax), s		20.6		38.6		20.6		38.6
Max Q Clear Time (g_c+I1), s		19.6		26.7		16.9		13.8
Green Ext Time (p_c), s		0.1		3.0		1.0		3.7

Intersection Summary	
HCM 2010 Ctrl Delay	20.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	271	18	40	172	17	30	153	77	33	114	114
Future Volume (veh/h)	246	271	18	40	172	17	30	153	77	33	114	114
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1827	1827	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	246	271	18	40	172	17	30	153	77	33	114	114
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.77	0.77	0.77	0.60	0.60	0.60	0.69	0.69	0.69	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	4	4	4	2	2	2	2	2	2
Cap, veh/h	638	878	58	546	832	82	372	394	198	374	288	288
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1186	1727	115	1063	1636	162	1145	1167	588	1143	853	853
Grp Volume(v), veh/h	246	0	289	40	0	189	30	0	230	33	0	228
Grp Sat Flow(s),veh/h/ln	1186	0	1842	1063	0	1797	1145	0	1755	1143	0	1706
Q Serve(g_s), s	10.1	0.0	6.4	1.6	0.0	4.0	1.4	0.0	7.0	1.6	0.0	7.2
Cycle Q Clear(g_c), s	14.1	0.0	6.4	8.0	0.0	4.0	8.6	0.0	7.0	8.6	0.0	7.2
Prop In Lane	1.00		0.06	1.00		0.09	1.00		0.33	1.00		0.50
Lane Grp Cap(c), veh/h	638	0	937	546	0	914	372	0	592	374	0	575
V/C Ratio(X)	0.39	0.00	0.31	0.07	0.00	0.21	0.08	0.00	0.39	0.09	0.00	0.40
Avail Cap(c_a), veh/h	638	0	937	546	0	914	372	0	592	374	0	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.3	0.0	10.0	12.4	0.0	9.4	21.0	0.0	17.7	21.0	0.0	17.8
Incr Delay (d2), s/veh	1.8	0.0	0.9	0.3	0.0	0.5	0.4	0.0	1.9	0.5	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	3.4	0.5	0.0	2.1	0.5	0.0	3.7	0.5	0.0	3.7
LnGrp Delay(d),s/veh	15.1	0.0	10.9	12.6	0.0	10.0	21.5	0.0	19.6	21.4	0.0	19.8
LnGrp LOS	B		B	B		A	C		B	C		B
Approach Vol, veh/h		535			229			260			261	
Approach Delay, s/veh		12.8			10.4			19.8			20.0	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		29.0		41.0		29.0		41.0
Change Period (Y+Rc), s		5.4		5.4		5.4		5.4
Max Green Setting (Gmax), s		23.6		35.6		23.6		35.6
Max Q Clear Time (g_c+I1), s		10.6		16.1		10.6		10.0
Green Ext Time (p_c), s		1.1		2.6		1.2		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	377	47	52	323	70	45	113	83	94	106	118
Future Volume (veh/h)	153	377	47	52	323	70	45	113	83	94	106	118
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1881	1881	1900	1863	1863	1900	1881	1881	1900
Adj Flow Rate, veh/h	153	377	47	52	323	70	45	113	83	94	106	118
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.78	0.78	0.78	0.91	0.91	0.91	0.75	0.75	0.75	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	1	1	1
Cap, veh/h	453	802	100	433	740	160	395	350	257	422	285	317
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	985	1623	202	967	1497	324	1149	996	732	1190	811	903
Grp Volume(v), veh/h	153	0	424	52	0	393	45	0	196	94	0	224
Grp Sat Flow(s),veh/h/ln	985	0	1825	967	0	1821	1149	0	1727	1190	0	1714
Q Serve(g_s), s	8.3	0.0	10.7	2.6	0.0	9.7	2.1	0.0	5.8	4.4	0.0	6.8
Cycle Q Clear(g_c), s	18.0	0.0	10.7	13.3	0.0	9.7	9.0	0.0	5.8	10.2	0.0	6.8
Prop In Lane	1.00		0.11	1.00		0.18	1.00		0.42	1.00		0.53
Lane Grp Cap(c), veh/h	453	0	902	433	0	900	395	0	607	422	0	602
V/C Ratio(X)	0.34	0.00	0.47	0.12	0.00	0.44	0.11	0.00	0.32	0.22	0.00	0.37
Avail Cap(c_a), veh/h	453	0	902	433	0	900	395	0	607	422	0	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	11.7	16.1	0.0	11.4	20.3	0.0	16.6	20.3	0.0	16.9
Incr Delay (d2), s/veh	2.0	0.0	1.8	0.6	0.0	1.5	0.6	0.0	1.4	1.2	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	5.7	0.8	0.0	5.2	0.7	0.0	3.0	1.6	0.0	3.5
LnGrp Delay(d),s/veh	19.3	0.0	13.4	16.6	0.0	13.0	20.9	0.0	18.0	21.6	0.0	18.7
LnGrp LOS	B		B	B		B	C		B	C		B
Approach Vol, veh/h		577			445			241			318	
Approach Delay, s/veh		15.0			13.4			18.5			19.5	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.0		40.0		30.0		40.0
Change Period (Y+Rc), s		5.4		5.4		5.4		5.4
Max Green Setting (Gmax), s		24.6		34.6		24.6		34.6
Max Q Clear Time (g_c+I1), s		11.0		20.0		12.2		15.3
Green Ext Time (p_c), s		1.0		3.0		1.3		2.6

