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R E P O R T

GC&P Bethany Pike (WV 88) Mixed-Use Village Development Traffic Impact Study

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Table of Contents

Table	of Cont	ents List of Tables		i
	0	List of Figures		
	0	List of Appendices		
A. Ex	ecutive :	Summary		1
•		al Overview of the Project		
•	List of	Study Intersections	1	
•	Genera	al Trip Generation and Distribution	1	
•	Mitigat	ion Measures to be Completed Concurrent with Development	3	
•	Summa	ary Conclusion	4	
B. In	roductio	n		6
C. Pr	oject De	scription		6
•	Prelimi	nary Development Program	6	
•	Study I	ntersections	6	
D. Da	ata Colle	ction		7
•	Existin	g Roadway System	7	
•	Turning	g Movement Counts	10	
•	Automa	atic Traffic Recorder Count Data	11	
E. 20	20 Exist	ing Conditions		. 11
•	2020 E	xisting Conditions Capacity Analysis	11	
•		xisting Conditions Queue Analysis		
F. Si		Generation and Distributionlar Trip Generation		. 13
•	Vehicu	lar Trip Distribution	15	
G. 20		out Development (No Build) ConditionsVithout Development (No Build) Traffic Volumes Projections		. 16
•	2030 V	Vithout Development (No Build) Capacity Analysis	16	
•	2030 V	Vithout Development (No Build) Queue Analysis	18	
H. 20	30 With	Development (Build) Conditions		. 18
•	2030 V	Vith Development (Build) Conditions Traffic Volume Projections	18	
•	2030 V	Vith Development (Build) Conditions Capacity Analysis	18	
•	2030 V	Vith Development (Build) Conditions Queue Analysis	21	
I. 203	30 With D	Development (Build) Conditions Mitigated		. 22



•	2030 With Development (Build) Conditions With Mitigation Capacity Analysis	23	
•	2030 With Development (Build) Conditions Mitigated Queue Analysis	24	
J. Addi	tional Analysis		. 24
•	Turn Lane Warrant Evaluation		
K. Con	clusion		. 25
List of T	ables		
Table 1 –	Capacity Analysis Summary		
Table 2 –	Queue Analysis Summary		
Table 3 –	Trip Generation Summary		
Table 4 –	Percent Development Summary		
List of F	igures		
Figure 1 –	Site Location		
Figure 2 –	Site Plan		
Figure 3 –	Study Intersections and Existing Roadway Configurations		
Figure 4 –	2020 Existing Conditions Peak Hour Traffic Volumes		
Figure 5 –	2020 Existing Conditions Peak Hour Pedestrian Volumes		
Figure 6 –	2020 Existing Conditions AM Peak Hour Levels of Service		
Figure 7 –	2020 Existing Conditions PM Peak Hour Levels of Service		
Figure 8 –	2020 Existing Conditions Saturday Peak Hour Levels of Service		
Figure 9 –	Gravity Model Trip Distribution Percentages		
Figure 10	GC&P Development Site Generated Trips		
Figure 11	– 2030 No Build (Without Development) Conditions Peak Hour Traffic Vol	umes	i
Figure 12	 2030 No Build (Without Development) Conditions AM Peak Hour Levels Service 	s of	
Figure 13	 2030 No Build (Without Development) Conditions PM Peak Hour Levels Service 	s of	
Figure 14	 2030 No Build (Without Development) Conditions Saturday Peak Hour Service 	Levels	s of
Figure 15	– 2030 Build (With Development) Conditions Peak Hour Traffic Volumes		
Figure 16	 2030 Build (With Development) Conditions with No Mitigation AM Peak Levels of Service 	Hour	
Figure 17	 2030 Build (With Development) Conditions with No Mitigation PM Peak Levels of Service 	Hour	





- Figure 18 2030 Build (With Development) Conditions with No Mitigation Saturday Peak Hour Levels of Service
- Figure 19 2030 Build (With Development) Conditions Mitigated AM Peak Hour Levels of Service
- Figure 20 2030 Build (With Development) Conditions Mitigated PM Peak Hour Levels of Service
- Figure 21 2030 Build (With Development) Conditions Mitigated Saturday Peak Hour Levels of Service

List of Appendices

- Appendix A Project Correspondence
- Appendix B Field Notes and Signal Plans
- Appendix C Study Intersections Photographs
- Appendix D Turning Movement Count Data and Daily Count Data
- Appendix E Level of Service Definitions
- Appendix F 2020 Existing Conditions Synchro Analyses
- Appendix G Trip Generation and Distribution
- Appendix H Year of Full Build-Out 2030 Without Development (No Build) Synchro Analyses
- Appendix I Year of Full Build-Out 2030 With Development (Build) Synchro Analyses
- Appendix J Year of Full Build-Out 2030 With Development (Build) Mitigated Synchro Analyses
- Appendix K Turn Lane Warrant Evaluation



A. Executive Summary

General Overview of the Project

GC&P Development LLC is currently planning a proposed community-scaled mixed-use development, called the GC&P Bethany Pike (WV 88) Mixed-Use Village, located north of the Woodsdale neighborhood, east of WV 88 (Bethany Pike) and south of Warden Run Road (CR 15), in the City of Wheeling, Ohio County, West Virginia. As part of the planning process, a traffic study has been prepared to identify potential traffic impacts resulting from the preliminary development program within the transportation study area, as in accordance to standard traffic engineering practices.

The preliminary development program for the site will include 997,900 square feet and will encompass a blend of residential, hotel, commercial, office, and entertainment components.

Access to the site is proposed via one (1) full-access driveway on Bethany Pike (WV 88) and one (1) full-access driveway on Warden Run Road (CR 15).

List of Study Intersections

- US Route 40 (National Road) and WV 88 (Bethany Pike) (Existing Signalized)
- WV 88 (Bethany Pike) and GC&P Road (CR 7) (Existing Unsignalized)
- US Route 40 (National Road) and Park Road / Leatherwood Lane (Existing Signalized)
- US Route 40 (National Road) and Mt. DeChantal Road / I-70 Off-Ramps (Existing Signalized)
- Mt. DeChantal Road and I-70 EB On-Ramp/Kroger's Driveway (Existing Unsignalized)
- Mt. DeChantal Road and Kroger's Driveway (Existing Signalized)
- US Route 40 (National Road) and I-70 WB On-Ramp (Existing Unsignalized)
- WV 88 (Bethany Pike) and Warden Run Road (CR 15) (Existing Unsignalized)
- WV 88 (Bethany Pike) and Proposed Site Driveway (Proposed Signalized)
- Warden Run Road and Proposed Site Driveway (Proposed Unsignalized)

General Trip Generation and Distribution

In order to forecast vehicle trips associated with this community-scale mixed-use village, a comparison of local Wheeling trip generation data from The Highlands development was compared to national trip generation standards, Institute of Transportation Engineers (ITE) <u>Trip Generation 10th Edition Supplement</u>.

The Highlands is an existing 2.77 million square foot mixed-use development located in Triadelphia, West Virginia, approximately 5 miles east of the proposed GC&P Bethany Pike (WV 88) Mixed-Use Village Development. The location and development type provide a representative regional Wheeling market mixed-use development trip generator. Based on data contained in a reported completed by HDR Engineering Inc., dated June 19, 2018, for The Highlands, a regional Wheeling market mixed-use development weekday daily trip generation rate of 8.4858 trips per 1,000 SF, was determined. This trip generation rate was compared to the rate for Land Use 820, Shopping Center, presented in ITE *Trip Generation 10th Edition Supplement*. The data provided by ITE for Land Use 820, Shopping Center, reports a national



average weekday daily trip rate of 37.75 trips per 1,000 SF of GLA, which is approximately 4.4 times greater than the regional Wheeling market mixed-use development weekday daily trip generation rate determined from The Highlands data.

Additionally, The Highlands regional Wheeling trip rate was also compared to the forecasted weekday daily trip rate for the GC&P Mixed-Use Village Development utilizing ITE's <u>Trip Generation 10th Edition Supplement</u>. ITE estimates that the 997,900 SF GC&P Mixed-Use Village Development would generate 24,381 trips per day during a typical weekday, which results in a weekday daily site generated trip rate of 24.4323 trips per 1,000 SF of development. The proposed development, which is approximately one-third the size of The Highlands, was forecasted to generated approximately 3 times more weekday daily trips per 1,000 SF when compared to The Highlands regional trip rate.

A comparison of The Highlands regional Wheeling market mixed-use development data to ITE's national data utilized to forecast GC&P's site generated trips shows that GC&P's Mixed-Use Village preliminary development plan, which is approximately one-third the size of The Highlands, is forecasted to generate approximately 3 times more weekday daily trips per 1,000 SF. This comparison shows that the ITE national trip generation data is not an accurate representation of a local regional Wheeling market mixed-use development; therefore, the regional Wheeling market mixed-use development trip rate derived from The Highlands data was utilized and applied to the proposed 997,900 square foot GC&P Bethany Pike (WV 88) Mixed-Use Village Development.

The purpose of a traffic impact study is to provide the most accurate traffic forecast possible for a proposed development. In the absence of specific market derived data, ITE assumptions can be a useful substitute. However, the data derived from the Wheeling market was elected as the most accurate predictor of potential traffic generated by the proposed development.

Even though The Highlands trip generation data was selected as a more accurate trip generation predictor than ITE data, it is anticipated that the forecasted trip results will overstate the proposed project traffic impacts to the study area because of the lack of a local data source to make adjustments to the trips to reflect the limitations posed to the potential supply of vehicle trips due to community scale development type and community scale location.

The resultant anticipated trip generation of the proposed 997,900 square foot GC&P Bethany Pike (WV 88) Mixed-Use Village Development utilizing The Highlands data is presented in Table 3 and summarized below.

Trip Generation Summary GC&P Mixed-Use Village Development, 997,990 SF											
Weekday Daily Traffic	Saturday Daily Traffic	Saturday Daily Traffic Peak Hour Traffic									
			AM Peak Hour								
		Enter	Exit	Total							
		261	109	370							
			PM Peak Hour								
8,468	9,525	Enter	Exit	Total							
		337	447	784							
		Sa	aturday Peak Hour								
		Enter	Exit	Total							
		404	351	755							



The primary distribution of the forecasted site trips is based on a population gravity model utilizing data obtained from the United States Census Bureau's OnTheMap Version 6. OnTheMap is a web-based mapping and reporting application that shows where workers are employed and where they live. The OnTheMap data was used to determine where population live within a 15-minute travel radius of who works in the City of Wheeling. The gravity model is weighted based on an estimated maximum travel time distance, not to exceed a 15-minute travel time radius.

Mitigation Measures to be Completed Concurrent with Development

The results of the traffic analysis detailed in this study indicates that following mitigation measures should be completed concurrent with the proposed GC&P Bethany Pike (WV 88) Mixed-Use Village Development.

On-Site Mitigation:

- WV 88 (Bethany Pike) and Proposed Site Driveway
 - Construct a full-access driveway providing two (2) lanes ingress and two (2) lanes egress. The
 proposed site driveway egress should accommodate an exclusive left turn lane and an exclusive right
 turn lane.
 - Widen the southbound WV 88 approach at the proposed site driveway access to accommodate an exclusive left turn lane and an exclusive through lane. The southbound left turn lane should provide a minimum of 275 feet of storage, exclusive of taper.
 - Widen the northbound WV 88 approach at the proposed site driveway access to provide an exclusive northbound right turn lane and an exclusive through lane. The northbound right turn lane should provide a minimum of 450 feet, exclusive of taper.
 - o Install a fully actuated, uncoordinated, traffic signal at the WV 88 and proposed site driveway intersection. The signal should provide three (3) phases, a protected/permitted left turn phase for the southbound WV 88 approach with a westbound right turn overlap phase, a permissive northbound/southbound phase for WV 88, and a protected westbound phase for the proposed site driveway.
- Warden Run Road (CR 15) and Proposed Site Driveway
 - O Construct a full-access driveway provided one (1) lane ingress and one (1) lane egress. The proposed site driveway northbound egress approach should accommodate both left and right turns.
 - o Install a stop sign on the northbound site driveway approach.

Off-Site Mitigations:

- US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue
 - Optimize signal timing splits and offsets. Optimization of the signal timings includes removal of the existing all-pedestrian phase.
 - Lengthen the existing southbound right turn lane to provide a minimum of 475 feet of storage, exclusive of taper.
 - Install pedestrian push-button actuation at all existing pedestrian crossing locations.
- US Route 40 (National Road) and Park Avenue / Leatherwood Lane
 - Optimize signal timing splits and offsets. Optimization of the signal timings includes removal of the existing all-pedestrian phase.



- o Install pedestrian push-button actuation at all existing pedestrian crossing locations.
- US Route 40 (National Road) and Mt. DeChantal Road / I-70 Off-Ramps
 - Optimize signal timing splits and offsets.
- Mt. DeChantal Road and Kroger's Driveway
 - o Optimize signal timing splits and offsets.

Summary Conclusion

As detailed in the study results of capacity analysis show that the study intersections can maintain or even improve predevelopment (no-build) conditions with implementation of the proposed on-site and off-site mitigation, except at the intersection of US Route 40 and WV 88/Altenheim Avenue. The intersection of US Route 40 and WV 88 (Bethany Pike)/Altenheim Avenue experiences the greatest impacts due to the proposed development. Implementation of the recommended timing optimizations are anticipated to improve operations and maintain pre-development (no-build) conditions for the weekday AM and Saturday peak hours; however, the weekday PM peak hour is anticipated to experience marginal increases in delay.

It can be anticipated that projected traffic volumes will be overstated at the intersection of US Route 40 and WV 88 (Bethany Pike)/Altenheim Avenue due to the proposed development. The proposed community-scaled mixed-use development is anticipated to attract existing local residents. Currently, local residents utilize the US Route 40 corridor and I-70 to access their household needs. However, the proposed community-scaled mixed-use development will provide the household needs for these local residents, thus reducing the volume of traffic originally destined outside the study area via US Route 40 and I-70. Therefore, this change in land use on the WV 88 (Bethany Pike) corridor would benefit from a more balance mix of land uses, rather than the residential only pattern which has evolved in this corridor over time and assist in the mitigation of traffic in the WV 88 (Bethany Pike) and US Route 40 corridors.

In addition, utilization of The Highlands regional Wheeling market mixed-use development data does allow the traffic model developed for this study to reflect the Wheeling market, but on a much larger super-regional commercial scale. The Highlands is reflective of a regional retail power center, meaning that the center contains category-dominant anchors and is adjacent to a highly visible roadway, Interstate 70. The proposed GC&P WV 88 (Bethany Pike) Mixed-Use Village Development is community-scaled, accommodating community scale needs, and is adjacent to WV 88 (Bethany Pike), a principal arterial roadway. It is anticipated that the site generated traffic for the proposed development would be furthered reduced based on the location and community-scaled services are proposed to be provided. Even though The Highlands trip generation data was selected as a more accurate trip generation predictor than ITE data, it is anticipated that the forecasted trip results will overstate the proposed project traffic impacts to the study area because of the lack of a local data source to make adjustments to the trips to reflect the limitations posed to the potential supply of vehicle trips due to community scale development type and community scale location.

Lastly, it is anticipated that traffic volumes will increase throughout the study area due to events at Oglebay Resort and Conference Center. For instance, Oglebay Resort and Conference Center holds an annual event during the holiday season, the Festival of Lights, which occurs from mid-November through mid-January. The Festival of Lights attracts over one million visitors each year. Additional major events at Oglebay Resort and Conference Center includes the Spring Flower and Garden Show, Fourth of July Celebrations, and Octoberfest. However, at the time the traffic counts were completed, no major events were scheduled to occur.



Therefore, based on the information detailed above, it is anticipated that the analysis results presented in the study are highly conservative and implementation of the proposed mitigation measures would accommodate site traffic generated by the proposed GC&P Bethany Pike (WV 88) Mixed-Use Village Development.



B. Introduction

Stahl Sheaffer Engineering, LLC (Stahl Sheaffer) has completed a transportation impact study (TIS) for the GC&P Bethany Pike (WV 88) Mixed-Use Village Development, located north of the Woodsdale neighborhood, bounded by WV 88 (Bethany Pike) to the west and Warden Run Road to the north in the City of Wheeling, Ohio County, West Virginia. The purpose of this report is to identify potential traffic impacts resulting from the preliminary development program within the transportation study area.

C. Project Description

Preliminary Development Program

As shown in Figure 1, the site is located north of the Woodsdale neighborhood, east of WV 88 (Bethany Pike) and south of Warden Run Road (CR 15), in the City of Wheeling, Ohio County, West Virginia. The preliminary development program for the site will encompass a blend of residential, hotel, commercial, office, and entertainment components.

For purposes of this study, the preliminary development program is anticipated to be fully built out by year 2030 and is proposed to include a total of 997,900 square feet (SF) of community-scaled mixed-use development space. A breakdown of the preliminary development program is summarized below.

GC&P Mixed-Use Village Preliminary Development Program										
Development Component Category	Size	Potential Component(s) Per Category								
Residential	132,000 SF	Townhomes								
Hotel	62,400 SF	Hotel								
Entertainment/Recreational	88,500 SF	Fitness Center, Bowling Alley, Movie Theater								
Office	490,000 SF	Office Space, Institutional Space								
Retail	225,000 SF	Specialty Retail, Restaurant(s), Coffee Shop, Grocery Store, Pharmacy Store								
TOTAL GC&P MIXED-USE VILLAGE	997,900 SF									

Access to the site is proposed via one (1) full-access driveway on Bethany Pike (WV 88) and one (1) full-access driveway on Warden Run Road (CR 15).

The preliminary development program conceptual plan for the GC&P Bethany Pike (WV 88) Mixed-Use Village is presented in Figure 2.

Study Intersections

A scope of study was developed through discussions with representatives of the West Virginia Division of Highways (WVDOH) Traffic Engineering Department held on Thursday, January 16, 2020. Based on these discussions, the following intersections were selected for study per direction received from WVDOH:

US Route 40 (National Road) and WV 88 (Bethany Pike) (Existing Signalized)



- WV 88 (Bethany Pike) and GC&P Road (CR 7) (Existing Unsignalized)
- US Route 40 (National Road) and Park Road / Leatherwood Drive (Existing Signalized)
- US Route 40 (National Road) and Mt. DeChantal Road / I-70 Off-Ramp (Existing Signalized)
- Mt. DeChantal Road and I-70 EB On-Ramp/Kroger's Driveway (Existing Unsignalized)
- Mt. DeChantal Road and Kroger's Driveway (Existing Signalized)
- US Route 40 (National Road) and I-70 WB On-Ramp (Existing Unsignalized)
- WV 88 (Bethany Pike) and Warden Run Road (CR 15) (Existing Unsignalized)
- WV 88 (Bethany Pike) and Proposed Site Driveway (Proposed Signalized)
- Warden Run Road and Proposed Site Driveway (Proposed Unsignalized)

The study intersections and existing roadway configurations are illustrated in Figure 3. A copy of the TIS Scope of Study approved by WDOH is included in the Appendix to this report.

D. Data Collection

Existing Roadway System

In order to better understand the study intersections and roadways, a field reconnaissance of the study area was conducted. Information obtained at each study intersections during from this field review included information on roadway widths, roadway grades, lane configurations, traffic control and posted speed limits.

The transportation study area is serviced by public transit from the Ohio Valley/Eastern Ohio Regional Transportation Authority (OVRTA and EORTA). A total of two (2) public transit routes are serviced by OVRTA within the study area; the Elm Grove/Highlands Route and the Mt. DeChantal Route. Both routes traverses US Route 40 and or WV 88, within the transportation study area.

The transportation study area encompasses the following roadways:

- Interstate 70 (I-70) I-70 is a major east-west Interstate that is part of the US Interstate system spanning over 2,100 miles from Utah to Maryland. Access to I-70 occurs along Mt. DeChantal Road and US Route 40 within the study area.
- US Route 40 (National Road) US Route 40 is a major east-west route that is part of the US Highway system, which stretches just over 2,200 miles, between Utah and New Jersey. US Route 40 is classified as a principal arterial west of WV 88 and a minor arterial east of WV 88. Within the vicinity of the study area, US Route 40 provides two-lanes of travel in both the east-west direction with a two-way center left turn lane.
- **WV 88 (Bethany Pike)** WV 88 is a West Virginia State Route providing one-lane of travel in both the north-south directions and is classified as a principal arterial within the study area.
- GC&P Road (CR 7) GC&P Road is a County Route providing one-lane of travel in both the north-south directions and is classified as a major collector within the study area.



- Mt. DeChantal Road Mt. DeChantal Road is a principal arterial that provides a north-south connection between I-70 and US Route 40.
- Warden Run Road (CR 15) Warden Run Road is a County Route providing one lane of travel in both the east-west directions and is classified as a major collector within the study area.

The following provides a description of the intersections selected for study within the transportation study area.

US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue – At the intersection of US Route 40 and WV 88/Altenheim Avenue, the eastbound US Route 40 approach provides two (2) lanes, an exclusive left turn lane and a shared through/right turn lane. The westbound US Route 40 approach provides two (2) lanes, a shared left turn/through lane and a shared through/right turn lane. The northbound Altenheim Avenue approach provides a single lane of travel for all left turn, through and right turn movements. The southbound WV 88 approach provides two (2) lanes, a shared left turn/through lane and an exclusive right turn lane. This intersection is controlled by an actuated-coordinated signal within the coordinated US Route 40 signal system. The signal operates at a 95 second cycle length during the AM peak hour and a 115 second cycle length during the PM and Saturday peak hours. The posted speed limit on US Route 40 is 35 miles per hour (mph), the posted speed limit on WV 88 is 30 mph, and the posted speed limit on Altenheim Avenue is 25 mph.

WV 88 (Bethany Pike) and GC&P Road (CR 7)/Church Driveway – At the intersection of WV 88 and GC&P Road, the eastbound WV 88 approach provides two (2) lanes, a left turn lane and a shared through/right turn lane. The exclusive eastbound left turn lane provides 130-feet of vehicular storage. The westbound WV 88 approach provides one (1) lane for all applicable movements. The southbound GC&P Road approach provides one (1) lane for all applicable movements. The northbound Church Driveway approach provides one (1) lane for all applicable movements. This intersection operates as two-way stop controlled, with a stop sign on the northbound and southbound approaches. The posted speed limit on WV 88 is 30 mph, the posted speed limit on GC&P Road is 25 mph and there is no posted speed limit in the Church Driveway.

US Route 40 (National Road) and Park Road/TJ's Driveway - At the intersection of US Route 40 and Park Road/TJ's Driveway, the eastbound US Route 40 approach provides three (3) lanes, an exclusive left turn lane, an exclusive through lane, and a shared through/right turn lane. The exclusive left turn lane provides 150-feet of vehicular storage. The westbound US Route 40 approach provides three (3) lanes, an exclusive left turn lane, which is part of the two-way center left turning lane, an exclusive through lane, and a shared through/right turn lane. The exclusive left turn lane provides approximately 60-feet of storage. The southbound Park Road approach has two (2) lanes, a shared left turn and through lane and an exclusive channelized right turn lane. The TJ's Driveway northbound approach has one (1) lane for all applicable movements. The intersection of US Route 40 and Park Road/TJ's Driveway is controlled through an actuated-coordinated traffic signal and is the master controller within the coordinated US Route 40 signal system. This intersection traffic signal also controls the signal at the intersection of US Route 40 and Leatherwood Lane/gas station driveway, operating as a clustered intersection traffic signal control. The intersection operates at a 95 second cycle length during the AM peak hour and a 115 second cycle length during the PM and Saturday peak hours. The posted speed limit on US Route 40 is 35 mph, the posted speed limit on Park Road is 25 mph, and there is no posted speed limit on TJ's driveway.



US Route 40 (National Road) and Leatherwood Lane/Gas Station Driveway – At the intersection of US Route 40 and Leatherwood Lane/Gas Station Driveway, the eastbound US Route 40 approach provides two (2) lanes, one (1) shared left turn/through lane and one (1) shared through/right turn lane. The westbound US Route 40 approach provides three (3) lanes, one (1) exclusive left turn lane, one (1) exclusive through lane and one (1) shared through/right turn lane. The exclusive left turn lane provides 105-feet of vehicle storage. The northbound Leatherwood Lane approach provides one (1) lane for all applicable movements. The southbound Gas Station Driveway approach provides one (1) lane for applicable movements. The intersection is controlled by the actuated-coordinated traffic signal controller at the intersection US Route 40 and Park Road. The intersection operates at a 95 second cycle length during the AM peak hour and a 115 second cycle length during the PM and Saturday peak hours. The posted speed limit on US Route 40 is 35 mph, the posted speed limit on Leatherwood Lane is 25 mph, and there is no posted speed limit for the Gas Station Driveway.

US Route 40 (National Road) and Mt. DeChantal Road – At the intersection of US Route 40 and Mt. DeChantal Road, the eastbound US Route 40 approach provides two (2) lanes, one exclusive through lane and one shared through/right turn lane. The westbound US Route 40 approach provides three (3) lanes, one exclusive left turn lane and dual through lanes. The northbound Mt. DeChantal Road approach provides dual left turn lanes and dual channelized right turn lanes. The intersection of US Route 40 and Mt. DeChantal Road is controlled through an actuated-coordinated traffic signal within the coordinated US Route 40 signal system. This intersections traffic signal also controls the signal at the intersection of Mt. DeChantal Road and I-70 EB Off-Ramps, operating as a clustered intersection traffic signal control. The intersection operates at a 95 second cycle length during the AM peak hour and a 115 second cycle length during the PM and Saturday peak hours. The posted speed limit on US Route 40 is 35 mph and the posted speed limit on Mt. DeChantal Road is 25 mph.

Mt. DeChantal Road and I-70 EB Off-Ramp – At the intersection of Mt. DeChantal Road and the I-70 EB Off-Ramp, the northbound Mt. DeChantal approach provides two (2) lanes, an exclusive through lane and a shared through/right turn lane. The southbound Mt. DeChantal approach provides one (1) exclusive through lane. The eastbound I-70 EB Off-Ramp approach provides two (2) lanes, a shared left turn/through lane and a shared through/right turn lane. The intersection is controlled by the actuated-coordinated traffic signal controller at the intersection of US Route 40 and Mt. DeChantal Road. The intersection operates at a 95 second cycle length during the AM peak hour and a 115 second cycle length during the PM and Saturday peak hours. The posted speed limit on Mt. DeChantal Road is 25 mph and the posted speed limit on the I-70 EB Off-Ramp is 35 mph.

Mt. DeChantal Road and I-70 EB On-Ramp / Kroger's Driveway – At the intersection of Mt. DeChantal Road and I-70 EB On-Ramp/Kroger's Driveway the westbound Kroger's Driveway approach has two (2) lanes, one exclusive left turn lane and one exclusive channelized right turn lane. The two lanes are separated by a median with the left turn lane operating as stop controlled and the right turn lane operating as yield controlled. The northbound Mt. DeChantal Road approach provides two (2) lanes, one (1) exclusive left turn lane and one (1) exclusive through lane. The exclusive left turn lane provides 170-feet of vehicular storage. The southbound Mt. DeChantal Road approach provides one (1) lane for the through and right turn movements. The intersection operates as two-way stop controlled, with a stop sign on the westbound Kroger's Driveway approach. The posted speed limit on Mt. DeChantal Road is 25 mph and there is no posted speed limit on the Kroger's Driveway.



Mt. DeChantal Road and Kroger's Driveway – At the intersection of Mt. DeChantal Road and Kroger's Driveway the westbound Kroger's Driveway approach provides two (2) lanes, one (1) exclusive left turn lane and one (1) exclusive right turn lane. The exclusive right turn lane provides 80-feet of vehicular storage. The northbound Mt. DeChantal Road approach provides two (2) lanes, one (1) exclusive through lane and one (1) exclusive right turn lane. The exclusive right turn lane provides 120-feet of vehicular storage. The southbound Mt. DeChantal Road approach provides two (2) lanes, one (1) exclusive left turn lane and one (1) exclusive through lane. The exclusive left turn lane provides 210-feet of vehicular storage. The intersection operates as an actuated-coordinated signal as part of the coordinated US Route 40 signal system. The intersection operates at a 95 second cycle length during the AM peak hour and a 115 second cycle length during the PM and Saturday peak hours. The posted speed limit on Mt. DeChantal Road is 25 mph and there is no posted speed limit on Kroger's Driveway.

US Route 40 (National Road) and I-70 WB On-Ramp – At the intersection of US Route 40 and the I-70 WB On-Ramp, the eastbound US Route 40 approach provides two (2) lanes, one (1) exclusive through lane and one (1) shared through and right turn lane. The westbound US Route 40 approach provides two (2) lanes, one (1) shared left turn/through lane and one (1) exclusive through lane. There is no traffic control at this intersection; however, all westbound left turns onto the I-70 ramp must yield to oncoming traffic. The posted speed limit on US Route 40 is 35 mph.

WV 88 (Bethany Pike/Oglebay Drive) and Warden Run Road (CR 15) – At the intersection of WV 88 and Warden Run Road the north eastbound WV 88 approach provides one (1) lane for the shared through/right turn movements. The westbound Warden Run Road approach provides one (1) lane for the shared left turn/right turn movements. The south westbound Oglebay Drive approach provides one (1) lane for the shared left turn/through movements. The intersection operates as two-way stop controlled, with a stop sign at the westbound Warden Run Road approach. The posted speed limit on WV 88 is 30 mph and the posted speed limit on Warden Run Road is 30 mph.

Photographs of the study roadways and intersections, along with copies of the traffic signal permit drawings for the signalized study intersection and sketches of the unsignalized intersection have been included in the Appendix to this report.

Turning Movement Counts

Manual turning movement counts were performed by Tri-State Traffic Data, a traffic data collection firm, at each existing study intersection from 7:00 AM to 9:00 AM and from 3:00 PM to 6:00 PM on Friday, January 24, 2020 and from 11:00 AM to 2:00 PM on Saturday, January 25, 2020. The turning movement counts were performed while local schools and universities were in session and were completed prior to the I-70 construction project. In addition, no major events were scheduled to occur at Oglebay Resort and Conference Center at the time the turning movement counts were completed. The turning movement counts include tabulations of typical vehicles (passenger vehicles), heavy vehicles (trucks and buses), bicycles and pedestrians crossing each approach to the study intersections. The 2020 existing peak hour traffic volumes determined form these counts utilized the peak hour of each intersection for the weekday AM peak hour, weekday PM peak hour and Saturday peak hour.

Upon review of the turning movement counts, illegal movements were recorded at the intersection of Mt. DeChantal Road and the I-70 EB On-Ramp/Kroger's Driveway on the westbound approach. The westbound Kroger's Driveway approach only permits left turns and right turns onto Mt. DeChantal Road and prohibits the through movement onto the I-70 eastbound on-ramp. However, this westbound through movement was observed to occur, resulting in 9 illegal



through movements during the weekday AM peak hour, 21 illegal through movements during the weekday PM peak hour, and 26 illegal through movements during the Saturday peak hour. These illegal westbound through movements were rerouted to turn right onto Mt. DeChantal at Kroger's Driveway signalized intersection and then turn left from Mt. DeChantal Road onto the I-70 eastbound on-ramp. In addition, utilization of the peak hour traffic volumes per intersection resulted in peak hour traffic volumes between various intersections to not balance. Therefore, existing traffic volumes were balanced between intersections where applicable.

The resultant 2020 existing conditions peak hour traffic volumes determined from the turning movement counts with the adjustments detailed are presented in Figure 4. In addition, the 2020 existing conditions peak hour pedestrian volumes determined from the turning movement counts are presented in Figure 5.

Summaries of the data collected during the turning movement counts at each of the study intersections, as well as the existing peak hour traffic volume development are included in the Appendix to this report.

Automatic Traffic Recorder Count Data

Automatic traffic recorder (ATR) count data was obtained from the most recent available West Virginia Division of Highways (WVDOH) data within the study area. WVDOH ATR data included approaches to the east and to the north of US Route 40 (National Road) and WV 88 (Bethany Pike) intersection. The WVDOH ATR counts conducted on WV 88, north of US Route 40, were completed from Monday, July 21, 2014 through Wednesday, July 23, 2014. The WVDOH ATR counts conducted on US Route 40, east of WV 88, were completed from Tuesday, July 11, 2017 through Wednesday, July 12th, 2017. A summary of the WVDOH ATR data is as follows:

Roadway	Direction of Travel	Traffic Volumes (vpd)
	Eastbound	5,885
US Route 40	Westbound	5,239
	Combined	11,124
	Northbound	6,807
WV 88	Southbound	6,900
	Combined	13,707

ATR count data and spreadsheets are provided in Appendix to this report.

E. 2020 Existing Conditions

2020 Existing Conditions Capacity Analysis

Capacity analyses were performed for each study intersection using the existing 2020 traffic volumes, as shown in Figure 4, and existing intersection operations for the weekday AM, weekday PM, and Saturday peak hours. The analysis was performed using Synchro Signal Timing and Analysis Software (Version 10.3, Build 122, Revision 0). The capacity/level of service (LOS) analysis results reported in this study were based on methodologies published in the <u>Highway Capacity Manual 6th Edition</u>, by the Transportation Research Board (HCM 6th Edition), where applicable. Signalized intersections



that do not adhere to the standard NEMA phasing, such as two (2) intersections operating under one controller (clustered intersections), or intersections with exclusive pedestrian phases, utilized Synchro percentile delay results to determine the level of service results. Both capacity analysis methodology determines how well an intersection, approach to an intersection, or movement at an intersection operates, and assigns to it a level of service (LOS) A through F, with LOS A representing the best operating conditions and LOS F, the worst. Detailed definitions of LOS have been included in the Appendix to this report.

The results of the capacity calculations performed for the existing conditions of the transportation study area are summarized in Table 1.

The 2020 existing conditions capacity analyses revealed that all movements, approaches and overall intersection operate at a LOS D or better, except for the following:

- US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue
 - o Northbound Altenheim Avenue approach operates at a LOS F (156.8 seconds of delay) during the weekday AM peak hour and at a LOS F (100.3 seconds of delay) during the weekday PM peak hour.
 - Southbound WV 88 through and left turn movements operate at a LOS E (58.5 seconds of delay)
 during the Saturday peak hour.
- WV 88 (Bethany Pike) and GC&P Road (CR 7)/Church Driveway
 - o Northbound Church Driveway approach operates at a LOS E (43.4 seconds of delay) during the weekday PM peak hour.
- US Route 40 (National Road) and Leatherwood Lane/Gas Station Driveway
 - Northbound Leatherwood Lane approach operates at a LOS E (58.9 seconds of delay) during the Saturday peak hour.
- US Route 40 (National Road) and Mt. DeChantal Road
 - Westbound US Route 40 left turn lane operates at a LOS E (65.6 seconds of delay) during the weekday
 PM peak hour.
- Mt. DeChantal Road and I-70 EB Off-Ramp
 - Eastbound I-70 EB Off-Ramp approach operates at a LOS E (56.4 seconds of delay) during the weekday
 PM peak hour.
- Mt. DeChantal Road and Kroger's Driveway
 - Westbound Kroger's Driveway right turn lane operates at a LOS E (62.6 seconds of delay) during the weekday AM peak hour, at a LOS E (69.9 seconds of delay) during the weekday PM peak hour and at a LOS E (68.9 seconds of delay) during the Saturday peak hour.



 Westbound Kroger's Driveway approach operates at a LOS E (61.0 seconds of delay) during the weekday AM peak hour, at a LOS E (68.3 seconds of delay) during the weekday PM peak hour and at a LOS E (67.8 seconds of delay) during the Saturday peak hour.

The 2020 existing conditions weekday AM, weekday PM, and Saturday peak hour levels of service are summarized on Figures 6, 7, and 8, respectively.

The Synchro printouts are included in the Appendix to this report.

2020 Existing Conditions Queue Analysis

Traffic volumes at the study intersections were used to perform queuing analyses for each approach/lane group for the weekday AM, weekday PM, and Saturday peak hour for the 2020 existing conditions. Synchro was utilized for the queue analyses and the 95th percentile queue length results are reported in Table 2. Based on the results of the analysis, the following queues are anticipated to extend beyond their available storage:

- US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue
 - o The northbound Altenheim Avenue shared left turn/through/right turn movement is forecasted to queue beyond its available queue capacity during the weekday AM and weekday PM peak hours.

All other queues are contained within their available storage. Copies of the queuing analyses performed for the 2020 existing conditions are included in the Appendix to this report.

F. Site Traffic Generation and Distribution

Vehicular Trip Generation

The GC&P Bethany Pike (WV 88) Mixed-Use Village preliminary development program concept plan entails a blend of residential, hotel, commercial, office, and entertainment components. In order to forecast vehicle trips associated with this community-scale mixed-use village, a comparison of local Wheeling trip generation data from The Highlands development was compared to national trip generation standards, Institute of Transportation Engineers (ITE) <u>Trip</u> Generation 10th Edition Supplement.

The Highlands is an existing mixed-use development located in Triadelphia, West Virginia, approximately 5 miles east of the proposed GC&P Bethany Pike (WV 88) Mixed-Use Village Development. The location and development type provide a representative regional Wheeling market mixed-use development trip generator. The Highlands includes approximately 2.77 million square feet of mixed-use development space, which includes major retailers, such as Cabela's, Target, Wal-Mart, and Kohl's, numerous restaurants, a movie theater, office space, and various other services. A report completed by HDR Engineering, Inc., dated June 19, 2018, documented traffic data collected at The Highlands along Cabela Drive in March 2018 and April 2018. This report indicates that 23,500 vehicles per day were observed on Cabela Drive at The Highlands entrance. Based on the existing daily traffic volume and size of The Highlands, a regional Wheeling market mixed-use development weekday daily trip generation rate, trips per 1,000 SF, was determined. The



Highlands was estimated to generate approximately 8.4858 weekday daily trips per 1,000 SF of development. A summary of The Highlands data is presented below.

Development	Size (Sq. Ft.)	Weekday Daily Site Generated Traffic (Trips Per Day) ⁽¹⁾	Weekday Daily Site Generated Trip Rate (Trips Per 1,000 SF)
The Highlands	2,769,331	23,500	8.4858

(1) Daily site generated traffic obtained from daily count data summarized in <u>The Highlands Multiple Project Agreement; Task Order #6, Traffic Data Collection Letter Report</u> prepared by HDR Engineering, Inc., dated June 19, 2018.

The Highlands weekday daily site generated trip rate of 8.4858 trips per 1,000 SF of development was compared to the rate for Land Use 820, Shopping Center, presented in ITE <u>Trip Generation 10th Edition Supplement</u>. The data provided by ITE for Land Use 820, Shopping Center, reports a national average weekday daily trip rate of 37.75 trips per 1,000 SF of GLA, which is approximately 4.4 times greater than the regional Wheeling market mixed-use development weekday daily trip generation rate determined from The Highlands data.

The weekday daily site generated trip rate for The Highlands was then compared to the forecasted weekday daily trip rate for the GC&P Mixed-Use Village Development utilizing ITE's <u>Trip Generation 10th Edition Supplement</u>. ITE forecasts that the 997,900 SF GC&P Mixed-Use Village Development would generate 24,381 trips per day during a typical weekday. This results in a weekday daily site generated trip rate of 24.4323 trips per 1,000 SF of development.

A comparison of The Highlands regional Wheeling market mixed-use development data to ITE's national data utilized to forecast GC&P's site generated trips shows that GC&P's Mixed-Use Village preliminary development plan, which is approximately one-third the size of The Highlands, is forecasted to generate approximately 3 times more weekday daily trips per 1,000 SF. A comparison summary The Highlands data and GC&P data utilizing ITE, is presented below.

Development	Source	Size (Sq. Ft.)	Weekday Daily Site Generated Traffic (Trips Per Day) ⁽¹⁾	Weekday Daily Site Generated Trip Rate (Trips Per 1,000 SF)
The Highlands	Locally Collected Data ⁽¹⁾	2,769,331	23,500	8.4858
GC&P	GC&P ITE ⁽²⁾		24,381	24.4323
	Percent Difference (Between GC&P and The Highlands)		3.7%	187.9%

This comparison shows that the ITE national trip generation data is not an accurate representation of a local regional Wheeling market mixed-use development; therefore, the regional Wheeling market mixed-use development trip rate derived from The Highlands data was utilized and applied to the proposed 997,900 square foot GC&P Bethany Pike (WV 88) Mixed-Use Village Development.

The purpose of a traffic impact study is to provide the most accurate traffic forecast possible for a proposed development. In the absence of specific market derived data, ITE assumptions can be a useful substitute. However, the data derived from the Wheeling market was elected as the most accurate predictor of potential traffic generated by the proposed development.

Even though The Highlands trip generation data was selected as a more accurate trip generation predictor than ITE data, it is anticipated that the forecasted trip results will overstate the proposed project traffic impacts to the study



area because of the lack of a local data source to make adjustments to the trips to reflect the limitations posed to the potential supply of vehicle trips due to community scale development type and community scale location.

The resultant anticipated trip generation of the proposed GC&P Bethany Pike (WV 88) Mixed-Use Village Development utilizing The Highlands data is presented in Table 3 and summarized below.

Trip Generation Summary GC&P Mixed-Use Village Development, 997,990 SF										
Weekday Daily Traffic	Saturday Daily Traffic Peak Hour Traffic									
			AM Peak Hour							
		Enter	Exit	Total						
		261	109	370						
			PM Peak Hour							
8,468	9,525	Enter	Exit	Total						
		337	447	784						
		Sa	aturday Peak Hour							
		Enter	Exit	Total						
		404	351	755						

Detailed trip generation calculations are included in the Appendix to this report.

Vehicular Trip Distribution

The primary trip distribution is based on a population gravity model utilizing data obtained from the United States Census Bureau's OnTheMap Version 6. OnTheMap is a web-based mapping and reporting application that shows where workers are employed and where they live. The City of Wheeling was selected as the centroid for the OnTheMap data to determine where population live within a 15-minute travel radius of who works in the City of Wheeling, for determination of the forecasted primary trip distribution.

The 15-minute travel radius encompassed all census tracts within Ohio County, West Virginia and various census tracks within Marshall County, West Virginia and Belmont County, Ohio. Each census tract identified was assigned a primary travel route into the study area, based on the study area roadways. The gravity model was then applied to the census tract population results from OnTheMap and the average travel time from each census tract to the proposed development. The results the gravity model distribution identified the following primary distributions:

Travel Route (To/From)	Commercial/Office/Entertainment Primary Distribution
I -70 West	20%
I-70 East	5%
US Route 40 West	9%
US Route 40 East	48%
Mt. DeChantal Road	6%
GC&P Road North	3%
Warden Run Road East	5%
Bethany Pike East	4%
Total	100%



The primary trip distribution based on the gravity model for the proposed development is shown in Figure 9.

The primary distribution was applied to the forecasted site generated traffic summarized Table 3. The resultant forecasted GC&P Bethany Pike (WV 88) Mixed-Use Development site generated trips are shown in Figure 10. Detailed trip distribution calculations are included in the Appendix to this report.

G. 2030 Without Development (No Build) Conditions

Construction of the proposed GC&P Bethany Pike (WV 88) Mixed-Use Village Development is anticipated to reach full build-out in approximately 10 years, year 2030, and the build-out is anticipated to occur over multiple phases. However, for purposes of this study, only the full build-out of the development, year 2030, has been evaluated. Therefore, traffic volumes were projected for the study intersections for year of full build-out 2030 conditions.

2030 Without Development (No Build) Traffic Volumes Projections

The forecasted year 2030 without development (no build) traffic volumes for the weekday AM, weekday PM and Saturday peak hours were determined by applying a 1.337% per year background traffic growth rate to the 2020 existing peak hour traffic volumes. The background traffic growth rate was obtained from WVDOH Planning Division. The resultant 2030 without development (no build) traffic volumes for the weekday AM, weekday PM and Saturday peak hours are presented in Figure 11.

2030 Without Development (No Build) Capacity Analysis

Capacity calculations were performed for the existing study intersections for the 2030 without development (no build) traffic volumes for the weekday AM, weekday PM and Saturday peak hours. The 2030 without development capacity analysis utilized the existing operating conditions, as previously detailed, at the existing study intersections. The results of the capacity calculations performed for the 2030 without development (no build) traffic volumes are summarized in Table 1 for the weekday AM, weekday PM and Saturday peak hours.

The 2030 without development (no build) conditions capacity analyses revealed that all movements, approaches and overall intersection operate at a LOS D or better, except for the following:

- US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue
 - Northbound Altenheim Avenue approach is forecasted to operate at a LOS F (258.9 seconds of delay) during the weekday AM peak hour and at a LOS F (160.5 seconds of delay) during the weekday PM peak hour.
 - Southbound WV 88 through and left turn movements are forecasted to operate at a LOS E (60.9 seconds of delay) during the Saturday peak hour.
 - The intersection of US Route 40 and WV 88 is forecasted to operate at a LOS E (61.3 seconds of delay) during the weekday AM peak hour.



- WV 88 (Bethany Pike) and GC&P Road (CR 7)/Church Driveway
 - Northbound Church Driveway approach is forecasted to operate at a LOS F (60.5 seconds of delay) during the weekday PM peak hour.
- US Route 40 (National Road) and Leatherwood Lane/Gas Station Driveway
 - Westbound US Route 40 through and right turn movements are forecasted to operate at a LOS F (76.1 seconds of delay) during the weekday AM peak hour.
 - Westbound US Route 40 approach is forecasted to operate at a LOS E (74.1 seconds of delay) during the weekday AM peak hour.
 - Westbound US Route 40 left turn movement is forecasted to operate at a LOS E (65.8 seconds of delay) during the weekday PM peak hour.
 - Northbound Leatherwood Lane approach is forecasted to operate at a LOS E (62.9 seconds of delay)
 during the Saturday peak hour.
- US Route 40 (National Road) and Mt. DeChantal Road
 - Westbound US Route 40 left turn movement is forecasted to operate at a LOS F (106.0 seconds of delay) during the weekday PM peak hour.
 - Westbound US Route 40 approach is forecasted to operate at a LOS E (63.9 seconds of delay) during the weekday PM peak hour.
- Mt. DeChantal Road and I-70 EB Off-Ramp
 - Eastbound I-70 EB Off-Ramp approach is forecasted to operate at a LOS E (59.0 seconds of delay) during the weekday AM peak hour and at a LOS E (77.9 seconds of delay) during the weekday PM peak hour.
- Mt. DeChantal Road and Kroger's Driveway
 - Westbound Kroger's Driveway right turn lane is forecasted to operate at a LOS E (62.6 seconds of delay) during the weekday AM peak hour, at a LOS E (69.9 seconds of delay) during the weekday PM peak hour and at a LOS E (68.9 seconds of delay) during the Saturday peak hour.
 - Westbound Kroger's Driveway approach operates at a LOS E (61.0 seconds of delay) during the weekday AM peak hour, at a LOS E (68.3 seconds of delay) during the weekday PM peak hour and at a LOS E (67.8 seconds of delay) during the Saturday peak hour.