Intersection Summary	
HCM 2010 Ctrl Delay	16.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	359	17	55	430	72	40	159	48	57	149	240
Future Volume (veh/h)	138	359	17	55	430	72	40	159	48	57	149	240
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	138	359	17	55	430	72	40	159	48	57	149	240
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.86	0.86	0.86	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	1	1	1	2	2	2	2	2	2
Cap, veh/h	341	830	39	438	732	123	294	521	157	451	245	394
Arrive On Green	0.47	0.47	0.47	0.47	0.47	0.47	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	901	1782	84	1012	1571	263	991	1372	414	1167	643	1036
Grp Volume(v), veh/h	138	0	376	55	0	502	40	0	207	57	0	389
Grp Sat Flow(s),veh/h/ln	901	0	1866	1012	0	1834	991	0	1786	1167	0	1680
Q Serve(g_s), s	9.3	0.0	9.4	2.7	0.0	14.1	2.4	0.0	5.7	2.5	0.0	13.1
Cycle Q Clear(g_c), s	23.4	0.0	9.4	12.1	0.0	14.1	15.5	0.0	5.7	8.2	0.0	13.1
Prop In Lane	1.00		0.05	1.00		0.14	1.00		0.23	1.00		0.62
Lane Grp Cap(c), veh/h	341	0	869	438	0	854	294	0	679	451	0	638
V/C Ratio(X)	0.40	0.00	0.43	0.13	0.00	0.59	0.14	0.00	0.30	0.13	0.00	0.61
Avail Cap(c_a), veh/h	341	0	869	438	0	854	294	0	679	451	0	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.4	0.0	12.5	16.6	0.0	13.8	23.7	0.0	15.2	18.1	0.0	17.5
Incr Delay (d2), s/veh	3.6	0.0	1.6	0.6	0.0	3.0	1.0	0.0	1.2	0.6	0.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	5.2	0.8	0.0	7.8	0.7	0.0	3.0	0.9	0.0	6.8
LnGrp Delay(d),s/veh	25.9	0.0	14.1	17.2	0.0	16.7	24.7	0.0	16.4	18.7	0.0	21.9
LnGrp LOS	C		B	B		B	C		B	B		C
Approach Vol, veh/h		514			557			247			446	
Approach Delay, s/veh		17.3			16.8			17.7			21.5	
Approach LOS		B			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		32.0		38.0		32.0		38.0
Change Period (Y+Rc), s		5.4		5.4		5.4		5.4
Max Green Setting (Gmax), s		26.6		32.6		26.6		32.6
Max Q Clear Time (g_c+I1), s		17.5		25.4		15.1		16.1
Green Ext Time (p_c), s		0.9		1.8		2.1		3.3

Intersection Summary	
HCM 2010 Ctrl Delay	18.2
HCM 2010 LOS	B

APPENDIX B

Simtraffic Queuing Results

Intersection: 1: Morrish & Miller

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR	L	TR
Maximum Queue (ft)	513	50	92	118	224	94	312
Average Queue (ft)	214	17	39	35	87	28	112
95th Queue (ft)	453	45	82	83	171	65	242
Link Distance (ft)	615		596		218		434
Upstream Blk Time (%)					0		
Queuing Penalty (veh)					0		
Storage Bay Dist (ft)		500		500		500	
Storage Blk Time (%)					0		
Queuing Penalty (veh)					0		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Morrish & Miller

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR	L	TR
Maximum Queue (ft)	593	70	186	182	161	314	176
Average Queue (ft)	206	26	87	40	91	84	79
95th Queue (ft)	436	61	155	104	154	202	148
Link Distance (ft)	615		596		218		434
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		500		500		500	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Morrish & Miller

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR	L	TR
Maximum Queue (ft)	630	112	223	115	164	93	336
Average Queue (ft)	309	34	119	28	84	42	148
95th Queue (ft)	588	80	182	79	135	78	257
Link Distance (ft)	615		596		218		434
Upstream Blk Time (%)	1						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)		500		500		500	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Morrish & Miller