The 2030 without development (no build) conditions weekday AM, weekday PM, and Saturday peak hour levels of service are summarized on Figures 12, 13, and 14, respectively.

Copies of the capacity analyses performed using Synchro for the 2030 without development (no build) conditions are included in the Appendix to this report.



2030 Without Development (No Build) Queue Analysis

Traffic volumes at each study intersections were used to perform queuing analyses for each approach/lane group for the weekday AM, weekday PM and Saturday peak hours for the 2030 without development (no build) conditions. Synchro was utilized for the queue analyses and the 95th percentile queue length results are reported in Table 2. Based on the results of the analysis, the following queues are anticipated to extend beyond their available storage:

- US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue
 - o The northbound Altenheim Avenue shared left turn/through/right turn movement is forecasted to queue beyond its available queue capacity during the weekday AM and weekday PM peak hours.
- US Route 40 (National Road) and Park Road
 - The eastbound US Route 40 left turn movement is forecasted to queue beyond its available queue capacity during the weekday AM peak hour. However, this queue can be contained within the existing two-way center left turn lane.

All other queues are forecasted to be contained within the available storage for each existing turn lane. Copies of the queuing analyses performed using Synchro for the 2030 without development (no build) conditions are included in the Appendix to this report.

H. 2030 With Development (Build) Conditions

The following details the determination of 2030 with development (build) conditions traffic volumes and results of the capacity and queue analyses completed.

2030 With Development (Build) Conditions Traffic Volume Projections

The 2030 with development (build) conditions peak hour traffic volumes were determined by applying the total forecasted peak hour site generated trips for the proposed GC&P Bethany Pike (WV 88) Mixed-Use Village Development for the weekday AM, weekday PM and Saturday peak hours (Figure 10) to the 2030 without development (no build) peak hour traffic volumes (Figure 11). The resultant 2030 with development (build) peak hour traffic volumes for the weekday AM, weekday PM and Saturday peak hours are summarized in Figure 15.

2030 With Development (Build) Conditions Capacity Analysis

Capacity analyses were performed at the study intersections for the 2030 with development (build) conditions for the weekday AM, weekday PM and Saturday peak hour traffic volumes, as shown in Figure 15. The opening year 2030 with development capacity analysis utilized existing operating conditions as previously detailed, assuming no roadway or timing improvements, at the existing study intersections. The results of the capacity calculations performed for the 2030 with development (build) traffic volumes are summarized in Table 1 for the weekday AM, weekday PM and Saturday peak hours.



The capacity analysis results indicate that the following movements, approaches, and overall intersection level of service decrease levels of service and/or increase delay to unacceptable conditions:

- US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue
 - Eastbound US Route 40 left turn movement is forecasted to decrease level of service and increase delay as follows:
 - AM Peak Hour: from LOS D (45.2 seconds of delay) to LOS F (203.5 seconds of delay)
 - PM Peak Hour: from LOS D (40.1 seconds of delay) to LOS F (144.2 seconds of delay)
 - Saturday Peak Hour: from LOS B (14.9 seconds of delay) to LOS E (60.2 seconds of delay)
 - Eastbound US Route 40 approach is forecasted to decrease level of service and increase overall approach delay as follows:
 - AM Peak Hour: from LOS C (33.5 seconds of delay) to LOS F (139.5 seconds of delay)
 - PM Peak Hour: from LOS C (25.3 seconds of delay) to LOS F (88.3 seconds of delay)
 - Northbound Altenheim Avenue approach is forecasted to decrease level of service and increase overall approach delay as follows:
 - AM Peak Hour: from LOS F (258.9 seconds of delay) to LOS F (433.4 seconds of delay)
 - PM Peak Hour: from LOS F (160.5 seconds of delay) to F (1,529.9 seconds of delay)
 - Saturday Peak Hour: from LOS D (43.4 seconds of delay) to LOS E (55.1 seconds of delay)
 - Southbound WV 88 through and left turn movements are forecasted to decrease level of service and increase delay as follows:
 - AM Peak Hour: from LOS D (48.5 seconds of delay) to LOS E (74.6 seconds of delay)
 - PM Peak Hour: from LOS D (49.0 seconds of delay) to LOS F (268.4 seconds of delay)
 - Saturday Peak Hour: from LOS E (60.9 seconds of delay) to LOS F (154.0 seconds of delay)
 - Southbound WV 88 approach is forecasted to decrease level of service and increase overall approach delay as follows:
 - PM Peak Hour: from LOS B (15.3 seconds of delay) to LOS F (104.6 seconds of delay)
 - Saturday Peak Hour: from LOS B (19.9 seconds of delay) to LOS E (62.0 seconds of delay)
 - The overall intersection of US Route 40 and WV 88 is forecasted to decrease level of service and increase delay as follows:
 - AM Peak Hour: from LOS E (61.3 seconds of delay) to LOS F (112.5 seconds of delay)
 - PM Peak Hour: from LOS D (40.0 seconds of delay) to LOS F (216.0 seconds of delay)
 - Saturday Peak Hour: from LOS B (16.9 seconds of delay) to LOS F (144.9 seconds of delay)
- US Route 40 (National Road) and Leatherwood Lane/Gas Station Driveway
 - Westbound US Route 40 shared through and right turn movement is forecasted to decrease level of service an increase delay as follows:
 - AM Peak Hour: from LOS E (76.1 seconds of delay) to LOS F (92.6 seconds of delay)



- Westbound US Route 40 approach is forecasted to decrease level of service and increase delay as follows:
 - AM Peak Hour: from LOS E (74.1 seconds of delay) to LOS F (900 seconds of delay)
- US Route 40 (National Road) and Mt. DeChantal Road
 - Westbound US Route 40 left turn movement is forecasted to decrease level of service and increase delay as follows:
 - AM Peak Hour: from LOS D (48.6 seconds of delay) to LOS E (61.6 seconds of delay)
 - PM Peak Hour: from LOS F (106.0 seconds of delay) to LOS F (180.8 seconds of delay)
 - Westbound US Route 40 through movement is forecasted to decrease level of service and increase delay as follows:
 - PM Peak Hour: from LOS D (50.1 seconds of delay) to LOS E (58.2 seconds of delay)
 - Westbound US Route 40 approach is forecasted to decrease level of service and increase overall approach delay as follows:
 - PM Peak Hour: from LOS E (63.9 seconds of delay) to LOS F (88.9 seconds of delay)
- Mt. DeChantal Road and I-70 EB Off-Ramp
 - Eastbound I-70 EB Off-Ramp approach is forecasted to decrease level of service and increase overall approach delay as follows:
 - AM Peak Hour: from LOS E (59.0 seconds of delay) to LOS E (74.8 seconds of delay)
 - PM Peak Hour: from LOS E (77.9 seconds of delay) to LOS F (102.1 seconds of delay)
 - Saturday Peak Hour: from LOS D (50.0 seconds of delay) to LOS E (55.9 seconds of delay)
 - o The overall intersection is forecasted to decrease level of service and increase overall delay as follows:
 - PM Peak Hour: from LOS D (45.1 seconds of delay) to LOS E (59.3 seconds of delay)

The 2030 with development (build) conditions without mitigations weekday AM, weekday PM, and Saturday peak hour levels of service are summarized on Figures 16, 17, and 18, respectively.

It should be noted that the capacity analysis conducted at the proposed site driveway intersections with WV 88 and Warden Run Road indicate that the following lane configuration and intersection operation would be required in order to meet an overall intersection LOS D:

- WV 88 (Bethany Pike) and Proposed Site Driveway
 - Construct a full-access driveway providing two (2) lanes ingress and two (2) lanes egress. The
 proposed site driveway egress should accommodate an exclusive left turn lane and an exclusive right
 turn lane.
 - Widen the southbound WV 88 approach at the proposed site driveway access to accommodate an exclusive left turn lane and an exclusive through lane.
 - Widen the northbound WV 88 approach at the proposed site driveway access to provide an exclusive northbound right turn lane and an exclusive through lane.



- Install a fully actuated, uncoordinated, traffic signal at the WV 88 and proposed site driveway intersection. The signal should provide three (3) phases, a protected/permitted left turn phase for the southbound WV 88 approach with a westbound right turn overlap phase, a permissive northbound/southbound phase for WV 88, and a protected westbound phase for the proposed site driveway.
- Warden Run Road (CR 15) and Proposed Site Driveway
 - o Construct a full-access driveway provided one (1) lane ingress and one (1) lane egress. The proposed site driveway northbound egress approach should accommodate both left and right turns.
 - o Install a stop sign on the northbound site driveway approach.

Copies of the capacity analyses performed using Synchro for the 2030 with development (build) conditions are included in the Appendix to this report.

2030 With Development (Build) Conditions Queue Analysis

Queue analyses were performed at the study intersections for the 2030 with development (build) conditions for the weekday AM, weekday PM and Saturday peak hour traffic volumes, as shown in Figure 15. The opening year 2030 with development (build) queue analysis utilized existing operating conditions as previously detailed, assuming no roadway or timing improvements, at the existing study intersections. Synchro was utilized for the queue analyses and the 95th percentile queue length results are reported in Table 2. Based on the results of the analysis, the following movement and or approaches are anticipated to extend beyond their available storage:

- US Route 40 (National Road) and VW 88 (Bethany Pike)/Altenheim Avenue
 - Northbound Altenheim Avenue approach is forecasted to queue beyond its available storage during the weekday AM and weekday PM peak hours. This approach currently extends beyond its available storage, without the proposed development traffic.
 - Southbound WV 88 right turn movement is forecasted to queue beyond its available storage during the weekday PM peak hour.
- US Route 40 (National Road) and Park Road
 - Eastbound US Route 40 left turn movement is forecasted to queue beyond its available storage during the weekday AM peak hour. This movement is forecasted to queue beyond its available storage for year 2030 without development (no build) conditions; however, the queue can be contained within the existing two-way center left turn lane currently present.

All other queues are forecasted to be contained within the available storage for each existing turn lane and or not forecasted to extend beyond adjacent intersections. Copies of the queue analyses performed using Synchro for the 2030 with development (build) conditions are included in the Appendix to this report.



I. 2030 With Development (Build) Conditions Mitigated

The following mitigations are proposed as part of the GC&P Bethany Pike (WV 88) Mixed-Use Development:

- US Route 40 (National Road) and WV 88 (Bethany Pike)
 - Optimize signal timing splits and offsets. Optimization of the signal timings includes removal of the existing all-pedestrian phase.
 - o Install pedestrian push-button actuation at all existing pedestrian crossing locations.
- US Route 40 (National Road) and Park Avenue / Leatherwood Lane
 - Optimize signal timing splits and offsets. Optimization of the signal timings includes removal of the existing all-pedestrian phase.
 - o Install pedestrian push-button actuation at all existing pedestrian crossing locations.
- US Route 40 (National Road) and Mt. DeChantal Road / I-70 Off-Ramps
 - Optimize signal timing splits and offsets.
- Mt. DeChantal Road and Kroger's Driveway
 - Optimize signal timing splits and offsets.
- WV 88 (Bethany Pike) and Proposed Site Driveway
 - Construct a full-access driveway providing two (2) lanes ingress and two (2) lanes egress. The
 proposed site driveway egress should accommodate an exclusive left turn lane and an exclusive right
 turn lane.
 - Widen the southbound WV 88 approach at the proposed site driveway access to accommodate an exclusive left turn lane and an exclusive through lane.
 - o Widen the northbound WV 88 approach at the proposed site driveway access to provide an exclusive northbound right turn lane and an exclusive through lane.
 - Install a fully actuated, uncoordinated, traffic signal at the WV 88 and proposed site driveway intersection. The signal should provide three (3) phases, a protected/permitted left turn phase for the southbound WV 88 approach with a westbound right turn overlap phase, a permissive northbound/southbound phase for WV 88, and a protected westbound phase for the proposed site driveway.
- Warden Run Road (CR 15) and Proposed Site Driveway
 - o Construct a full-access driveway provided one (1) lane ingress and one (1) lane egress. The proposed site driveway northbound egress approach should accommodate both left and right turns.
 - o Install a stop sign on the northbound site driveway approach.

The following sections detail the results of the capacity and queue analyses completed incorporating these mitigations.



2030 With Development (Build) Conditions With Mitigation Capacity Analysis

The results of the capacity calculations are summarized in Table 1 for the weekday AM, weekday PM, and Saturday peak hours for the 2030 with development (build) conditions mitigated. Incorporation of the proposed mitigation detailed above results in the following intersections to maintain or improve overall intersection levels of service during the peak hours studied:

- US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue except PM peak hour
- US Route 40 (National Road) and Park Road
- US Route 40 (National Road) and Leatherwood Lane
- US Route 40 (National Road) and Mt. DeChantal Road
- Mt. DeChantal Road and I-70 EB Off-Ramps

As noted above, implementation of the proposed recommended mitigations at the intersection of US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue results in the PM peak hour analysis to not maintain predevelopment (no build) conditions. The capacity analysis results for this intersection indicate that the following movements, approaches, and overall intersection level of service decrease levels of service and/or increase delay during the PM peak hour:

- Eastbound US Route 40 left turn movement is forecasted to decrease level of service and increase delay from LOS D (40.1 seconds of delay) to LOS F (92.3 seconds of delay).
- Eastbound US Route 40 approach is forecasted to decrease level of service and increase delay from LOS C (25.3 seconds of delay) to LOS E (62.1 seconds of delay).
- Westbound US Route 40 approach is forecasted to decrease level of service and increase delay from LOS C (25.8 seconds of delay) to LOS E (58.0 seconds of delay).
- Northbound Altenheim Avenue approach is forecasted to increase delay from LOS F (160.5 seconds to delay) to LOS F (176.2 seconds of delay).
- Southbound WV 88 shared left turn/through movement is forecasted to decrease level of service and increase delay from LOS D (49.0 seconds of delay) to LOS F (81.1 seconds of delay).
- Southbound WV 88 right turn movement is forecasted to decrease level of service and increase delay from LOS B (15.3 seconds of delay) to LOS D (38.1 seconds of delay).
- The overall intersection is forecasted to decrease level of service and increase delay from LOS D (40.0 seconds of delay) to LOS E (64.3 seconds of delay).

It should be noted that at the intersection of US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue, physical improvements to increase capacity cannot be achieved due to the existing intersections constraints and limitations. The projected increase in site generated traffic due to the proposed GC&P Mixed-Use Village Development is marginal. A review of the peak hour traffic volumes shows that the proposed GC&P Mixed-Use Village Development



makes up approximately 30% of the total site traffic occurring at this intersection during the weekday PM peak hour. A summary of the percent development at each intersection studied is summarized in Table 4.

The 2030 with development (build) conditions with mitigations the weekday AM, weekday PM, and Saturday peak hour levels of service are summarized on Figures 19, 20, and 21, respectively.

Copies of the capacity analyses performed using Synchro for the 2030 with development (build) with mitigation conditions are included in the Appendix to this report.

2030 With Development (Build) Conditions Mitigated Queue Analysis

The results of the queue analysis are summarized in Table 2 for the weekday AM, weekday PM, and Saturday peak hours for the 2030 with development (build) conditions mitigated. As shown, the intersection of US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue is forecasted to have queues that exceed available capacity during the weekday AM, weekday PM, and Saturday peak hours. Specifically, the southbound right turn lane on WV 88 (Bethany Pike) would need to be lengthened to 475 feet, exclusive of taper, accommodate the southbound approach queues.

Additionally, based on the results of the queue analysis completed at the intersection of WV 88 (Bethany Pike) and the proposed site driveway, the proposed southbound left turn lane should provide a minimum of 275 feet of vehicular storage, exclusive of taper. The proposed northbound right turn lane should provide a minimum of 450 feet of vehicular storage, exclusive of bay taper.

Copies of the queue analyses performed using Synchro for the 2030 with development (build) with mitigation conditions are included in the Appendix to this report.

J. Additional Analysis

Additional analyses performed included an evaluation of left turn lane and right turn lane warrants at the intersection of WV 88 (Bethany Pike) and the proposed site driveway.

Turn Lane Warrant Evaluation

Guidelines for the provision of an exclusive left turn lane or right turn lane at the intersection of WV 88 and the proposed site driveway were evaluated in accordance with the procedure in the American Association of State Highway and Transportation Officials (AASHTO) <u>A Policy on Geometric Design of Highways and Streets 6th Edition</u> and in the National Cooperative Highway Report Program (NCHRP) Report 457. Based on this evaluation, left turn lane and right turn lane warrant criteria were satisfied for both a southbound left turn lane and a northbound right turn lane on WV 88 at the proposed site driveway.

Based on the results of these warrants, turn lane lengths were calculated per AASHTO methodology. Per AASHTO, the proposed southbound left turn lane should provide a minimum of 125 feet of storage, exclusive of taper, and the proposed northbound right turn lane should provide a minimum of 475 feet of storage, exclusive of taper. It should be noted that per the Synchro queue analysis results, as detailed in Section I, the proposed southbound left turn would



need to provide a minimum of 275 feet of storage, exclusive of taper, to accommodate the forecasted queues. Likewise, the northbound right turn lane would need to provide a minimum of 450 feet of storage, exclusive of taper, to accommodate the forecasted queues.

Copies of the turn lane warrant evaluation worksheets are included in the Appendix to this report.

K. Conclusion

The traffic impact study identifies and evaluates the potential traffic impacts resulting from full build-out of the proposed GC&P Bethany Pike (WV 88) Mixed-Use Village Development. Based on the study, the following on-site mitigations are recommended:

- WV 88 (Bethany Pike) and Proposed Site Driveway
 - Construct a full-access driveway providing two (2) lanes ingress and two (2) lanes egress. The
 proposed site driveway egress should accommodate an exclusive left turn lane and an exclusive right
 turn lane.
 - Widen the southbound WV 88 approach at the proposed site driveway access to accommodate an exclusive left turn lane and an exclusive through lane. The southbound left turn lane should provide a minimum of 275 feet of storage, exclusive of taper.
 - Widen the northbound WV 88 approach at the proposed site driveway access to provide an exclusive northbound right turn lane and an exclusive through lane. The northbound right turn lane should provide a minimum of 450 feet, exclusive of taper.
 - o Install a fully actuated, uncoordinated, traffic signal at the WV 88 and proposed site driveway intersection. The signal should provide three (3) phases, a protected/permitted left turn phase for the southbound WV 88 approach with a westbound right turn overlap phase, a permissive northbound/southbound phase for WV 88, and a protected westbound phase for the proposed site driveway.
- Warden Run Road (CR 15) and Proposed Site Driveway
 - Construct a full-access driveway provided one (1) lane ingress and one (1) lane egress. The proposed site driveway northbound egress approach should accommodate both left and right turns.
 - o Install a stop sign on the northbound site driveway approach.

In addition, the following off-site mitigations are recommended:

- US Route 40 (National Road) and WV 88 (Bethany Pike)/Altenheim Avenue
 - Optimize signal timing splits and offsets. Optimization of the signal timings includes removal of the existing all-pedestrian phase.
 - Lengthen the existing southbound right turn lane to provide a minimum of 475 feet of storage, exclusive of taper.
 - Install pedestrian push-button actuation at all existing pedestrian crossing locations.



- US Route 40 (National Road) and Park Avenue / Leatherwood Lane
 - Optimize signal timing splits and offsets. Optimization of the signal timings includes removal of the existing all-pedestrian phase.
 - o Install pedestrian push-button actuation at all existing pedestrian crossing locations.
- US Route 40 (National Road) and Mt. DeChantal Road / I-70 Off-Ramps
 - Optimize signal timing splits and offsets.
- Mt. DeChantal Road and Kroger's Driveway
 - Optimize signal timing splits and offsets.

The results of capacity analysis show that the study intersections can maintain or even improve pre-development (no-build) conditions with implementation of the proposed on-site and off-site mitigation, except at the intersection of US Route 40 and WV 88/Altenheim Avenue. The intersection of US Route 40 and WV 88 (Bethany Pike)/Altenheim Avenue experiences the greatest impacts due to the proposed development. Implementation of the recommended timing optimizations are anticipated to improve operations and maintain pre-development (no-build) conditions for the weekday AM and Saturday peak hours; however, the weekday PM peak hour is anticipated to experience marginal increases in delay.

It can be anticipated that projected traffic volumes will be overstated at the intersection of US Route 40 and WV 88 (Bethany Pike)/Altenheim Avenue due to the proposed development. The proposed community-scaled mixed-use development is anticipated to attract existing local residents. Currently, local residents utilize the US Route 40 corridor and I-70 to access their household needs. However, the proposed community-scaled mixed-use development will provide the household needs for these local residents, thus reducing the volume of traffic originally destined outside the study area via US Route 40 and I-70.

In addition, utilization of The Highlands regional Wheeling market mixed-use development data does allow the traffic model developed for this study to reflect the Wheeling market, but on a much larger super-regional commercial scale. The Highlands is reflective of a regional retail power center, meaning that the center contains category-dominant anchors and is adjacent to a highly visible roadway, Interstate 70. The proposed GC&P WV 88 (Bethany Pike) Mixed-Use Village Development is community-scaled, accommodating community scale needs, and is adjacent to WV 88 (Bethany Pike), a principal arterial roadway. Even though The Highlands trip generation data was selected as a more accurate trip generation predictor than ITE data, it is anticipated that the forecasted trip results will overstate the proposed project traffic impacts to the study area because of the lack of a local data source to make adjustments to the trips to reflect the limitations posed to the potential supply of vehicle trips due to community scale development type and community scale location. Therefore, it is anticipated that the site generated traffic for the proposed GC&P Bethany Pike (WV 88) Mixed-Use Village Development would be furthered reduced based on the location and community scaled services proposed to be provided.

Lastly, it is anticipated that traffic volumes will increase throughout the study area due to events at Oglebay Resort and Conference Center. For instance, Oglebay Resort and Conference Center holds an annual event during the holiday season, the Festival of Lights, which occurs from mid-November through mid-January. The Festival of Lights attracts over one million visitors each year. Additional major events at Oglebay Resort and Conference Center includes the



Spring Flower and Garden Show, Fourth of July Celebrations, and Octoberfest. However, at the time the traffic counts were completed, no major events were scheduled to occur.

Therefore, based on the information detailed above, it is anticipated that the analysis results presented in the study are highly conservative and implementation of the proposed mitigation measures would accommodate site traffic generated by the proposed GC&P Bethany Pike (WV 88) Mixed-Use Village Development.

This concludes Stahl Sheaffer Engineering's transportation impact study for the proposed GC&P WV 88 (Bethany Pike) Mixed-Use Village Development, located north of the Woodsdale neighborhood, in the City of Wheeling, Ohio County, West Virginia. Included in the Appendix to this report are copies of all counts, analyses, and calculations.

TABLE 1 CAPACITY ANALYSIS SUMMARY GC&P Bethany Pike (WV 88) Mixed-Use Village Development TIS City of Wheeling, Ohio County, West Virginia

						Le	vel of Service (D	elay in Seconds	;) ⁽¹⁾				
			AM Pea	ak Hour				ak Hour	•		Saturday	Peak Hour	
Direction	Movement/Approach	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation
INTERSECTION				US ROUT	E 40 (NATIONAL	ROAD) AND W	V 88 (BETHANY	PIKE)/ALTENHI	EIM AVE		•		
LIC 40 (NIATIONIAL DD)	Left Turn	C (31.6)	D (45.2)	F (203.5)	C (32.4)	C (27.8)	D (40.1)	F (144.2)	F (92.3)	A (9.5)	B (14.9)	E (60.2)	C (24.8)
US 40 (NATIONAL RD)	Through/Right Turn	B (17.0)	B (16.1)	A (14.3)	A (6.4)	A (9.4)	A (9.6)	A (9.5)	B (19.4)	A (5.7)	A (6.1)	A (7.2)	A (7.5)
Eastbound	Approach	C (25.8)	C (33.5)	F (139.5)	C (23.7)	B (19.0)	C (25.3)	F (88.3)	E (62.1)	A (7.6)	B (10.4)	D (38.6)	B (17.7)
US 40 (NATIONAL RD)	Left Turn/Through/Right Turn	C (28.3)	C (30.0)	C (26.7)	C (30.1)	C (22.3)	C (25.8)	C (24.7)	E (58.0)	B (15.3)	B (16.9)	C (21.3)	C (30.8)
Westbound	Approach	C (28.3)	C (30.0)	C (26.7)	C (30.1)	C (22.3)	C (25.8)	C (24.7)	E (58.0)	B (15.3)	B (16.9)	C (21.3)	C (30.8)
ALTENHEIM AVE	Left Turn/Through/Right Turn	F (156.8)	F (258.9)	F (433.4)	F (110.3)	F (100.3)	F (160.5)	F (1,529.9)	F (176.2)	D (41.1)	D (43.4)	E (55.1)	C (28.7)
Northbound	Approach	F (156.8)	F (258.9)	F (433.4)	F (110.3)	F (100.3)	F (160.5)	F (1,529.9)	F (176.2)	D (41.1)	D (43.4)	E (55.1)	C (28.7)
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Through/Left Turn	D (44.6)	D (48.5)	E (74.6)	D (40.8)	D (46.6)	D (49.0)	F (268.4)	F (81.1)	E (58.5)	E (60.9)	F (154.0)	E (63.4)
WV 88 (BETHANY PIKE)	Right Turn	A (8.9)	A (9.4)	A (9.2)	B (11.3)	A (4.0)	A (5.9)	B (15.8)	B (14.7)	A (4.3)	A (4.1)	A (4.4)	A (9.8)
Southbound	Approach	B (16.9)	B (18.1)	C (26.5)	B (19.1)	B (13.3)	B (15.3)	F (104.6)	D (38.1)	B (19.4)	B (19.9)	E (62.0)	C (30.4)
OVERALL	INTERSECTION	D (43.0)	E (61.3)	F (112.5)	C (34.8)	C (28.7)	D (40.0)	F (216.0)	E (64.3)	B (15.1)	B (16.9)	D (41.8)	C (26.2)
INTERSECTION					WV 88 (B	ETHANY PIKE)	AND GC&P ROA	D (CR 7)					
WV 88 (BETHANY PIKE)	Left Turn	A (8.3)	A (8.5)	A (8.5)	N/A	A (8.5)	A (8.8)	A (8.9)	N/A	A (7.9)	A (8.1)	A (8.1)	N/A
Eastbound	Through/Right Turn	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
Edstboullu	Approach	A (3.0)	A (3.1)	A (3.1)	N/A	A (3.4)	A (3.5)	A (3.6)	N/A	A (2.7)	A (2.7)	A (2.8)	N/A
WV 88 (BETHANY PIKE)	Left Turn/Through/Right Turn	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
Westbound	Approach	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
CHURCH DRIVEWAY	Left Turn/Through/Right Turn	A (0.0)	A (0.0)	A (0.0)	N/A	E (43.4)	F (60.5)	F (68.3)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
Northbound	Approach	A (0.0)	A (0.0)	A (0.0)	N/A	E (43.4)	F (60.5)	F (68.3)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
CR 7 (GC&P RD)	Left Turn/Through/Right Turn	B (13.2)	B (14.9)	C (15.2)	N/A	B (12.5)	B (14.0)	B (14.5)	N/A	B (10.8)	B (11.4)	B (11.7)	N/A
Southbound	Approach	B (13.2)	B (14.9)	C (15.2)	N/A	B (12.5)	B (14.0)	B (14.5)	N/A	B (10.8)	B (11.4)	B (11.7)	N/A
OVERALL	INTERSECTION	A (4.8)	A (5.3)	A (5.5)	N/A	A (3.9)	A (4.3)	A (4.5)	N/A	A (3.5)	A (3.6)	A (3.8)	N/A
INTERSECTION					US ROUTE 4	IO (NATIONAL F	ROAD) AND PAR	RK ROAD ⁽²⁾					
US 40 (NATIONAL RD)	Left Turn	D (36.2)	D (42.5)	D (42.6)	B (16.9)	B (13.8)	B (20.0)	C (30.7)	C (20.3)	A (8.2)	A (8.5)	A (8.7)	A (8.9)
Eastbound	Through/Right Turn	B (18.2)	B (19.5)	C (21.0)	A (9.0)	B (10.6)	B (11.3)	B (12.1)	B (10.6)	A (9.3)	B (10.1)	B (10.8)	B (12.6)
Eastboullu	Approach	C (21.4)	C (23.6)	C (24.4)	B (10.2)	B (11.0)	B (12.3)	B (14.1)	B (11.6)	A (9.2)	B (10.0)	B (10.7)	B (12.4)
US 40 (NATIONAL RD)	Left Turn	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.4)	A (0.4)	A (0.4)	A (0.2)	A (0.9)	A (1.1)	A (1.0)	A (0.6)
Westbound	Through/Right Turn	A (3.3)	A (7.0)	B (11.5)	A (0.9)	A (1.3)	A (1.6)	A (2.1)	A (1.4)	A (1.0)	A (1.1)	A (1.1)	A (0.8)
westbound	Approach	A (3.3)	A (7.0)	B (11.5)	A (0.9)	A (1.3)	A (1.6)	A (2.1)	A (1.4)	A (1.0)	A (1.1)	A (1.1)	A (0.8)
TJ'S DRIVEWAY	Left Turn/Through/Right Turn	A (0.2)	A (0.2)	A (0.2)	A (0.0)	A (0.1)	A (0.1)	A (0.1)	A (0.3)	A (0.2)	A (0.0)	A (0.0)	A (0.2)
Northbound	Approach	A (0.2)	A (0.2)	A (0.2)	A (0.2)	A (0.1)	A (0.1)	A (0.1)	A (0.3)	A (0.2)	A (0.0)	A (0.0)	A (0.2)
PARK RD	Left Turn/Through	D (43.2)	D (43.8)	D (43.8)	D (52.2)	D (45.5)	D (46.1)	D (46.1)	D (54.0)	D (42.4)	D (42.3)	D (42.2)	D (49.7)
Southbound	Right Turn	B (12.6)	B (12.8)	B (12.8)	B (17.4)	A (9.9)	A (9.8)	A (9.8)	B (17.0)	A (0.8)	A (0.8)	A (0.8)	A (1.7)
Southbound	Approach	B (17.4)	B (17.5)	B (17.5)	C (22.7)	B (19.2)	B (19.3)	B (19.3)	C (26.7)	B (11.6)	B (11.6)	B (11.6)	B (14.2)
OVERALL	INTERSECTION	B (13.1)	B (15.7)	B (18.2)	A (7.5)	A (7.2)	A (8.0)	A (8.8)	A (8.0)	A (5.6)	A (6.0)	A (6.4)	A (7.1)

TABLE 1 (Cont'd)

CAPACITY ANALYSIS SUMMARY

GC&P Bethany Pike (WV 88) Mixed-Use Village Development TIS City of Wheeling, Ohio County, West Virginia

						Le	vel of Service (D	Delay in Second	s) ⁽¹⁾				
			AM Pe	ak Hour			PM Pe	ak Hour			Saturday	Peak Hour	
Direction	Movement/Approach				2030				2030				2030
Direction	Wovernent/Approach	2020	2030	2030	Build	2020	2030	2030	Build	2020	2030	2030	Build
		Existing	No Build	Build	With	Existing	No Build	Build	With	Existing	No Build	Build	With
					Mitigation				Mitigation				Mitigation
INTERSECTION				US ROUTE 40	(NATIONAL ROA	AD) AND LEATH	ERWOOD LANE	/GAS STATION	DRIVEWAY ⁽²⁾				
US 40 (NATIONAL RD)	Left Turn/Through/Right Turn	A (2.6)	A (4.1)	A (6.0)	A (1.7)	A (1.4)	A (1.6)	A (1.9)	A (1.4)	A (1.1)	A (1.1)	A (1.2)	A (1.3)
Eastbound	Approach	A (2.6)	A (4.1)	A (6.0)	A (1.7)	A (1.4)	A (1.6)	A (1.9)	A (1.4)	A (1.1)	A (1.1)	A (1.2)	A (1.3)
US 40 (NATIONAL RD)	Left Turn	D (35.1)	D (37.5)	D (40.5)	E (60.9)	D (52.7)	E (65.8)	D (36.5)	D (49.5)	D (35.8)	D (38.9)	D (36.9)	D (43.2)
Westbound	Through/Right Turn	D (47.5)	E (76.1)	F (92.6)	B (14.0)	B (18.8)	C (21.4)	C (25.7)	B (17.1)	B (12.1)	B (12.5)	B (14.5)	B (17.0)
westbound	Approach	D (46.8)	E (74.1)	F (90.0)	B (16.3)	B (19.9)	C (23.0)	C (26.0)	B (18.1)	B (12.9)	B (13.5)	B (15.2)	B (17.8)
LEATHERWOOD LANE	Left Turn/Through/Right Turn	A (0.6)	A (0.6)	A (0.6)	A (0.7)	A (2.7)	A (4.5)	A (4.5)	A (9.1)	E (58.9)	E (62.9)	E (62.3)	D (53.8)
Northbound	Approach	A (0.6)	A (0.6)	A (0.6)	A (0.7)	A (2.7)	A (4.5)	A (4.5)	A (9.1)	E (58.9)	E (62.9)	E (62.3)	D (53.8)
GAS STATION	Left Turn/Through/Right Turn	B (19.4)	B (19.4)	B (19.4)	B (18.5)	C (23.8)	C (23.8)	C (23.8)	C (24.8)	A (0.6)	A (0.5)	A (0.5)	A (0.5)
Southbound	Approach	B (19.4)	B (19.4)	B (19.4)	B (18.5)	C (23.8)	C (23.8)	C (23.8)	C (24.8)	A (0.6)	A (0.5)	A (0.5)	A (0.5)
OVERALL	INTERSECTION	C (25.6)	D (40.3)	D (48.1)	A (9.2)	B (11.0)	B (12.7)	B (14.5)	B (10.4)	A (9.5)	A (10.0)	B (10.2)	B (11.1)
INTERSECTION				U	IS ROUTE 40 (NA	TIONAL ROAD	AND MT. DECI	HANTAL ROAD ⁽³)				
US 40 (NATIONAL RD)	Through/Right Turn	B (18.8)	B (19.5)	C (21.1)	C (25.6)	C (28.7)	C (31.6)	D (36.5)	D (52.3)	B (19.9)	C (21.3)	C (26.2)	C (31.6)
Eastbound	Approach	B (18.8)	B (19.5)	C (21.1)	C (25.6)	C (28.7)	C (31.6)	D (36.5)	D (52.3)	B (19.9)	C (21.3)	C (26.2)	C (31.6)
LIC 40 (NIATIONIAL DD)	Left Turn	D (35.5)	D (48.6)	E (61.6)	C (26.3)	E (65.6)	F (106.0)	F (180.8)	E (60.1)	D (37.2)	D (43.1)	D (52.9)	B (17.9)
US 40 (NATIONAL RD) Westbound	Through	C (29.0)	C (30.7)	C (31.6)	B (13.5)	D (43.3)	D (50.1)	E (58.2)	C (23.4)	C (34.2)	D (37.5)	D (40.6)	B (12.2)
westbound	Approach	C (30.6)	D (35.3)	D (39.3)	B (16.8)	D (48.8)	E (63.9)	F (88.9)	C (32.6)	D (35.1)	D (39.1)	D (44.2)	B (13.9)
MT. DECHANTAL RD	Left Turn	A (5.8)	A (6.4)	A (6.6)	B (11.0)	A (7.6)	A (8.2)	A (9.3)	B (18.2)	A (7.9)	A (7.1)	A (7.2)	A (8.9)
Northbound	Approach	A (5.8)	A (6.4)	A (6.6)	B (11.0)	A (7.6)	A (8.2)	A (9.3)	B (18.2)	A (7.9)	A (7.1)	A (7.2)	A (8.9)
OVERALL	INTERSECTION	C (25.0)	C (28.4)	C (31.5)	B (17.6)	D (37.2)	D (47.3)	E (65.6)	C (33.7)	C (26.3)	C (28.9)	C (33.7)	B (16.7)
INTERSECTION					MT. DECH	ANTAL ROAD A	ND I-70 EB OFF	-RAMP ⁽³⁾					
I-70 EB OFF-RAMP	Left Turn/Through/Right Turn	D (45.2)	E (59.0)	E (74.8)	D (43.9)	E (56.4)	E (77.9)	F (102.1)	E (70.2)	D (47.4)	D (50.0)	E (55.9)	D (46.7)
Eastbound	Approach	D (45.2)	E (59.0)	E (74.8)	D (43.9)	E (56.4)	E (77.9)	F (102.1)	E (70.2)	D (47.4)	D (50.0)	E (55.9)	D (46.7)
MT. DECHANTEL RD	Through/Right Turn	C (23.9)	C (23.6)	C (23.4)	B (19.0)	C (27.4)	C (30.6)	C (30.2)	D (48.8)	C (25.7)	C (29.7)	C (29.8)	C (29.3)
Northbound	Approach	C (23.9)	C (23.6)	C (23.4)	B (19.0)	C (27.4)	C (30.6)	C (30.2)	D (48.8)	C (25.7)	C (29.7)	C (29.8)	C (29.3)
MT. DECHANTEL RD	Through	A (4.0)	A (5.7)	A (5.9)	A (5.7)	A (4.9)	A (7.0)	C (23.4)	B (12.6)	A (2.4)	A (2.8)	A (3.7)	A (3.6)
Southbound	Approach	A (4.0)	A (5.7)	A (5.9)	A (5.7)	A (4.9)	A (7.0)	C (23.4)	B (12.6)	A (2.4)	A (2.8)	A (3.7)	A (3.6)
OVERALL	INTERSECTION	C (28.7)	D (35.5)	D (43.2)	C (27.4)	C (34.3)	D (45.1)	E (59.3)	D (49.0)	C (28.9)	C (31.4)	C (34.3)	C (30.2)
INTERSECTION			ı	US ROUTE 40 (N	IATIONAL ROAD) AND MT. DEC	HANTAL ROAD	/I-70 OFF-RAMI	RIGHT TURNS				
US 40 (NATIONAL RD)	Through	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
Eastbound	Approach	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
US 40 (NATIONAL RD)	Left Turn	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
Westbound	Through	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
westbound	Approach	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
I-70 EB OFF-RAMP	Right Turn	B (12.4)	B (13.8)	C (15.4)	N/A	B (12.5)	B (14.0)	C (16.1)	N/A	B (10.8)	B (11.4)	B (12.7)	N/A
Northbound	Approach	B (12.4)	B (13.8)	C (15.4)	N/A	B (12.5)	B (14.0)	C (16.1)	N/A	B (10.8)	B (11.4)	B (12.7)	N/A
OVERALL	INTERSECTION	A (5.0)	A (5.6)	A (6.4)	N/A	A (4.8)	A (5.4)	A (6.0)	N/A	A (4.5)	A (4.8)	A (5.3)	N/A

TABLE 1 (Cont'd) CAPACITY ANALYSIS SUMMARY

GC&P Bethany Pike (WV 88) Mixed-Use Village Development TIS

City of Wheeling, Ohio County, West Virginia

						Le	vel of Service (D	Delay in Second	s) ⁽¹⁾				
			AM Pea	ak Hour				ak Hour			Saturday	Peak Hour	
Direction	Movement/Approach	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation
INTERSECTION		•		MT.	DECHANTAL RO	AD AND I-70 E	ON-RAMP/KR	OGER'S DRIVEV	VAY		•	•	
KROGERS DRIVEWAY	Left Turn	C (15.8)	C (17.7)	C (18.4)	N/A	C (19.2)	C (22.3)	C (24.5)	N/A	C (15.2)	C (16.9)	C (18.2)	N/A
Westbound	Right Turn	B (11.0)	B (11.5)	B (11.8)	N/A	B (13.0)	B (13.8)	B (14.5)	N/A	B (11.1)	B (11.5)	B (12.1)	N/A
Westbouliu	Approach	B (11.2)	B (11.8)	B (12.1)	N/A	B (13.1)	B (13.9)	B (14.6)	N/A	B (11.1)	B (11.6)	B (12.2)	N/A
MT. DECHANTAL RD	Left Turn	A (8.6)	A (8.8)	A (8.9)	N/A	A (8.9)	A (9.2)	A (9.4)	N/A	A (8.5)	A (8.8)	A (8.9)	N/A
Northbound	Through	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
Horanbound	Approach	A (1.1)	A (1.1)	A (1.0)	N/A	A (1.6)	A (1.6)	A (1.6)	N/A	A (1.6)	A (1.7)	A (1.5)	N/A
MT. DECHANTAL RD	Through	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
Southbound	Right Turn	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
	Approach	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
	NTERSECTION	A (1.5)	A (1.5)	A (1.4)	N/A	A (2.6)	A (2.6)	A (2.5)	N/A	A (2.6)	A (2.5)	A (2.4)	N/A
INTERSECTION						_	ND KROGER'S D						
KROGERS DRIVEWAY	Left Turn	D (42.1)	D (42.1)	D (42.1)	N/A	D (44.8)	D (44.8)	D (44.8)	N/A	D (47.2)	D (47.2)	D (47.2)	N/A
Westbound	Right Turn	E (62.6)	E (62.6)	E (62.6)	N/A	E (69.9)	E (69.9)	E (69.9)	N/A	E (68.9)	E (68.9)	E (68.9)	N/A
	Approach	E (61.0)	E (61.0)	E (61.0)	N/A	E (68.3)	E (68.3)	E (68.3)	N/A	E (67.8)	E (67.8)	E (67.8)	N/A
MT. DECHANTAL RD	Through	A (4.9)	A (5.1)	A (5.3)	N/A	A (7.5)	A (7.8)	A (8.1)	N/A	A (5.4)	A (5.6)	A (5.9)	N/A
Northbound	Right Turn	A (3.9)	A (3.9)	A (3.9)	N/A	A (6.4)	A (6.4)	A (6.4)	N/A	A (5.0)	A (5.0)	A (5.0)	N/A
Northbound	Approach	A (4.7)	A (4.9)	A (5.1)	N/A	A (7.2)	A (7.4)	A (7.7)	N/A	A (5.3)	A (5.4)	A (5.7)	N/A
MT. DECHANTAL RD	Left Turn	A (2.5)	A (2.6)	A (2.7)	N/A	A (4.3)	A (4.5)	A (4.7)	N/A	A (3.3)	A (3.4)	A (3.4)	N/A
Southbound	Through	A (0.1)	A (0.1)	A (0.1)	N/A	A (0.1)	A (0.1)	A (0.1)	N/A	A (2.0)	A (2.0)	A (0.0)	N/A
	Approach	A (1.5)	A (1.5)	A (1.6)	N/A	A (3.4)	A (3.5)	A (3.4)	N/A	A (3.2)	A (3.2)	A (2.7)	N/A
_	NTERSECTION	B (10.2)	A (9.9)	A (9.7)	N/A	B (16.8)	B (16.4)	B (16.0)	N/A	B (15.9)	B (15.4)	B (14.5)	N/A
INTERSECTION		,					D AND I-70 WB		,		,	1	
US 40 NATIONAL RD	Through/Right Turn	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
Eastbound	Approach	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A	A (0.0)	A (0.0)	A (0.0)	N/A
US 40 NATIONAL RD	Left Turn	A (7.6)	B (10.9)	B (12.7)	N/A	A (8.6)	B (12.9)	C (20.6)	N/A	A (3.7)	A (4.7)	A (6.0)	N/A
Westbound	Through	A (3.8)	A (4.6)	A (5.1)	N/A	A (3.9)	A (5.1)	A (7.2)	N/A	A (2.8)	A (3.0)	A (3.3)	N/A
	Approach	A (8.9)	B (10.9)	B (12.0)	N/A	A (8.5)	B (11.0)	C (15.6)	N/A	A (6.0)	A (6.5)	A (7.3)	N/A
INTERSECTION	NTERSECTION	A (6.8)	A (8.4)	A (9.2)	N/A (BETHANY PIKE,	A (6.4)	A (8.2)	B (11.7)	N/A	A (4.5)	A (4.8)	A (5.4)	N/A
INTERSECTION	Through	A (0.0)	A (0.0)	A (0.0)	<u> </u>	A (0.0)	A (0.0)	·	· · · · · ·	A (0.0)	A (0.0)	A (0.0)	N/A
WV 88 (BETHANY PIKE)	Through Right Turn	A (0.0) A (0.0)	A (0.0) A (0.0)	A (0.0) A (0.0)	N/A N/A	A (0.0) A (0.0)	A (0.0) A (0.0)	A (0.0) A (0.0)	N/A N/A	A (0.0) A (0.0)	A (0.0) A (0.0)	A (0.0) A (0.0)	N/A N/A
Northeastbound	Approach	A (0.0)	A (0.0) A (0.0)	A (0.0)	N/A N/A	A (0.0) A (0.0)	A (0.0)	A (0.0)	N/A N/A	A (0.0)	A (0.0)	A (0.0)	N/A N/A
WARDEN RUN RD	Approach Left Turn/Right Turn	B (12.5)	B (13.4)	B (13.7)	N/A N/A	B (14.4)	C (16.1)	C (16.8)	N/A N/A	B (12.0)	B (12.7)	B (13.1)	N/A N/A
Wakden kon kd	Approach	B (12.5)	B (13.4) B (13.4)	B (13.7)	N/A N/A	B (14.4)	C (16.1)	C (16.8)	N/A N/A	B (12.0)	B (12.7) B (12.7)	B (13.1) B (13.1)	N/A N/A
Westboulla	Left Turn	A (7.7)	A (7.8)	A (7.8)	N/A	A (7.9)	A (8.0)	A (8.1)	N/A	A (7.7)	A (7.8)	A (7.8)	N/A
WV 88 (OGLEBAY DRIVE)	Through	A (7.7) A (0.0)	A (7.8) A (0.0)	A (7.8) A (0.0)	N/A	A (7.9) A (0.0)	A (8.0)	A (0.0)	N/A	A (7.7)	A (7.8) A (0.0)	A (7.8) A (0.0)	N/A
Southwestbound	Approach	A (0.0) A (0.1)	A (0.0) A (0.1)	A (0.0) A (0.2)	N/A N/A	A (0.0) A (0.1)	A (0.0) A (0.1)	A (0.0) A (0.3)	N/A N/A	A (0.0) A (0.1)	A (0.0) A (0.1)	A (0.0) A (0.4)	N/A N/A
	NTERSECTION	A (1.4)	A (0.1)	A (0.2)	N/A	A (2.0)	A (2.2)	A (0.5)	N/A	A (0.1)	A (1.6)	A (1.9)	N/A

TABLE 1 (Cont'd)

CAPACITY ANALYSIS SUMMARY

GC&P Bethany Pike (WV 88) Mixed-Use Village Development TIS City of Wheeling, Ohio County, West Virginia

	Movement/Approach	Level of Service (Delay in Seconds) ⁽¹⁾												
Direction		AM Peak Hour					PM Pea	ak Hour		Saturday Peak Hour				
		2020 Existing Operation ⁽²⁾	2030 No Build	2030 Build	2030 Build With Mitigation	2020 Existing Operation ⁽²⁾		2030 Build	2030 Build With Mitigation	2020 Existing Operation ⁽²⁾		2030 Build	2030 Build With Mitigation	
INTERSECTION	WV 88 (BETHANY PIKE) AND SITE DRIVEWAY													
SITE DRIVEWAY Westbound	Left Turn	N/A	N/A	B (15.9)	N/A	N/A	N/A	C (22.5)	N/A	N/A	N/A	C (20.2)	N/A	
	Right Turn	N/A	N/A	B (11.7)	N/A	N/A	N/A	B (13.3)	N/A	N/A	N/A	A (4.7)	N/A	
	Approach	N/A	N/A	B (15.7)	N/A	N/A	N/A	C (22.0)	N/A	N/A	N/A	B (19.4)	N/A	
WV 88 (BETHANY PIKE)	Through	N/A	N/A	A (8.2.)	N/A	N/A	N/A	B (15.7)	N/A	N/A	N/A	B (19.3)	N/A	
	Right Turn	N/A	N/A	A (5.0)	N/A	N/A	N/A	A (3.1)	N/A	N/A	N/A	A (0.7)	N/A	
Northbound	Approach	N/A	N/A	A (7.0)	N/A	N/A	N/A	B (11.3)	N/A	N/A	N/A	B (10.1)	N/A	
MAY 88 (DETHANY DIKE)	Left Turn	N/A	N/A	A (5.3)	N/A	N/A	N/A	B (10.7)	N/A	N/A	N/A	A (8.9)	N/A	
WV 88 (BETHANY PIKE)	Through	N/A	N/A	A (4.7)	N/A	N/A	N/A	A (9.0)	N/A	N/A	N/A	B (13.2)	N/A	
Southbound	Approach	N/A	N/A	A (4.7)	N/A	N/A	N/A	A (9.0)	N/A	N/A	N/A	B (13.0)	N/A	
OVERALL INTERSECTION		N/A	N/A	A (6.7)	N/A	N/A	N/A	B (13.2)	N/A	N/A	N/A	B (13.0)	N/A	
INTERSECTION	WARDEN RUN ROAD (CR 15) AND SITE DRIVEWAY							•						
WARDEN RUN ROAD	Through/Right Turn	N/A	N/A	A (0.0)	N/A	N/A	N/A	A (0.0)	N/A	N/A	N/A	A (0.0)	N/A	
Eastbound	Approach	N/A	N/A	A (0.0)	N/A	N/A	N/A	A (0.0)	N/A	N/A	N/A	A (0.0)	N/A	
WARDEN RUN ROAD Westbound	Left Turn	N/A	N/A	A (7.4)	N/A	N/A	N/A	A (7.4)	N/A	N/A	N/A	A (7.4)	N/A	
	Through	N/A	N/A	A (0.0)	N/A	N/A	N/A	A (0.0)	N/A	N/A	N/A	A (0.0)	N/A	
	Approach	N/A	N/A	A (1.3)	N/A	N/A	N/A	A (1.2)	N/A	N/A	N/A	A (1.8)	N/A	
SITE DRIVEWAY	Left Turn/Right Turn	N/A	N/A	A (8.9)	N/A	N/A	N/A	A (9.2)	N/A	N/A	N/A	A (9.0)	N/A	
Northbound	Approach	N/A	N/A	A (8.9)	N/A	N/A	N/A	A (9.2)	N/A	N/A	N/A	A (9.0)	N/A	
OVERALL INTERSECTION		N/A	N/A	A (1.1)	N/A	N/A	N/A	A (1.9)	N/A	N/A	N/A	A (2.1)	N/A	

(1) Capacity analysis utilized Synchro 10.3, Build 122, Revision 0, to determine level of service and vehicular delay. Level of service and vehicular delay were calculated using methodologies published in <u>Highway Capacity Manual 6th Edition</u> by the Transportation Research Board, 2010, were applicable. Signalized intersections not utilizing standard nema operations, which include two intersections operating on one controller (clustered intersections with an all pedestrian phase, Synchro level of service and delay results are reported.

(2) The intersections of US Route 40 (National Road) with Park Avenue and US 40 (National Road) with Park Avenue and US 40 (National Road) with Leatherwood Lane operate as a clustered intersection (both intersections operating from the same controller); therefore, Synchro level of service and delay are reported.

(3) The intersections of US Route 40 (National Road) with Mt.DeChantal Road and Mt.DeChantal Road with I-70 EB Off-Ramp operate as a clustered intersection (both intersections operating from the same controller); therefore, Synchro level of service and delay are reported.

(4) The intersection of US Route 40 (National Road) and I-70 WB On-Ramp reports Synchro level of service and delay.

Note: N/A denotes a movement, approach, or overall intersection LOS not reported because the intersection does not currently exist, or a mitigation analysis was not needed at that specific intersection analyzed.

Level of Service Criteria for Signalized Intersections								
Level of Service	Delay (Seconds/Vehicle)							
A	≤ 10							
В	> 10 - 20							
С	> 20 - 35							
D	> 35 - 55							
E	> 55 - 80							
F*	> 80							

Source: Highway Canacity Manual (HCM) 2010

Level of Service Criteria for Unsignalized Intersections								
Level of Service	Delay (Seconds/Vehicle)							
A	0 - 10							
В	> 10 - 15							
С	> 15 - 25							
D	> 25 - 35							
E	> 35 - 50							
F*	> 50							

Source: Highway Capacity Manual (HCM) 2010

^{*} If volume-to-capacity (v/c) ratio for a lane group exceeds 1.0, LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

^{*} If volume-to-capacity (v/c) ratio exceeds 1.0, LOS F is assigned an individual lane group for all unsignalized intersections, or minor street approach at a two-way stop controlled intersections. Overall intersection LOS is determined solely by control delay.

TABLE 2 QUEUE ANALYSIS SUMMARY GC&P Bethany Pike (WV 88) Mixed-Use Village Development TIS City of Wheeling, Ohio County, West Virginia

	Movement/ Approach	95th Percentile Queue Length (ft) ⁽¹⁾												
Direction		AM Peak Hour				PM Peak Hour				Saturday Peak Hour				Existing
		2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	Queue Capacity ⁽²⁾ (Feet)
INTERSECTION				US	ROUTE 40 (NAT	IONAL ROAD)	AND WV 88 (BE	THANY PIKE)/	ALTENHEIM AV	E				
US 40 (NATIONAL RD)	Left Turn	277	338	#504	372	253	394	#719	#679	100	153	493	410	850
Eastbound	Through/Right Turn	193	216	176	95	162	182	177	359	98	109	106	236	850
US 40 (NATIONAL RD) Westbound	Left Turn/Through/Right Turn	143	164	181	195	258	300	367	423	191	222	273	285	1,610
ALTENHEIM AVE Northbound	Left Turn/Through/Right Turn	#350	#417	#450	#365	#380	#459	#564	#467	105	119	154	105	265
WV 88 (BETHANY PIKE)	Through/Left Turn	137	154	250	192	139	157	#561	465	136	155	#456	361	715
Southbound	Right Turn	61	63	119	208	55	100	300	356	48	50	79	178	130
INTERSECTION	WV 88 (BETHANY PIKE) AND GC&P ROAD (CR 7)													
WV 88 (BETHANY PIKE)	Left Turn	9	11	12	N/A	16	20	22	N/A	7	9	10	N/A	130
Eastbound	Through/Right Turn	0	0	0	N/A	0	0	0	N/A	0	0	0	N/A	280
WV 88 (BETHANY PIKE) Westbound	Left Turn/Through/Right Turn	0	0	0	N/A	0	0	0	N/A	0	0	0	N/A	125
CHURCH DRIVEWAY Northbound	Left Turn/Through/Right Turn	0	0	0	N/A	1	1	2	N/A	0	0	0	N/A	55
CR 7 (GC&P RD) Southbound	Left Turn/Through/Right Turn	44	60	64	N/A	29	39	44	N/A	18	23	26	N/A	910
INTERSECTION			•	•		ROUTE 40 (NAT	IONAL ROAD) A	ND PARK ROA	D	•	•	•	•	•
US 40 (NATIONAL RD)	Left Turn	122	163	162	59	65	87	108	52	24	27	26	36	150
Eastbound	Through/Right Turn	204	238	273	221	183	214	264	345	148	171	208	287	1,100
US 40 (NATIONAL RD)	Left Turn	0	0	0	0	0	0	0	0	1	1	1	1	60
Westbound	Through/Right Turn	12	10	10	2	9	11	10	6	13	14	14	11	115
TJ'S DRIVEWAY Northbound	Left Turn/Through/Right Turn	0	0	0	0	0	0	0	0	0	0	0	0	45
PARK RD	Left Turn/Through	49	54	54	56	81	89	89	94	33	35	35	37	190
Southbound	Right Turn	53	56	56	59	61	64	64	87	0	0	0	0	250
INTERSECTION				US RO	JTE 40 (NATION	IAL ROAD) AND	LEATHERWOO	D LANE/GAS	TATION DRIVE	WAY		•		
US 40 (NATIONAL RD)	Left Town /There each /Dish: T	2	1.0	27			27	41	0	42	0		0	125
Eastbound	Left Turn/Through/Right Turn	2	16	27	0	0	37	41	0	13	0	0	0	125
US 40 (NATIONAL RD)	Left Turn	45	46	44	60	65	68	32	32	55	62	24	39	325
Westbound	Through/Right Turn	342	#410	#423	243	253	314	402	397	126	142	222	346	790
LEATHERWOOD LANE Northbound	Left Turn/Through/Right Turn	0	0	0	0	1	10	10	30	114	135	135	115	500
GAS STATION Southbound	Left Turn/Through	32	32	32	32	42	42	42	42	0	0	0	0	25

TABLE 2 (Cont'd) QUEUE ANALYSIS SUMMARY

GC&P Bethany Pike (WV 88) Mixed-Use Village Development TIS City of Wheeling, Ohio County, West Virginia

		95th Percentile Queue Length (ft) ⁽¹⁾												
	Movement/ Approach		AM Pea	ak Hour		PM Peak Hour					Saturday	Peak Hour		Existing
Direction		2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	Queue Capacity ⁽²⁾ (Feet)
INTERSECTION					US ROUTE	40 (NATIONAL	ROAD) AND M	IT. DECHANTAI	L ROAD ⁽³⁾					
US 40 (NATIONAL RD) Eastbound	Through/Right Turn	78	88	97	105	137	161	188	224	91	101	125	138	440
US 40 (NATIONAL RD)	Left Turn	289	346	356	254	338	#382	#506	#453	258	291	354	65	755
Westbound	Through	349	391	405	211	396	465	569	535	284	321	372	74	1,150
MT. DECHANTAL RD Northbound	Left Turn	14	15	15	33	27	31	37	45	23	22	22	30	65
INTERSECTION					M	T. DECHANTAL	ROAD AND I-70	EB OFF-RAMI	P					
I-70 EB OFF-RAMP Eastbound	Left Turn/Through/Right Turn	298	383	#424	374	396	#485	#547	508	274	317	397	348	1,225
MT. DECHANTAL RD Northbound	Through/Right Turn	111	124	130	116	166	210	213	307	130	174	185	173	230
MT. DECHANTAL RD Southbound	Through	37	37	34	35	27	25	21	38	18	21	34	31	85
INTERSECTION				US ROUT	E 40 (NATIONAL	ROAD) AND N	IT. DECHANTAL	ROAD/I-70 O	FF-RAMP RIGHT	TURNS				
US 40 (NATIONAL RD) Eastbound	Through	0	0	0	N/A	0	0	0	N/A	0	0	0	N/A	125
US 40 (NATIONAL RD) Westbound	Through	0	0	0	N/A	0	0	0	N/A	0	0	0	N/A	1,010
I-70 EB OFF-RAMP Northbound	Right Turn	70	92	116	N/A	68	90	119	N/A	41	51	71	N/A	150
INTERSECTION						AL ROAD AND	I-70 EB ON-RA	MP/KROGER'S						
KROGERS DRIVEWAY	Left Turn	1	1	1	N/A	1	1	1	N/A	1	1	1	N/A	190
Westbound	Right Turn	11	12	13	N/A	31	33	36	N/A	22	24	26	N/A	190
MT. DECHANTAL RD	Left Turn	4	5	5	N/A	7	9	10	N/A	5	6	6	N/A	150
Northbound	Through	0	0	0	N/A	0	0	0	N/A	0	0	0	N/A	390
MT. DECHANTAL RD Southbound	Through/Right Turn	0	0	0	N/A	0	0	0	N/A	0	0	0	N/A	210
INTERSECTION						DECHANTAL R	OAD AND KROO	GER'S DRIVEW						
KROGERS DRIVEWAY	Left Turn	16	16	16	N/A	26	26	26	N/A	19	19	19	N/A	180
Westbound	Right Turn	41	41	41	N/A	63	63	63	N/A	57	57	57	N/A	80
MT. DECHANTAL RD	Through	124	143	157	N/A	152	176	198	N/A	95	107	128	N/A	325
Northbound	Right Turn	15	15	15	N/A	22	22	24	N/A	18	18	18	N/A	120
MT. DECHANTAL RD	Left Turn	20	19	8	N/A	153	151	157	N/A	26	35	32	N/A	200
Southbound	Through	13	14	14	N/A	35	40	60	N/A	5	7	10	N/A	420

TABLE 2 (Cont'd) QUEUE ANALYSIS SUMMARY

GC&P Bethany Pike (WV 88) Mixed-Use Village Development TIS

City of Wheeling, Ohio County, West Virginia

							95th Perce	entile Queue L	ength (ft) ⁽¹⁾					
	Movement/ Approach	AM Peak Hour			PM Peak Hour			Saturday Peak Hour			Existing			
Direction		2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	2020 Existing	2030 No Build	2030 Build	2030 Build With Mitigation	Queue Capacity ⁽²⁾ (Feet)
INTERSECTION					US ROU	TE 40 (NATION	IAL ROAD) AND	I-70 WB ON-F	RAMP				-	
US 40 (NATIONAL RD) Eastbound	Through/Right Turn	0	0	0	N/A	0	0	0	N/A	0	0	0	N/A	535
US 40 (NATIONAL RD) Westbound	Left Turn/Through	103	152	176	N/A	110	167	231	N/A	44	57	75	N/A	395
INTERSECTION	WV 88 (BETHANY PIKE/OGLEBAY DRIVE) AND WARDEN RUN ROAD (CR 15)													
WV 88 (BETHANY PIKE) Northeastbound	Through/Right Turn	0	0	0	N/A	0	0	0	N/A	0	0	0	N/A	250
WARDEN RUN ROAD Westbound	Left Turn/Right Turn	8	10	11	N/A	16	20	24	N/A	8	10	12	N/A	375
OGLEBAY DRIVE Southwestbound	Left Turn/Through	0	0	1	N/A	0	0	1	N/A	0	0	1	N/A	140
INTERSECTION		•			V	VV 88 (BETHAN	Y PIKE) AND SI	TE DRIVEWAY	•	•	•			
SITE DRIVE	Left Turn	N/A	N/A	68	N/A	N/A	N/A	362	N/A	N/A	N/A	220	N/A	N/A
Westbound	Right Turn	N/A	N/A	6	N/A	N/A	N/A	14	N/A	N/A	N/A	10	N/A	N/A
WV 88 (BETHANY PIKE)	Through	N/A	N/A	175	N/A	N/A	N/A	425	N/A	N/A	N/A	253	N/A	2,450
Northbound	Right Turn	N/A	N/A	13	N/A	N/A	N/A	11	N/A	N/A	N/A	13	N/A	N/A
WV 88 (BETHANY PIKE)	Left Turn	N/A	N/A	6	N/A	N/A	N/A	14	N/A	N/A	N/A	16	N/A	N/A
Southbound	Through	N/A	N/A	176	N/A	N/A	N/A	263	N/A	N/A	N/A	198	N/A	650
INTERSECTION		WARDEN RUN ROAD (CR 15) AND SITE DRIVEWAY												
WARDEN RUN RD Eastbound	Through/Right Turn	N/A	N/A	0	N/A	N/A	N/A	0	N/A	N/A	N/A	0	N/A	1,870
WARDEN RUN RD Westbound	Left Turn/Through	N/A	N/A	1	N/A	N/A	N/A	1	N/A	N/A	N/A	1	N/A	1,260
SITE DRIVEWAY Northbound	Left Turn/Right Turn	N/A	N/A	1	N/A	N/A	N/A	3	N/A	N/A	N/A	2	N/A	N/A

⁽¹⁾ Queue analysis utilized Synchro 10.3, Build 122, Revision 0, reporting the 95th percentile queue length, in Feet.

Note: # Denotes the volume-to-capacity (v/c) ratio is reported greater than or equal to 1.00 per Synchro results.

N/A Denotes movement/approach does not exist prior to/following proposed development, or a mitigation analysis was not needed at that specific intersection analyzed.

⁽²⁾ Available storage capacity for through movements obtained from Google Earth (Version 7), reporting to the next intersecting street/roadway, rounded to the nearest 5 ft.

TABLE 3

TRIP GENERATION SUMMARY

GC&P Bethany Pike (WV 88) Mixed-Use Village Development TIS City of Wheeling, Ohio County, West Virginia

		Site Generated 24- Hour Daily Traffic		Site Generated Peak Hour Trafic Volumes ⁽¹⁾									
Development	Size			AM Peak Hour			PM Peak Hour			Saturday Peak Hour			
		Weekday	Saturday	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	
GC&P Mixed-Use Village	997.900 SF	8.468	9,525	261	109	370	337	447	784	404	351	755	
Development	997,900 31	8,408	9,323	201	109	370	337	447	704	404	331	733	

⁽¹⁾ Based on The Highlands regional Wheeling market mixed-use development data.

Source: Summary by Stahl Sheaffer Engineering, LLC.

TABLE 4

PERCENT DEVELOPMENT SUMMARY

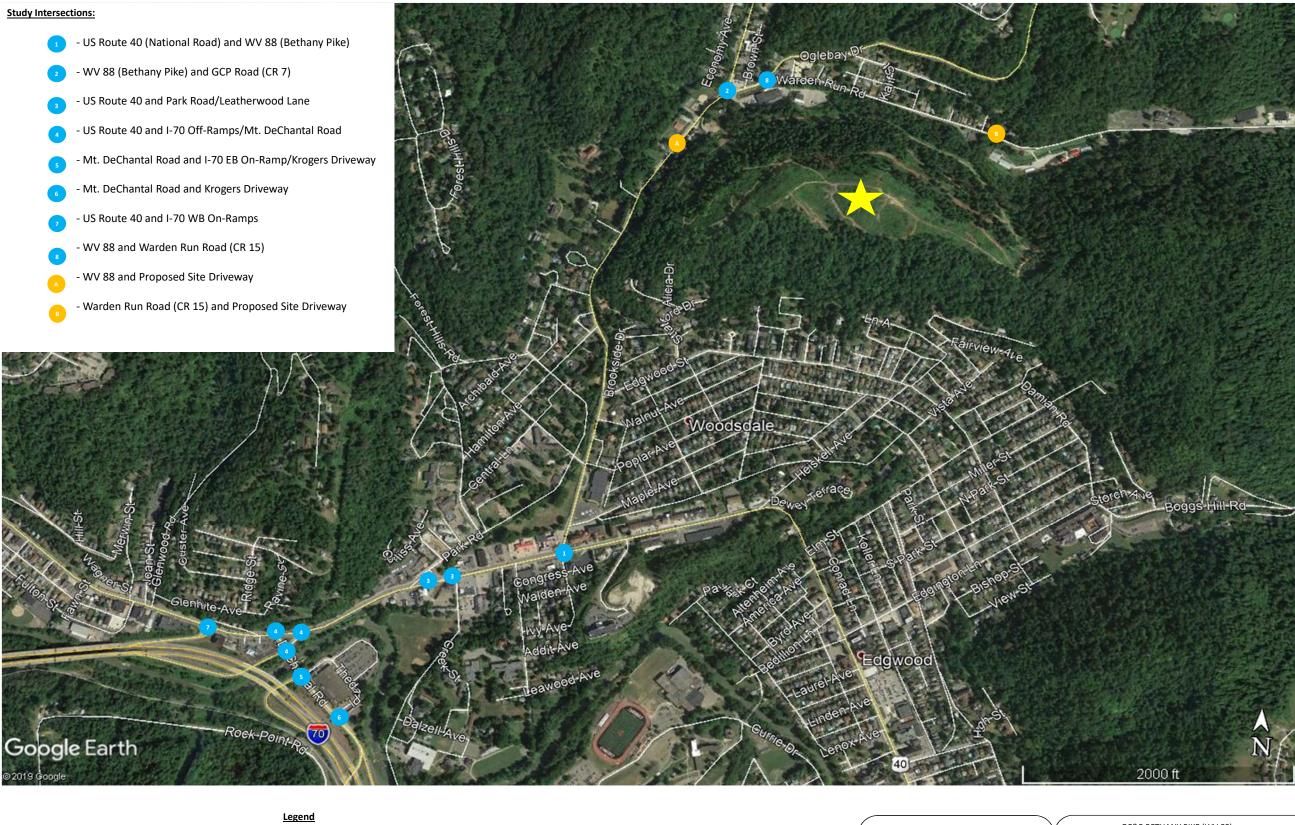
GC&P Bethany Pike (WV 88) Mixed-Use Village Development TIS City of Wheeling, Ohio County, West Virginia

	Percent Development at Intersection								
	AM Peak Hour								
Intersection	2030 Build (With Development)	2030 No Build (Without Development)	Site Traffic	Percent Development					
US Route 40 & WV 88	2245	1919	326	16.99%					
US Route 40 & Park Road	2414	2265	149	6.58%					
US Route 40 & Leatherwood Lane	2102	1953	149	7.63%					
US Route 40 & Mt. DeChantal Road	2748	2599	149	5.73%					
Mt. DeChantal Road & I-70 EB Off-Ramp	1755	1662	93	5.60%					
Mt. DeChantal Road & I-70 EB On- Ramp/Kroger's Dwy	1062	1021	41	4.02%					
Mt. DeChantal Road & Kroger's Dwy	761	725	36	4.97%					
US Route 40 &I-70 WB On-Ramp	1480	1424	56	3.93%					
WV 88 & GC&P Road	987	969	18	1.86%					
WV 88 & Warden Run Road	567	553	14	2.53%					

	Percent Development at Intersection								
	PM Peak Hour								
Intersection	2030 Build (With Development)	2030 No Build (Without Development)	Site Traffic	Percent Development					
US Route 40 & WV 88	3015	2325	690	29.68%					
US Route 40 & Park Road	2822	2509	313	12.48%					
US Route 40 & Leatherwood Lane	2585	2272	313	13.78%					
US Route 40 & Mt. DeChantal Road	3342	3029	313	10.33%					
Mt. DeChantal Road & I-70 EB Off-Ramp	2102	1949	153	7.85%					
Mt. DeChantal Road & I-70 EB On- Ramp/Kroger's Dwy	1409	1323	86	6.50%					
Mt. DeChantal Road & Kroger's Dwy	1028	964	64	6.64%					
US Route 40 &I-70 WB On-Ramp	1904	1744	160	9.17%					
WV 88 & GC&P Road	1104	1065	39	3.66%					
WV 88 & Warden Run Road	683	651	32	4.92%					

	Percent Development at Intersection								
	Saturday Peak Hour								
Intersection	2030 Build (With Development)	2030 No Build (Without Development)	Site Traffic	Percent Development					
US Route 40 & WV 88	2370	1706	664	38.92%					
US Route 40 & Park Road	2025	1723	302	17.53%					
US Route 40 & Leatherwood Lane	1957	1655	302	18.25%					
US Route 40 & Mt. DeChantal Road	2479	2177	302	13.87%					
Mt. DeChantal Road & I-70 EB Off-Ramp	1680	1516	164	10.82%					
Mt. DeChantal Road & I-70 EB On- Ramp/Kroger's Dwy	1128	1045	83	7.94%					
Mt. DeChantal Road & Kroger's Dwy	798	732	66	9.02%					
US Route 40 &I-70 WB On-Ramp	1363	1225	138	11.27%					
WV 88 & GC&P Road	810	772	38	4.92%					
WV 88 & Warden Run Road	526	496	30	6.05%					

Source: Summary by Stahl Sheaffer Engineering, LLC.







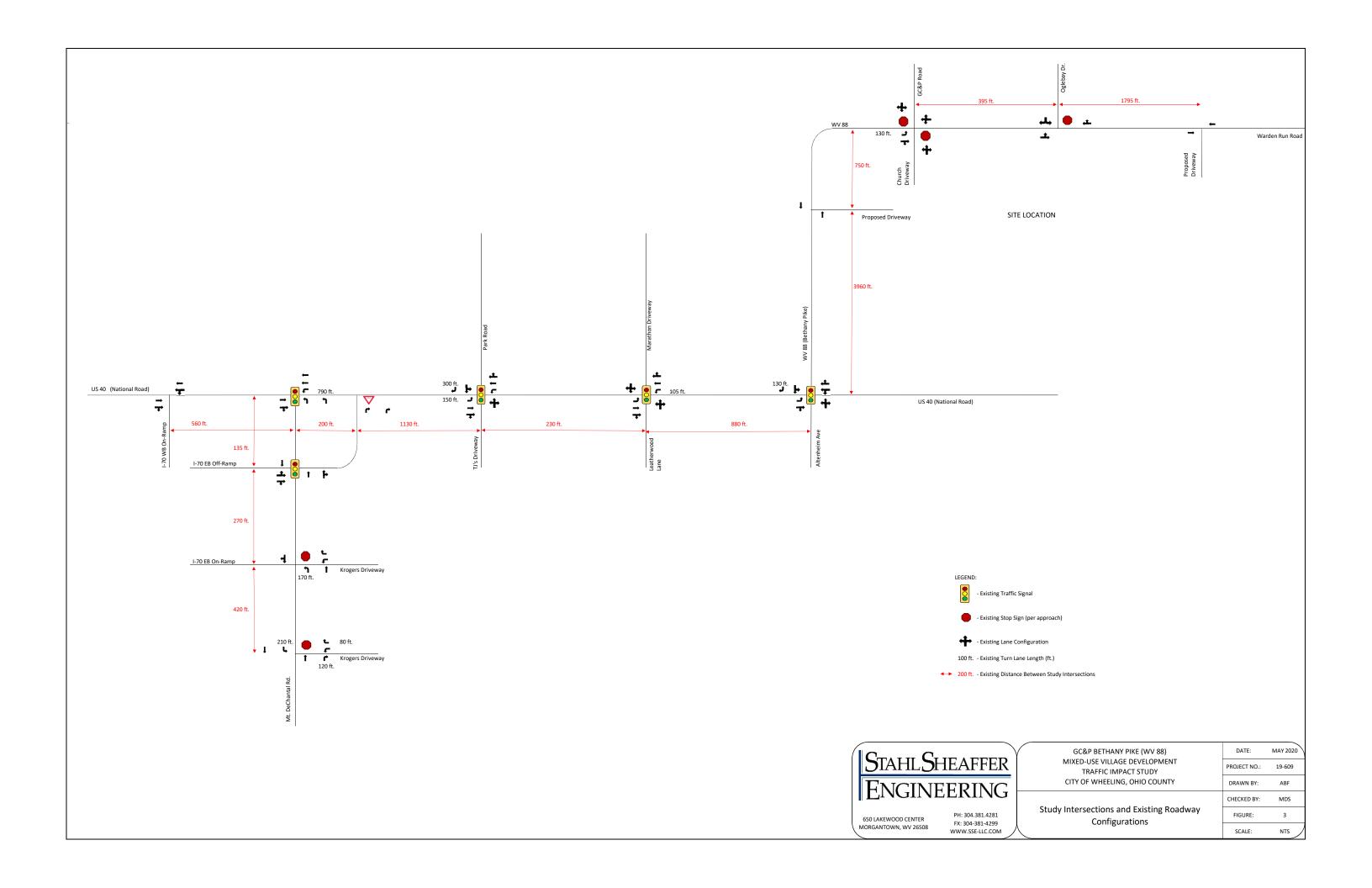
GC&P BETHANY PIKE (WV 88)	DATE:	MAY 2020
MIXED-USE VILLAGE DEVELOPMENT TRAFFIC IMPACT STUDY	PROJECT NO.:	19-609
CITY OF WHEELING, OHIO COUNTY	DRAWN BY:	ABF
	CHECKED BY:	MDS
Site Location and Study Intersections	FIGURE:	2
	SCALE:	NTS

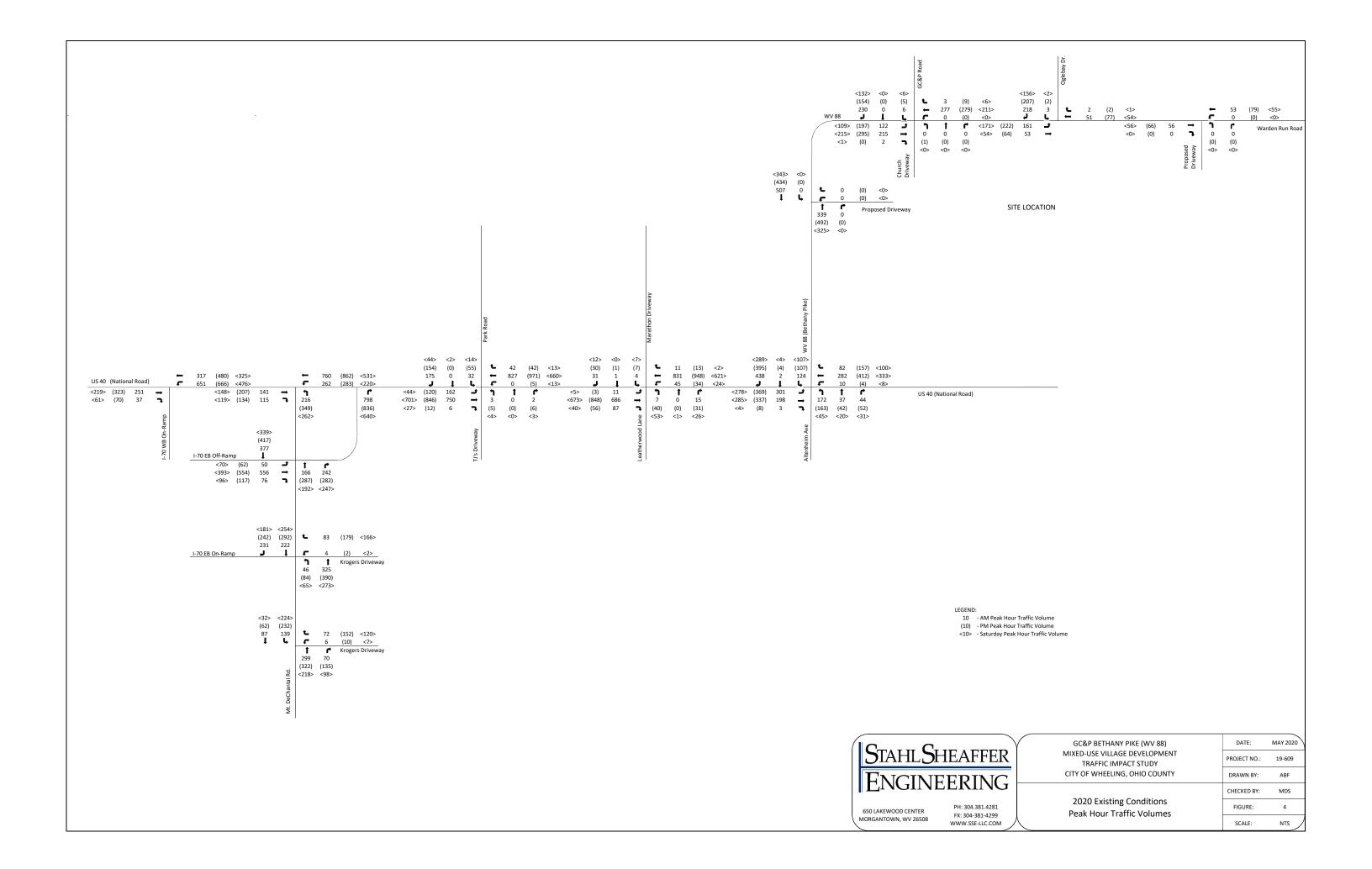


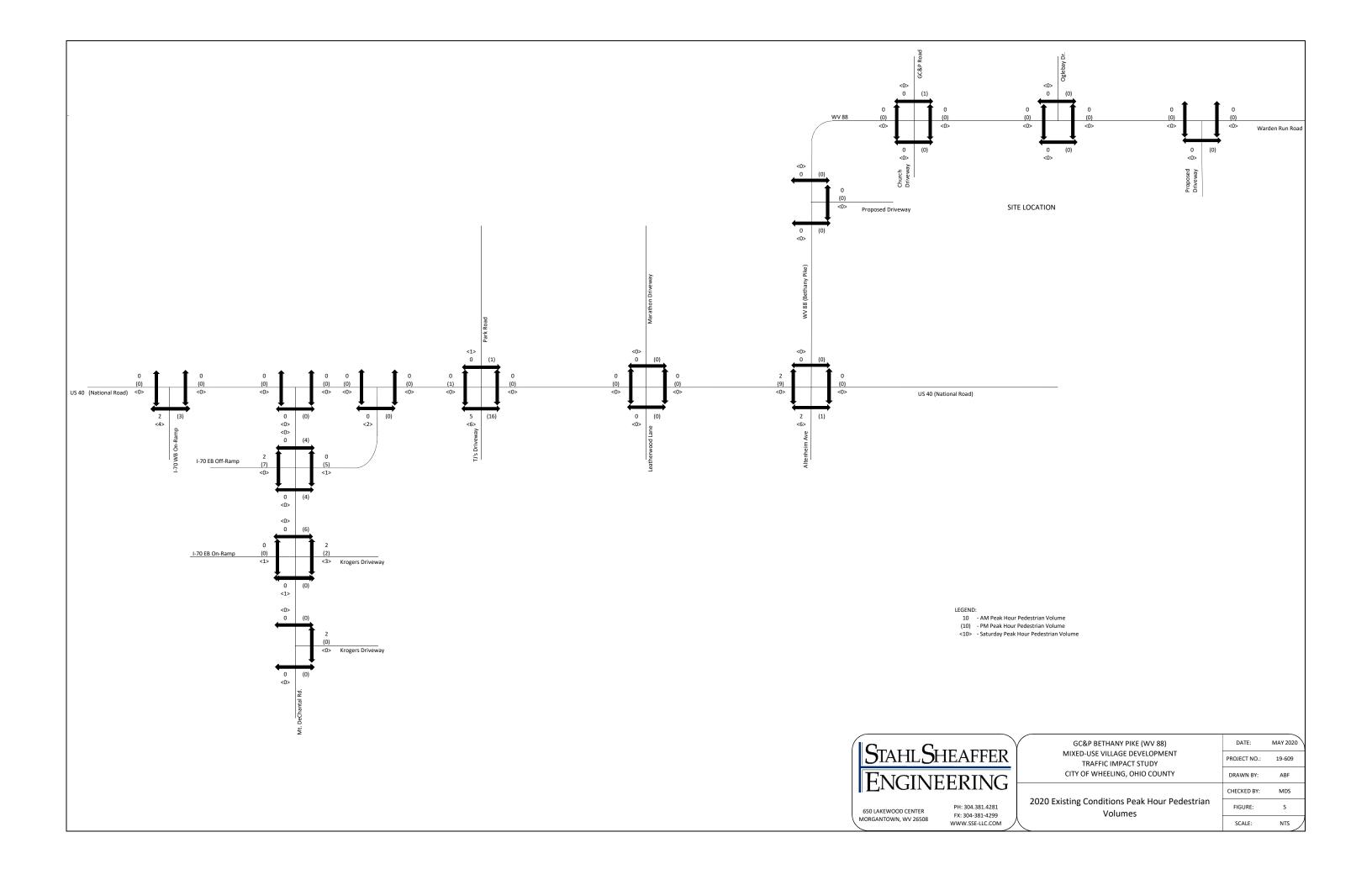


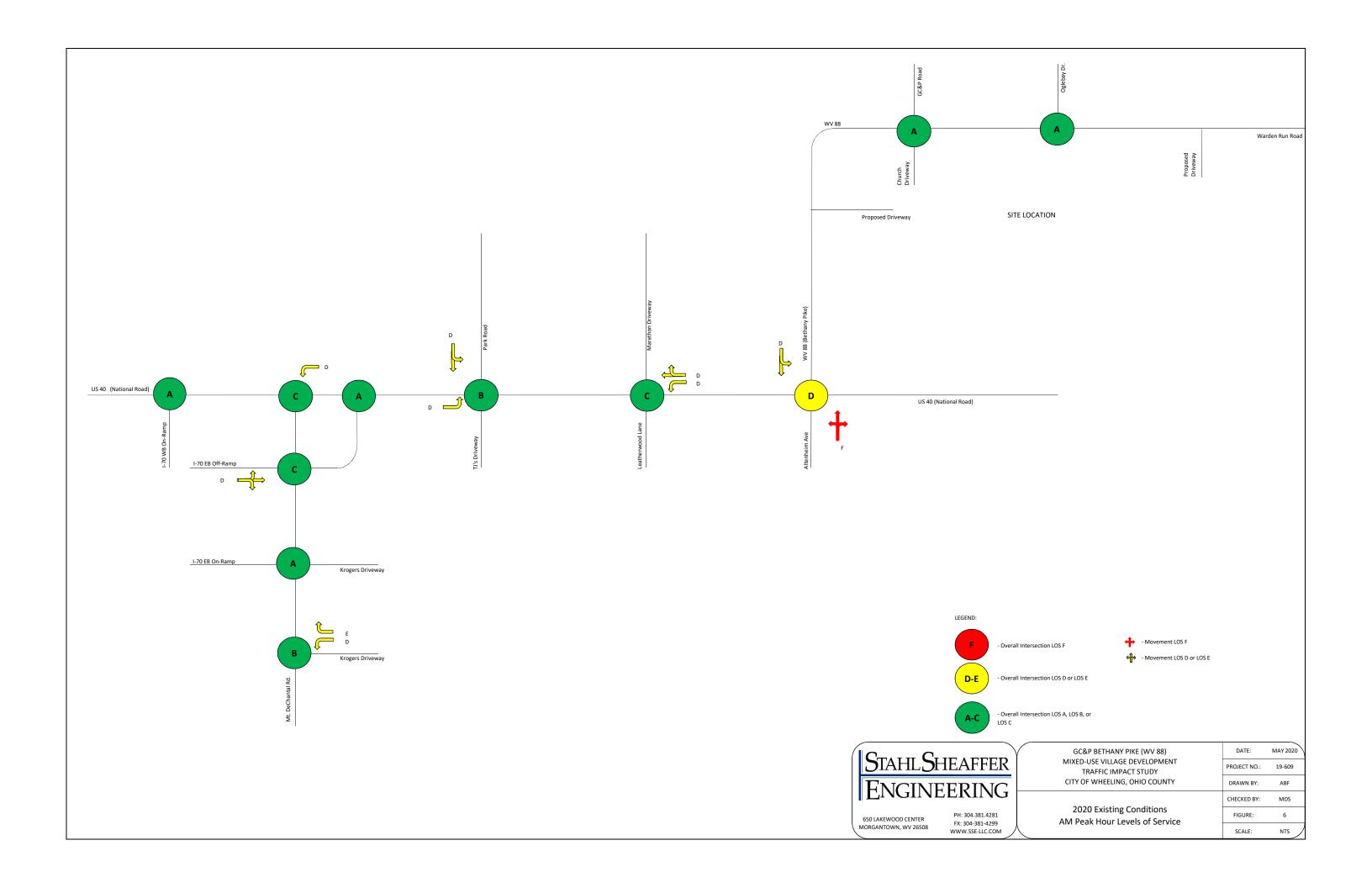
650 LAKEWOOD CENTER MORGANTOWN, WV 26508 PH: 304.381.4281 FX: 304-381-4299 WWW.SSE-LLC.COM

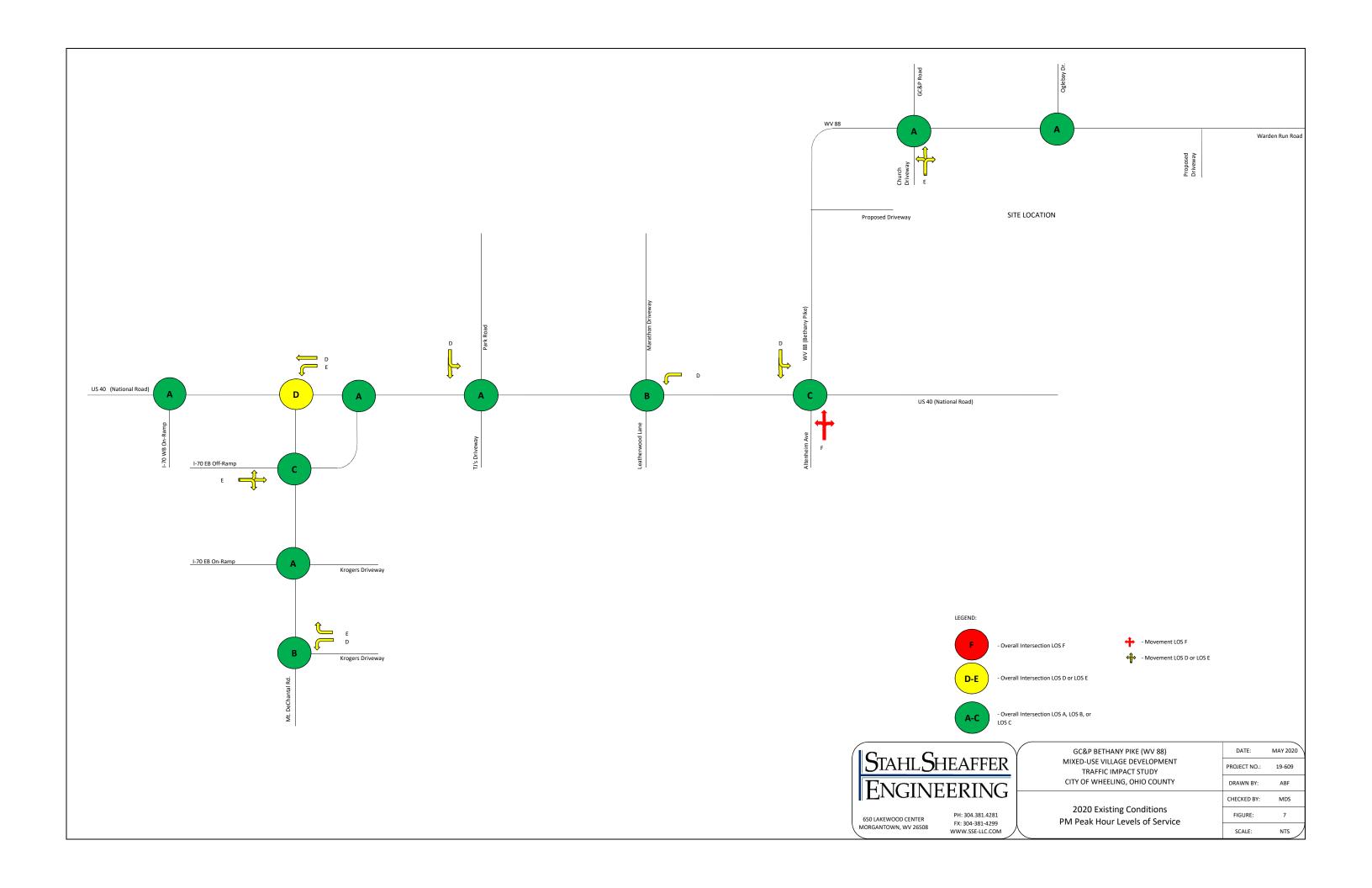
GC&P BETHANY PIKE (WV 88)	DATE:	MAY 2020
IXED-USE VILLAGE DEVELOPMENT TRAFFIC IMPACT STUDY	PROJECT NO.:	19-609
ITY OF WHEELING, OHIO COUNTY	DRAWN BY:	ABF
	CHECKED BY:	MDS
Site Plan	FIGURE:	2
	SCALE:	NTS