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	120	303	50	163	88	201	91	201
Average Queue (ft)	80	131	23	44	27	65	27	82
95th Queue (ft)	137	250	52	103	67	138	66	142
Link Distance (ft)		615		596		218		434
Upstream Blk Time (%)						0		
Queuing Penalty (veh)						0		
Storage Bay Dist (ft)	50		500		500		500	
Storage Blk Time (%)	24	21				0		
Queuing Penalty (veh)	77	52				0		

Network Summary

Network wide Queuing Penalty: 129

Intersection: 1: Morrish & Miller

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	120	309	91	202	72	117	138	176
Average Queue (ft)	60	133	31	109	24	71	57	66
95th Queue (ft)	114	240	66	173	60	119	99	120
Link Distance (ft)		615		596		218		434
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	50		500		500		500	
Storage Blk Time (%)	18	24						
Queuing Penalty (veh)	78	38						

Network Summary

Network wide Queuing Penalty: 115

Intersection: 1: Morrish & Miller

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	120	270	112	195	131	133	72	293
Average Queue (ft)	75	137	32	138	28	69	41	131
95th Queue (ft)	128	252	73	195	79	116	71	218
Link Distance (ft)		615		596		218		434
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	50		500		500		500	
Storage Blk Time (%)	36	22						
Queuing Penalty (veh)	139	31						

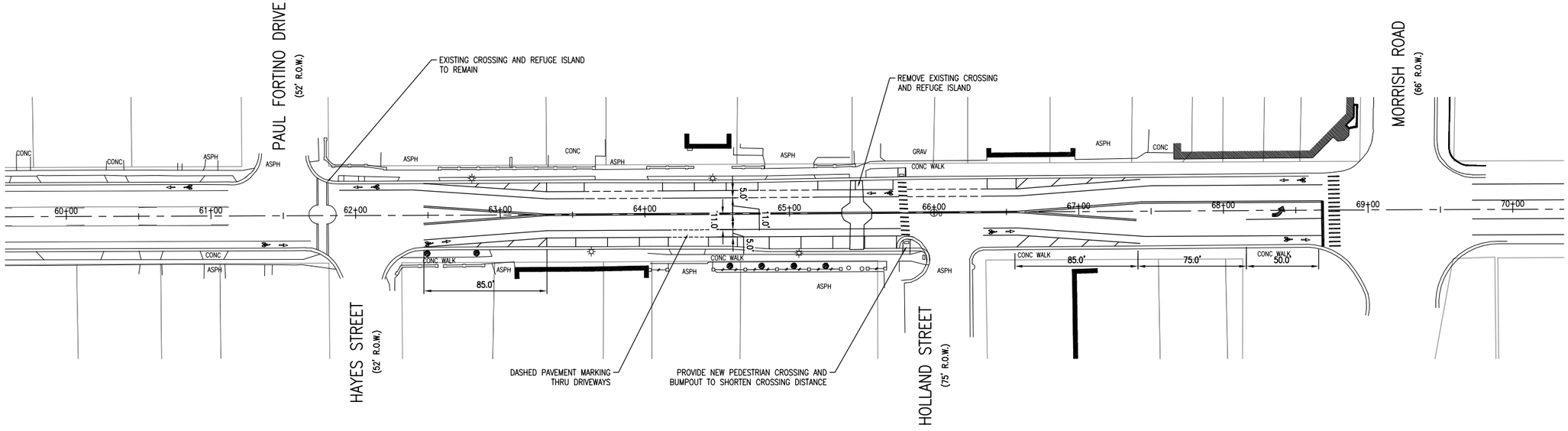
Network Summary

Network wide Queuing Penalty: 170

APPENDIX C

Proposed On-Street Parking Concept

MILLER ROAD
(110' R.O.W)



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OHM
ARCHITECTS ENGINEERS PLANNERS
G3101 W Bristol Rd
Flint, MI 48507
P (810) 396-4015
OHM-ADVISORS.COM

REVISIONS:

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	CITY/TOWNSHIP	SCALE	HORZ DATUM	VERT DATUM
10/1/2021	4023213-0030	MJC	WAL	JHS	GENESEE	SWARTZ CREEK	H: 1"=40' V: 1"=4'	NAD83	NAVD88

CITY OF SWARTZ CREEK
MILLER ROAD ON-STREET PARKING CONCEPT

PAVEMENT MARKINGS AND SIGNAGE SHEET

Know what's **below.**
Call before you dig.

1

DRAWING PATH: P:\4000_4100\4023220030__Miller_Rd_Traf_Study\Drawings\Civil\PMS\210303PMS.dwg Nov 02, 2022 - 8:25am