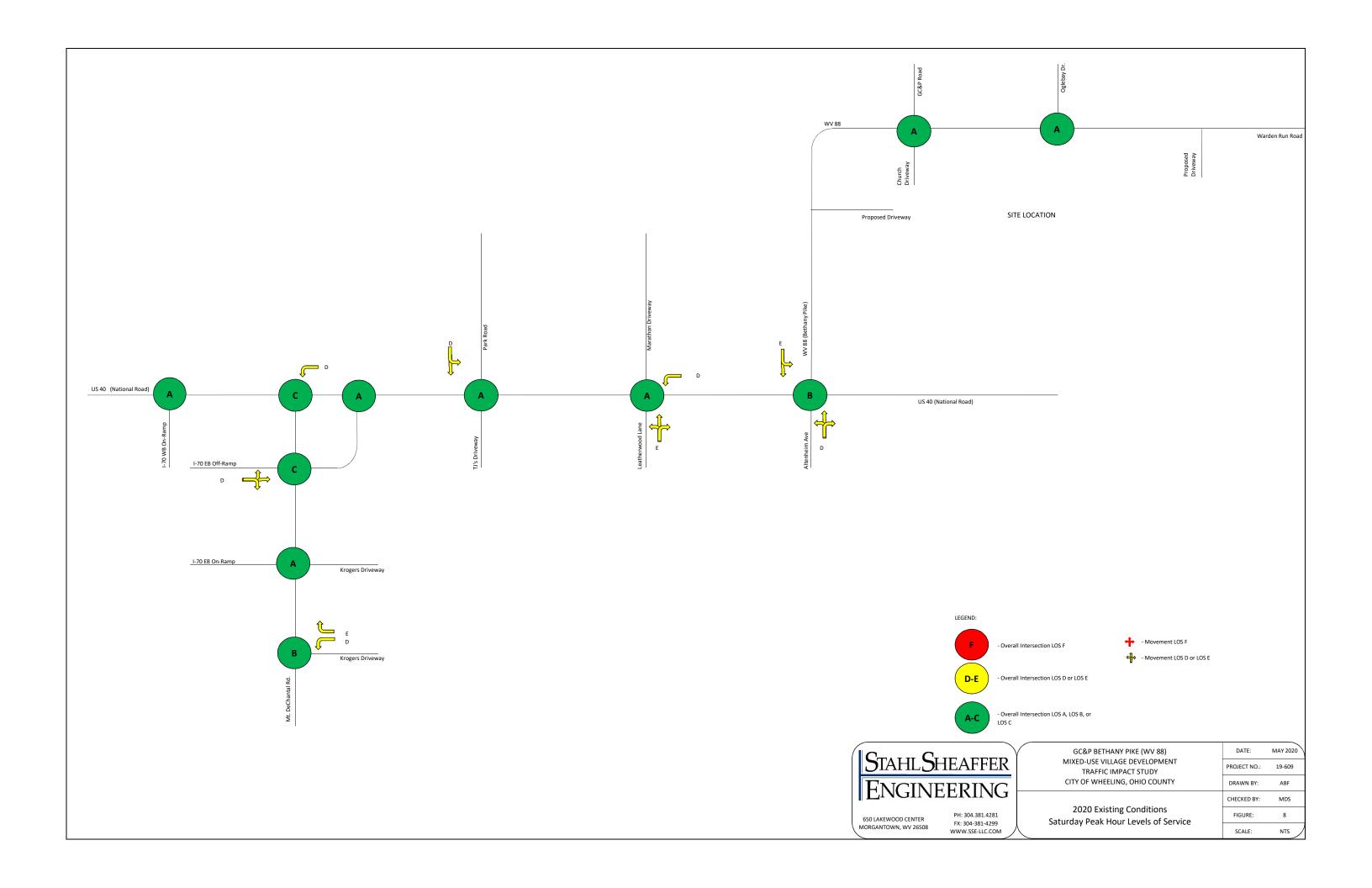


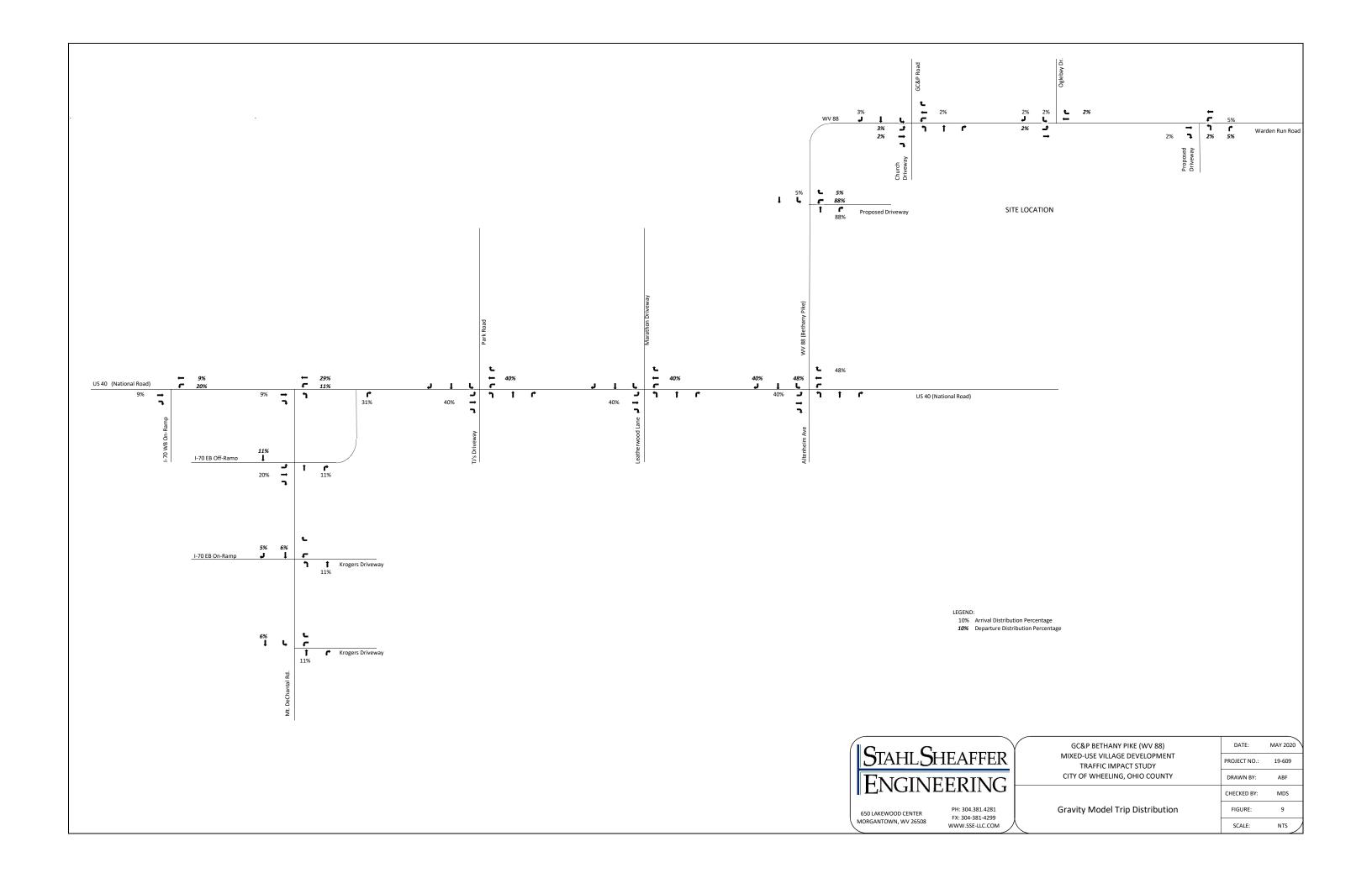


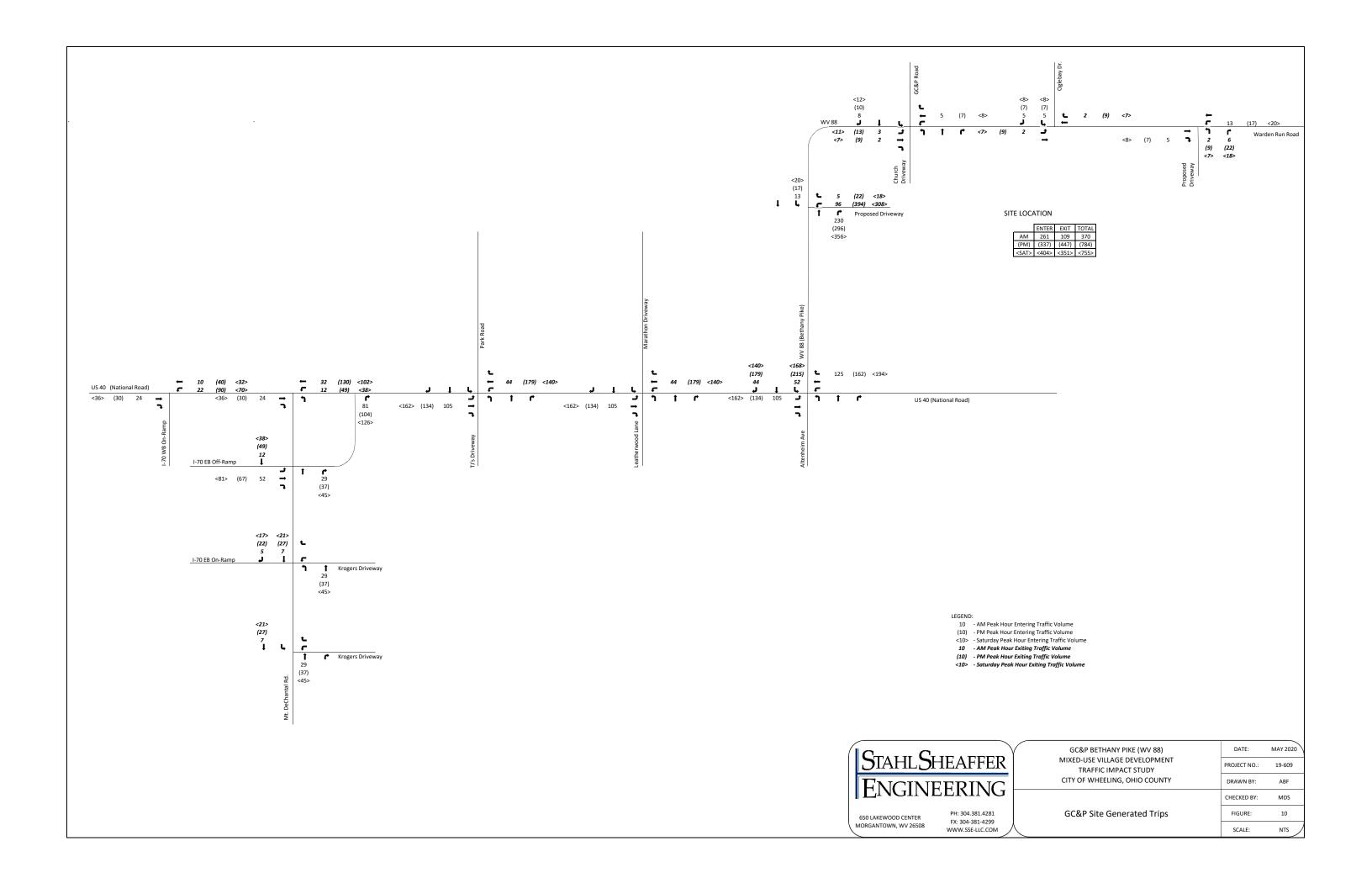


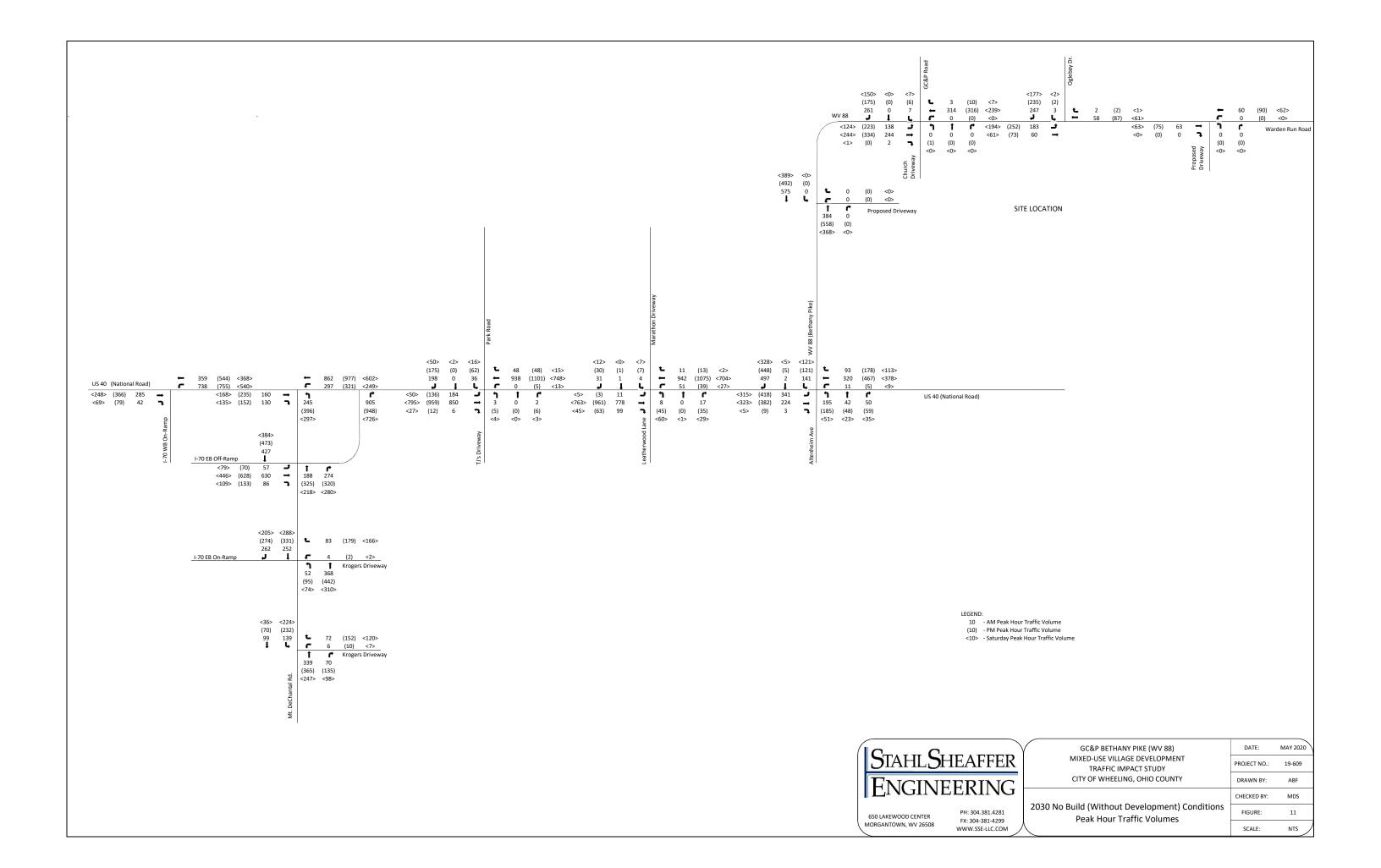


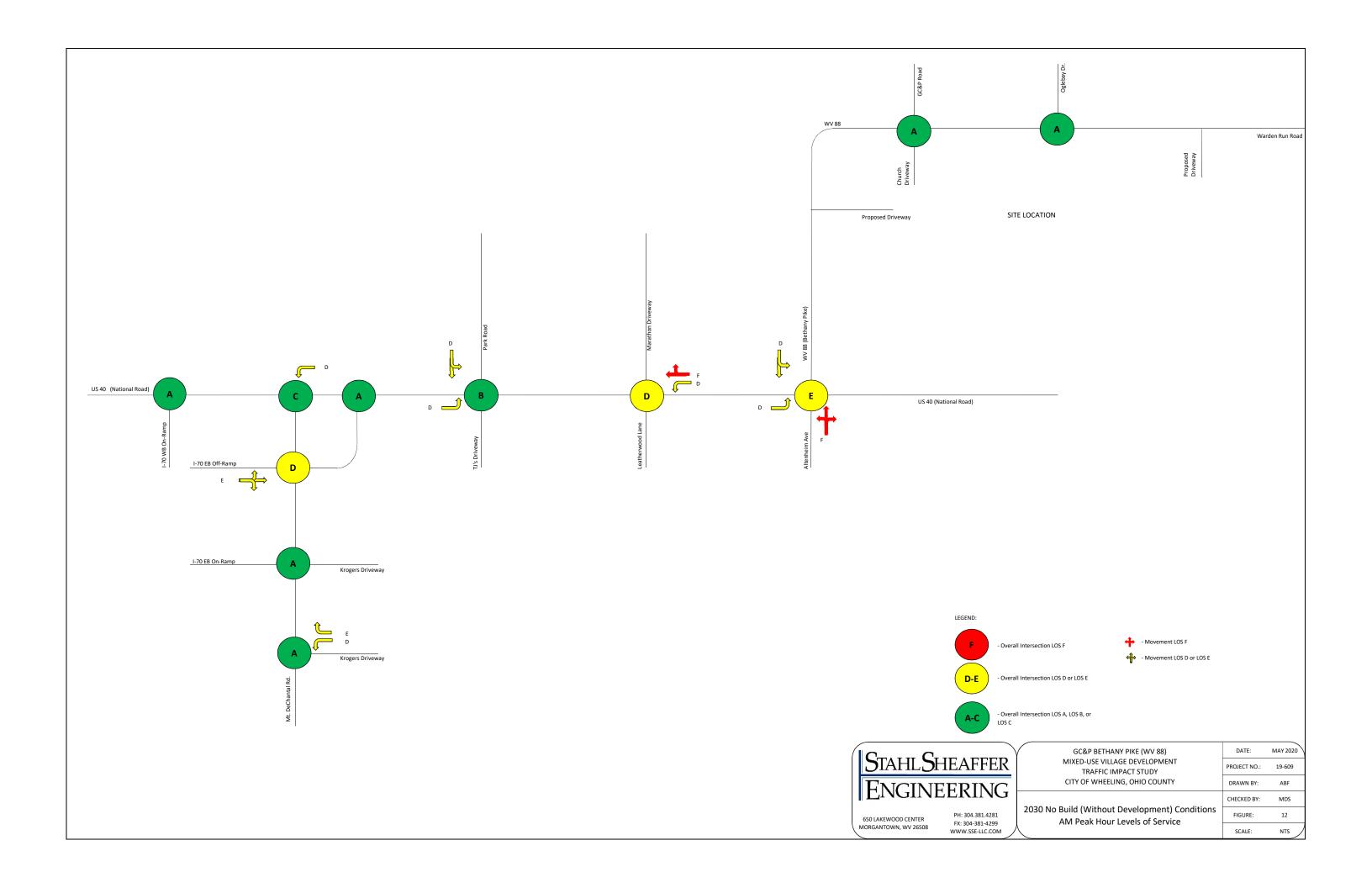


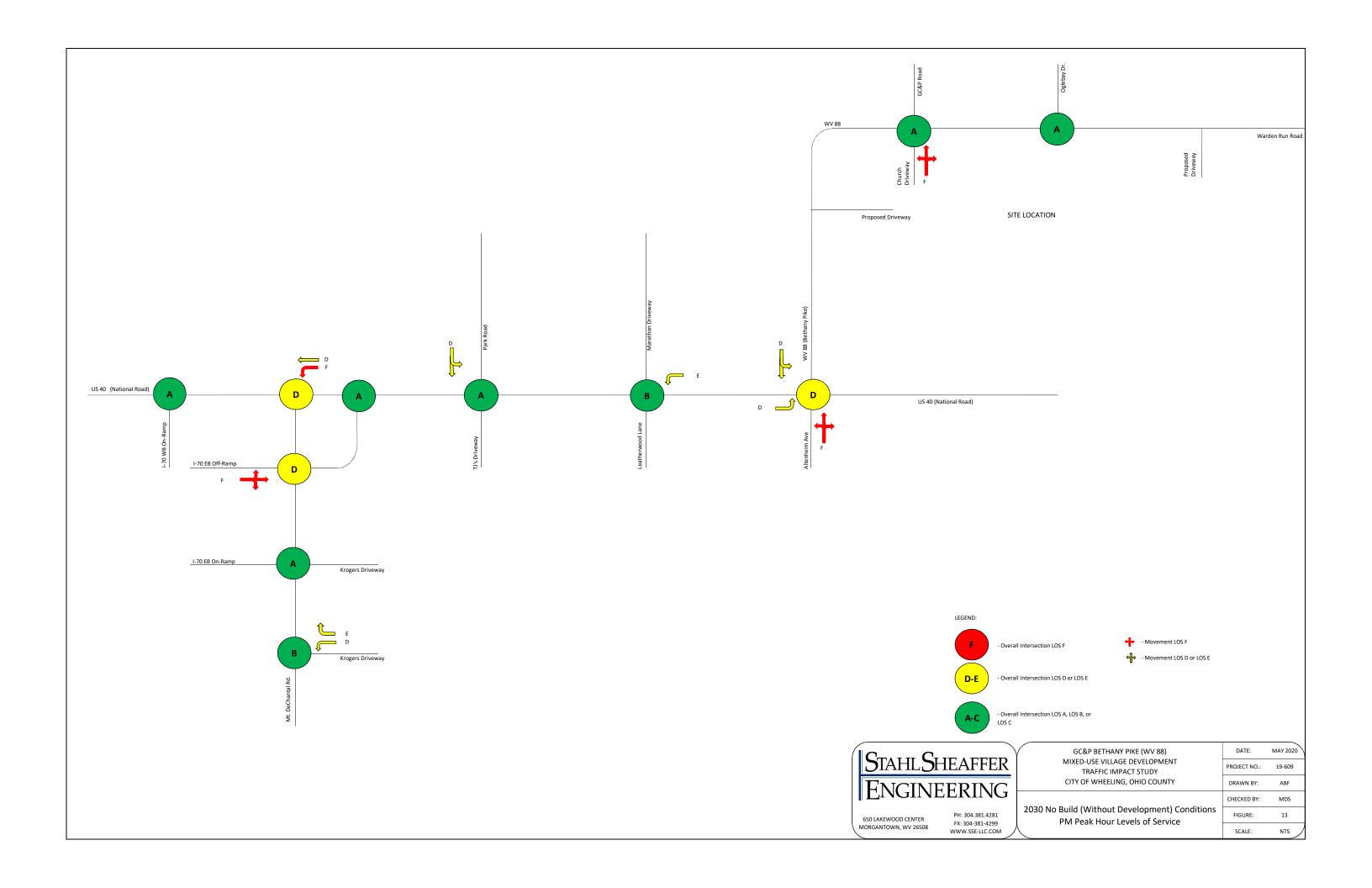


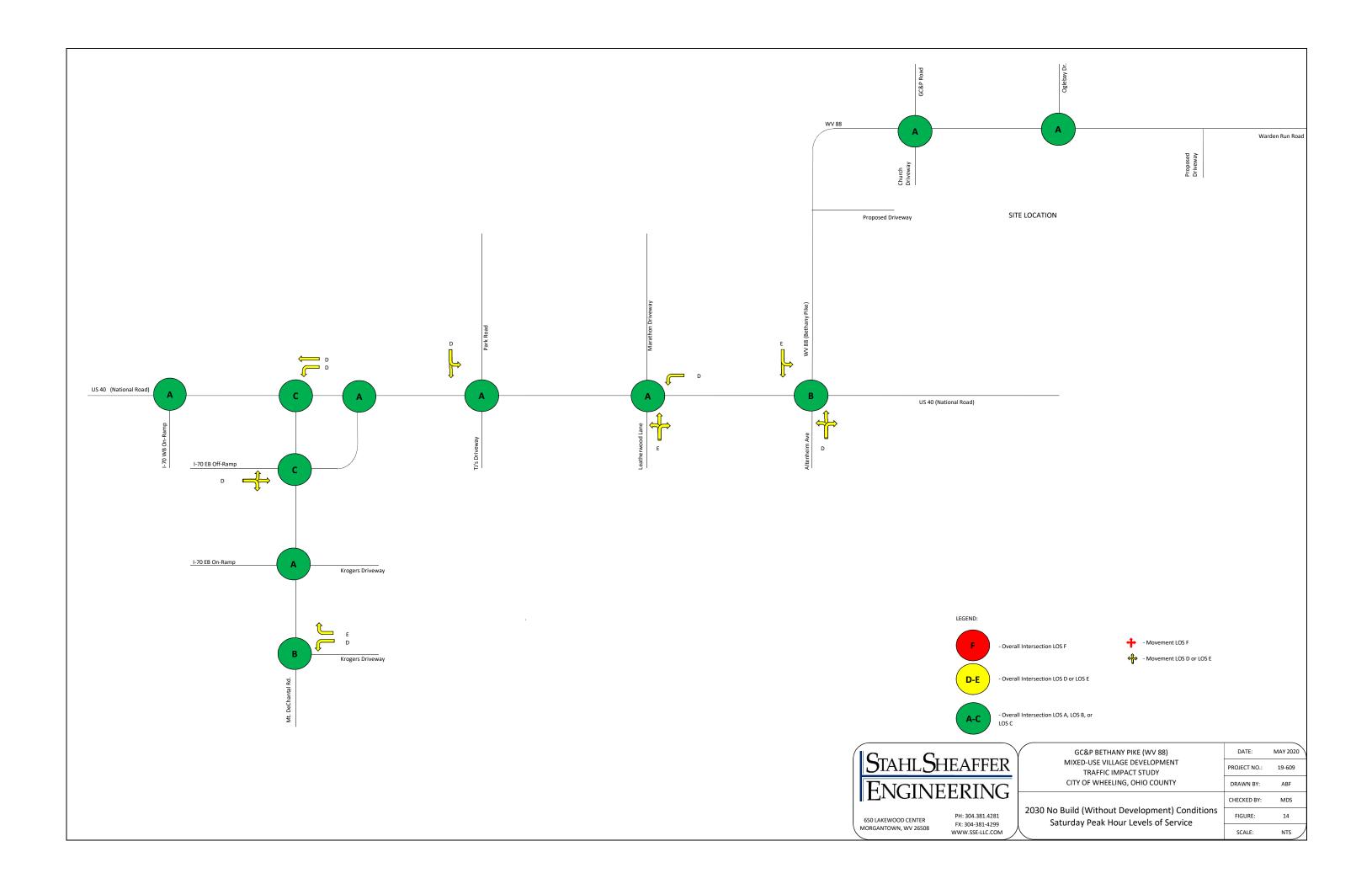


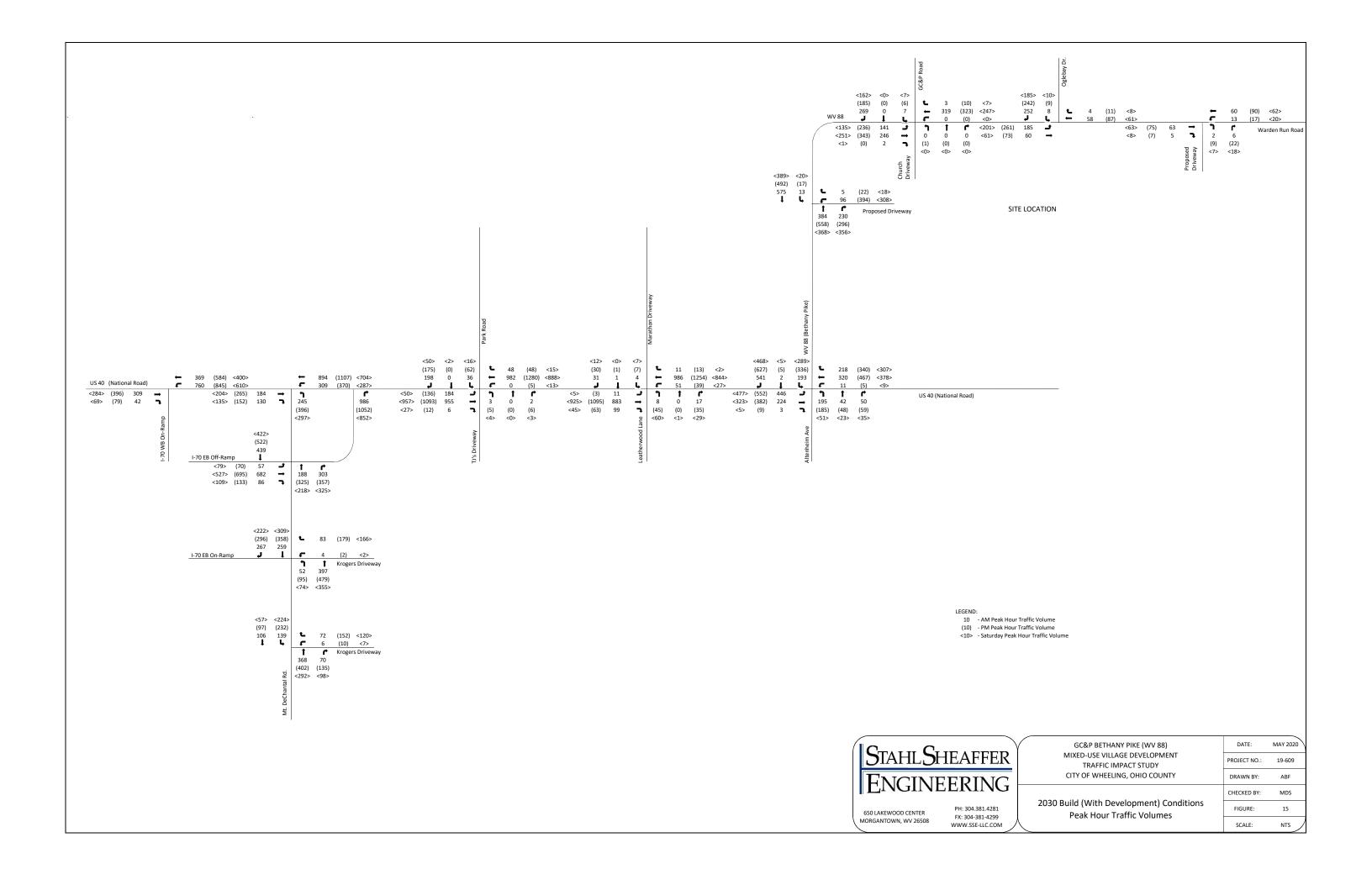


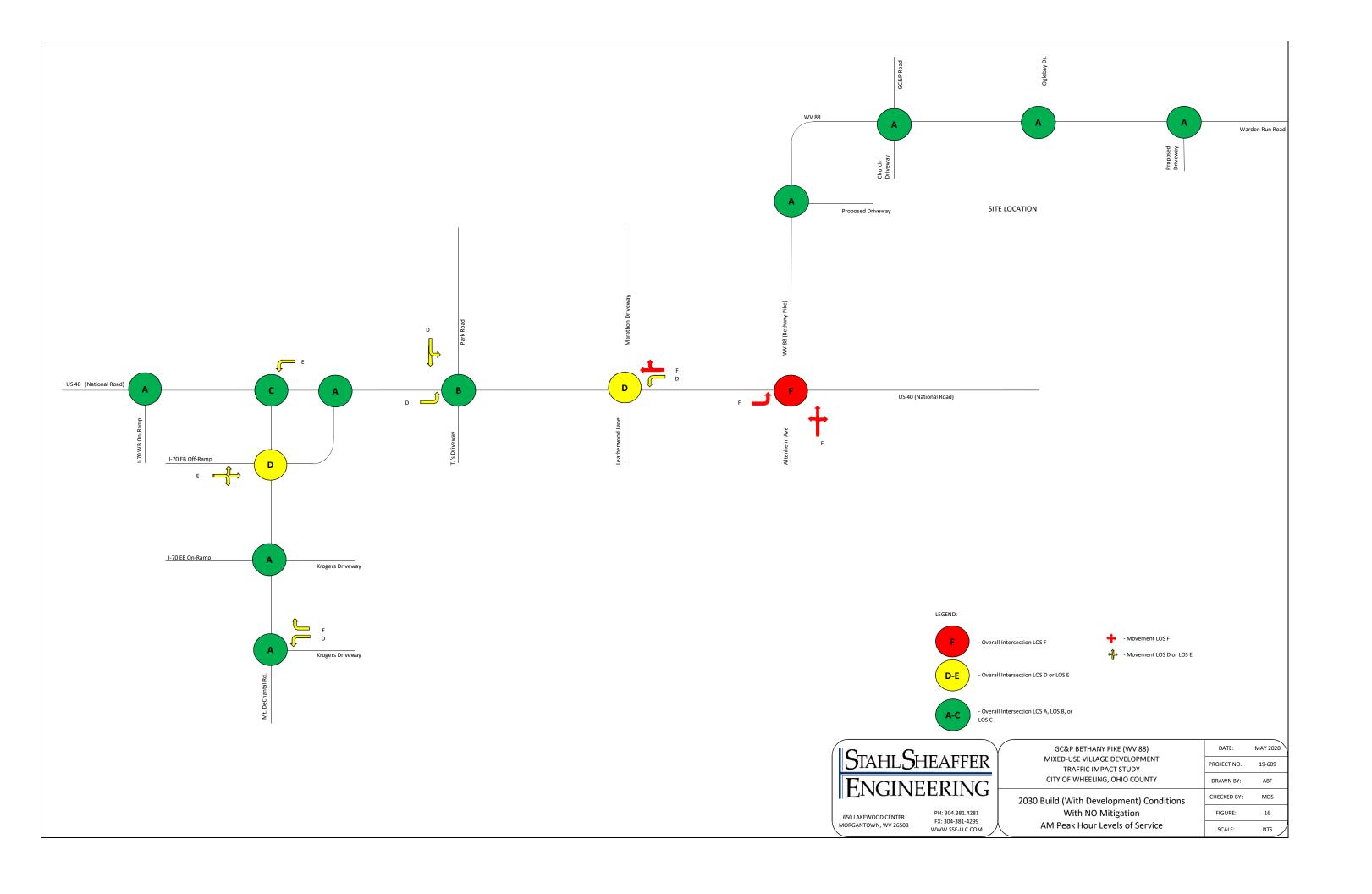


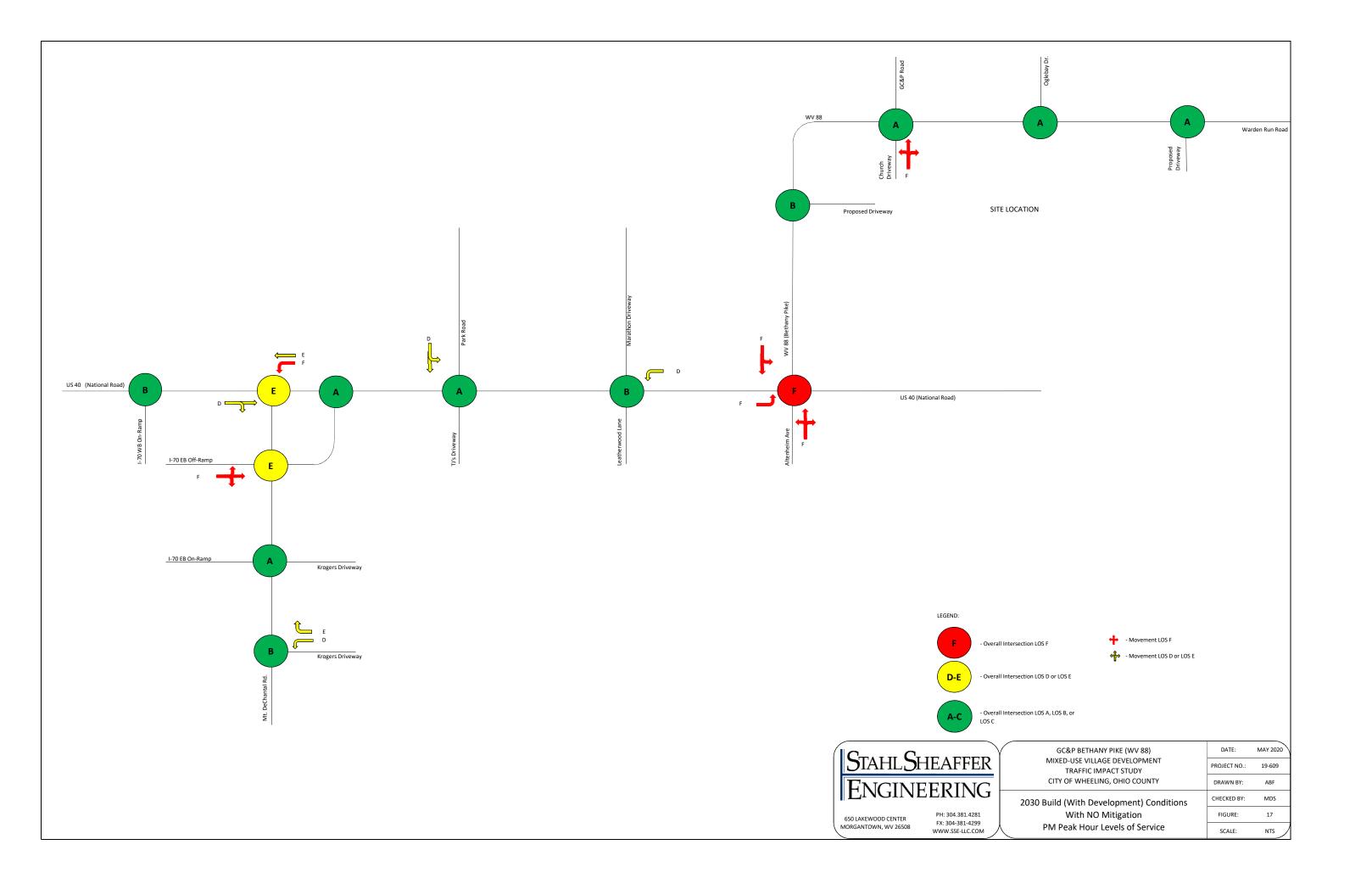


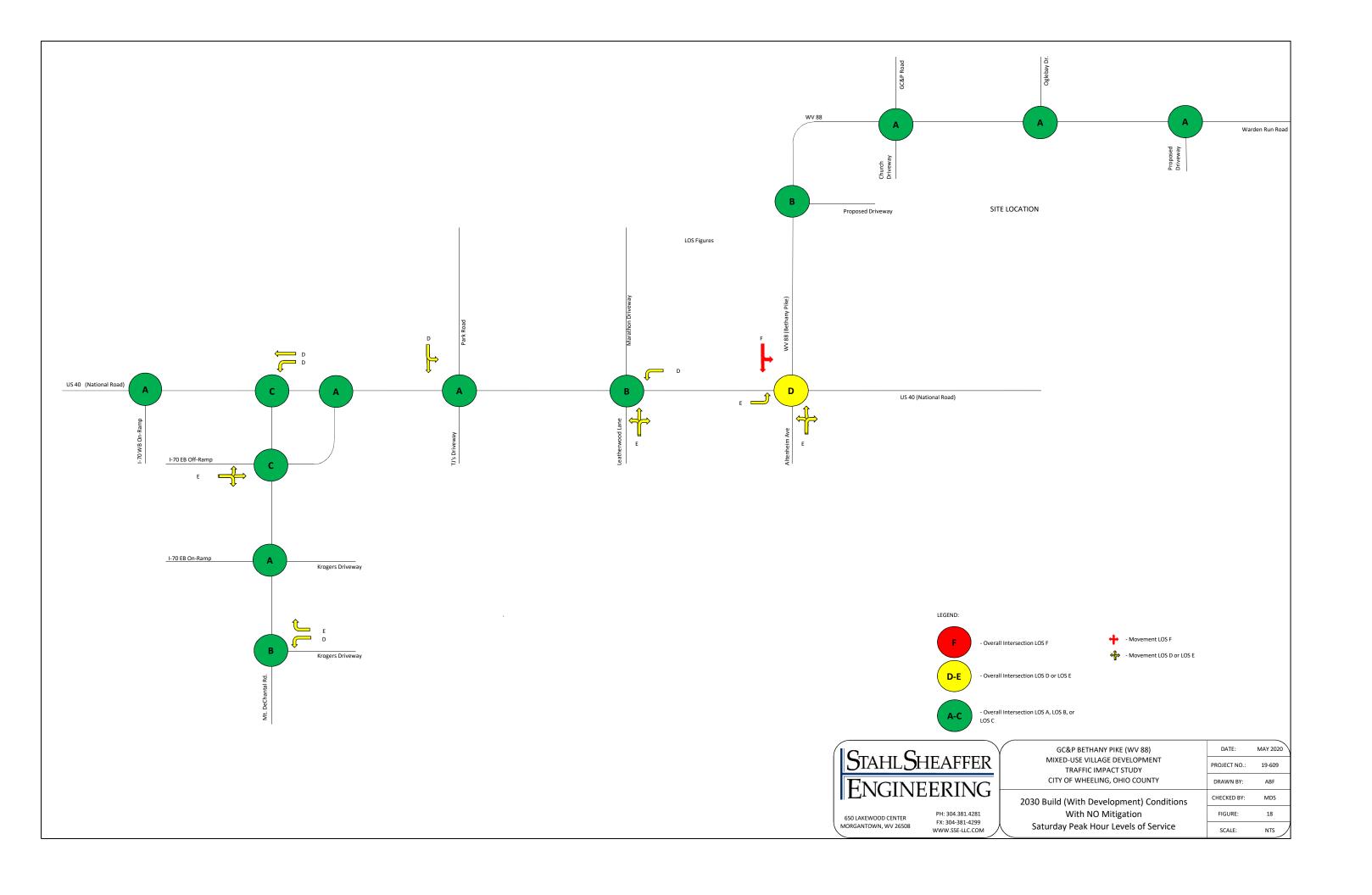


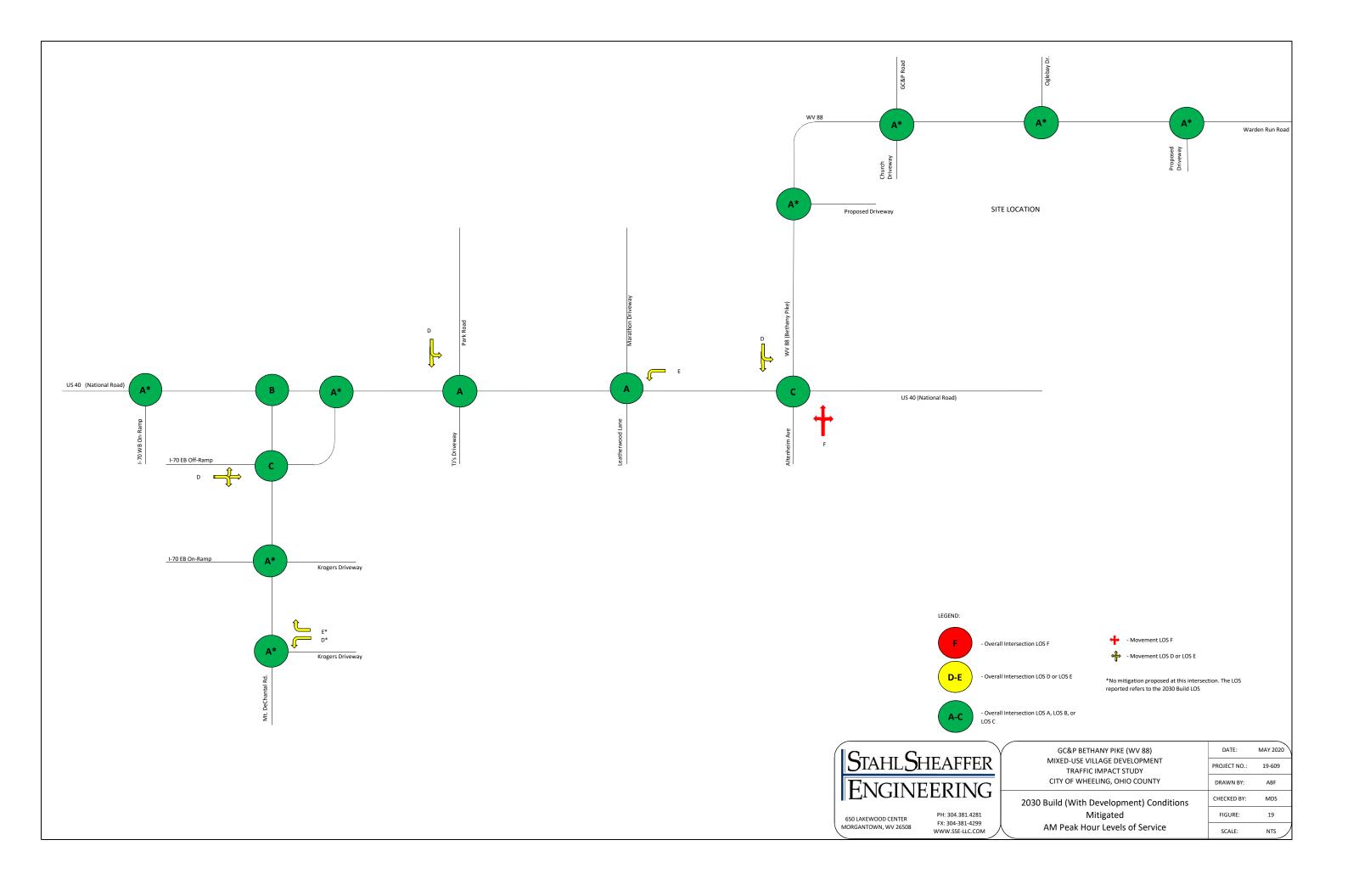


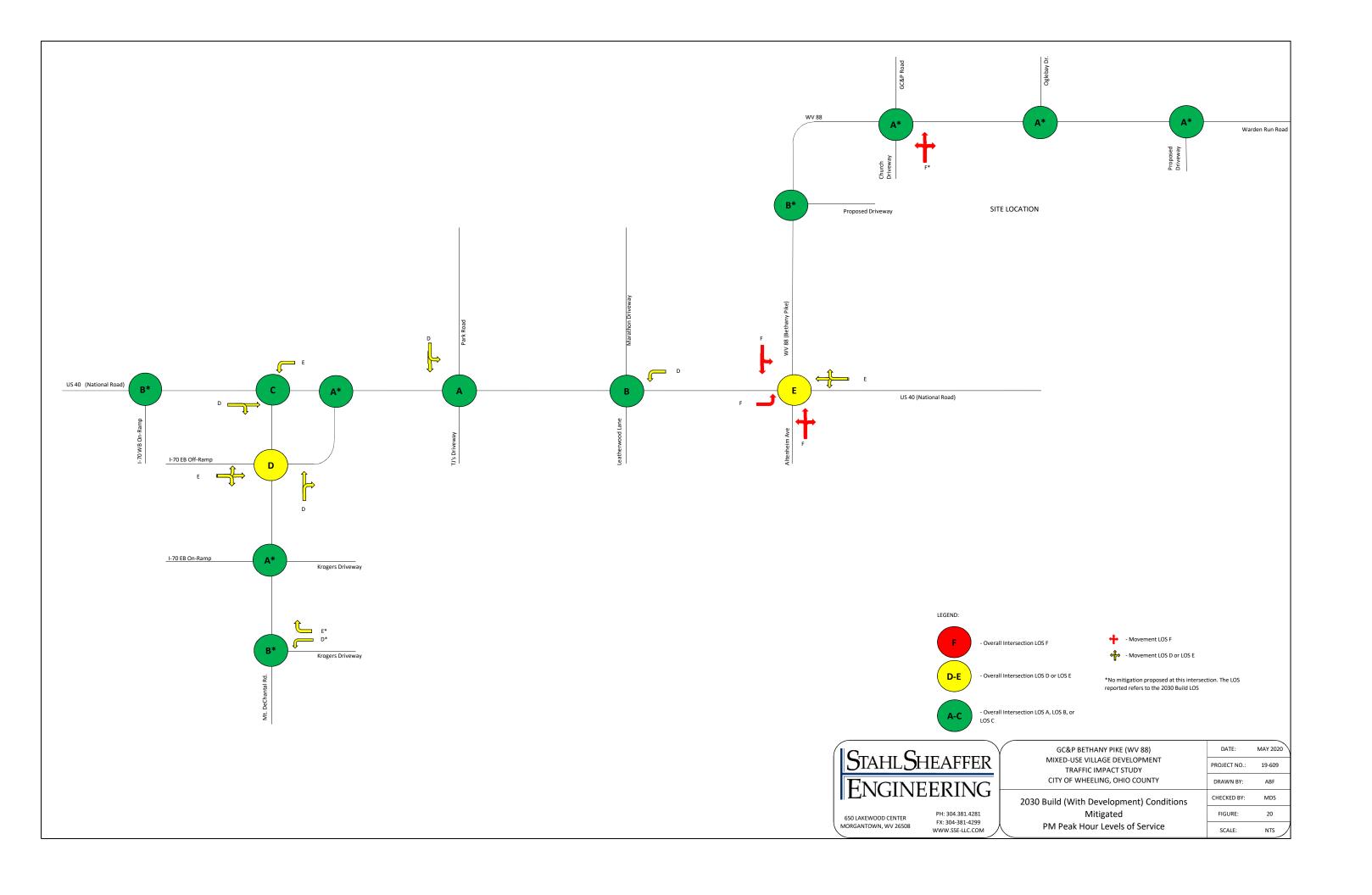


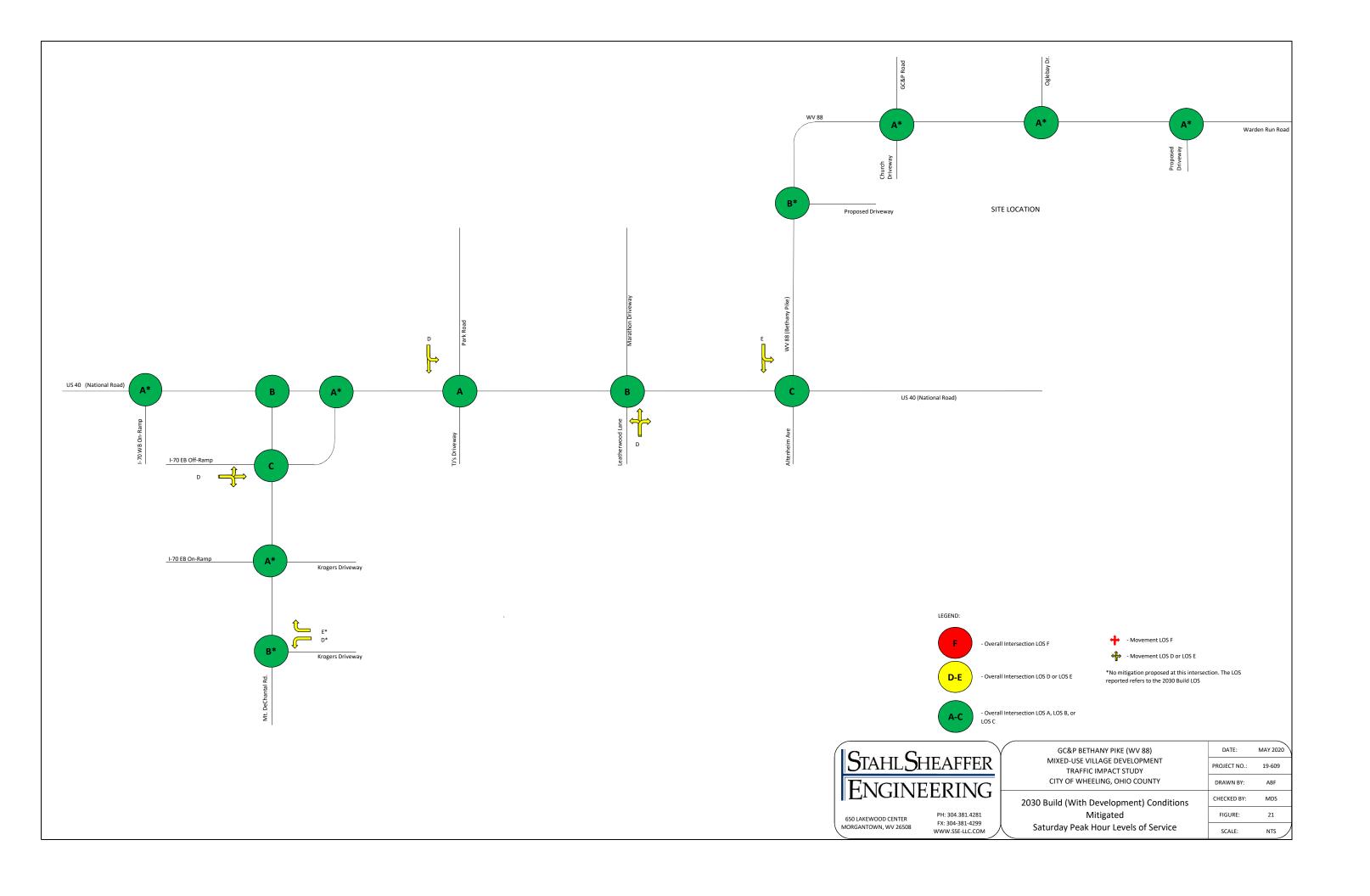














Appendix A. Project Correspondence



January 20, 2020 *Update*

West Virginia Route 88 Mixed-Use Development Traffic Impact Study Scope

Study Intersections

- 1. US Route 40 (National Road) and WV Route 88 (Bethany Pike) (Existing Signalized)
- 2. WV Route 88 (Bethany Pike) and GC&P Road (CR 7) (Existing Unsignalized)
- 3. US Route 40 (National Road) and Park Road (Existing Signalized)
- 4. US Route 40 (National Road) and Mt. DeChantal Road/I-70 EB Off-Ramp (Existing Signalized)
- 5. Mt. DeChantal Road and I-70 EB On-Ramp/Krogers Driveway (Existing Unsignalized)
- 6. Mt. DeChantal Road and Krogers Driveway (Existing Signalized)
- 7. US Route 40 (National Road) and I-70 WB On-Ramp (Existing Unsignalized)
- 8. WV Route 88 and Warden Run Road (CR 15) (Existing Unsignalized)
- 9. WV Route 88 (Bethany Pike) and Proposed Site Driveway (Proposed Signalized)
- 10. Warden Run Road (CR 15) and Proposed Site Driveway (Proposed Unsignalized)

Peak Hours to be Studied

- Friday Morning (7:00 AM to 9:00 AM)
- Friday Afternoon (3:00 PM to 6:00 PM)
- Saturday Mid-day (11:00 AM to 2:00 PM)

Traffic Conditions to be Studied:

- Existing Year 2020 Conditions
- Year of Full Build-Out Conditions Without Proposed Development
- Year of Full Build-Out Conditions With Proposed Development

Trip Generation and Distribution:

- Utilize Institute of Transportation Engineers (ITE) *Trip Generation*, 10th Edition
- Guidelines for Mixed-Use Development per ITE's <u>Trip Generation Handbook</u>, 3rd <u>Edition</u>
- Guidelines for Pass-by Trips per ITE's Trip Generation Handbook, 3rd Edition
- Distribution based on a population gravity model for a 15-minute travel time radius

Traffic Analysis

- Intersection capacity analysis (Synchro 10 software, Highway Capacity Manual 6th Edition Standards, for signalized and unsignalized intersections. SIDRA Intersection 8 software, Highway Capacity Manual 6th Edition Standards, for roundabouts, if required.)
- Intersection queue analysis (Synchro 10 software, 95th Percentile Queues, for signalized and unsignalized intersections. SIDRA Intersection 8 software, 95th Percentile Queues, for roundabouts, if required.)
- Traffic signal warrant analysis (MUTCD Standards), where applicable.
- Auxiliary turn lane warrant analysis (AASHTO Greenbook), at proposed site driveways.

Copy | P19-609 File





Turning Movement Count Location

Proposed Site Driveway Location

Friday Morning (7:00 AM to 9:00 AM) Friday Afternoon (3:00 PM to 6:00 PM) Saturday Mid-day (11:00 AM to 2:00 PM)

Project Number: 19-609

Date Prepared: 1/20/2020 Update

County: Ohio

Figure 1

Alex B. Fisher

From: Melissa D. Southern

Sent: Wednesday, February 5, 2020 10:11 AM

To: Cramer, David E

Cc: Meadows, Donald R; Hicks, Paul F

Subject: RE: [EXT]: FW: [External] GC&P Development - Revised TIS Scope

Attachments: 2020-01-20 TIS Scope - REV 1 update.pdf

Thank you Dave.

Provided with this email is an update to the January 20, 2020 TIS Scope, correcting the roadway references, for your records.

Please feel free to reach out to me if you have any questions or need anything additional.

Thanks and have a great day! Melissa

Melissa D. Southern, E.I.T.

Traffic Analyst

Stahl Sheaffer Engineering, LLC 4055 Monroeville Boulevard, Suite 400 Monroeville, PA 15146 O: 412.229.8583x14 F: 412.229.8682 msouthern@sse-llc.com sse-llc.com

From: Cramer, David E <David.E.Cramer@wv.gov>
Sent: Wednesday, February 05, 2020 8:31 AM
To: Melissa D. Southern <MSouthern@sse-llc.com>

Cc: Meadows, Donald R <Donald.R.Meadows@wv.gov>; Hicks, Paul F <Paul.F.Hicks@wv.gov>

Subject: [EXT]: FW: [External] GC&P Development - Revised TIS Scope

The proposed scope is acceptable to DOH, however please reference correctly WV 88 (not CR 88) and CR 15 (not WV 15). When the TIS is complete, provide 6 printed copies, 2 CDs or USBs with the TIS, and an electronic version to my office. Same TIS is to be submitted by Developer to the City of Wheeling, Ohio County Commission, and the BelOMar MPO. If additional info is needed, let me know.

David E. Cramer, PE
West Virginia Department of Transportation
Commissioner's Office of Economic Development
1900 Kanawha Blvd., E
Building 5, Room 129
Charleston, WV 25305
304-414-6697

David.E.Cramer@wv.gov

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From: Melissa D. Southern < MSouthern@sse-llc.com>

Sent: Monday, January 20, 2020 8:57 AM

To: Meadows, Donald R < <u>Donald.R.Meadows@wv.gov</u>>; Cramer, David E < <u>David.E.Cramer@wv.gov</u>> **Cc:** Hicks, Paul F < <u>Paul.F.Hicks@wv.gov</u>>; Miller, Luke I < <u>Luke.I.Miller@wv.gov</u>>; <u>dsgray1044@aol.com</u>; <u>kcoyne.gcpd@gmail.com</u>; Joe Guley < <u>iguley@sse-llc.com</u>>; Scott R. Popovich < <u>spopovich@sse-llc.com</u>>

Subject: [External] GC&P Development - Revised TIS Scope

Good Morning,

Provided with the email is the updated GC&P Development TIS scope, for your review and concurrence. The TIS scope has been revised to expand the study intersections, traffic conditions to be studied, and traffic analyses required as part of the TIS. The study intersections are shown graphically in a figure included with the revised TIS scope.

Please feel free to contact me if you have any questions or require anything additional.

Thanks, Melissa

Melissa D. Southern, E.I.T.

Traffic Analyst

Stahl Sheaffer Engineering, LLC 4055 Monroeville Boulevard, Suite 400 Monroeville, PA 15146 O: 412.229.8583x14 F: 412.229.8682 msouthern@sse-llc.com sse-llc.com

Alex B. Fisher

From: Cramer, David E <David.E.Cramer@wv.gov>
Sent: Wednesday, February 5, 2020 8:31 AM

To: Melissa D. Southern

Cc: Meadows, Donald R; Hicks, Paul F

Subject: [EXT]: FW: [External] GC&P Development - Revised TIS Scope

Attachments: 2020-01-20 TIS Scope - REV 1.pdf

The proposed scope is acceptable to DOH, however please reference correctly WV 88 (not CR 88) and CR 15 (not WV 15). When the TIS is complete, provide 6 printed copies, 2 CDs or USBs with the TIS, and an electronic version to my office. Same TIS is to be submitted by Developer to the City of Wheeling, Ohio County Commission, and the BelOMar MPO. If additional info is needed, let me know.

David E. Cramer, PE
West Virginia Department of Transportation
Commissioner's Office of Economic Development
1900 Kanawha Blvd., E
Building 5, Room 129
Charleston, WV 25305
304-414-6697
David.E.Cramer@wv.gov

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From: Melissa D. Southern < MSouthern@sse-llc.com>

Sent: Monday, January 20, 2020 8:57 AM

To: Meadows, Donald R < <u>Donald.R.Meadows@wv.gov</u>>; Cramer, David E < <u>David.E.Cramer@wv.gov</u>> Cc: Hicks, Paul F < <u>Paul.F.Hicks@wv.gov</u>>; Miller, Luke I < <u>Luke.I.Miller@wv.gov</u>>; <u>dsgray1044@aol.com</u>; <u>kcoyne.gcpd@gmail.com</u>; Joe Guley < <u>jguley@sse-llc.com</u>>; Scott R. Popovich < <u>spopovich@sse-llc.com</u>>

Subject: [External] GC&P Development - Revised TIS Scope

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Please feel free to contact me if you have any questions or require anything additional.

Thanks, Melissa

Melissa D. Southern, E.I.T.

Traffic Analyst

Stahl Sheaffer Engineering, LLC 4055 Monroeville Boulevard, Suite 400 Monroeville, PA 15146 O: 412.229.8583x14 F: 412.229.8682 msouthern@sse-llc.com sse-llc.com

Alex B. Fisher

From: Meadows, Donald R < Donald.R.Meadows@wv.gov>

Sent: Monday, February 10, 2020 11:12 AM

To: Melissa D. Southern

Cc: Ellars, Daniel L; McCracken, Julius A

Subject: [EXT]: RE: Traffic Growth Rate for the City of Wheeling, Ohio County, WV

Melissa,

Based on what you were provided, and how it is typically relayed on similar projects, I would recommend using 1.3% per year for the growth rate.

Dan/Julius,

Could you please provide any signal plans and available timings for the intersections listed below. If no timings are available for any of the intersections, please indicate that as well so the consultant knows they will need to obtain some general timings from the field.

Let me know if you have any questions or if you need any additional information. THANKS>DON

Donald R. Meadows

West Virginia Division of Highways Traffic Engineering - Operations Building 5, Room A-550 1900 Kanawha Blvd. E. Charleston, WV 25305

Office Ph: (304) 414-7354 Cell Ph: (304) 382-3160 Fax: (304) 558-1209

From: Melissa D. Southern < MSouthern@sse-llc.com >

Sent: Monday, February 10, 2020 10:58 AM

To: Meadows, Donald R < Donald.R. Meadows@wv.gov>

Subject: RE: Traffic Growth Rate for the City of Wheeling, Ohio County, WV

Don,

Thanks for your assistance with the growth rate. Lee replied at the end of last week indicating that a 20-year growth rate for the City of Wheeling is 1.337. I sent Lee a follow-up question about this growth, but I didn't know if you would be able to clarify? Since this is a 20-year growth rate, I'm assuming that the annual growth rate be (1.337 - 1.0) / 20 = 0.01685, or 1.685% per year linear? Or is the rate provided, 1.337%, to be applied per year (linear or compounded)?

Also, would you be able to provide us the traffic signal permit plans for the following signalized study intersections (or point me in the direction of who to contact?):

- US Route 40 (National Road) & I-70 Off-Ramp/Mt. DeChantal Road
- US Route 40 (National Road) & Park Road
- US Route 40 (National Road) & WV 88 (Bethany Pike)
- Mt. DeChantal Road & Kroger's Driveway

Thanks again for your assistance with everything! It is greatly appreciated.

Have a great week! Melissa

Melissa D. Southern, E.I.T.

Traffic Analyst

Stahl Sheaffer Engineering, LLC 4055 Monroeville Boulevard, Suite 400 Monroeville, PA 15146 O: 412.229.8583x14 F: 412.229.8682 msouthern@sse-llc.com sse-llc.com

From: Meadows, Donald R < <u>Donald.R.Meadows@wv.gov</u>>

Sent: Wednesday, February 05, 2020 11:54 AM **To:** Melissa D. Southern < MSouthern@sse-llc.com>

Subject: [EXT]: FW: [External] FW: Traffic Growth Rate for the City of Wheeling, Ohio County, WV

I was able to get in touch with Leland and he forwarded the request to another individual in his office for handling. Not sure if Lee will send the information directly to you or if he will send it to me. If he sends to me I will forward it to you ASAP.

Donald R. Meadows

West Virginia Division of Highways Traffic Engineering - Operations Building 5, Room A-550 1900 Kanawha Blvd. E. Charleston, WV 25305

Office Ph: (304) 414-7354 Cell Ph: (304) 382-3160 Fax: (304) 558-1209

From: Johnson, Leland W <Leland.W.Johnson@wv.gov>

Sent: Wednesday, February 5, 2020 11:51 AM

To: wvdoh.datasupply@geocounts.com

Cc: lee.kaufman@transmetric.com; Hori, Emiko <Emiko.Hori@wv.gov>; Elsayed, Gehan M <Gehan.M.Elsayed@wv.gov>;

Meadows, Donald R < Donald.R. Meadows@wv.gov>

Subject: FW: [External] FW: Traffic Growth Rate for the City of Wheeling, Ohio County, WV

Lee,

Please respond to this request ASAP.

Leland

From: Meadows, Donald R < Donald.R. Meadows@wv.gov>

Sent: Wednesday, February 5, 2020 11:46 AM

To: Johnson, Leland W < Leland.W.Johnson@wv.gov >

Subject: FW: [External] FW: Traffic Growth Rate for the City of Wheeling, Ohio County, WV

For your handling and response. THANKS>DON

Donald R. Meadows

West Virginia Division of Highways Traffic Engineering - Operations Building 5, Room A-550 1900 Kanawha Blvd. E. Charleston, WV 25305 Office Ph: (304) 414-7354

Cell Ph: (304) 382-3160 Fax: (304) 558-1209

From: Melissa D. Southern < MSouthern@sse-llc.com >

Sent: Wednesday, February 5, 2020 9:02 AM

To: Meadows, Donald R < <u>Donald.R.Meadows@wv.gov</u>>

Subject: [External] FW: Traffic Growth Rate for the City of Wheeling, Ohio County, WV

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Good Morning Don.

Could you please assist me with obtaining the traffic growth rate for the City of Wheeling for use in the GC&P Mixed Use Development TIS? I'm not sure if I reached out to the correct staff with the Planning Division?

Thanks, Melissa

Melissa D. Southern, E.I.T.

Traffic Analyst

Stahl Sheaffer Engineering, LLC 4055 Monroeville Boulevard, Suite 400 Monroeville, PA 15146 O: 412.229.8583x14 F: 412.229.8682 msouthern@sse-llc.com sse-llc.com

From: Melissa D. Southern

Sent: Thursday, January 23, 2020 9:53 AM

To: Johnson, Leland W <Leland.W.Johnson@wv.gov>; Elsayed, Gehan M <Gehan.M.Elsayed@wv.gov>

Subject: Traffic Growth Rate for the City of Wheeling, Ohio County, WV

Good Morning Leland and Gehan,

Stahl Sheaffer Engineering LLC has been retained by GC&P Development to complete a Traffic Impact Study (TIS) for their proposed development to be located along Bethany Pike Road (WV 88) in the City of Wheeling, Ohio County, WV. Based on the outcome of our TIS Scoping Meeting with representatives from WVDOH Central Office (Don Meadows and Dave Cramer) and District 6 (Paul Hicks), we will need to project existing traffic to the year of full-buildout of the development (by approximately 5-years). At this time, we are requesting the latest growth rate for our study area to utilize in forecasting future traffic volumes at our study intersections for analysis purposes.

Provided with this email is the scope of study and a map of the study area and study intersections, for your use.

Please feel free to contact me if you have any questions or require anything additional.

Sincerely, Melissa Southern

Melissa D. Southern, E.I.T.

Traffic Analyst

Stahl Sheaffer Engineering, LLC 4055 Monroeville Boulevard, Suite 400 Monroeville, PA 15146 O: 412.229.8583x14 F: 412.229.8682 msouthern@sse-llc.com sse-llc.com

From: Melissa D. Southern

Sent: Wednesday, January 08, 2020 1:52 PM

To: Johnson, Leland W <Leland.W.Johnson@wv.gov>; wvdoh.datasupply@geocounts.com

Subject: RE: [EXT]: FW: [External] Traffic Growth Rate for the City of Wheeling, Ohio County, WV

Good Afternoon Leland,

I'm following up on the email below. We have not received the growth rate for the location requested. Please let me know if you need anything additional to process this request.

Also, please feel free to contact me at any time if you have any questions or require any additional information.

Thank you very much in advance for your assistance!

Happy New Year! Melissa

Melissa D. Southern, E.I.T.

Traffic Analyst

Stahl Sheaffer Engineering, LLC 4055 Monroeville Boulevard, Suite 400 Monroeville, PA 15146 O: 412.229.8583x14 F: 412.229.8682 msouthern@sse-llc.com sse-llc.com

From: Johnson, Leland W <Leland.W.Johnson@wv.gov>

Sent: Thursday, December 05, 2019 9:14 AM **To:** wvdoh.datasupply@geocounts.com

Cc: Melissa D. Southern < MSouthern@sse-llc.com>

Subject: [EXT]: FW: [External] Traffic Growth Rate for the City of Wheeling, Ohio County, WV

Lee,

Please provide the growth rate for this location.

Leland

From: Melissa D. Southern < MSouthern@sse-llc.com>

Sent: Thursday, December 5, 2019 9:12 AM

To: Johnson, Leland W < Leland.W.Johnson@wv.gov >

Subject: [External] Traffic Growth Rate for the City of Wheeling, Ohio County, WV

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Good Morning Leland.

I wondered if you would be able to assist me in obtaining a growth rate for Wheeling? I wasn't sure if you or someone at the local MPO (Belomar Regional Council) would be best to contact to obtain a growth rate for this region? Stahl Sheaffer has been contacted by a developer to do preliminary traffic analyses for a proposed development that's in its planning/feasibility stage. The approximate location of the site is northeast of downtown Wheeling.

Please feel free to contact me at any time if you have any questions or require any additional information.

Thank you very much in advance for your assistance!

Sincerely, Melissa Southern

Melissa D. Southern, E.I.T.

Traffic Analyst

Stahl Sheaffer Engineering, LLC 4055 Monroeville Boulevard, Suite 400 Monroeville, PA 15146 O: 412.229.8583x14 F: 412.229.8682 msouthern@sse-llc.com sse-llc.com



Appendix B. Field Notes and Signal Plans

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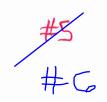
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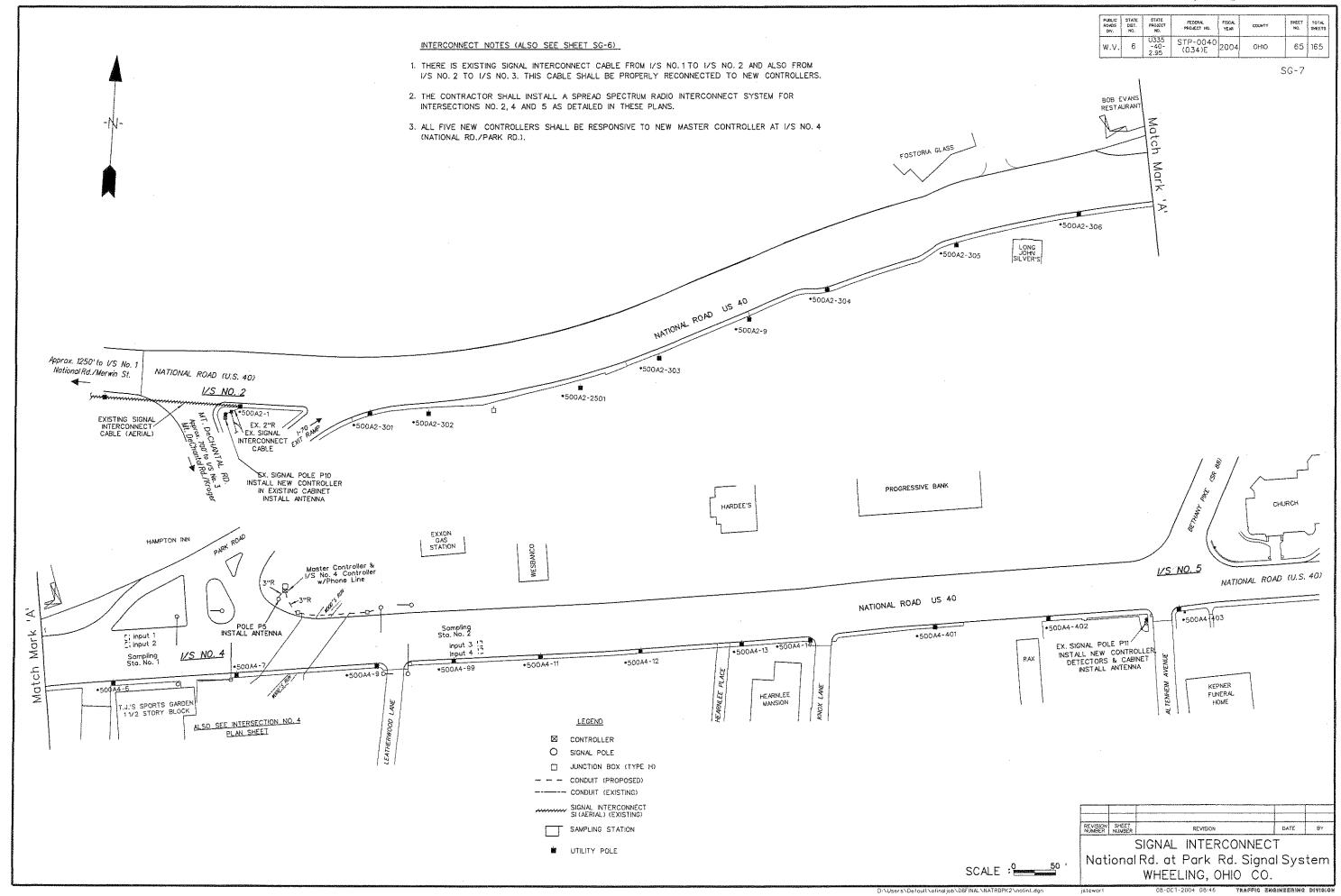
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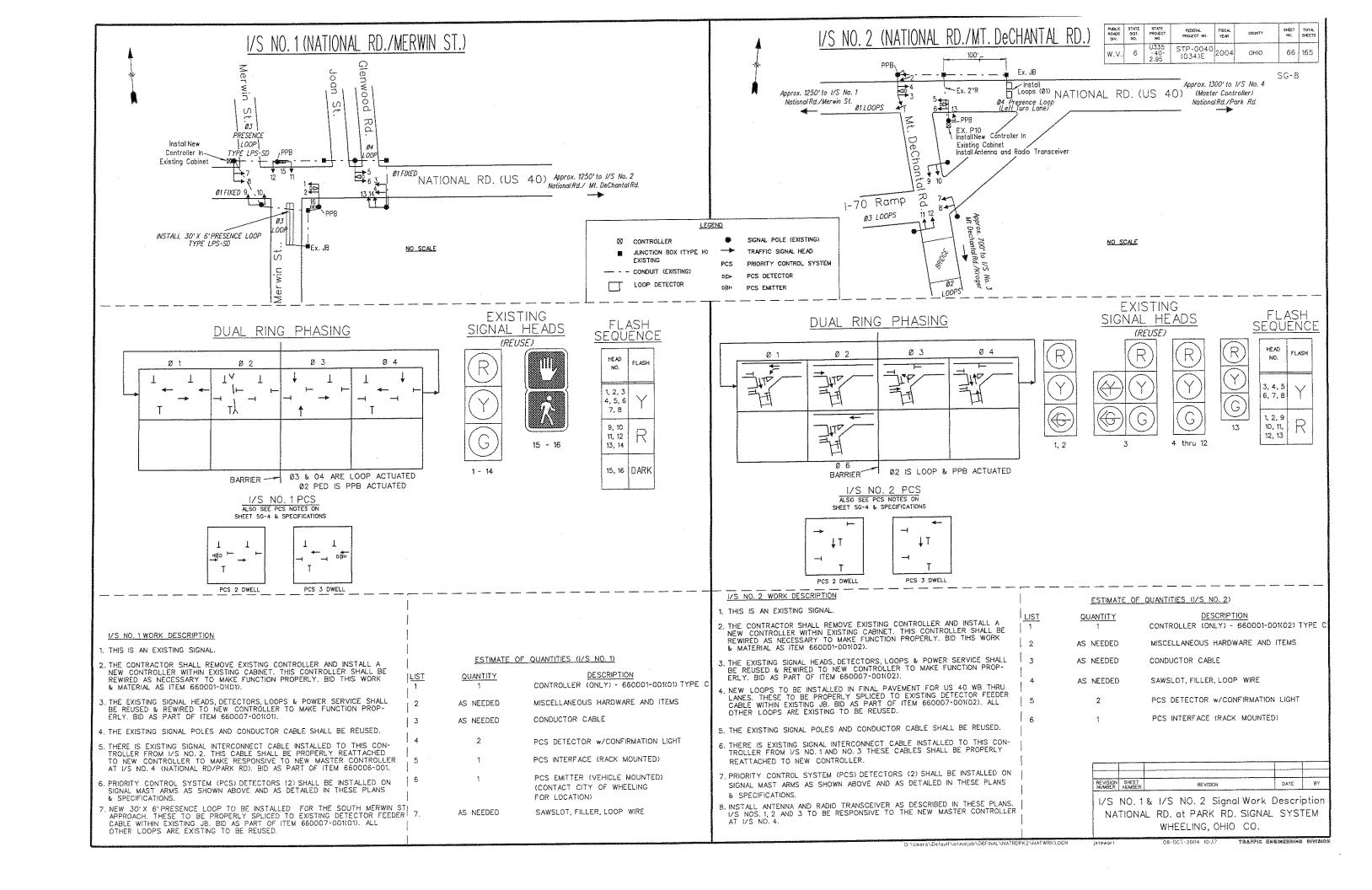
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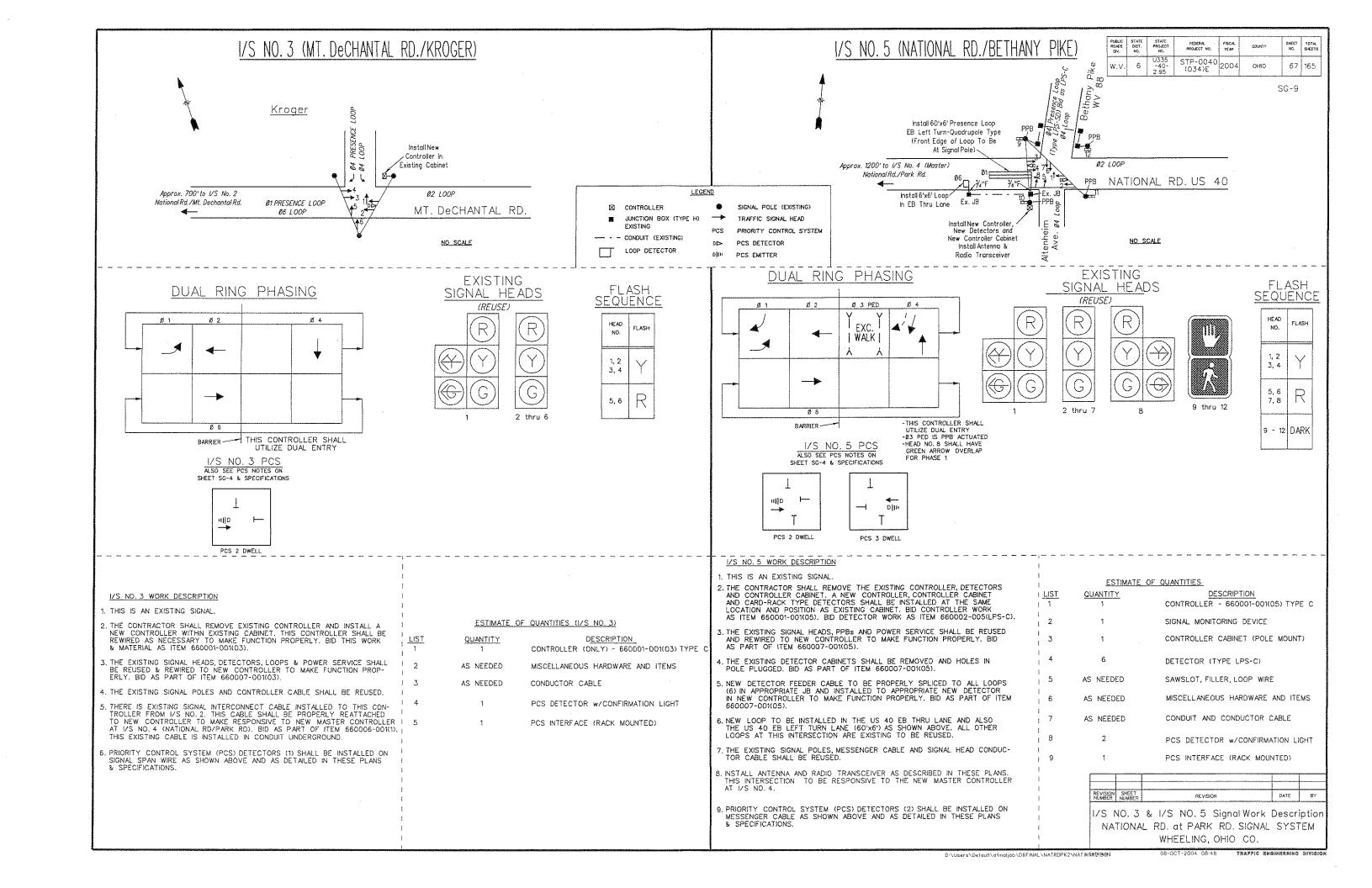
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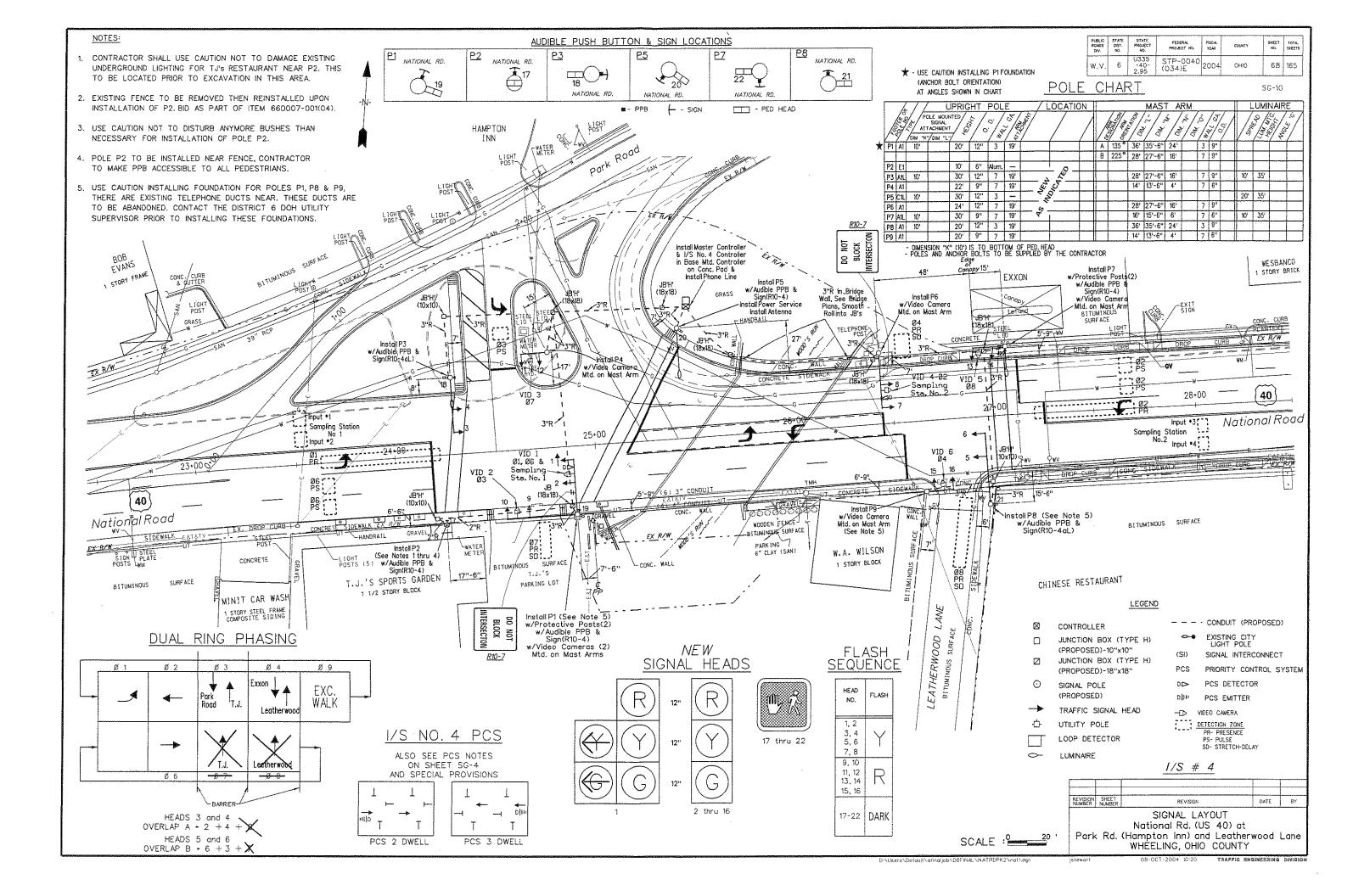


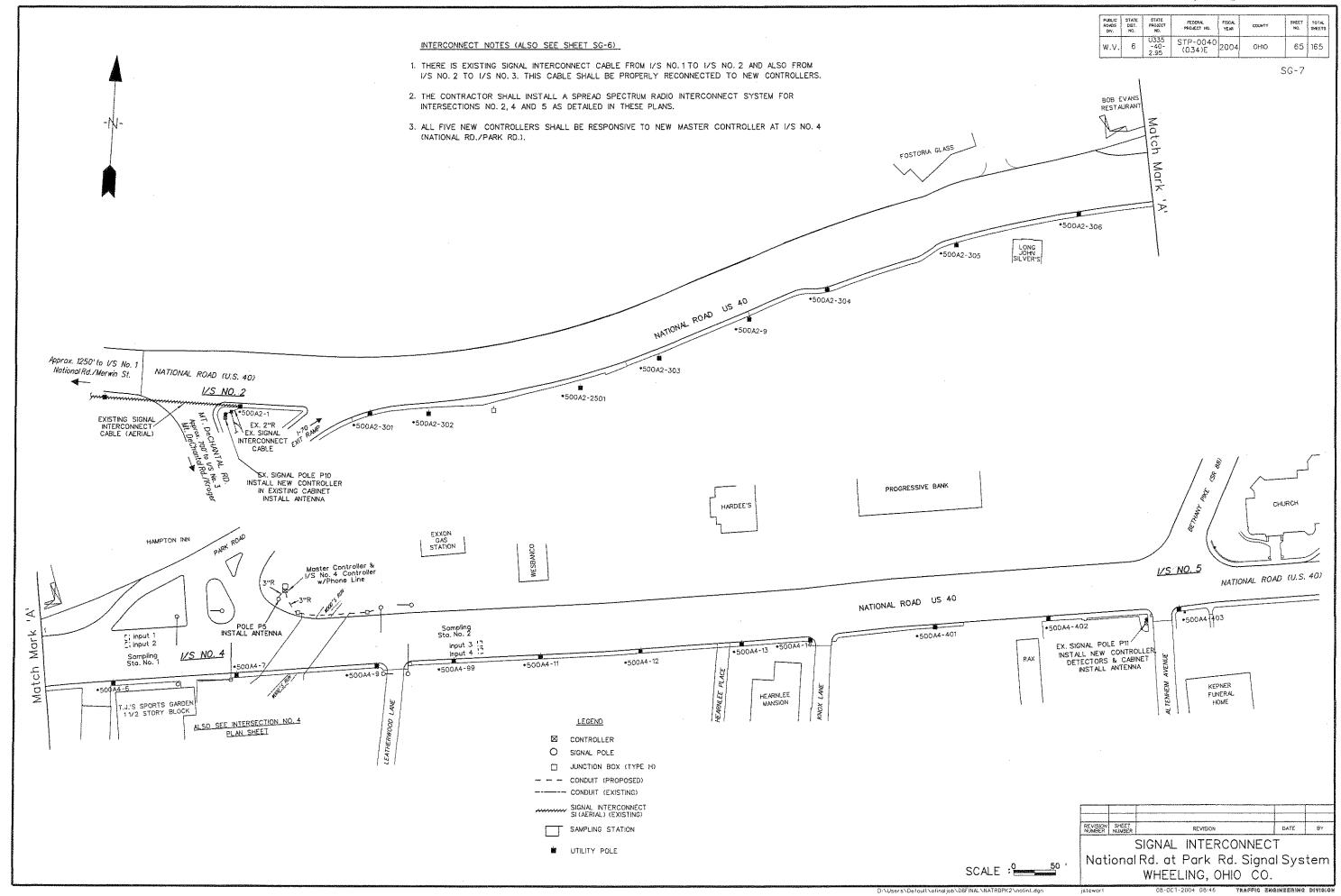
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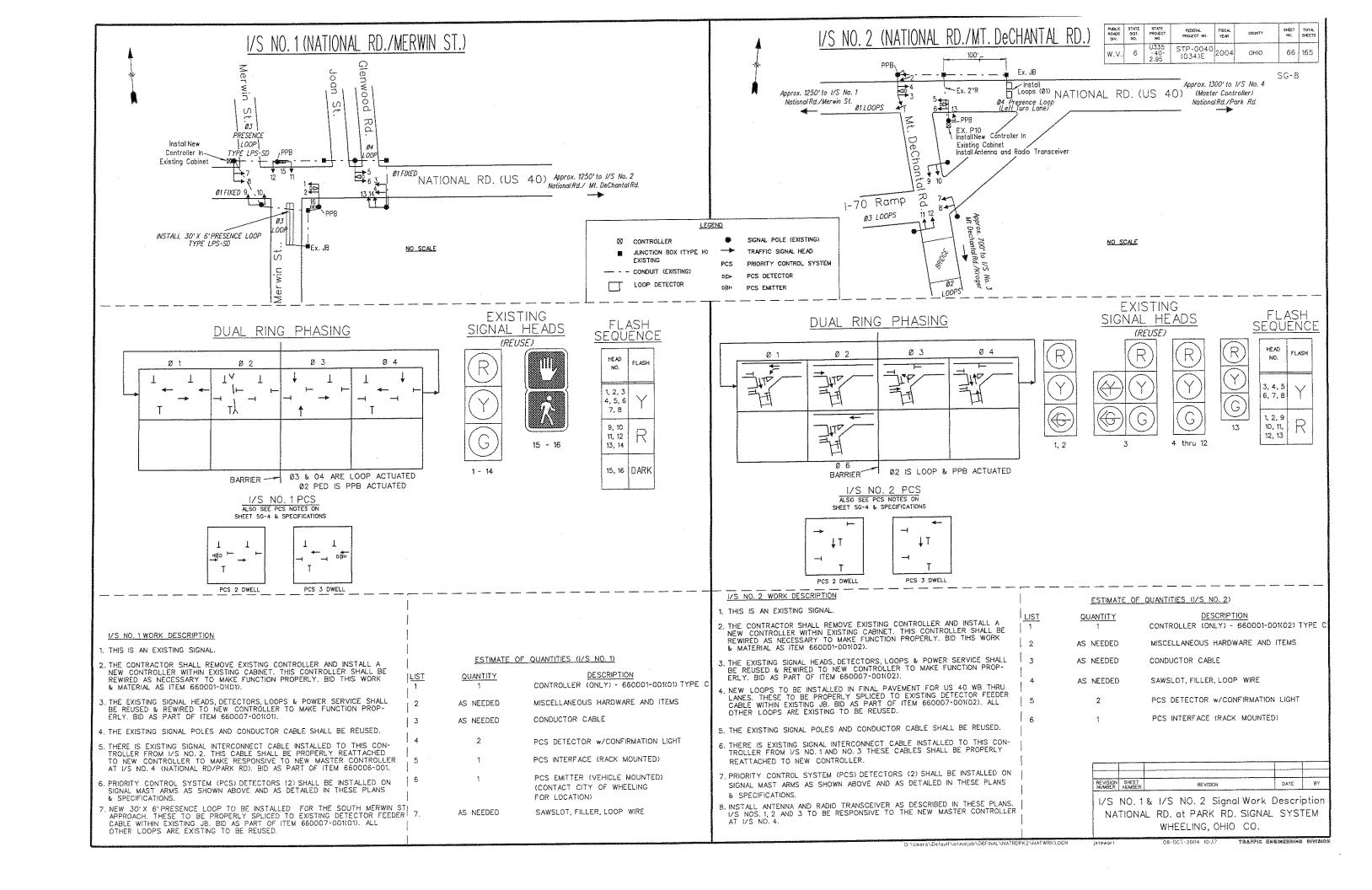


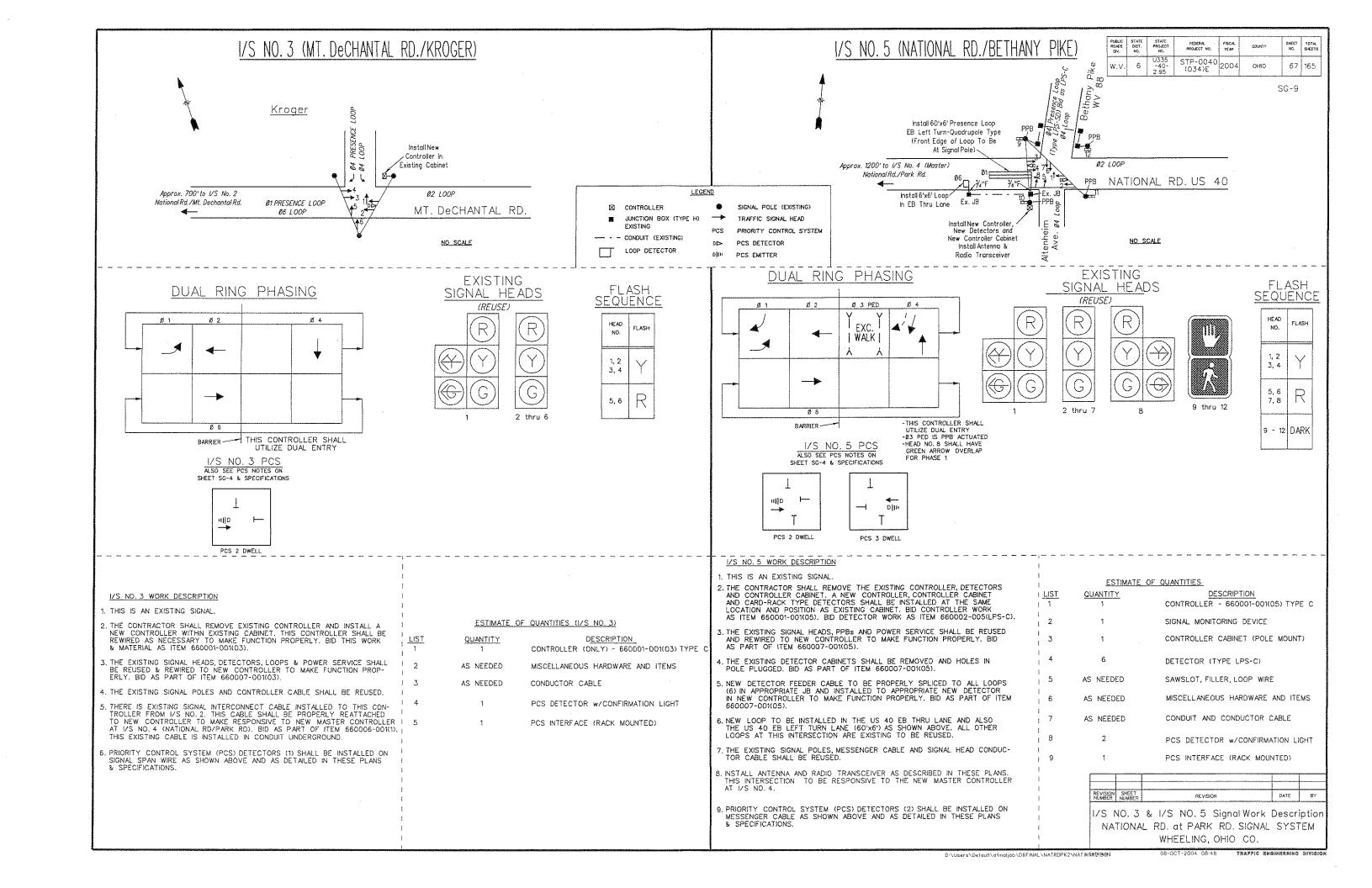


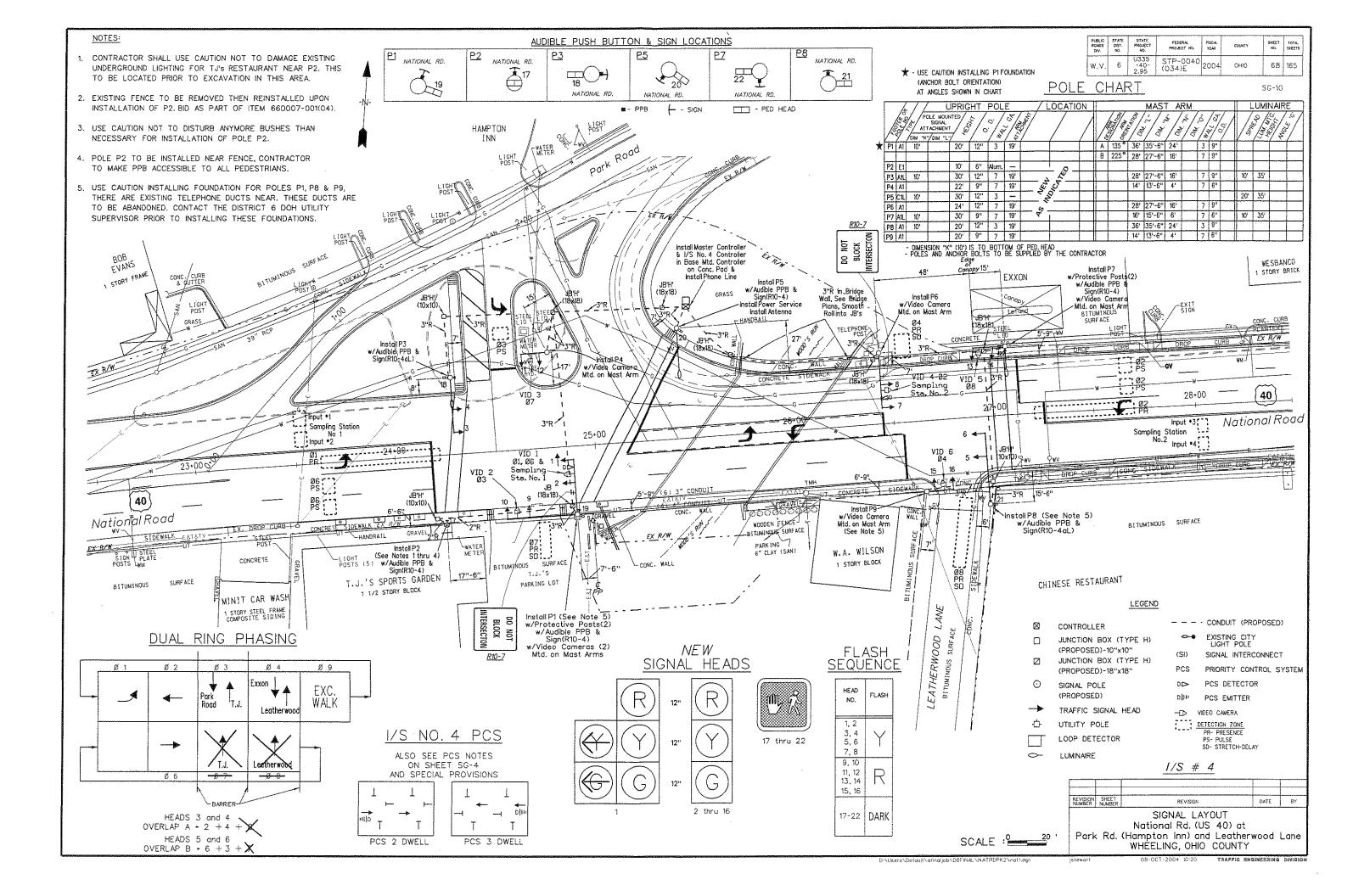












SEPAC ECOM All Data

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Revision: 3.320

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Ph.	Added Initial		Time B4 Redu	Car B4 Redu	Time To Redu	Min Gap	Non-Act Response	Veh Recall		Recall Delay	Non Lock	Dual Entry	Last Car Pass	Condit Service	Simu Gap Out	Omit	Minus Yel	Omit Call
1	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
2	0.0	0	0	0	0	0.0	None	Min	None	0	No	Yes	No	No	No	0	0	0
3	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
4	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
5	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
6	0.0	0	0	0	0	0.0	None	Min	None	0	No	Yes	No	No	No	0	0	0
7	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
8	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
9	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
10	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
11	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
12	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
13	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
14	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

													Def	ault D	ata			
D	efault	Data					Defa	ult Dat	a				:					
		ssign hase M	_	witch hase Ex	tend	Delay		Assign Phase	n : Mode	Switch Phase	_	d Delay		Ass Pha	ign ase Mod	Switch Phase		Delay
Veh	ical De	tector 1	Phase As	signmen	ıt		Pedestr	ian Detec	tor				Spec	ial Det	ector Pha	ase Assig	nment	
16	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
15	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

Unit Data

General Control

Startup Time: 5 sec Input Output Startup State: Flash Ring Respons Selection **Red Revert:** 4.0 sec Ring 1 Ring 1 1 Auto Ped Clr: No 2 Ring 2 Ring 2 Stop T Reset: No None None 3 Alt Sequence: 0 None None Special Seq: 0-Standard

I/O Modes:

ABC Input(Entry) Modes: 0 **D** Input(Entry) Modes: 0 ABC Output(O/STS) Modes: 0 D Output(O/STS) Modes: 0

Remote Flash Test A = FlashPhase Entry

Exit

Default Data - No Flash

Default Data - No Flash

- Overlaps **Overlaps** P В \mathbf{C} D E F \mathbf{G} Η I J K L M N O A Phase(s) 1 - Overlaps -**Start Green** C A В D Е F \mathbf{G} Η I J K L M N O P Phase(s)

Ring												Pha	ase(s)						
		Next		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase	Ring	Phase	- - -	1	2	3	4	1	1	3	3	9	10	11	12	13	14	15	16
1	1	2	Concurrent Phases	5	5	7	7	2	2	4	4								
2	l	3	ncu has	6	6	8	8			7	8								
4	1	1	Col																
6	2	7																	

Alternate Sequences

Ph. Pair 1 Alt. Seq. 1 1/2

Port 1 Data

BIU Message Port Basic 40 Addr Status Det

Default Data

Channel	Control	Hardware Pins
1	1 - Veh Phase 1	1 - Phase 1 RYG
2	2 - Veh Phase 2	2 - Phase 2 RYG
3	3 - Veh Phase 3	3 - Phase 3 RYG
4	4 - Veh Phase 4	4 - Phase 4 RYG
5	5 - Veh Phase 5	5 - Phase 5 RYG
6	6 - Veh Phase 6	6 - Phase 6 RYG
7	7 - Veh Phase 7	7 - Phase 7 RYG
8	8 - Veh Phase 8	8 - Phase 8 RYG
9	18 - Ped Phase 2	10 - Phase 2 DPW
10	20 - Ped Phase 4	12 - Phase 4 DPW
11	22 - Ped Phase 6	14 - Phase 6 DPW
12	24 - Ped Phase 8	16 - Phase 8 DPW
13	33 - Overlap A	17 - Overlap A RYG
14	34 - Overlap B	18 - Overlap B RYG
15	35 - Overlap C	19 - Overlap C RYG
16	36 - Overlap D	20 - Overlap D RYG
17	17 - Ped Phase 1	9 - Phase 1 DPW
18	19 - Ped Phase 3	11 - Phase 3 DPW
19	21 - Ped Phase 5	13 - Phase 5 DPW
20	23 - Ped Phase 7	15 - Phase 7 DPW

Coordination Data			Dial/Split	Cycle
General Coordination Data			1/1	95
Operation Mode: 1=Auto	Offset Mode: 0=Beg Grn	Manual Dial: 1	1/2	95
Coordination Mode: 0=Permissive	Force Mode: 1=Cycle	Manual Split: 1	1/3	95
Maximun Mode: 2=Max 2	Max Dwell Time: 0	Manual Offset: 1	1/4	95
Correction Mode: 2=Short Way	Yield Period: 0		2/1	115
·			2/2	115
			2/3	115
			2/4	115
			3/1	115
			3/2	115
			3/3	115
			3/4	115
			4/1	115
			4/2	115
			4/3	115
			4/4	115

	it Time	es and Phase Mo	des								
	_		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6 Dial	20 50 1 / Spli	0=Actuated 1=Coordinate t 2	2	30	1=Coordinate	3	20	0=Actuated	4	25	0=Actuated
		Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6 Dial	20 50 1 / Spli	0=Actuated 1=Coordinate	2	30	1=Coordinate	3	20	0=Actuated	4	25	0=Actuated
	_	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	20 50	0=Actuated 1=Coordinate	2	30	1=Coordinate	3	20	0=Actuated	4	25	0=Actuated
	1 / Spli Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	20 50 2 / Spli	0=Actuated 1=Coordinate	2	30	1=Coordinate	3	20	0=Actuated	4	25	0=Actuated
			Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	28 65	0=Actuated 1=Coordinate	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated
	2 / Spli Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	28 65	0=Actuated 1=Coordinate	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated
	2 / Spli Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	28 65	0=Actuated 1=Coordinate	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated
	2 / Spli Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	28 65 3 / Spli	0=Actuated 1=Coordinate	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated
1			Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6 Dial	28 65 3 / Spli	0=Actuated 1=Coordinate	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated
1		Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	28 65	0=Actuated 1=Coordinate	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated
	3 / Spli Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6 Dial	28 65 3 / Spli	0=Actuated 1=Coordinate	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated
			Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6 Dial	28 65 4 / Spli	0=Actuated 1=Coordinate	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated
	_	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	28	0=Actuated	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated

6	65	1=Coordinate									
Dial	4 / Split	t 2									
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	28	0=Actuated	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated
6	65	1=Coordinate									
Dial	4 / Split	t 3									
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	28	0=Actuated	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated
6	65	1=Coordinate									
Dial	4 / Split	t 4									
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	28	0=Actuated	2	37	1=Coordinate	3	20	0=Actuated	4	30	0=Actuated
6	65	1=Coordinate									

Traffic Plan	Data		
Plan: 1/1/1	Offset Time: 46 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/1/3	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/2/1	Offset Time: 10 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/2/3	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/3/1	Offset Time: 10 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/3/3	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/4/1	Offset Time: 10 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/4/3	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/1/1	Offset Time: 100 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/1/3	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/2/1	Offset Time: 100 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/2/3	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/3/1	Offset Time: 100 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/3/3	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/4/1	Offset Time: 100 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/4/3	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/1/1	Offset Time: 100 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/1/3	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/2/1	Offset Time: 100 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/2/3	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/3/1	Offset Time: 100 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/3/3	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No

Plan: 3/4/1	Offset Time: 100	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Tim	ie: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 3/4/3	Offset Time: 75	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Tim	e: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/1/1	Offset Time: 100	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Tim	e: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/1/3	Offset Time: 75	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Tim	e: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/2/1	Offset Time: 100	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Tim	ie: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/2/3	Offset Time: 75	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Tim	ie: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/3/1	Offset Time: 100	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Tim	ie: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/3/3	Offset Time: 75	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Tim	ie: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/4/1	Offset Time: 100	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Tim	ie: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/4/3	Offset Time: 75	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Tim	e: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
I 1 TD4	C.D			

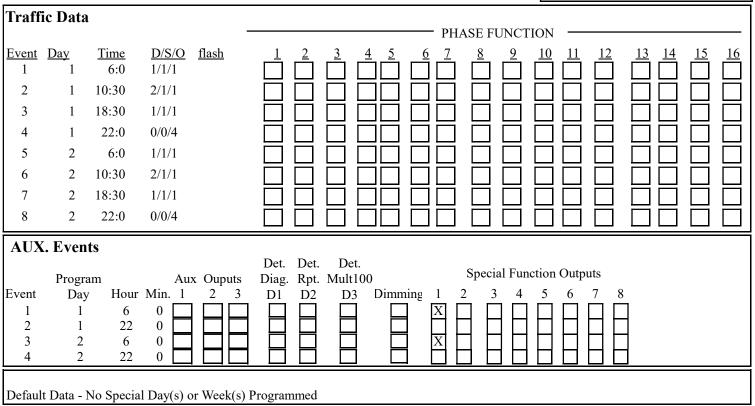
Local TBC Data

Start of Daylight Saving Month: 3 Week: 2

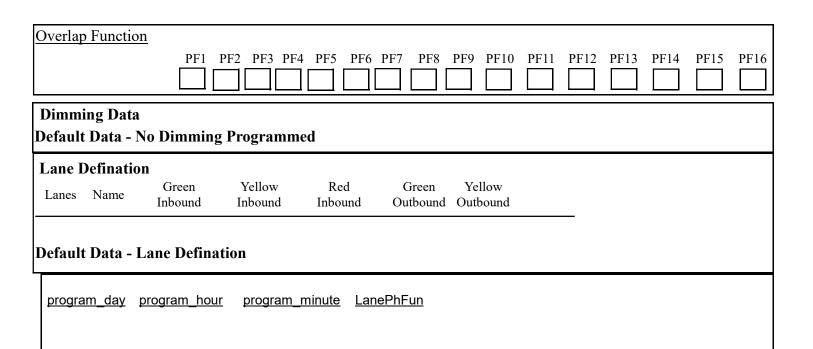
End of Daylight Saving Month: 11 Week: 1

Cycle Zero ReferenceHours: 24 Min: 0

Source			Equ	ate	Day	ys		
Day	1	2	3	4	5	6	7	
1	7	0	0	0	0	0	0	•
2	3	4	5	6	0	0	0	



Special Functions	
Function Functions	<u>SF1 SF2 SF3 SF4 SF5 SF6 SF7 SF8 SF9 SF10 SF11 SF12 SF13 SF14 SF15</u> SF16
Special Function 1	
Special Function 2	
Special Function 3	
Special Function 4	
Special Function 5	
Special Function 6	
Special Function 7	
Special Function 8	
Coord Adaptive Split	
Phase Function	
	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
Phase Omit	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
Ped Omit	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
<u>rea omit</u>	
Veh Det Coord ReSv	<u>/c</u> PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
ven Ber coola Res	
Function Phase Reca	11
	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
Phase Min Recall	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
Veh Det Ped Recall	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
Veh Det Bike Recall	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
ven Det Bike Recair	
Vehicle Function	
Veh Det Switch Omi	t PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
Veh Det Switch Now	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
Veh Det Switch Also	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
	<u> </u>



Preemption Data

General Preemption Data													
Flash > Preempt	Preempt 2 = Preempt 3	Preempt 4 = Preempt 5											
Preempt 1 = Preempt 2	Preempt 3 = Preempt 4	Preempt 5 = Preempt 6											

Preempt NLock	Link to Pmpt		e mpt Ext	Time Dur		Lock-l Out					Pec			Grn		ick— Yel	Red	Dwell Green	Pe		l Red	Sel Ret Mode
1 N 2 N 3 N 4 N 5 N 6 N	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0	0	0 0 0 0 0	0 0 0 0 0	8 8 8 8 8	4.0 4.0 4.0 4.0 4.0 4.0	2.0 2.0 2.0 2.0 2.0 2.0 2.0	10 0 0 10 10	8 0 0 8 8	4.0	2.0 0.0 0.0 2.0 2.0 2.0	10 10 10 10 10 10	8 8 8 8 8	4.0 4.0 4.0 4.0 4.0 4.0	2.0 2.0 2.0	

Preempt 1 Preem			Preemp	ot 2 Preempt 3			F	reemp	t 4	P	reemp	t 5	Preempt 6				
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls
1	No	Yes	2	Yes	No	2	Yes	No	1	No	Yes	1	No	Yes	1	No	Yes
2	No	Yes	8	Yes	No	6	Yes	No	2	No	Yes	2	No	Yes	2	No	Yes
3	No	Yes							3	No	Yes	3	No	Yes	3	No	Yes
4	No	Yes							4	No	Yes	4	No	Yes	4	No	Yes
5	No	Yes							5	No	Yes	5	No	Yes	5	No	Yes
6	No	Yes							6	No	Yes	6	No	Yes	6	No	Yes
7	No	Yes							7	No	Yes	7	No	Yes	7	No	Yes
8	No	Yes							8	No	Yes	8	No	Yes	8	No	Yes

Priority Timers		
Prio Non- Del Ext Free Free Min Look	LockLock Max Pre-	Excl-co Transit Overlap
Prio Non- Del Ext Free Free Min Lock rity Locking ay end Dial SplitGreen out	A B Green Green Recall	Phase Svc. Signal Type Blankout

Priority Detector	Priority Dete	ctor Channels			
] Priority	Priority Fixed	l Phases			
	Legend: CO-PHASI QJ-PHASE				
Priority Priority Bank :		Level			
Partial Pr Alt Seq Alt Seq Enable Min Walk	-	Full Priority Freq. Override Ped skip Force full Priority Frequency Freq. Level	Ret Ped	Recovery thod turn dWait dOverride	
Codes:	0 FALSE	X TRUE			
Priority : Priority Bank Queue Phase		Priority : Priority Bank : Queue Phase Dete	ector Time	Priority : Priority Bank : Queue Phase Detector Time	
Default dat	ta	Default data		Default data	
Priority :	: Detector Time	Priority : Priority Bank :	octor Timo	Priority : Priority Bank :	

Default data

Default data

Default data

Priority : Bank Detector	PE	1A		3A	4A	5A	6A	В	Priority : Bank Detector	PE	1A	2A	ЗА	4A	5A	6A	В	
		Defa	ult Dat	a							Defa	ult Dat	a					
Priority : Bank Detector	PE	1A Defa	2A ult Dat	3A a	4A	5A	6A	В	Priority : Bank Detector	PE	1A Defa	2A ult Dat	3A : a	4A	5A	6A	В	
Priority : Bank Detector	PE	1A		3A	4A	5A	6A	В	Priority : Bank Detector	PE	1A		ЗА	4A	5A	6A	В	
		Defa	ult Dat	а							Defa	ult Dat	a					
Preempt 1 Vehical Phases Pedestrian Phases Overlaps																		
Ph. Track	ehical Ph Dwel		Cycle		Ph Tra		lestriai Dw		es Cycle	Ovlp	Trac		Overla well		cle	Trail	Grn	
Default D	ata				Defaul	t Data	ı			Defa	ult D	ata						
Preempt		_																
Ph. Track	Vehical P Dw		Cv	vcle	P Ph. Tra		an Pha Dwel		Cycle	Ovln	Track	Overla j Dv		Cycle	Tı	rail Grn		
1 Red	Gree		No				2		2,010	_ Ovip.	Track	Dv	VCII	Cycle	11	Trail Offi		
6 Red	Gre	en	No)	Defaul	t Data	ì			Defa	ult D	ata						
Preempt					n	1 4 •	Di											
Ph. Track	Vehical P Dw		Cyc	le	Ph. Tra		an Pha Dwel		Cycle	Ovln.		Overlaj k D		Cycle	,	Trail Gı	'n	
2 Red	Green		No							<u> </u>								
D 4	4				Defaul	t Data	1			Defa	ult D	ata						
Preempt Ph. Track	Vehical P	hases well	Сус	ele -	Po Ph. Trac		an Phas Dwel		Cyala	0.1		Overla		C 1	T	71.0		
					rii. IIac	-K	Dwei	1	Cycle	_ Ovip.	Tracl	K D	well	Cycle	11	rail Grn		
Default l					Defaul	t Data	1			Defa	ult D	ata						
Preempt Ph. Track	Vehical P		Cvo	مام			an Phas		Cycle	0.1		Overla		G 1	T	'1 C		
rn. Track	. DW	V11	Сус	10	Ph. Trac	K	Dwel	1	Cycle	_ Ovlp.	Tracl	K D	well	Cycle	Tı	rail Grn		
Default l					Defaul	t Data	1			Defa	ult D	ata						
Preempt Ph. Track	Vehical P	hases well	Су	ycle	Po Ph. Trac		an Phas Dwel		Cycle	Ovlp.	Tracl	Overla j k D	ps well	Cycle	Tı	rail Grn		
Default l	Data				Defaul	t Data	1			Defa	ult D	ata						

System/Detectors Data

Local Critical Alarms 1st Phone: Revert to Backup: 15

2nd Phone: Local Free: No Coord Failure: No Conflict Flash: No Remote Flash: No Cycle Failure: No

Local Fash: No Cycle Fault: No Coord Fault: No Premption: No Voltage Monitor: No

Special Status 1: No Special Status 2: No Special Status 3: No Special Status 4: No Special Status 5: No Special Status 6: No

Traffic Responsive

Queue 1 System Weight Queue 2 System Weight System Detector Veh/ Average Occupancy Min Detectors Detectors **Detectors Detectors** Factor Factor Hr Time(mins) Correction/10 Volume % Detector Channel Name

Default Data Default Data Default Data

0 Sample Interval: Queue: 1 Input Selection: 0=Average **Oueue:**

> Dial / Split / Offset Level Enter Leave Detector Failed Level: 0

> > / /

Oueue: 2 Input Selection: 0=Average

> **Default Data** Detector Failed Level: 0

Vehical Detector Vehical Detector Special Detector

Diagnostic Value 0 Diagnostic Value 1 Diagnostic Value 0 No No Max Erratic Max Erratic Max No Erratic Detector Presence Activity Count Detector Presence Activity Count Detector Presence Activity Count

Default Data - No Diag 1 Values Default Data - Diag 0 Values Default Data - No Diag 0 Valu

Pedestrian Detector Pedestrian Detector Special Detector

Diagnostic Value 0 Diagnostic Value 1 Diagnostic Value 1 Max No No Erratic Max No Erratic Erratic Max Detector Presence Activity Count Detector Presence Activity Count Detector Presence Activity Count

Default Data - No Diag 1 Values

Default Data - No Diag 0 Values **Default Data - No Diag 1 Values**

Speed Trap Speed Trap **Speed Trap Data** Dial/Split/Offset Low Treshold High Treshold Speed Trap: //

Measurement: **Default Data** Detector 1 Detector 2 Distance:

Default Data

Volume Detector Data

Report Interval 60

Volume Controller Detector Detector

Number Channel

1 1

> 2 2

3 75

4 4

6

SEPAC ECOM All Data

Intersection Name: US 40 at Merwin Street Interse

Intersection Alias: US40&Merwin

Access Data

1 :**1200 Baud**

3:1200 Baud

Access Code: 9999

Revision: 3.30

Channel: 1

Address: 1

IP Address:

Phase Initialization Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initial	4-Grn	1-Inact	1-Inact	1-Inact	0-None	e 0-None	0-None	0-None	0-None	0-None						

PHASE DATA Misc Timings Walk Vehical Basic Timings Pedestrian Timings Walk Alt Actuated Green Yellow Offset Offset Min Bike Bike Ped Alt Ped Flash Ext Rest in Phase Green Passage Max1 Max2 Yellow Red Delay Delay Time Mode Green Psg Walk Clr Walk Clr Walk Ped Clr Walk 1 30 4.0 60 30 4.0 1.0 0 0-Advance 0.00.0 0 No 0 No 2 0 5.0 35 50 4.0 1.0 0-Advance 0.0 0.0 8 No 1 0 6 No 3 9 2.0 20 30 4.0 0 0-Advance 0.0 0.0 0 0 No 0 1.0 No 4 9 4.0 20 50 4.0 1.0 0 0-Advance 0.0 0.00 0 No 0 No 5 0 0-Advance 0 4.0 25 30 4.0 1.0 0 0.0 0.0 No 0 No 6 5.0 35 4.0 0-Advance 0.0 0 0 0 0 50 1.0 0 0.0 No No 7 4.0 0 25 30 4.0 1.0 0 0-Advance 0.00.0 0 0 No 0 No 8 0 5.0 35 50 4.0 1.0 0 0-Advance 0.0 0.0 0 0 No 0 No 9 0 0.0 0 0 3.0 0.0 0 0-Advance 0.0 0.0 0 0 No 0 No 10 0 0.0 0 0 3.0 0.0 0 0-Advance 0.0 0.0 0 0 No 0 No 11 0 0.0 0 0 3.0 0.0 0 0-Advance 0.0 0.0 0 0 No 0 No 0 0 0 3.0 0-Advance 0 0 0 12 0.0 0.0 0 0.0 0.0 No No 13 0 0.0 0 0 3.0 0.0 0 0-Advance 0.0 0 0 0 0.0 No No 14 0 0.0 0 0 3.0 0.0 0 0-Advance 0.0 0.0 0 0 0 No No 15 0 0 0 0 0-Advance 0.0 0 0 0 0.0 3.0 0.0 0.0No No 0 0.0 0 3.0 0.0 0 0-Advance 0.0 0 0 0 16 0.0 No No

<u>Vehi</u>	cle Dens	ity Tim	<u>ings</u>				General Control					llaneous	<u> </u>		No	-		
Ph.	Added Initial		Time B4 Redu	Car B4 Redu	Time To Redu	Min Gap	Non-Act Response	Veh Recall	Ped Recall	Recall Delay	Non Lock	Dual Entry	Last Car Pass	Condit Service	Simu Gap Out	Omit	Minus Yel	Omit Call
1	0.0	0	0	0	0	0.0	Both	Min	None	0	No	No	No	No	No	0	0	0
2	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
3	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
4	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
5	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
6	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
7	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
8	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
9	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
10	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
11	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
12	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
13	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
14	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

													Def	ault E)ata					
D	Default Data							Default Data							:					
		Assign Phase N		Switch Phase Ext	end	Delay		Assigr Phase	n Mode	Switch Phase		d Delay	7		sign ase Mod	Switch e Phase		l Delay		
Veh	ical De	tector I	hase A	Assignment	t		Pedestrian Detector							Special Detector Phase Assignment						
16	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0		
15	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0		

Unit Data

General Control

Startup Time: 5 sec Input Output Startup State: Flash Ring Respons Selection **Red Revert:** 4.0 sec Ring 1 1 Ring 1 Auto Ped Clr: No 2 Ring 2 Ring 2 Stop T Reset: No None None 3 Alt Sequence: 0 None None Special Seq:

1

3

I/O Modes:

ABC Input(Entry) Modes: 0 D Input(Entry) Modes: 0

ABC Output(O/STS) Modes: 0 D Output(O/STS) Modes:

1

4

Remote Flash

Test A = Flash

Phase Entry Exit

Default Data
- No Flash

P

O

Default Data

- No Flash

ABC Output(O/STS) Modes: 0 **D** Output(O/STS) Modes: 0 Overlaps **Overlaps** В \mathbf{C} D E F G Η I J K L M N A

Start Green Overlaps В \mathbf{C} F Η P Α D Ε G Ι K L M N O

Phase(s)

Phase(s)

Ring Phase(s) 2 3 5 7 8 9 10 12 14 15 16 Next 4 6 11 13 Phase Ring Phase Concurrent Phases 2 3 4 1 3 3 9 10 12 13 1 11 14 15 1 16 2 7 5 5 7 2 2 4 4 3 1 4 6 8 6 6 8 5 7 8 4 1 1

Alternate Sequences

Port 1 Data

BIU Port Basic Message Addr Status Det 40

Default Data

No Alternate Sequences Programmed

Channel	Control	Hardware Pins
1	1 - Veh Phase 1	1 - Phase 1 RYG
2	2 - Veh Phase 2	2 - Phase 2 RYG
3	3 - Veh Phase 3	3 - Phase 3 RYG
4	4 - Veh Phase 4	4 - Phase 4 RYG
5	5 - Veh Phase 5	5 - Phase 5 RYG
6	6 - Veh Phase 6	6 - Phase 6 RYG
7	7 - Veh Phase 7	7 - Phase 7 RYG
8	8 - Veh Phase 8	8 - Phase 8 RYG
9	18 - Ped Phase 2	10 - Phase 2 DPW
10	20 - Ped Phase 4	12 - Phase 4 DPW
11	22 - Ped Phase 6	14 - Phase 6 DPW
12	24 - Ped Phase 8	16 - Phase 8 DPW
13	33 - Overlap A	17 - Overlap A RYG
14	34 - Overlap B	18 - Overlap B RYG
15	35 - Overlap C	19 - Overlap C RYG
16	36 - Overlap D	20 - Overlap D RYG
17	17 - Ped Phase 1	9 - Phase 1 DPW
18	19 - Ped Phase 3	11 - Phase 3 DPW
19	21 - Ped Phase 5	13 - Phase 5 DPW
20	23 - Ped Phase 7	15 - Phase 7 DPW

Coordination Data			Dial/Split	Cycle
General Coordination Data			1/1	95
Operation Mode: 1=Auto	Offset Mode: 0=Beg Grn	Manual Dial: 1	1/2	95
Coordination Mode: 0=Permissive	Force Mode: 1=Cycle	Manual Split: 1	1/3	95
Maximun Mode: 0=Inhibit	Max Dwell Time: 0	Manual Offset: 1	1/4	95
Correction Mode: 2=Short Way	Yield Period: 0		2/1	115
•			2/2	115
			2/3	115
			2/4	115
			3/1	115
			3/2	115
			3/3	115
			3/4	115
			4/1	115
			4/2	115
			4/3	115
			4/4	115

Snlit Time	s and Phase Mo	des								
Dial 1 / Split		ucs								
Ph. Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 48 Dial 1 / Split	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Ph. Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 48 Dial 1 / Split	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Ph. Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 48 Dial 1 / Split	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Ph. Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 48 Dial 2 / Split	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Ph. Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
_	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Dial 2 / Split		D!	G 11:	DI A.C.	75.1	G 11:	DI 3.5.1		a .:	DI 16 1
Ph. Splits				Ph. Mode		•	Ph. Mode			Ph. Mode
1 68 Dial 2 / Split	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Ph. Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 68 Dial 2 / Split	1=Coordinate 4	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Ph. Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 68 Dial 3 / Split	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Ph. Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 68 Dial 3 / Split	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Ph. Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Dial 3 / Split Ph. Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Dial 3 / Split										
Ph. Splits				Ph. Mode		•	Ph. Mode			Ph. Mode
1 68 Dial 4 / Split	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Ph. Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Dial 4 / Split Ph. Splits		Dh	Splite	Ph. Mode	Dh	Splite	Ph. Mode	DL	Cn1:+~	Dh. Mada
	1=Coordinate	2 Pn.		0=Actuated	3		0=Actuated	Ph. 4	Splits 16	Ph. Mode 0=Actuated
Dial 4 / Split	3	_						•		
Ph. Splits		Ph.		Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 68 Dial 4 / Split	1=Coordinate 4	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated
Ph. Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 68	1=Coordinate	2	15	0=Actuated	3	16	0=Actuated	4	16	0=Actuated

Traffic Plan	Data		
Plan: 1/1/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/2/1	Offset Time: 70 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/2/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/3/1	Offset Time: 70 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/3/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/4/1	Offset Time: 70 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/4/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/1/1	Offset Time: 70 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/1/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/2/1	Offset Time: 113 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/2/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/3/1	Offset Time: 113 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/3/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/4/1	Offset Time: 113 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/4/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/1/1	Offset Time: 113 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/1/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/2/1	Offset Time: 113 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/2/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/3/1	Offset Time: 113 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/3/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/4/1	Offset Time: 113 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No

Plan: 3/4/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
. 4/1/1	Offset Time: 113	Special Function: 0	·
Plan: 4/1/1	Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 4/1/2	Offset Time: 75	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0
Pian: 4/1/2	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No
Plan: 4/2/1	Offset Time: 113	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0
1 Iuii. 1/2/1	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No
Plan: 4/2/2	Offset Time: 75	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No
Plan: 4/3/1	Offset Time: 113	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No
Plan: 4/3/2	Offset Time: 75	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No
Plan: 4/4/1	Offset Time: 113	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No
Plan: 4/4/2	Offset Time: 75 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Local TB(Special Fulletion. 0	Correction Mode. 0-140
Traffic Data	 I		2 3 4 5 6 0 0 0
			PHASE FUNCTION ————
Event Day	$\frac{\text{Time}}{0.0} \frac{\text{D/S/O}}{0/0/4} \frac{\text{flas}}{0.0}$	$\frac{3h}{2}$ $\frac{1}{2}$ $\frac{2}{3}$ $\frac{4}{3}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0:0 0/0/4		무무무 무무 무무 무무 무
AUX. Even	ts	Det. Det. Det.	
Progr	am Aux O		Special Function Outputs
Event Day	y Hour Min. 1 2	2 3 D1 D2 D3 D	Dimming 1 2 3 4 5 6 7 8
		<u> </u>	
Default Data -	No Special Day(s) or W	eek(s) Programmed	
Special Func			
Special Func Function	<u>uons</u> Si	F1 SF2 SF3 SF4 SF5	<u>SF6 SF7 SF8 SF9 SF10 SF11 SF12 SF13 SF14 SF15 SF16</u>
Special Function			
Special Functio			누는 무무는 는 돈은
•			늬늬 님님님님님 뭐!!!! !!!
	11 3	X	느브 브빌빌빌빌빌빌빌
Special Functio			
Special Functio	n 4	X	
•	n 4	X X	
Special Functio	n 4		
Special Functio Special Functio	n 4		
Special Functio Special Functio Special Functio	n 4		빌빌 빌빌빌빌빌 글빌달 날

Phase Function			
PF1 PF2 PF3 P	F4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PF1	3 PF14 PF15 PF16
Phase Omit PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PF	13 PF14 PF15 PF16
Ped Omit PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PF	PF14 PF15 PF16
Veh Det Coord ReSvc PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PI	F13 PF14 PF15 PF16
Function Phase Recall			
PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PF	F13 PF14 PF15 PF16
Phase Min Recall PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PF	F13 PF14 PF15 PF16
Veh Det Ped Recall PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PF	PF14 PF15 PF16
Veh Det Bike Recall PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PI	F13 PF14 PF15 PF16
Vehicle Function			
Veh Det Switch Omit PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PI	F13 PF14 PF15 PF16
Veh Det Switch Now PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PF	F13 PF14 PF15 PF16
Veh Det Switch Also PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PF	PF14 PF15 PF16
Overlap Function			
PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9	PF10 PF11 PF12 PF	F13 PF14 PF15 PF16
Dimming Data Default Data - No Dimming Program	ımed		
Lane Defination			
Lanes Name Green Yellow Inbound Inbound		ellow bound	
Default Data - Lane Defination			
program day program hour progra	m_minute LanePhFun		

Preemption Data

General Preemptio	n Data	
Preempt > Flash Preempt 1 > Preempt 2	Preempt 2 > Preempt 3 Preempt 3 > Preempt 4	Preempt 4 > Preempt 5 Preempt 5 > Preempt 6

Preempt NLock	Link to	Pre	empt	Time		Lock-	De Boun	Gate	Mi	in	Pec	Selec	t —		-Tra	ack—		Dwell		eturn —		Sel Ret
Pree NL	Pmpt	Del	Ext	Dur	Call								Red	Grn	Ped	Yel	Red	Green			Red	Mode
1 N	0	0	0	0	0	0	0.0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	
2 N	0	0	0	0	0	0	0.0	0	0	0	8	4.0	2.0	0	0	0.0	0.0	10	8	4.0	2.0	
3 N	0	0	0	0	0	0	0.0	0	0	0	8	4.0	2.0	0	0	0.0	2.0	10	8	4.0	2.0	
4 N	0	0	0	0	0	0	0.0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	
5 N	0	0	0	0	0	0	0.0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	
6 N	0	0	0	0	0	0	0.0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	

Preempt 1	Preemp	t 2	Preempt	t 3	Preempt	t 4	Preempt	t 5	Preempt 6			
Exit Exit	Exit	Exit	Exit	Exit	Exit	Exit	Exit	Exit	Exit	Exit		
Phase Phase Call	Phase Phase	Calls	Phase Phase	Calls	Phase Phase	Calls	Phase Phase	Calls	Phase Phase	Calls		

Priority Timers				
Prio Non- Del Ext rity Locking ay end	Free Free Min Lock Dial SplitGreen out	LockLock out out Max Pre- Oreen Green Recall	Phase Svc. Signal Type	t Overlap———————Blankout

Priority Detector Channels

Priority

Detector

Priority Fixed Phases

Priority

Legend: 0 1
CO-PHASE FALSE TRUE
QJ-PHASE

Priority

Priority Bank:

Level

Partial Priority

Alt Seq Alt Seq Enabled Min Walk Full Priority
Freq. Override
Ped skip
Force full Priority
Frequency
Freq. Level

Recovery
Method
Return
PedWait
PedOverride

Codes: 0 X FALSE TRUE

Priority :
Priority Bank :

Queue Phase Detector Time

Default data

Priority:

Priority Bank :

Queue Phase Detector Time

Default data

Priority:

Priority Bank :

Queue Phase Detector Time

Default data

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority :									Priority : Bank								
Detector	PE	1A	2A	3A	4A	5A	6A	В	Detector	PE	1A	2A	3A	4A	5A	6A	В
		Defa	ult Da	ta							Defa	ult Dat	a				
Priority :									Priority :								
Bank Detector	PE	1A	2A	3A	4A	5A	6A	В	Bank Detector	PE	1A	2A	3A	4A	5A	6A	В
		Defa	ult Da	ta							Defa	ult Dat	ta				
Priority :									Priority :								
Bank Detector	PE	1A	2A	ЗА	4A	5A	6A	В	Bank Detector	PE	1A	2A	3A	4A	5A	6A	В
		Defa	ult Da	ta							Defa	ult Dat	:a				

Preempt 1								
Vehical Phases Ph. Track Dwell Cycle	Ped Ph Track	estrian Pha Dwell	rses Cycle	Ovle	Track	Overla Dwell	-	Trail Grn
The fluck Byen Syste	TH HACK	Dwen	Cycle	Ovip) ITACK	Dwell	Cycle	Trail Gill
Default Data	Default Data			Defa	ult Dat	a		
Preempt 2								
Vehical Phases Ph. Track Dwell Cycle	Pedestria Ph. Track	n Phases Dwell	Cycle	Orde		erlaps	Cyala	Twell Can
1 Red Green No		Dwell	Сусіс	$\frac{\text{OVIP}}{A}$. Track Red	Dwell Grn	Cycle No	Trail Grn
r red Green 110	Default Data			В	Red	Grn	No	
Preempt 3								
Vehical Phases Ph. Track Dwell Cycle	Pedestria Ph. Track	n Phases Dwell	Cycle	Ovln	Ov . Track	erlaps Dwell	Cycle	Trail Grn
1 Red Green No			- ,	$-\frac{\text{OVIP}}{A}$	Red	Grn	No	Tiun Oin
	Default Data			В	Red	Grn	No	
Preempt 4 Vehical Phases	D 1 ()	DI.				_		
Ph. Track Dwell Cycle	Pedestria Ph. Track	n Phases Dwell	Cycle	Ovln	Ov . Track	erlaps Dwell	Cycle	Trail Grn
			- 9	Ovip	Truck	Bwen	Cycle	Truit Gin
Default Data	Default Data			Defa	ult Dat	a		
Preempt 5								
Vehical Phases Ph. Track Dwell Cycle	Pedestria Ph. Track	n Phases Dwell	Cycle	Orde	Ov . Track	erlaps Dwell	Cvala	Trail Grn
Th. Hack Dwen Cycle	TH. Track	Dwell	Cycle	Ovip.	. Irack	Dwell	Cycle	Trail Grii
Default Data	Default Data			Defa	ult Dat	a		
Preempt 6								
Vehical Phases Ph. Track Dwell Cycle	Pedestria Ph. Track	n Phases Dwell	Cycle	Ovln	Ov . Track	erlaps Dwell	Cycle	Trail Grn
			- 9	_ Ovip	Truck	- Bwen	Cycle	Truit Gin
Default Data	Default Data			Defa	ult Dat	a		
System/Detectors Data								
Local Critical Alarms			Revert to E	Backun:	15	1st Phon	ne:	
Local Free: No Cycle Failure: No	Coord Failure: N	o Conflict		ote Fla		2nd Phor	ne:	
Local Fash: No Cycle Fault: No	Coord Fault: No	Premptio	on: No Volta	age Mo	nitor: No)		
Special Status 1: No Special Status	2: No Special St	atus 3. No	Special Status 1.	No. 9	Special St	atus 5: No	Chasial Ct	otus 6. No
Traffic Responsive	2.110 Special Su	atus 3. 140	Special Status 4.	110	special st	atus 5. 140	Special St	atus 0. 110
System Detector Veh/ A				Syste		~	eue 2 Syste	_
Detector Channel Name Hr Tin	ne(mins) Correction	n/10 Volun	ne % Detectors	Detect	tors Fac	tor Dete	ectors Detec	tors Factor
Default Data			Default Da	ata		Defa	ult Data	
Sample Interval: 0	Queue: 1 Inr	out Selection	n: 0=Average	Que	ue:			
		tector Faile	\mathcal{C}	_	el Enter	Leave	Dial / Sp	olit / Offset
	Queue: 2 Inp	out Selection	n: 0=Average				/ /	
	De	tector Faile	d Level : 0	Defa	ult Dat	a		
Vehical Detector	Vehical	Detector			Specia	l Detector		
Diagnostic Value 0		_	nostic Value 1				agnostic Valu	
Max No Errati		Max or Progonac	No Errati		Datast	Max or Present	No No Activity	Erratic
Detector Presence Activity Coun	Detecto	rresence	Activity Cour	11	Detect	oi Presenc	e Activity	Coult
Default Data - Diag 0 Values	Defau	lt Data - 1	No Diag 1 Val	lues	Defau	ılt Data -	- No Diag	0 Valt

Special Detector Pedestrian Detector Pedestrian Detector Diagnostic Value 0 Diagnostic Value 1 Diagnostic Value 1 No Erratic Max No Erratic No Erratic Detector Presence Activity Count Detector Presence Activity Count Detector Presence Activity Count

//

Default Data - No Diag 0 Values Default Data - No Diag 1 Values

Default Data - No Diag 1 Values

Speed Trap Data

Speed Trap:

Measurement:

Detector 1 Detector_2 Distance:

Speed Trap Speed Trap
Dial/Split/Offset Low Treshold High Treshold

Default Data

Default Data

Volume Detector Data

Report Interval 60

Volume Controller Detector Detector

Number Channel 3 3 4 4

Address: 2

SEPAC ECOM All Data

Intersection Name: US 40 at Mt. DeChantal

Intersection Alias: US40&DChntl

Access Data

1 :1200 Baud

3 :1200 Baud

Access Code: 9999 Channel: 1

IP Address:

Phase Initialization Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
T 1.1 1	1 7		1 7	. 1 7	. 0.3.1	4.0	0.3.7	0.3.7	0.3.7	0 3 T	0.3.7	0.3.7	0.3.7	0.3.7	0.3.7		_

Revision: 3.33b

Initial 1-Inact 4-Grn 1-Inact 1-Inact 0-None 4-Grn 0-None 0-None

PHASE	DAI	ľA
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Veh	ical Ba	sic Timii	<u>ngs</u>				Misc '	Timings	Walk	Walk			Pedes	trian T	<u> Timings</u>	Alt			Actuated
	Min					All	Green	Yellow		Offset	Bike	Bike		Ped	Alt	Ped	Flash	Ext	Rest in
Phase	e Greer	n Passage	Max1	Max2	Yellow	Red	Delay	Delay	Time	Mode	Green	Psg	Walk	Clr	Walk	Clr	Walk	Ped Clr	Walk
1	10	2.5	25	20	4.0	1.0	0.0	0.0	0	0-Advano	e 0.0	0.0	0	0			No	0	No
2	15	5.0	35	80	4.0	1.0	0.0	0.0	0	0-Advano	ce 0.0	0.0	6	10			No	0	No
3	12	4.0	25	35	4.0	1.0	0.0	0.0	0	0-Advano	e 0.0	0.0	0	0			No	0	No
4	12	5.0	20	35	4.0	1.0	0.0	0.0	0	0-Advano	e 0.0	0.0	6	10			No	0	No
5	0	4.0	25	30	4.0	1.0	0.0	0.0	0	0-Advan	e 0.0	0.0	0	0			No	0	No
6	15	5.0	50	80	4.0	1.0	0.0	0.0	0	0-Advan	e 0.0	0.0	0	0			No	0	No
7	0	4.0	25	30	4.0	1.0	0.0	0.0	0	0-Advan	e 0.0	0.0	0	0			No	0	No
8	0	5.0	35	50	4.0	1.0	0.0	0.0	0	0-Advan	e 0.0	0.0	0	0			No	0	No
9	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advan	e 0.0	0.0	0	0			No	0	No
10	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advan	e 0.0	0.0	0	0			No	0	No
11	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advan	e 0.0	0.0	0	0			No	0	No
12	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advan	e 0.0	0.0	0	0			No	0	No
13	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advan	e 0.0	0.0	0	0			No	0	No
14	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advan	e 0.0	0.0	0	0			No	0	No
15	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advan	e 0.0	0.0	0	0			No	0	No
16	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advan	ee 0.0	0.0	0	0			No	0	No

<u>Vehi</u>	cle Dens	ity Tim	<u>ings</u>				General Co	ontrol			Misce	llaneous	3		No	Special	Sequen	ice
Ph.	Added Initial		Time B4 Redu	Car B4 Redu	Time To Redu	Min Gap	Non-Act Response	Veh Recall		Recall Delay	Non Lock	Dual Entry	Last Car Pass	Condit Service	Simu Gap Out	Omit	Minus Yel	Omit Call
							'			·		j						
1	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
2	0.0	0	0	0	0	0.0	Both	Min	None	0	No	Yes	No	No	No	0	0	0
3	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
4	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
5	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
6	0.0	0	0	0	0	0.0	Both	Min	None	0	No	Yes	No	No	No	0	0	0
7	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
8	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
9	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
10	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
11	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
12	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
13	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
14	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

													Def	ault D	ata			
D	efault	Data					Defa	ult Dat	a				:					
		ssign hase M	_	witch hase Ex	tend	Delay		Assign Phase	n : Mode	Switch Phase	_	d Delay		Ass Pha	ign ase Mod	Switch Phase		Delay
Veh	ical De	tector 1	Phase As	signmen	ıt		Pedestr	ian Detec	tor				Spec	ial Det	ector Pha	ase Assig	nment	
16	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
15	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

Unit Data

General Control

Startup Time: 5 sec Input Output Startup State: Flash Ring Respons Selection **Red Revert:** 4.0 sec Ring 1 1 Ring 1 Auto Ped Clr: No 2 Ring 2 Ring 2 Stop T Reset: No None None 3 Alt Sequence: 0 None None 4 Special Seq:

I/O Modes:

ABC Input(Entry) Modes: 0 **D Input(Entry) Modes:** 0 ABC Output(O/STS) Modes: 0 **D** Output(O/STS) Modes: 0

Remote Flash

Test A = Flash

Phase Entry Exit

Default Data

Default Data - No Flash

- No Flash

Overlaps								<u> —</u> с	verlaps	s —						
Phase(s)		B 3 4	С	D	Е	F	G	Н	I	J	K	L	M	N	O	P
Start Green									Overlap	os —						
	A	В	C	D	E	F	G	Н	I	J	K	L	M	N	Ο	P
Phase(s)																

Ring	5											Pha	ase(s)							
		Next		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Phase	Ring	Phase		1	2	3	4	1	1	3	3	9	10	11	12	13	14	15	16	•
1	1	2	Concurrent Phases	5	5	7	7	2	2	4	4									
2	1	3	cu	6	6	8	8	-	6	7	8									
3	1	4	P. P.	O	6	0	0	5	O	,	0									
4	1	1	0																	
6	2	7																		

Alternate Sequences

Port 1 Data

BIU Message Port Basic Addr 40 Status Det

Default Data

No Alternate Sequences Programmed

Channel	Control	Hardware Pins
1	1 - Veh Phase 1	1 - Phase 1 RYG
2	2 - Veh Phase 2	2 - Phase 2 RYG
3	3 - Veh Phase 3	3 - Phase 3 RYG
4	4 - Veh Phase 4	4 - Phase 4 RYG
5	5 - Veh Phase 5	5 - Phase 5 RYG
6	6 - Veh Phase 6	6 - Phase 6 RYG
7	7 - Veh Phase 7	7 - Phase 7 RYG
8	8 - Veh Phase 8	8 - Phase 8 RYG
9	18 - Ped Phase 2	10 - Phase 2 DPW
10	20 - Ped Phase 4	12 - Phase 4 DPW
11	22 - Ped Phase 6	14 - Phase 6 DPW
12	24 - Ped Phase 8	16 - Phase 8 DPW
13	33 - Overlap A	17 - Overlap A RYG
14	34 - Overlap B	18 - Overlap B RYG
15	35 - Overlap C	19 - Overlap C RYG
16	36 - Overlap D	20 - Overlap D RYG
17	17 - Ped Phase 1	9 - Phase 1 DPW
18	19 - Ped Phase 3	11 - Phase 3 DPW
19	21 - Ped Phase 5	13 - Phase 5 DPW
20	23 - Ped Phase 7	15 - Phase 7 DPW

Coordination Data			Dial/Split	Cycle
General Coordination Data			1/1	95
Operation Mode: 1=Auto	Offset Mode: 0=Beg Grn	Manual Dial: 1	1/2	95
Coordination Mode: 1=Yield	Force Mode: 1=Cycle	Manual Split: 1	1/3	95
Maximun Mode: 0=Inhibit	Max Dwell Time: 0	Manual Offset: 1	1/4	95
Correction Mode: 2=Short Way	Yield Period: 0		2/1	115
·			2/2	115
			2/3	115
			2/4	115
			3/1	115
			3/2	115
			3/3	115
			3/4	115
			4/1	115
			4/2	115
			4/3	115
			4/4	115

	it Time	es and Phase Mo	des								
	_		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6 Dial	16 41 1 / Spli t	0=Actuated 1=Coordinate t 2	2	25	1=Coordinate	3	30	0=Actuated	4	24	0=Actuated
			Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6 Dial	20 45 1 / Spli t	0=Actuated 1=Coordinate	2	25	1=Coordinate	3	30	0=Actuated	4	20	0=Actuated
	_	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	20 45	0=Actuated 1=Coordinate	2	25	1=Coordinate	3	30	0=Actuated	4	20	0=Actuated
	1 / Spli t Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	20 45	0=Actuated 1=Coordinate	2	25	1=Coordinate	3	30	0=Actuated	4	20	0=Actuated
	2 / Spli t Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	20 50	0=Actuated 1=Coordinate	2	30	1=Coordinate	3	33	0=Actuated	4	32	0=Actuated
	2 / Spli t Splits	t 2 Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	25 55	0=Actuated 1=Coordinate	2	30	1=Coordinate	3	35	0=Actuated	4	25	0=Actuated
	2 / Spli t Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	25 55	0=Actuated 1=Coordinate	2	30	1=Coordinate	3	35	0=Actuated	4	25	0=Actuated
	2 / Spli t Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6		0=Actuated 1=Coordinate	2	30	1=Coordinate	3	35	0=Actuated	4	25	0=Actuated
			Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6 Dial	25 55 3 / Spli t	0=Actuated 1=Coordinate	2	30	1=Coordinate	3	35	0=Actuated	4	25	0=Actuated
1		Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	25 55	0=Actuated 1=Coordinate	2	30	1=Coordinate	3	35	0=Actuated	4	25	0=Actuated
	3 / Spli t Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	25 55	0=Actuated 1=Coordinate	2	30	1=Coordinate	3	35	0=Actuated	4	25	0=Actuated
	3 / Spli t Splits		Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1 6	25 55 4 / Spli t	0=Actuated 1=Coordinate	2	30	1=Coordinate	3	35	0=Actuated	4	25	0=Actuated
	_	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	25	0=Actuated	2	30	1=Coordinate	3	35	0=Actuated	4	25	0=Actuated

6	55	1=Coordinate									
Dial	4 / Split	t 2									
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	25	0=Actuated	2	30	1=Coordinate	3	35	0=Actuated	4	25	0=Actuated
6	55	1=Coordinate									
Dial	4 / Split	t 3									
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	25	0=Actuated	2	30	1=Coordinate	3	35	0=Actuated	4	25	0=Actuated
6	55	1=Coordinate									
Dial	4 / Split	t 4									
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	25	0=Actuated	2	30	1=Coordinate	3	35	0=Actuated	4	25	0=Actuated
6	55	1=Coordinate									

Traffic Plan	Data		
Plan: 1/1/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/1/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/2/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/2/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/3/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/3/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/4/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/4/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/1/1	Offset Time: 70 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/1/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/1/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/2/1	Offset Time: 98 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/2/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/2/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/3/1	Offset Time: 98 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/3/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/3/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/4/1	Offset Time: 98 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/4/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/4/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/1/1	Offset Time: 98 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 3/1/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No

Plan: 3/1/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 3/2/1	Offset Time: 98 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 3/2/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 3/2/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 3/3/1	Offset Time: 98 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 3/3/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 3/3/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 3/4/1	Offset Time: 98 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 3/4/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 3/4/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/1/1	Offset Time: 98 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/1/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/1/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/2/1	Offset Time: 98 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/2/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/2/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/3/1	Offset Time: 98 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/3/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/3/3	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/4/1	Offset Time: 98 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/4/2	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time Correction Mode: 0=No	ne: 0
Plan: 4/4/3	Offset Time: 25	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Tim	ne: 0

Local TBC Data

Start of Daylight Saving Month: 3 Week: 2

End of Daylight Saving Month: 11 Week: 1

Cycle Zero ReferenceHours: 24 Min: 0

 Source
 Equate Days

 Day
 1
 2
 3
 4
 5
 6
 7

 1
 7
 0
 0
 0
 0
 0
 0

 2
 3
 4
 5
 6
 0
 0
 0

TE CC D		
Traffic Data		PHASE FUNCTION —
Event Day Time 1 1 6:0 2 1 10:30 3 1 18:30 4 1 22:0 5 2 6:0 6 2 10:30 7 2 18:30 8 2 22:0	D/S/O flash 1/1/1 2/1/1 1/1/1 0/0/4 1/1/1 2/1/1 1/1/1 0/0/4	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 0
AUX. Events		
Program Event Day Hou	Aux Ouputs Min. 1 2 3	
Default Data - No Speci	al Day(s) or Week(s) Programmed
Special Functions Function Special Function 1 Special Function 2 Special Function 3 Special Function 4 Special Function 5 Special Function 6 Special Function 7 Special Function 8	X	SF2 SF3 SF4 SF5 SF6 SF7 SF8 SF9 SF10 SF11 SF12 SF13 SF14 SF15 SF16 X I
Phase Function	PF1 PF2 PF3	PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
Phase Omit	PF1 PF2 PF	3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
Ped Omit	PF1 PF2 PF	73 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16
Veh Det Coord Res	PF1 PF2 PF	F3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16

Function Phase Recall									
PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16									
Phase Min Recall PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16									
Veh Det Ped Recall PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16									
Veh Det Bike Recall PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16									
Vehicle Function Veh Det Switch Omit PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16									
Veh Det Switch Now PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF13 PF14 PF15 PF16									
Veh Det Switch Also PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16									
Overlap Function PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16 DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD									
Dimming Data Default Data - No Dimming Programmed									
Lane Defination Lanes Name Green Yellow Red Green Yellow Inbound Inbound Outbound Outbound									
Default Data - Lane Defination									
program day program hour program minute LanePhFun									
Preemption Data									
General Preemption Data									

General Preemption Data									
Preempt > Flash Preempt 1 > Preempt 2	Preempt 2 > Preempt 3 Preempt 3 > Preempt 4	Preempt 4 > Preempt 5 Preempt 5 > Preempt 6							

Preempt	NLock	Link to Pmpt		e mpt Ext	Time Dur	Max	Lock- E					Pec			Grn 1		ack—	Red	Dwell Green	Pe		l Red	Sel Ret Mode
1 2		0 0	0	0	0	0 0	0	0.0	_	0	0	8	4.0 4.0	2.0 2.0	10 0	8	4.0	2.0	10 10	8	4.0 4.0		
3	N	0	0	0	0	0	0	0.0	0	0	0	8	4.0	2.0	0	0	0.0	0.0	10	8	4.0	2.0	
5		0	0	0	0	0	0	0.0	Ü	0	0	8	4.0	2.0	10 10	8	4.0	2.0	10 10	8	4.0		
6		0	0	0	0	0	0	0.0		0	0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0		

I	Preemp	t 1	I	Preemp	t 2	P	reemp	t 3	F	reemp	t 4	I	Preemp	t 5	P	reemp	t 6
Phase	Exit Phase	Exit Calls															
1	No	Yes															
2	Yes	Yes															
3	No	Yes															
4	No	Yes															
5	No	Yes															
6	Yes	Yes															
7	No	Yes															
8	No	Yes															

Priority Timers	
Prio Non- Del Ext Free Free Min Lock out out Max Prerity Locking ay end Dial SplitGreen out A B	Excl-co Phase Svc. Transit Overlap Blankout

Priority Detector Channels

Priority

Detector

Priority Fixed Phases

Priority

Legend: 0 1
CO-PHASE FALSE TRUE
QJ-PHASE

Priority

Priority Bank:

Min Walk

Level

Partial Priority

Alt Seq Enabled

Full Priority
Freq. Override
Ped skip
Force full Priority
Frequency
Freq. Level

Recovery
Method
Return
PedWait
PedOverride

Codes:

0 X FALSE TRUE

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority:

Priority Bank :

Queue Phase Detector Time

Default data

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority :									Priority : Bank								
Detector	PE	1A	2A	3A	4A	5A	6A	В	Detector	PE	1A	2A	3A	4A	5A	6A	В
		Defa	ult Da	ta							Defa	ult Dat	a				
Priority :									Priority :								
Bank Detector	PE	1A	2A	3A	4A	5A	6A	В	Bank Detector	PE	1A	2A	3A	4A	5A	6A	В
		Defa	ult Da	ta							Defa	ult Dat	ta				
Priority :									Priority :								
Bank Detector	PE	1A	2A	ЗА	4A	5A	6A	В	Bank Detector	PE	1A	2A	3A	4A	5A	6A	В
		Defa	ult Da	ta							Defa	ult Dat	:a				

Preempt 1			
Vehical Phases	Pedestrian Pha		Overlaps
Ph. Track Dwell Cycle	Ph Track Dwell	Cycle	Ovlp Track Dwell Cycle Trail Gr
Default Data	Default Data		Default Data
Preempt 2	D 1 (1 D)		
Vehical Phases Ph. Track Dwell Cycle	Pedestrian Phases Ph. Track Dwell	Cycle	Overlaps Ovlp. Track Dwell Cycle Trail Grn
2 Red Green No	-	<u> </u>	2 2 2
_	Default Data		Default Data
Preempt 3 Vehical Phases	Pedestrian Phases		Occadence
Ph. Track Dwell Cycle	Ph. Track Dwell	Cycle	Overlaps Ovlp. Track Dwell Cycle Trail Grn
1 Red Green No 6 Red Green No	Default Data		Default Data
Preempt 4			
Vehical Phases Ph. Track Dwell Cycle	Pedestrian Phases Ph. Track Dwell	Cycle	Overlaps T. 1.C.
Th. Hack Brief Cycle	Fil. Hack Dwell	Сусіе	Ovlp. Track Dwell Cycle Trail Grn
Default Data	Default Data		Default Data
Preempt 5			
Vehical Phases Ph. Track Dwell Cycle	Pedestrian Phases Ph. Track Dwell	Cycle	Overlaps Ovlp. Track Dwell Cycle Trail Grn
Th. Hack Dwen Cycle	Til. Hack Dwell	Сусіє	Ovlp. Track Dwell Cycle Trail Grn
Default Data	Default Data		Default Data
Preempt 6 Vehical Phases	Dodostoi on Dhono		0 1
	Pedestrian Phases Ph. Track Dwell	Cycle	Overlaps Ovlp. Track Dwell Cycle Trail Grn
			<u> </u>
Default Data	Default Data		Default Data
System/Detectors Data			
Local Critical Alarms		Revert to B	1
Local Free: No Cycle Failure: No	Coord Failure: No Conflict	Flash: No Remo	ote Flash: No 2nd Phone:
Local Fash: No Cycle Fault: No	Coord Fault: No Premption	on: No Volta	ge Monitor: No
Special Status 1: No Special Status	2: No Special Status 3: No	Special Status 4:	No Special Status 5: No Special Status 6: No
Traffic Responsive	_		Santana Waiald Orona 2 Santana Waiald
System Detector Veh/ A Detector Channel Name Hr Tin	verage Occupancy Mine(mins) Correction/10 Volum	_	System Weight Queue 2 System Weight Detectors Factor Detectors Detectors Factor
Default Data		Default Da	nta Default Data
Sample Interval: 0	Queue: 1 Input Selection	n: 0=Average	Queue:
	Detector Faile		Level Enter Leave Dial / Split / Offset
	-	n: 0=Average	//
	Detector Faile	d Level : 0	Default Data
Vehical Detector	Vehical Detector	mostic Volue 1	Special Detector
Diagnostic Value 0 Max No Errati	_	mostic Value 1 No Erratio	Diagnostic Value 0 c Max No Erratic
ivian ino Ettali		TWO DELETE	C IVIAA INO DITATIO
Detector Presence Activity Coun			

Pedestrian Detector Diagnostic Value 0	Pedestrian Detector Diagnostic Value 1	Special Detector Diagnostic Value 1				
Max No Erratic Detector Presence Activity Count	Max No Erratic Detector Presence Activity Count	Max No Erratic Detector Presence Activity Count				
Default Data - No Diag 0 Values	Default Data - No Diag 1 Values	Default Data - No Diag 1 Values				
Speed Trap Data Speed Trap:	Dial/Split/Offset	Speed Trap Low Treshold High Treshold				

Default Data

Volume Detector Data

	Report Interval	60
Volume	Controller	
Detector	Detector	
Number	Channel	
1	1	
2	2	
3	3	
4	4	
6	6	

2/10/2020 11:49:14AM

0

0

No

No

No

No

SEPAC ECOM All Data

Intersection Name: US 40 at Park Road (M)

Intersection Name: US 40 at Park Road (M)

Intersection Alias: US40&Park

Access Data

1 :1200 Baud

3:1200 Baud

Access Code: 9999

Channel:

0

0

0.0

0.0

0

0

Address: 4

Revision: 3.320

IP Address:

Phase Initialization Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initial	1-Inact	4-Grn	1-Inact	1-Inact	1-Inact	4-Grn	0-None	0-None	1-Inact	0-None						

PHASE DATA Misc Timings Walk Vehical Basic Timings Pedestrian Timings Walk Alt Actuated Green Yellow Offset Offset Min Bike Bike Ped Alt Ped Flash Ext Rest in Phase Green Passage Max1 Max2 Yellow Red Delay Delay Time Mode Green Psg Walk Clr Walk Clr Walk Ped Clr Walk 1 8 2.0 20 30 4.0 1.0 0.0 0.0 0 0-Advance 0.0 0.0 0 No 0 No 2 15 5.0 50 80 4.0 1.0 0.0 0.0 0-Advance 0.0 0.0 0 0 No 0 0 No 3 7 4.0 20 30 4.0 1.0 0.0 0.0 0 0-Advance 0.0 0.0 0 0 0 No No 4 10 4.0 20 40 4.0 1.0 0.0 0.0 0 0-Advance 0.0 0.00 0 No 0 No 5 8 9 9 0-Advance 0 2.0 4.0 1.0 0.0 0.0 0 0.0 0.0 No 0 No 6 15 5.0 50 4.0 1.0 0.0 0-Advance 0.0 0 0 0 80 0.0 0 0.0 No No 7 0 4.0 25 30 4.0 1.0 0.0 0.0 0 0-Advance 0.00.0 0 0 No 0 No 8 0.0 0 5.0 35 50 4.0 1.0 0.0 0.0 0 0-Advance 0.0 0 0 No 0 No 9 0 0.0 0 0 3.0 0.0 0.0 0.0 0 0-Advance 0.0 0.0 5 17 No 1 No 10 0 0.0 0 0 3.0 0.0 0.0 0.0 0 0-Advance 0.0 0.0 0 0 No 0 No 11 0 0.0 0 0 3.0 0.0 0.0 0.0 0 0-Advance 0.0 0.0 0 0 No 0 No 0 0 0 3.0 0.0 0 0-Advance 0 0 0 12 0.0 0.0 0.0 0.0 0.0 No No 13 0 0.0 0 0 3.0 0.0 0.0 0.0 0 0-Advance 0.0 0 0 0 0.0 No No 14 0 0.0 0 0 3.0 0.0 0.0 0.0 0 0-Advance 0.0 0.0 0 0 0 No No

0

0

0-Advance

0-Advance

0.0

0.0

<u>Vehi</u>	cle Dens	ity Tim	<u>ings</u>				General Co	ontrol			Misce	llaneous	3		No	Special	Sequen	<u>ice</u>
Ph.	Added Initial	Max Initial	Time B4 Redu	Car B4 Redu	Time To Redu	Min Gap	Non-Act Response	Veh Recall		Recall Delay	Non Lock	Dual Entry	Last Car Pass	Condit Service	1	Omit	Minus Yel	Omit Call
1	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
2	0.0	0	0	0	0	0.0	None	Min	None	0	No	Yes	No	No	No	0	0	0
3	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
4	0.0	0	0	0	0	0.0	NonActI	None	None	0	No	No	No	No	No	0	0	0
5	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
6	0.0	0	0	0	0	0.0	None	Min	None	0	No	Yes	No	No	No	0	0	0
7	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
8	0.0	0	0	0	0	0.0	NonActI	None	None	0	No	No	No	No	No	0	0	0
9	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
10	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
11	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
12	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
13	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
14	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

15

16

0

0

0

0.0

0.0

0

0

0.0

0.0

0.0

0.0

0.0

0.0

3.0

3.0

15	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	1 0	0	0
_					-					·								•
16	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
Vehi	ical I	Detector	Phase	Assign	ment		Pedestria	n Detect	or				Spec	ial Det	ector Ph	ase Assig	nment	
		Assign		Switch	1			Assign	ı	Switch	l			Ass	ign	Switch		
		_	Mode	Phase	Extend	Delay		Phase	Mode	Phase	Extend	Delay			_	le Phase	Extend	Delay
Veh De	et:8	8	Veh	0	0.0	0	Ped Det:	4 9	Ped	0	0.0	0	:					
Veh De	et:7	7	Veh	0	0.0	0	Defau	ılt Data	a				Def	ault D)ata			
Veh De	et:6	6	Veh	0	0.0	0							Dei	uuit D				
Veh De	et:5	5	Veh	0	0.0	0												
Veh De	et:4	4	Veh	0	0.0	5												
Veh De	et:3	3	Veh	0	0.0	5												
Veh De	et:2	2	Veh	0	0.0	0												
Veh De	et:1	1	Veh	0	0.0	0]											

Unit Data

General Control

Startup Time: 5 sec Input Output Startup State: Flash Ring Respons Selection **Red Revert:** 4.0 sec Ring 1 1 Ring 1 Auto Ped Clr: No 2 Ring 2 Ring 2 Stop T Reset: No None None 3 Alt Sequence: 0 None None Special Seq:

I/O Modes:

ABC Input(Entry) Modes: 0 D Input(Entry) Modes: 0
ABC Output(O/STS) Modes: 0 D Output(O/STS) Modes:

Remote Flash

Test A = Flash

Phase Entry Exit

Default Data - No Flash

P

O

Default Data

- No Flash

ABC Output(O/STS	5) Mode	es: 0	DO	utput(O/STS) Mod	es: 0							
Overlaps								— Ov	erlaps					
-	A	В	C	D	Е	F	G	Н	I	J	K	L	M	N

Phase(s) 2 3 4 6

Start Green Overlaps -В \mathbf{C} F Η P A D Ε G I J K L M N O

Phase(s)

Ring												Pha	ase(s)							
		Next		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Phase	Ring	Phase	± -	1	2	3	4	1	1	3	3	9	10	11	12	13	14	15	16	
1	1	2	Concurrent Phases	5	5	7	7	2	2	4	4								- 0	
2	1	3	oncurre	6	6	8	8	5	6	7	8									
3	1	4	P. P.	O	6	o	o	3	U	,	o									
4	1	9	0																	
5	2	6																		
6	2	7																		

Alternate Sequences

Ph. Pair 1

Port 1 Data

BIU Port Basic Message Addr Status Det 40

Default Data

Channel	Control	Hardware Pins
1	1 - Veh Phase 1	1 - Phase 1 RYG
2	2 - Veh Phase 2	2 - Phase 2 RYG
3	3 - Veh Phase 3	3 - Phase 3 RYG
4	4 - Veh Phase 4	4 - Phase 4 RYG
5	5 - Veh Phase 5	5 - Phase 5 RYG
6	6 - Veh Phase 6	6 - Phase 6 RYG
7	7 - Veh Phase 7	7 - Phase 7 RYG
8	8 - Veh Phase 8	8 - Phase 8 RYG
9	18 - Ped Phase 2	10 - Phase 2 DPW
10	25 - Ped Phase 9	12 - Phase 4 DPW
11	22 - Ped Phase 6	14 - Phase 6 DPW
12	24 - Ped Phase 8	16 - Phase 8 DPW
13	33 - Overlap A	17 - Overlap A RYG
14	34 - Overlap B	18 - Overlap B RYG
15	35 - Overlap C	19 - Overlap C RYG
16	36 - Overlap D	20 - Overlap D RYG
17	17 - Ped Phase 1	9 - Phase 1 DPW
18	19 - Ped Phase 3	11 - Phase 3 DPW
19	21 - Ped Phase 5	13 - Phase 5 DPW
20	23 - Ped Phase 7	15 - Phase 7 DPW

Coordination Data			Dial/Split	Cycle
General Coordination Data			1/1	95
Operation Mode: 1=Auto	Offset Mode: 0=Beg Grn	Manual Dial: 1	1/2	95
Coordination Mode: 0=Permissive	Force Mode: 1=Cycle	Manual Split: 1	1/3	95
Maximun Mode: 2=Max 2	Max Dwell Time: 0	Manual Offset: 1	1/4	95
Correction Mode: 2=Short Way	Yield Period: 0		2/1	115
•			2/2	115
			2/3	115
			2/4	115
			3/1	115
			3/2	115
			3/3	115
			3/4	115
			4/1	115
			4/2	115
			4/3	115
			4/4	115

		es and Phase Mo	odes								
	1 / Spli ts	t l Ph. Mode	Ph	Splits	Ph. Mode	Ph	Splits	Ph. Mode	Dh	Splits	Ph. Mode
	16	0=Actuated		26	1=Coordinate	3	15	0=Actuated	4	14	0=Actuated
1 5	14	0=Actuated	2 6	28	1=Coordinate	<i>3</i>	24	0=Actuated	4	14	0-Actuated
1 -	1/Split		Ü								
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	16	0=Actuated	2	26	1=Coordinate	3	15	0=Actuated	4	14	0=Actuated
5	14	0=Actuated	6	28	1=Coordinate	9	24	0=Actuated			
	1 / Spli t		DI.	C-1:4-	Dl. M. J.	ni.	C1:4-	Dl. M. J.	DI.	G 1'	D1 34 1
Ph.		Ph. Mode	Ph.		Ph. Mode		Splits	Ph. Mode			Ph. Mode
1 5	16 14	0=Actuated 0=Actuated	2 6	26 28	1=Coordinate 1=Coordinate	3 9	15 24	0=Actuated 0=Actuated	4	14	0=Actuated
	1 / Split		U	20	1 Coordinate	7	Δ ⊤	o Actuated			
Ph.	_	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	16	0=Actuated	2	26	1=Coordinate	3	15	0=Actuated	4	14	0=Actuated
5	14	0=Actuated	6	28	1=Coordinate	9	24	0=Actuated			
	2/Spli										
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	32	1=Coordinate	3	23	0=Actuated	4	16	0=Actuated
5 Dial	14 2 / Spli t	0=Actuated	6	38	1=Coordinate	9	24	0=Actuated			
	_	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	32	1=Coordinate	3	23	0=Actuated	4	16	0=Actuated
5	14	0=Actuated	6	38	1=Coordinate	9	24	0=Actuated	•	10	V 11000000
Dial	2/Split	t 3									
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	32	1=Coordinate	3	23	0=Actuated	4	16	0=Actuated
5 Dial	14 2 / Spli t	0=Actuated	6	38	1=Coordinate	9	24	0=Actuated			
	_	Ph. Mode	Ph.	Snlits	Ph. Mode	Ph	Splits	Ph. Mode	Ph	Splite	Ph. Mode
		0=Actuated	2	32	1=Coordinate		23	0=Actuated			0=Actuated
1 5		0=Actuated	6	38	1=Coordinate	3	23	0=Actuated	4	10	0-Actuated
Dial	3 / Split		Ü								
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	35	1=Coordinate	3	20	0=Actuated	4	16	0=Actuated
5		0=Actuated	6	41	1=Coordinate	9	24	0=Actuated			
	3 /Split		DI.	C-1:4-	Dl. M. J.	ni.	C1:4-	Dl. M. J.	DI.	G 1'	DI 14 1
		Ph. Mode	Ph.		Ph. Mode			Ph. Mode			Ph. Mode
1 5	20 14	0=Actuated 0=Actuated	2 6	35 41	1=Coordinate 1=Coordinate	3	20 24	0=Actuated 0=Actuated	4	16	0=Actuated
1	3 / Spli t		O	71	1–Coordinate	9	4	0-Actuated			
	_	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	35	1=Coordinate	3	20	0=Actuated	4	16	0=Actuated
5		0=Actuated	6	41	1=Coordinate	9	24	0=Actuated	-		
	3 / Split										
Ph.		Ph. Mode			Ph. Mode			Ph. Mode			Ph. Mode
1		0=Actuated	2	35	1=Coordinate	3	20	0=Actuated	4	16	0=Actuated
5 Dial	14 4 / Spli t	0=Actuated t 1	6	41	1=Coordinate	9	24	0=Actuated			
1		Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1		0=Actuated	2	35	1=Coordinate	3	20	0=Actuated	4	16	0=Actuated
				55		5	20	,	т	10	

5	14	0=Actuated	6	41	1=Coordinate	9	24	0=Actuated			
Dial	4 / Split	t 2									
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	35	1=Coordinate	3	20	0=Actuated	4	16	0=Actuated
5	14	0=Actuated	6	41	1=Coordinate	9	24	0=Actuated			
Dial	4 / Split	t 3									
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	35	1=Coordinate	3	20	0=Actuated	4	16	0=Actuated
5	14	0=Actuated	6	41	1=Coordinate	9	24	0=Actuated			
Dial	4 / Split	t 4									
Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
1	20	0=Actuated	2	35	1=Coordinate	3	20	0=Actuated	4	16	0=Actuated
5	14	0=Actuated	6	41	1=Coordinate	9	24	0=Actuated			

Traffic Plan	Data		
Plan: 1/1/1	Offset Time: 78 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/1/2	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/1/3	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/2/1	Offset Time: 78 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/2/2	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/2/3	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/3/1	Offset Time: 78 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/3/2	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/3/3	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/4/1	Offset Time: 78 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/4/2	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 1/4/3	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/1/1	Offset Time: 44 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/1/2	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/1/3	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/2/1	Offset Time: 44 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/2/2	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/2/3	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/3/1	Offset Time: 44 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/3/2	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/3/3	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 2/4/1	Offset Time: 44 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No

Plan: 2/4/2	Offset Time: 25 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Correction Mode: 0=No	Rg 4 Lag Time: 0
		•		
Plan: 2/4/3	Offset Time: 50 Mode: 0=Normal	Alternat Sequence: 1 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Correction Mode: 0=No	Rg 4 Lag Time: 0
Plan: 3/1/1	Offset Time: 80	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
Fian: 3/1/1	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	rig i Eug Time. 0
Plan: 3/1/2	Offset Time: 25	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 3/1/3	Offset Time: 50	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 3/2/1	Offset Time: 80	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 3/2/2	Offset Time: 25	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 3/2/3	Offset Time: 50	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
1 1411. 57 27 5	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 3/3/1	Offset Time: 80	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
1 1411. 57 57 1	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 3/3/2	Offset Time: 25	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
1 Ian. 3/3/2	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	88
Plan: 3/3/3	Offset Time: 50	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
F 1411. 3/3/3	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	rig i Lug Time.
Plan: 3/4/1	Offset Time: 80	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
11 1a11. 3/ 1 / 1	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	rig i Lug Time. V
Plan: 3/4/2	Offset Time: 25	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
1 Ian. 5/ 4/2	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	88
Plan: 3/4/3	Offset Time: 50	Alternat Sequence: 1	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
1 1411. 37 173	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/1/1	Offset Time: 80	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
1 1011. 1/ 1/ 1	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/1/2	Offset Time: 25	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/1/3	Offset Time: 50	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/2/1	Offset Time: 80	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/2/2	Offset Time: 25	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/2/3	Offset Time: 50	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/3/1	Offset Time: 80	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/3/2	Offset Time: 25	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	
Plan: 4/3/3	Offset Time: 50	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No	

Plan: 4/4/1	Offset Time: 80	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0
7/4/0	Mode: 0=Normal Offset Time: 25	Special Function: 0	Correction Mode: 0=No
Plan: 4/4/2	Mode: 0=Normal	Alternat Sequence: 0 Special Function: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0 Correction Mode: 0=No
Plan: 4/4/3	Offset Time: 50	Alternat Sequence: 0	Rg 2 Lag Time: 0 Rg 3 Lag Time: 0 Rg 4 Lag Time: 0
Fian. 4/4/3	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No
Local TBC	' Data		Source Equate Days
		Week: 2 Cycle Zero R	Source Equate Days LeferenceHours: 24 Min: 0 Day 1 2 3 4 5 6 7
	ht Saving Month: 11	•	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Traffic Data			PHASE FUNCTION —
Event Day 1 1 2 1 3 1 4 1 5 2	Time D/S/O flas 6:0 1/1/1 10:30 2/1/1 18:30 1/1/1 22:0 0/0/4 6:0 1/1/1 0.00 0.00		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
6 2 7 2 8 2	10:30 2/1/1 18:30 1/1/1 22:0 0/0/4		
AUX. Event			
Event Day 1 1 2 1 3 2 4 2			
Default Data - N	No Special Day(s) or We	eek(s) Programmed	
Special Funct Function Special Function Coord Adaptive	ions SF 11	SF2 SF3 SF4 SF5 X X X X X	
Phase Function	PF1 PF2	PF3 PF4 PF5 PF6 P	F7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16

Phase Omit	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16							
Ped Omit	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16							
Veh Det Coord ReSve	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF10 PF10 PF10 PF10 PF10 PF10 PF10 PF10							
Function Phase Recal	-							
	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16							
Phase Min Recall	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16 PF10 PF10 PF10 PF10 PF10 PF10 PF10 PF10							
Veh Det Ped Recall	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16							
Veh Det Bike Recall	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16 PF10 PF10 PF10 PF10 PF10 PF10 PF10 PF10							
Vehicle Function								
Veh Det Switch Omit	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16 PF10 PF10 PF10 PF10 PF10 PF10 PF10 PF10							
Veh Det Switch Now	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16 PF10 PF10 PF10 PF10 PF10 PF10 PF10 PF10							
Veh Det Switch Also	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16							
Overlap Function								
	PF1 PF2 PF3 PF4 PF5 PF6 PF7 PF8 PF9 PF10 PF11 PF12 PF13 PF14 PF15 PF16 PF10 PF10 PF10 PF10 PF10 PF10 PF10 PF10							
Dimming Data Default Data - No Dimming Programmed								
Lane Defination								
Lanes Name Green Yellow Red Green Yellow Inbound Inbound Outbound Outbound								
Default Data - Lane Defination								
program day program hour program minute LanePhFun								

Preemption Data

General Preemption Data Flash > Preempt Preempt 2 = Preempt 3 Preempt 4 = Preempt 5 Preempt 1 = Preempt 2 Preempt 3 Preempt 4 Preempt 5 Preempt 5 Preempt 6

Preempt NLock	Link to Pmpt		•	Time		Lock-I			Mi G		Ped			Grn 1		ack— Yel	Red	Dwell Green	Pe		l Red	Sel Ret Mode
1 N 2 N	0	0	0	0	0	0	0.0		0	0	8	4.0	2.0	10 0	8	4.0	2.0	10 10	8	4.0 4.0	2.0	
3 N	0	0	0	0	0	0	0.0	0	0	0	8	4.0	2.0	0	0	0.0	0.0	10	8	4.0		
4 N 5 N	0	0	0	0	0	0	0.0		0	0	8	4.0 4.0	2.0	10 10	8	4.0 4.0	2.0	10 10	8	4.0	2.0	
6 N	0	0	0	0	0	0	0.0	0	0	0	8	4.0	2.0	10	8	4.0	2.0	10	8		2.0	

Preempt 1 Preempt 2			Preempt 3			Preempt 4			P	reemp	t 5	Preempt 6					
Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls	Phase	Exit Phase	Exit Calls
1	No	Yes	2	Yes	No	2	Yes	No	1	No	Yes	1	No	Yes	1	No	Yes
2	No	Yes	6	Yes	No	6	Yes	No	2	No	Yes	2	No	Yes	2	No	Yes
3	No	Yes							3	No	Yes	3	No	Yes	3	No	Yes
4	No	Yes							4	No	Yes	4	No	Yes	4	No	Yes
5	No	Yes							5	No	Yes	5	No	Yes	5	No	Yes
6	No	Yes							6	No	Yes	6	No	Yes	6	No	Yes
7	No	Yes							7	No	Yes	7	No	Yes	7	No	Yes
8	No	Yes							8	No	Yes	8	No	Yes	8	No	Yes

Priority Timers		
Prio Non- Del Ext Free Free Min	LockLock Max Pre-	Excl-co Transit Overlap
Prio Non- Del Ext Free Free Min Locl rity Locking ay end Dial SplitGreen out	A B Green Green Recall	Phase Svc. Signal Type Blankout
		<u>'</u>

Priority Detector Channels

Priority

Detector

Priority Fixed Phases

Priority

Legend: 0 1
CO-PHASE FALSE TRUE
QJ-PHASE

Priority

Priority Bank:

Min Walk

Level

Partial Priority

Alt Seq Enabled

Full Priority
Freq. Override
Ped skip
Force full Priority
Frequency
Freq. Level

Recovery
Method
Return
PedWait
PedOverride

Codes:

0 X FALSE TRUE

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority:

Priority Bank :

Queue Phase Detector Time

Default data

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority:

Priority Bank:

Queue Phase Detector Time

Default data

Priority : Bank									Priority : Bank								
Detector	PE	1A	2A	3A	4A	5A	6A	В	Detector	PE	1A	2A	3A	4A	5A	6A	В
		Defa	ult Da	ta							Defa	ult Dat	a				
Priority :									Priority :								
Bank Detector	PE	1A	2A	3A	4A	5A	6A	В	Bank Detector	PE	1A	2A	3A	4A	5A	6A	В
Default Data							Default Data										
Priority :									Priority :								
Bank Detector	PE	1A	2A	ЗА	4A	5A	6A	В	Bank Detector	PE	1A	2A	3A	4A	5A	6A	В
		Defa	ult Da	ta							Defa	ult Dat	:a				

Preempt 1 Vehical Phases	Pedestrian Phases		Overlaps					
Ph. Track Dwell Cycle	Ph Track Dwell	Cycle	Ovlp Track Dwell Cycle Trail Gr					
Default Data	Default Data		Default Data					
Preempt 2								
Vehical Phases Ph. Track Dwell Cvcl	Pedestrian Phases e Ph. Track Dwell	Cycle	Overlaps Ovlp. Track Dwell Cycle Trail Grn					
1 Red Green No	<u> </u>		B Red Grn No					
6 Red Green No	Default Data							
Preempt 3	D 1 (1 D)							
Vehical Phases Ph. Track Dwell Cycle	Pedestrian Phases Ph. Track Dwell	Cycle	Overlaps Ovlp. Track Dwell Cycle Trail Grn					
2 Red Green No	Th. Huck Dwen	Cycle	A Red Grn No					
5 Red Green No	Default Data							
Preempt 4								
Vehical Phases	Pedestrian Phases		Overlaps					
Ph. Track Dwell Cycle	Ph. Track Dwell	Cycle	Ovlp. Track Dwell Cycle Trail Grn					
Default Data	Default Data		Default Data					
Preempt 5 Vehical Phases	Pedestrian Phases		0. 1					
Ph. Track Dwell Cycle		Cycle	Overlaps Ovlp. Track Dwell Cycle Trail Grn					
		<u> </u>	_ evip. Havin Buren eyere Hain ein					
Default Data	Default Data		Default Data					
Preempt 6	D. I. (! DI							
Vehical Phases Ph. Track Dwell Cycl	Pedestrian Phases e Ph. Track Dwell	Cycle	Overlaps Ovlp. Track Dwell Cycle Trail Grn					
Default Data	Default Data		Default Data					
System/Detectors Data								
Local Critical Alarms		Revert to I	Backup: 15 1st Phone:					
Local Free: No Cycle Failure: No	Coord Failure: No Conflict Fla		note Flash: No 2nd Phone:					
Local Fash: No Cycle Fault: No	Coord Fault: No Premption:	No Volt	age Monitor: No					
Special Status 1: No Special Statu	s 2. No. Special Status 2. No. Spe	oial Status A	: No Special Status 5: No Special Status 6: No					
Traffic Responsive	8 2. 140 Special Status 3. 140 Spe	ciai Status 4.	. 140 Special Status 5. 140 Special Status 6. 140					
	Average Occupancy Min	Queue 1	System Weight Queue 2 System Weight					
Detector Channel Name Hr T	ime(mins) Correction/10 Volume	% Detectors	Detectors Factor Detectors Detectors Factor					
		Default D	ata Default Data					
Default Data Sample Interval: 60	Queue: 1 Input Selection: (Oueue:					
1	Detector Failed L	_	Level Enter Leave Dial / Split / Offset					
	Queue: 2 Input Selection: (/ /					

Vehical Detector				Vehical Detector	Special Detector			
Diagnostic Value 0				Diagnostic Value 1	Diagnostic Value 0			
Detector	Max Presence	No Activity	Erratic Count	Max No Erratic Detector Presence Activity Count	Max No Erratic Detector Presence Activity Count			
1	30	60	0					
2	30	10	0	Default Data - No Diag 1 Values	Default Data - No Diag 0 Valu			
3	30	240	0	S	Delault Data - 110 Diag v vait			
4	30	180	0					
5	30	240	0					
6	30	10	0					
Pedestrian Detector				Pedestrian Detector	Special Detector			
Diagnostic Value 0				Diagnostic Value 1	Diagnostic Value 1			
	Max	No	Erratic	Max No Erratic	Max No Erratic			
Detector	Presence	Activity	Count	Detector Presence Activity Count	Detector Presence Activity Count			

Default Data - No Diag 0 Values

Default Data - No Diag 1 Values

Default Data - No Diag 1 Values

Speed Trap

Speed Trap Data

Speed Trap:

Dial/Split/Offset
//
Measurement:

Set Low Treshold High Treshold

Speed Trap

Detector 1 Detector_2 Distance:

Default Data

Default Data

Volume Detector Data

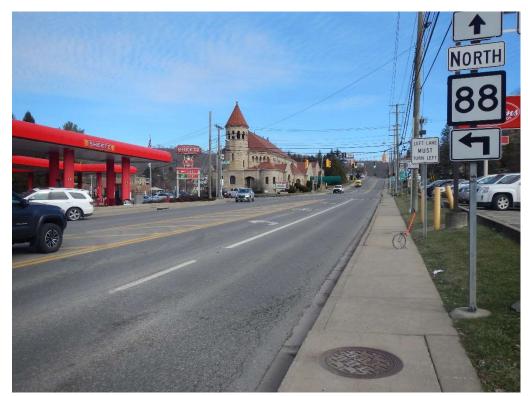
	Report Interval	60
Volume	Controller	
Detector	Detector	
Number	Channel	
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
9	76	
10	65	
11	66	
12	67	
13	68	



Appendix C. Study Intersections Photographs



EASTBOUND US ROUTE 40 (NATIONAL ROAD) APPROACH: Eastbound US Route 40 approach provides 1 left turn lane and 1 shared lane of travel for the through and right turn movements.







WESTBOUND US ROUTE 40 (NATIONAL ROAD) APPROACH: Westbound US Route 40 approach provides 1 shared lane of travel for the left turn and through movements and 1 shared lane of travel for the right turn and through movements.







NORTHBOUND ALTENHEIM AVENUE APPROACH: Northbound Altenhaim Avenue has 1 shared lane of travel for the left turn, through and right turn movements.







SOUTHBOUND WV 88 (BETAHNY PIKE) APPROACH: Southbound WV 88 has 1 shared lane of travel for the left turn and through movements and 1 lane of travel for the right turn movement.







NORTHEASTBOUND WV 88 (BETHANY PIKE) APPROACH: Northeastbound WV 88 has 1 shared lane of travel for the through and right turn movements and 1 lane for the left turn movement.







WESTBOUND WV 88 (BETHANY PIKE) APPROACH: Westbound WV 88 has 1 shared lane of travel for the left turn, through and right turn movements.







NORTHBOUND CHURCH DRIVEWAY APPROACH: Northbound Church Driveway has 1 travel lane for the left turn, through and right turn movements.







SOUTHBOUND GC&P ROAD (CR 7) APPROACH: Southbound GC&P Road has 1 travel lane for the left turn, through and right turn movements.







EASTBOUND US Route 40 (NATIONAL ROAD) APPROACH: Eastbound US Route 40 has 1 travel lane for the left turn movement, 1 travel lane for the through movement and 1 travel lane for the through and right turn movements.







WESTBOUND US Route 40 (NATIONAL ROAD) APPROACH: Westbound US Route 40 has 1 travel lane for the left turn movement, 1 travel lane for the through movement and 1 travel lane for the through and right turn movements.







NORTHBOUND TJ'S DRIVEWAY APPROACH: TJ's Driveway has 1 travel lane for the left turn, through and right turn movements.







SOUTHBOUND PARK ROAD APPROACH: Park Road has 1 travel lane for the left turn and through movements and 1 travel lane for the right turn movement.





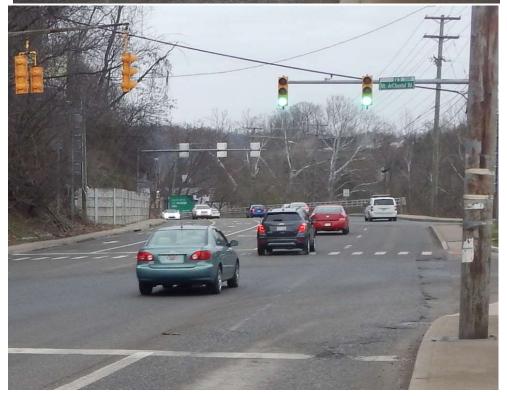




US Route 40 (National Road) & Mt. DeChantal Road/I-70 Off-Ramp Right Turns

EASTBOUND US ROUTE 40 (NATIONAL ROAD) APPROACH: Eastbound US Route 40 has 2 travel lanes for the through movements.







US Route 40 (National Road) & Mt. DeChantal Road/I-70 Off-Ramp Right Turns

WESTBOUND US ROUTE 40 (NATIONAL ROAD) APPROACH: Westbound US Route 40 has 3 travel lanes for the through movement.

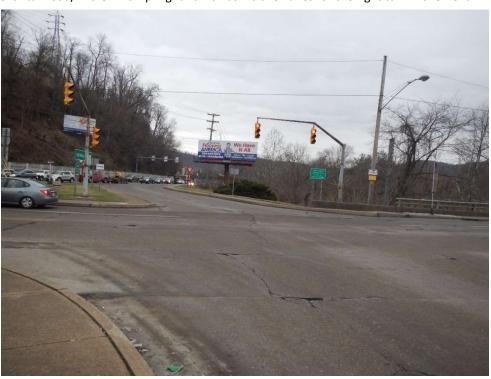






US Route 40 (National Road) & Mt. DeChantal Road/I-70 Off-Ramp Right Turns

NORTHBOUND MT. DECHANTAL ROAD/I-70 OFF-RAMP RIGHT TURNS APPROACH: Northbound Mt. DeChantal Road/I-70 Off-Ramp Right Turns has 2 travel lanes for the right turn movement.







Mt. DeChantal Road & I-70 EB Off-Ramp

EASTBOUND I-70 EB OFF-RAMP APPROACH: Eastbound I-70 EB Off-Ramp has 1 travel lane for the left turn and through movements and 1 travel lane for the through and right turn movements.



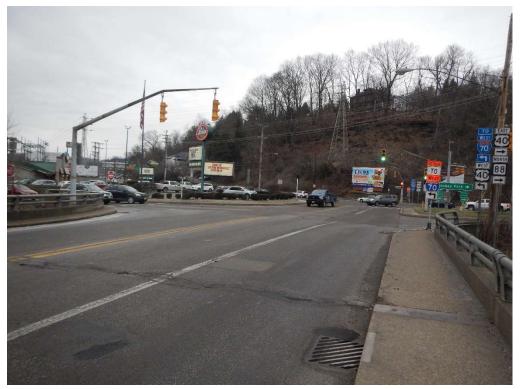




Mt. DeChantal Road & I-70 EB Off-Ramp

NORTHBOUND MT. DECHANTAL ROAD APPROACH: Northbound Mt. DeChantal Road has 1 travel lane for the through movement and 1 shared travel lane for the through and right turn movements.







Mt. DeChantal Road & I-70 EB Off-Ramp

SOUTHBOUND MT. DECHANTAL ROAD APPROACH: Southbound Mt. DeChantal Road has 1 travel lane for the through movement.







US Route 40 (National Road) & Mt. DeChantal Road

EASTBOUND US ROUTE 40 (NATIONAL ROAD) APPROACH: Eastbound US Route 40 has 1 travel lane for the through movement and 1 shared travel lane for the through and right turn movements.







US Route 40 (National Road) & Mt. DeChantal Road

WESTBOUND US ROUTE 40 (NATIONAL ROAD) APPROACH: Westbound US Route 40 has 1 travel lane for the left turn movement and 2 travel lanes for the through movement.







US Route 40 (National Road) & Mt. DeChantal Road

NORTHBOUND MT. DECHANTAL ROAD APPROACH: Northbound Mt. DeChantal Road has 2 travel lanes for the left turn movement.







Mt. DeChantal Road & I-70 EB On-Ramp/Kroger's Driveway

WESTBOUND KROGER'S DRIVEWAY APPROACH: Westbound Kroger's Driveway has 1 travel lane for the left turn movement and 1 travel lanes for the right turn movement.







Mt. DeChantal Road & I-70 EB On-Ramp/Kroger's Driveway

NORTHBOUND MT. DECHANTAL ROAD APPROACH: Northbound Mt. DeChantal Road has 1 travel lane for the left turn movement and 1 travel lane for the through movement.







Mt. DeChantal Road & I-70 EB On-Ramp/Kroger's Driveway

SOUTHBOUND MT. DECHANTAL ROAD APPROACH: Southbound Mt. DeChantal Road has 1 shared travel lane for the through and right turn movements.







Mt. DeChantal Road & Kroger's Driveway

WESTBOUND KROGER'S DRIVEWAY APPROACH: Westbound Kroger's Driveway has 1 travel lane for the left turn movement and 1 travel lanes for the right turn movement.







Mt. DeChantal Road & Kroger's Driveway

NORTHBOUND MT. DECHANTAL ROAD APPROACH: Northbound Mt. DeChantal Road has 1 travel lane for the through movement and 1 travel lane for the right turn movement.







Mt. DeChantal Road & Kroger's Driveway

SOUTHBOUND MT. DECHANTAL ROAD APPROACH: Southbound Mt. DeChantal Road has 1 travel lane for the left turn movement and 1 travel lane for the through movement.







US Route 40 (National Road) & I-70 WB On-Ramp

EASTBOUND US ROUTE 40 (NATIONAL ROAD) APPROACH: Eastbound US Route 40 has 1 travel lane for the through movement and 1 shared travel lane for the through and right turn movements.







US Route 40 (National Road) & I-70 WB On-Ramp

WESTBOUND US ROUTE 40 (NATIONAL ROAD) APPROACH: Westbound US Route 40 has 1 shared travel lane for the left turn and through movements and 1 travel lane for the through movement.







WV 88 (Bethany Pike) & Warden Run Road (CR 15)/Oglebay Drive

NORTHEASTBOUND WV 88 (BETHANY PIKE) APPROACH: Eastbound WV 88 has 1 shared travel lane for the left turn and through movements.







WV 88 (Bethany Pike) & Warden Run Road (CR 15)/Oglebay Drive

WESTBOUND WARDEN RUN ROAD (CR 15) APPROACH: Westbound Warden Run Road has 1 shared travel lane for the through and right turn movements.







WV 88 (Bethany Pike) & Warden Run Road (CR 15)/Oglebay Drive

SOUTHWESTBOUND WV 88 (OGLEBAY DRIVE) APPROACH: Southwestbound WV 88 has 1 shared travel lane for the left turn and right turn movements.







WV 88 (Bethany Pike) & Proposed West Driveway

NORTHBOUND WV 88 (BETHANY PIKE) APPROACH: Northbound WV 88 currently has 1 travel lane for the through movement that could also be used for the right turn movement into the proposed driveway.





WV 88 (Bethany Pike) & Proposed West Driveway

WESTBOUND PROPOSED WEST DRIVEWAY APPROACH: The existing westbound landscape supply driveway has 1 travel lane for the left turn, through and right turn movements.





WV 88 (Bethany Pike) & Proposed West Driveway

SOUTHBOUND WV 88 (BETHANY PIKE) APPROACH: Southbound WV 88 currently has 1 travel lane for the through movement that could also be used for the left turn movement into the proposed driveway.







Warden Run Road (CR 15) & Proposed East Driveway

EASTBOUND WARDEN RUN ROAD (CR 15) APPROACH: Eastbound Warden Run Road currently has 1 travel lane for the through movement that could also be used for the right turn movement into the proposed driveway.





Warden Run Road (CR 15) & Proposed East Driveway

WESTBOUND WARDEN RUN ROAD (CR 15) APPROACH: Westbound Warden Run Road currently has 1 travel lane for the through movement that could also be used for the left turn movement into the proposed driveway.





Warden Run Road (CR 15) & Proposed East Driveway

NORTHBOUND PROPOSED EAST DRIVEWAY APPROACH: The Northbound proposed driveway currently has 1 travel lane for the left turn, through and right turn movements.





Appendix D. Turning Movement Count Data and Daily Count Data



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/Bethany Pike Site Code: Start Date: 01/24/2020 Page No: 1

Turning Movement Data

										ı	un	ııı ıç	j ivi	Ove	11110	1111	Jai	a											
			R	Route 4	0					R	oute 4	10					Alte	nheim	Ave					Bet	hany F	Pike			1
			Ea	astbou	nd					W	estbou	ınd					No	rthbou	ınd					So	uthbou	ınd			1
Start			Righ	Righ	U-	Ped	App.			Righ	Righ	U-	Ped	App.			Righ	Righ	U-	Ped	App.			Righ	Righ	U-	Ped	App. Tota	Int.
Time	Left	Thru	t	t on Red	Turn	S	Tota	Left	Thru	t	t on Red	Turn	S	Tota	Left	Thru	t	t on Red	Turn	S	Tota	Left	Thru	t	t on Red	Turn	S	Tota	Tota
7:00 AM	50	32	0	1	0	0	83	4	42	0	0	0	0	46	19	5	5	1	0	0	30	11	0	38	50	0	0	99	258
7:15 AM	71	34	0	0	0	0	105	1	71	12	2	0	0	86	30	9	8	0	0	0	47	18	2	60	43	0	0	123	361
			0	0	0	0	-	3			2	0	0	87		6		2	0	0	70	22	0	72	63	0	0	157	428
7:30 AM	69	45	0	-		2	114		66	16		-			49		13 9		0	0						0			_
7:45 AM	74	70		0	0		144	1	62	16	4	0	0	83	82	17		2	_		110	40	0	53	67		0	160	497
Hourly Total	264	181	0	1	0	2	446	9	241	44	8	0	0	302	180	37	35	5	0	0	257	91		223	223	0	0	539	1544
8:00 AM 8:15 AM	87 71	35 48	<u>0</u> 1	0	0	0	124 120	2	82 72	20 19	3	0	0	108 96	24 17	7	5 9	3	0	0	39 34	46	1	31 43	56 53	0	0	134	405 363
					0		-						0					1				16	1				0		_
8:30 AM	61	43		0		0	105	3	66	26	10	0		105	18	6			0	2	32	22		55	47	0		126	368
8:45 AM	62	52	0		0		115	2	58	15	4	0	0	79	16	5	5	1	0		27	25	4	63	51	0	0	143	364
Hourly Total	281	178	_ 2	3	0	1	464	11	278	80	19	0	0	388	75	25	22	10	0	4	132	109	8	192	207	0	0	516	1500
*** BREAK ***	-		<u> </u>	<u> </u>	<u> </u>			-							-	<u> </u>		<u> </u>	<u> </u>	-	-	-	-				-	-	-
3:00 PM	89	89	0	1	0	0	179	1	114	35	2	0	0	152	83	11	13	2	0	0	109	30	1	39	43	0	0	113	553
3:15 PM	82	81	1	0	0	7	164	0	96	43	2	0	0	141	48	16	10	3	0	0	77	23	1	56	44	0	0	124	506
3:30 PM	93	73	5	0	0	2	171	3	95	38	5	0	0	141	25	8	9	2	0	0	44	20	0	36	55	0	0	111	467
3:45 PM	105	94	1	0	0	0	200	0	107	32	0	0	0	139	7	7	10	3	0	1	27	34	2	58	64	0	0	158	524
Hourly Total	369	337	7	1	0	9	714	4	412	148	9	0	0	573	163	42	42	10	0	1	257	107	4	189	206	0	0	506	2050
4:00 PM	100	78	2	0	0	0	180	2	84	27	2	0	0	115	20	4	5	3	0	0	32	36	0	27	52	0	0	115	442
4:15 PM	89	69	0	1	0	0	159	3	88	28	8	0	0	127	15	4	2	2	0	0	23	33	1	44	41	0	0	119	428
4:30 PM	100	105	0	1	0	0	206	3	111	19	4	0	0	137	18	8	13	2	0	0	41	34	1	36	48	0	0	119	503
4:45 PM	95	96	0	0	0	0	191	2	99	31	6	0	0	138	14	10	4	1	0	0	29	27	0	45	40	0	0	112	470
Hourly Total	384	348	2	_ 2	0	0	736	10	382	105	20	0	0	517	67	26	24	8	0	0	125	130	2	152	181	0	0	465	1843
5:00 PM	109	106	0	0	0	0	215	0	97	35	9	0	0	141	7	6	3	2	0	0	18	31	0	51	50	0	0	132	506
5:15 PM	102	125	2	0	0	0	229	0	80	26	3	0	0	109	21	3	7	4	0	1	35	29	0	52	46	0	0	127	500
5:30 PM	78	78	2	0	0	0	158	0	84	25	1	0	0	110	7	7	8	1	0	0	23	20	0	40	40	0	0	100	391
5:45 PM	83	79	1	0	0	0	163	0	92	33	1	0	0	126	14	0	7	0	0	0	21	28	0	27	38	0	0	93	403
Hourly Total	372	388	5	0	0	0	765	0	353	119	14	0	0	486	49	16	25	7	0	1	97	108	0	170	174	0	0	452	1800
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	167 0	1432	16	7	0	12	3125	34	1666	496	70	0	0	2266	534	146	148	40	0	6	868	545	16	926	991	0	0	2478	8737
Approach %	53.4	45.8	0.5	0.2	0.0	-	-	1.5	73.5	21.9	3.1	0.0	-	-	61.5	16.8	17.1	4.6	0.0	-	-	22.0	0.6	37.4	40.0	0.0	-	-	-
Total %	19.1	16.4	0.2	0.1	0.0	-	35.8	0.4	19.1	5.7	0.8	0.0	-	25.9	6.1	1.7	1.7	0.5	0.0	-	9.9	6.2	0.2	10.6	11.3	0.0	-	28.4	-
Lights	163 4	1381	16	7	0	-	3038	34	1625	489	69	0	-	2217	530	146	147	40	0	-	863	539	16	897	962	0	-	2414	8532
% Lights	97.8	96.4	100.0	100.0	-	-	97.2	100.0	97.5	98.6	98.6	-	-	97.8	99.3	100.0	99.3	100.0	-	-	99.4	98.9	100.0	96.9	97.1	-	-	97.4	97.7
Buses	9	29	0	0	0	-	38	0	24	3	1	0	-	28	3	0	0	0	0	-	3	3	0	17	12	0	-	32	101
% Buses	0.5	2.0	0.0	0.0	-	-	1.2	0.0	1.4	0.6	1.4	-	-	1.2	0.6	0.0	0.0	0.0	-	-	0.3	0.6	0.0	1.8	1.2	-	-	1.3	1.2
Trucks	27	22	0	0	0	-	49	0	17	4	0	0	-	21	1	0	1	0	0	-	2	3	0	12	17	0	-	32	104
% Trucks	1.6	1.5	0.0	0.0	-	-	1.6	0.0	1.0	0.8	0.0	_	-	0.9	0.2	0.0	0.7	0.0	-	-	0.2	0.6	0.0	1.3	1.7	-	-	1.3	1.2
Bicycles																													
on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	_
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-
Pedestrian	-	_	_	-	_	12	-	-	_	_	-	-	0	-	-	_	_	_	_	6	-	-		-		_	0	-	-
							-							-			-												
Pedestrian s	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-

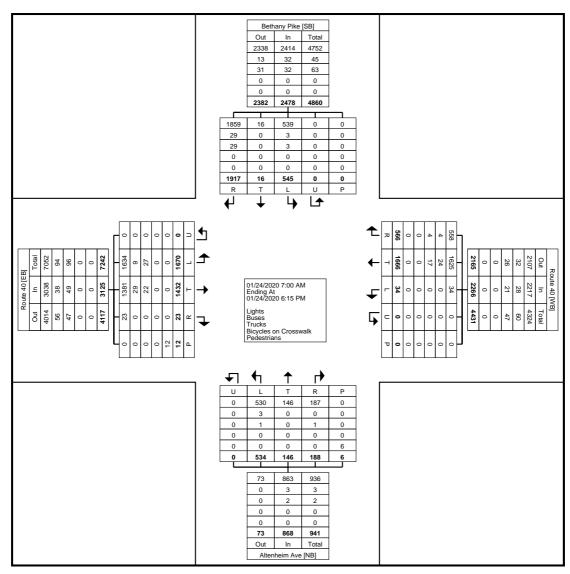


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Count Name: Route 40/Bethany Pike

Site Code: Start Date: 01/24/2020 Page No: 2



Turning Movement Data Plot



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Count Name: Route 40/Bethany Pike Site Code: Start Date: 01/24/2020 Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

			F	Route 4	10					R	oute 4	10					Alte	nheim	Ave		,			Bet	hany F	Pike		I	1
			Ea	astbou	nd					W	estbou	ınd					No	rthbou	ınd					So	uthbou	und			
Start Time	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Int. Tota I
7:30 AM	69	45	0	0	0	0	114	3	66	16	2	0	0	87	49	6	13	2	0	0	70	22	0	72	63	0	0	157	428
7:45 AM	74	70	0	0	0	2	144	1	62	16	4	0	0	83	82	17	9	2	0	0	110	40	0	53	67	0	0	160	497
8:00 AM	87	35	0	2	0	0	124	4	82	20	2	0	0	108	24	7	5	3	0	0	39	46	1	31	56	0	0	134	405
8:15 AM	71	48	1	0	0	0	120	2	72	19	3	0	0	96	17	7	9	1	0	2	34	16	1	43	53	0	0	113	363
Total	301	198	1	2	0	2	502	10	282	71	11	0	0	374	172	37	36	8	0	2	253	124	2	199	239	0	0	564	1693
Approach %	60.0	39.4	0.2	0.4	0.0	-	-	2.7	75.4	19.0	2.9	0.0	-	-	68.0	14.6	14.2	3.2	0.0	-	-	22.0	0.4	35.3	42.4	0.0	-	-	-
Total %	17.8	11.7	0.1	0.1	0.0	-	29.7	0.6	16.7	4.2	0.6	0.0	-	22.1	10.2	2.2	2.1	0.5	0.0	-	14.9	7.3	0.1	11.8	14.1	0.0	-	33.3	
PHF	0.86 5	0.707	0.250	0.250	0.000	-	0.872	0.625	0.860	0.888	0.688	0.000	-	0.866	0.524	0.544	0.692	0.667	0.000	-	0.575	0.674	0.500	0.691	0.892	0.000	-	0.881	0.852
Lights	285	177	1	2	0	-	465	10	273	70	10	0	-	363	170	37	35	8	0	-	250	121	2	194	233	0	-	550	1628
% Lights	94.7	89.4	100.0	100.0	-	-	92.6	100.0	96.8	98.6	90.9	-	-	97.1	98.8	100.0	97.2	100.0	-	-	98.8	97.6	100.0	97.5	97.5	-	-	97.5	96.2
Buses	4	10	0	0	0	-	14	0	4	0	1	0	-	5	1	0	0	0	0	-	1	1	0	0	1	0	-	2	22
% Buses	1.3	5.1	0.0	0.0		-	2.8	0.0	1.4	0.0	9.1		-	1.3	0.6	0.0	0.0	0.0		-	0.4	0.8	0.0	0.0	0.4		-	0.4	1.3
Trucks	12	11	0	0	0	-	23	0	5	1	0	0	-	6	1	0	1	0	0	-	2	2	0	5	5	0	-	12	43
% Trucks	4.0	5.6	0.0	0.0	-	-	4.6	0.0	1.8	1.4	0.0		-	1.6	0.6	0.0	2.8	0.0	_	-	0.8	1.6	0.0	2.5	2.1	_	-	2.1	2.5
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-
Pedestrian s	-	-	-	-	-	2	-	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-	-	-	-	-	0	-	-
% Pedestrian s	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-

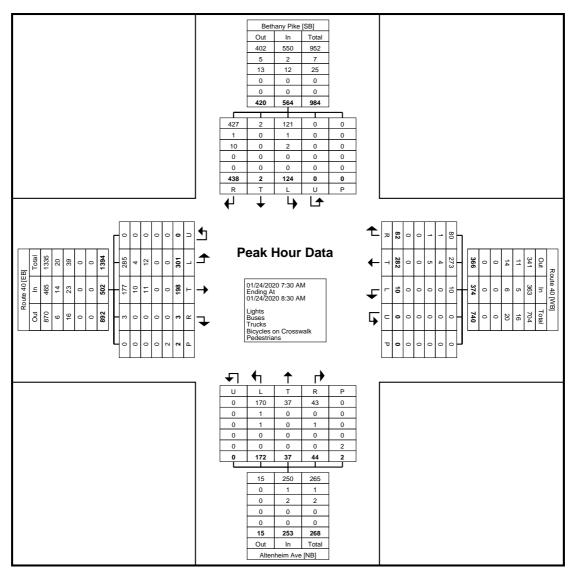


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Count Name: Route 40/Bethany Pike

Site Code: Start Date: 01/24/2020 Page No: 4



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



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Count Name: Route 40/Bethany Pike Site Code: Start Date: 01/24/2020 Page No: 5

Turning Movement Peak Hour Data (3:00 PM)

									.9 .	VIO	, Oi i	.0		cuit		<i>,</i> a :		,,	J. U	<i>,</i> .									
			R	Route 4	10					R	oute 4	0					Alte	nheim	Ave					Bet	hany F	Pike		-	
			Ea	astbou	nd					W	estbou	nd					No	rthbou	ınd					So	uthbou	und		-	
Start Time	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	
3:00 PM	89	89	0	1	0	0	179	1	114	35	2	0	0	152	83	11	13	2	0	0	109	30	1	39	43	0	0	113	553
3:15 PM	82	81	1	0	0	7	164	0	96	43	2	0	0	141	48	16	10	3	0	0	77	23	1	56	44	0	0	124	506
3:30 PM	93	73	5	0	0	2	171	3	95	38	5	0	0	141	25	8	9	2	0	0	44	20	0	36	55	0	0	111	467
3:45 PM	105	94	1	0	0	0	200	0	107	32	0	0	0	139	7	7	10	3	0	1	27	34	2	58	64	0	0	158	524
Total	369	337	7	1	0	9	714	4	412	148	9	0	0	573	163	42	42	10	0	1	257	107	4	189	206	0	0	506	2050
Approach %	51.7	47.2	1.0	0.1	0.0	-	-	0.7	71.9	25.8	1.6	0.0	-	-	63.4	16.3	16.3	3.9	0.0	-	-	21.1	0.8	37.4	40.7	0.0	-	-	-
Total %	18.0	16.4	0.3	0.0	0.0	-	34.8	0.2	20.1	7.2	0.4	0.0	-	28.0	8.0	2.0	2.0	0.5	0.0	-	12.5	5.2	0.2	9.2	10.0	0.0	-	24.7	
PHF	0.87 9	0.896	0.350	0.250	0.000	-	0.893	0.333	0.904	0.860	0.450	0.000	-	0.942	0.491	0.656	0.808	0.833	0.000	-	0.589	0.787	0.500	0.815	0.805	0.000	-	0.801	0.927
Lights	366	326	7	1	0	-	700	4	404	147	9	0	-	564	162	42	42	10	0	-	256	106	4	184	201	0	-	495	2015
% Lights	99.2	96.7	100.0	100.0	-	-	98.0	100.0	98.1	99.3	100.0	-	-	98.4	99.4	100.0	100.0	100.0	-	-	99.6	99.1	100.0	97.4	97.6	-	-	97.8	98.3
Buses	1	10	0	0	0	-	11	0	5	1	0	0	-	6	1	0	0	0	0	-	1	1	0	4	0	0	-	5	23
% Buses	0.3	3.0	0.0	0.0	-	-	1.5	0.0	1.2	0.7	0.0	-	-	1.0	0.6	0.0	0.0	0.0	-	-	0.4	0.9	0.0	2.1	0.0	-	-	1.0	1.1
Trucks	2	1	0	0	0	-	3	0	3	0	0	0	-	3	0	0	0	0	0	-	0	0	0	1	5	0	-	6	12
% Trucks	0.5	0.3	0.0	0.0	-	-	0.4	0.0	0.7	0.0	0.0	-	-	0.5	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.5	2.4	-	-	1.2	0.6
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	- 1	-	-	-	-	-	-	-
Pedestrian s	-	-	-	-	-	9	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	1	-	-	-	-	0	-	-
% Pedestrian s	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-

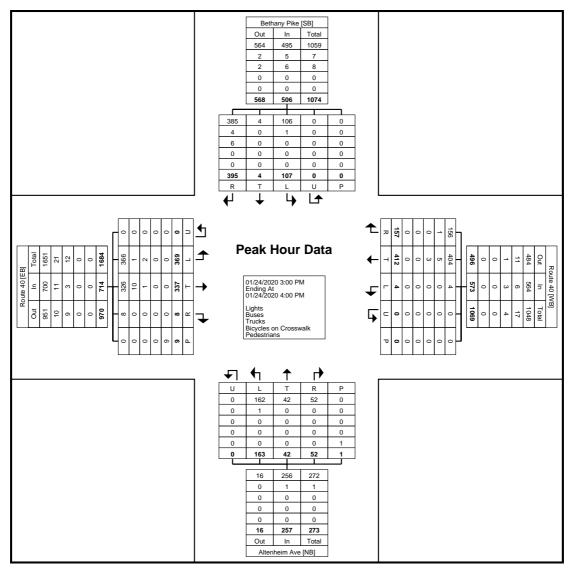


www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/Bethany Pike

Site Code: Start Date: 01/24/2020 Page No: 6



Turning Movement Peak Hour Data Plot (3:00 PM)



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Bethany Pike SAT Site Code: Start Date: 01/25/2020 Page No: 1

Turning Movement Data

										Т	urr	ning	M	ove	me	nt [Data	a											
			R	oute 4	0					R	oute 4	0					Alte	nheim	Ave					Bet	hany F	Pike			
			Ea	astbou	nd					W	estbou	nd					No	rthbou	ınd					So	uthbou	ınd			
Start Time	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Int. Tota I
11:00 AM	61	43	1	1	0	0	106	1	61	12	2	0	0	76	19	2	0	3	0	0	24	14	0	22	45	0	1	81	287
11:15 AM	57	55	0	0	0	0	112	2	68	13	4	0	0	87	20	1	5	1	0	3	27	17	1	27	55	0	0	100	326
11:30 AM	68	88	0	0	0	0	156	1	71	27	0	0	0	99	16	3	8	0	0	1	27	32	2	35	50	0	0	119	401
11:45 AM	59	57	0	0	0	0	116	0	91	21	2	0	0	114	16	9	6	1	0	3	32	34	2	18	49	0	0	103	365
Hourly Total	245	243	1	1	0	0	490	4	291	73	8	0	0	376	71	15	19	5	0	7	110	97	5	102	199	0	1	403	1379
12:00 PM	78	78	0	0	0	0	156	3	94	21	2	0	0	120	5	5	4	3	0	0	17	23	0	16	47	0	0	86	379
12:15 PM	73	62	3	1	0	0	139	4	77	22	5	0	0	108	8	3	6	3	0	2	20	18	0	18	56	0	0	92	359
12:30 PM	60	63	0	0	0	0	123	2	62	12	5	0	0	81	8	6	4	4	0	0	22	18	_1	25	75	0	0	119	345
12:45 PM	54	55	0	0	0	0	109	1	75	16	4	0	0	96	6	2	4	2	0	0	14	22	0	30	37	0	0	89	308
Hourly Total	265	258	3	1	0	0	527	10	308	71	16	0	0	405	27	16	18	12	0	2	73	81	1	89	215	0	0	386	1391
1:00 PM	62	56	1	0	0	0	119	0	56	26	4	0	0	86	6	7	9	2	0	0	24	29	0	29	53	0	0	111	340
1:15 PM	51	67	1	0	0	0	119	2	63	15	5	0	0	85	15	7	1	0	0	2	23	26	1	24	31	0	0	82	309
1:30 PM	60	59	1	0	0	2	120	1	64	21	1	0	0	87	7	2	4	2	0	0	15	17	0	20	39	0	0	76	298
1:45 PM	75	63	0	0	0	0	138	1	69	20	0	0	0	90	9	1	8	0	0	1	18	11	1	18	38	0	0	68	314
Hourly Total	248	245	3	0	0	2	496	4	252	82	10	0	0	348	37	17	22	4	0	3	80	83	2	91	161	0	0	337	1261
2:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	758	746	7	2	0	2	1513	18	852	226	34	0	0	1130	135	48	59	21	0	12	263	261	8	282	575	0	1	1126	4032
Approach %	50.1	49.3	0.5	0.1	0.0	-	-	1.6	75.4	20.0	3.0	0.0	-	-	51.3	18.3	22.4	8.0	0.0	-	-	23.2	0.7	25.0	51.1	0.0	-	-	-
Total %	18.8	18.5	0.2	0.0	0.0	-	37.5	0.4	21.1	5.6	8.0	0.0	-	28.0	3.3	1.2	1.5	0.5	0.0	-	6.5	6.5	0.2	7.0	14.3	0.0	-	27.9	
Lights	754	740	7	2	0	-	1503	18	842	222	34	0	-	1116	135	48	59	21	0	-	263	260	8	277	570	0	-	1115	3997
% Lights	99.5	99.2	100.0	100.0	-	-	99.3	100.0	98.8	98.2	100.0	-	-	98.8	100.0	100.0	100.0	100.0	-	-	100.0	99.6	100.0	98.2	99.1	-	-	99.0	99.1
Buses	3	3	0	0	0	-	6	0	6	0	0	0	-	6	0	0	0	0	0	-	0	0	0	0	0	0	-	0	12
% Buses	0.4	0.4	0.0	0.0	-	-	0.4	0.0	0.7	0.0	0.0	-	-	0.5	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.3
Trucks	1	3	0	0	0	-	4	0	4	_ 4	0	0	-	8	0	0	0	0	0	-	0	1	0	5	5	0	-	_11	23
% Trucks	0.1	0.4	0.0	0.0	-	-	0.3	0.0	0.5	1.8	0.0	-	-	0.7	0.0	0.0	0.0	0.0	-	-	0.0	0.4	0.0	1.8	0.9	-	-	1.0	0.6
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-
Pedestrian s	-	-		-	-	2	-	-	-	_	-	_	0	_	-	-	_	-	-	12	-	-		-	_	-	1	-	-
% Pedestrian s	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-

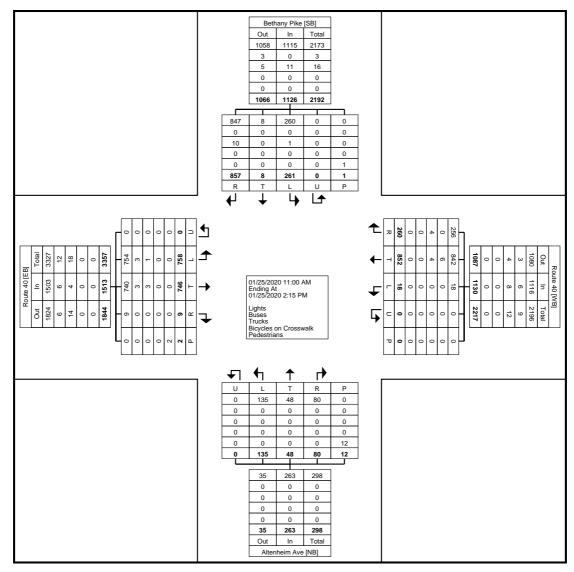


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Count Name: Route 40/Bethany Pike SAT Site Code:

Start Date: 01/25/2020 Page No: 2



Turning Movement Data Plot



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Bethany Pike SAT Site Code: Start Date: 01/25/2020 Page No: 3

Turning Movement Peak Hour Data (11:30 AM)

									9 ''	, I O V	0111	0111		uit		a. L	Juli	~ (·	1.0	0,	``' <i>'</i>								
			R	Route 4	10					R	oute 4	0					Alte	nheim	Ave					Bet	hany F	Pike			
			Ea	astbou	nd					W	estbou	nd					No	rthbou	ınd					So	uthbou	und			
Start Time	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	
11:30 AM	68	88	0	0	0	0	156	1	71	27	0	0	0	99	16	3	8	0	0	1	27	32	2	35	50	0	0	119	401
11:45 AM	59	57	0	0	0	0	116	0	91	21	2	0	0	114	16	9	6	1	0	3	32	34	2	18	49	0	0	103	365
12:00 PM	78	78	0	0	0	0	156	3	94	21	2	0	0	120	5	5	4	3	0	0	17	23	0	16	47	0	0	86	379
12:15 PM	73	62	3	1	0	0	139	4	77	22	5	0	0	108	8	3	6	3	0	2	20	18	0	18	56	0	0	92	359
Total	278	285	3	1	0	0	567	8	333	91	9	0	0	441	45	20	24	7	0	6	96	107	4	87	202	0	0	400	1504
Approach %	49.0	50.3	0.5	0.2	0.0	-	-	1.8	75.5	20.6	2.0	0.0	-	-	46.9	20.8	25.0	7.3	0.0	-	-	26.8	1.0	21.8	50.5	0.0	-	-	-
Total %	18.5	18.9	0.2	0.1	0.0	-	37.7	0.5	22.1	6.1	0.6	0.0	-	29.3	3.0	1.3	1.6	0.5	0.0	-	6.4	7.1	0.3	5.8	13.4	0.0	-	26.6	<u></u>
PHF	0.89 1	0.810	0.250	0.250	0.000	-	0.909	0.500	0.886	0.843	0.450	0.000	-	0.919	0.703	0.556	0.750	0.583	0.000	-	0.750	0.787	0.500	0.621	0.902	0.000	-	0.840	0.938
Lights	277	282	3	1	0	-	563	8	329	89	9	0	-	435	45	20	24	7	0	-	96	107	4	86	199	0	-	396	1490
% Lights	99.6	98.9	100.0	100.0	-	-	99.3	100.0	98.8	97.8	100.0	-	-	98.6	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	98.9	98.5	-	-	99.0	99.1
Buses	1	1	0	0	0	-	2	0	2	0	0	0	-	2	0	0	0	0	0	-	0	0	0	0	0	0	-	0	4
% Buses	0.4	0.4	0.0	0.0		-	0.4	0.0	0.6	0.0	0.0	-	-	0.5	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0		-	0.0	0.3
Trucks	0	2	0	0	0	-	2	0	2	2	0	0	-	4	0	0	0	0	0	-	0	0	0	1	3	0	-	4	10
% Trucks	0.0	0.7	0.0	0.0	_	-	0.4	0.0	0.6	2.2	0.0	-	-	0.9	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	1.1	1.5		-	1.0	0.7
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-
Pedestrian s	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	6	-	-	-	-	-	-	0	-	-
% Pedestrian s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-

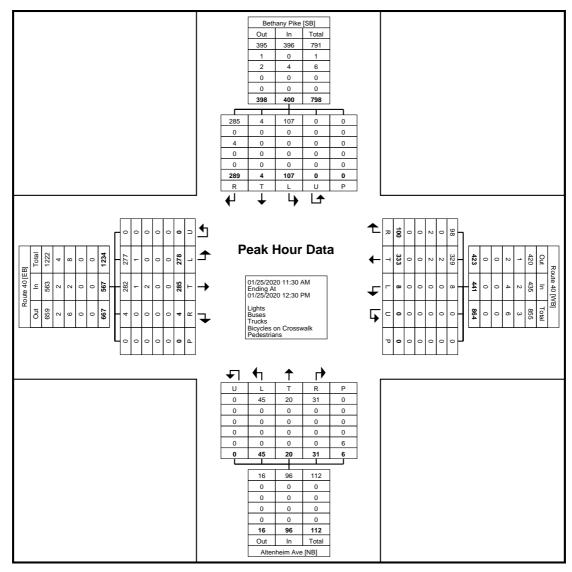


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Count Name: Route 40/Bethany Pike SAT Site Code:

Start Date: 01/25/2020 Page No: 4



Turning Movement Peak Hour Data Plot (11:30 AM)



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Turning Movement Data

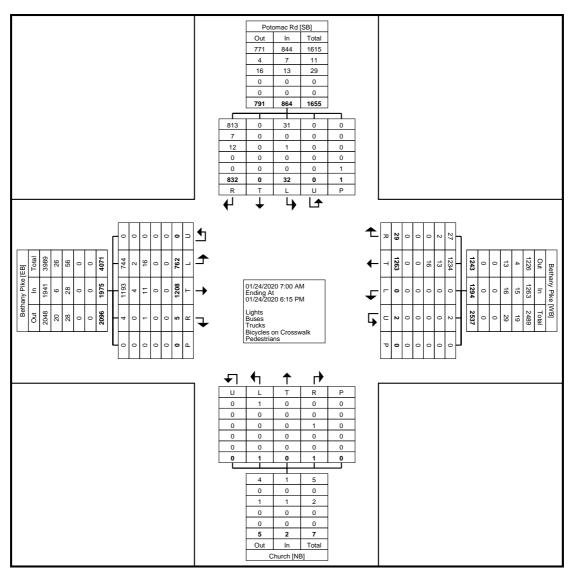
									Tu	rnin	g M	ove	mer	nt D	ata										
			Bethan	ny Pike					Bethar	ny Pike					Chu	ırch					Potom	ac Rd			1
			Eastb	ound					West	bound					North	oound					South	oound			
Start Time	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Int. Total
7:00 AM	27	18	0	0	0	45	0	46	2	0	0	48	0	0	0	0	0	0	7	0	35	0	0	42	135
7:15 AM	20	47	_1_	0	0	68	0	67	1	0	0	68	0	0	0	0	0	0	3	0	48	0	0	51	187
7:30 AM	30	45	0	0	0	75	0	68	1	0	0	69	0	0	0	0	0	0	0	0	65	0	0	65	209
7:45 AM	38	46	0	0	0	84	0	72	11	0	0	73	0	0	0	0	0	0	3	0	77	0	0	80	237
Hourly Total	115	156	1	0	0	272	0	253	5	0	0	258	0	0	0	0	0	0	13	0	225	0	0	238	768
8:00 AM	28	57	0	0	0	85	0	68	1	0	0	69	0	0	0	0	0	0	2	0	46	0	1	48	202
8:15 AM	26	67	2	0	0	95	0	69	0	0	0	69	0	0	0	0	0	0	1	0	42	0	0	43	207
8:30 AM	25	46	0	0	0	71	0	56	1	0	0	57	0	0	0	0	0	0	0	0	36	0	0	36	164
8:45 AM	20	51	2	0	0	73	0	46	0	0	0	46	0	0	1	0	0	1	1	0	49	0	0	50	170
Hourly Total	99	221	4	0	0	324	0	239	2	0	0	241	0	0	1	0	0	1	4	0	173	0	1	177	743
*** BREAK ***	-	-		-	-	-	-		-		-		-	-			-	-	-	-		-	-	-	-
3:00 PM	45	59	0	0	0	104	0	59	0	0	0	59	0	0	0	0	0	0	2	0	36	0	0	38	201
3:15 PM	39	66	0	0	0	105	0	84	2	0	0	86	0	0	0	0	0	0	2	0	36	0	0	38	229
3:30 PM	45	66	0	0	0	111	0	72	0	2	0	74	0	0	0	0	0	0	0	0	41	0	0	41	226
3:45 PM	55	83	0	0	0	138	0	67	0	0	0	67	0	0	0	0	0	0	2	0	31	0	0	33	238
Hourly Total	184	274	0	0	0	458	0	282	2	2	0	286	0	0	0	0	0	0	6	0	144	0	0	150	894
4:00 PM	47	77	0	0	0	124	0	55	2	0	0	57	0	0	0	0	0	0	0	0	29	0	0	29	210
4:15 PM	52	66	0	0	0	118	0	61	3	0	0	64	0	0	0	0	0	0	0	0	41	0	0	41	223
4:30 PM	52	69	0	0	0	121	0	64	1	0	0	65	1	0	0	0	0	1	2	0	35	0	0	37	224
4:45 PM	45	63	0	0	0	108	0	63	3	0	0	66	0	0	0	0	0	0	2	0	24	0	0	26	200
Hourly Total	196	275	0	0	0	471	0	243	9	0	0	252	1	0	0	0	0	1	4	0	129	0	0	133	857
5:00 PM	52	81	0	0	0	133	0	76	3	0	0	79	0	0	0	0	0	0	0	0	55	0	0	55	267
5:15 PM	48	82	0	0	0	130	0	76	2	0	0	78	0	0	0	0	0	0	1	0	40	0	0	41	249
5:30 PM	34	57	0	0	0	91	0	52	4	0	0	56	0	0	0	0	0	0	2	0	31	0	0	33	180
5:45 PM	33	62	0	0	0	95	0	42	2	0	0	44	0	0	0	0	0	0	2	0	35	0	0	37	176
Hourly Total	167	282	0	0	0	449	0	246	11	0	0	257	0	0	0	0	0	0	5	0	161	0	0	166	872
6:00 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	762	1208	5	0	0	1975	0	1263	29	2	0	1294	1	0	1	0	0	2	32	0	832	0	1	864	4135
Approach %	38.6	61.2	0.3	0.0	-	-	0.0	97.6	2.2	0.2	-	-	50.0	0.0	50.0	0.0	-	-	3.7	0.0	96.3	0.0	-	-	-
Total %	18.4	29.2	0.1	0.0		47.8	0.0	30.5	0.7	0.0	-	31.3	0.0	0.0	0.0	0.0	-	0.0	8.0	0.0	20.1	0.0	-	20.9	-
Lights	744	1193	4	0	-	1941	0	1234	27	2	-	1263	1	0	0	0	-	1	31	0	813	0	-	844	4049
% Lights	97.6	98.8	80.0	-	-	98.3	-	97.7	93.1	100.0	-	97.6	100.0	-	0.0	-	-	50.0	96.9	-	97.7	-	-	97.7	97.9
Buses	2	4	0	0		6	0	13	2	0	-	15	0	0	0	0	-	0	0	0	7	0	-	7	28
% Buses	0.3	0.3	0.0	-	-	0.3	-	1.0	6.9	0.0	-	1.2	0.0	-	0.0	-	-	0.0	0.0	-	0.8	-	-	0.8	0.7
Trucks	16	11	1	0	-	28	0	16	0	0	-	16	0	0	1	0	-	1	1	0	12	0	-	13	58
% Trucks	2.1	0.9	20.0	-	-	1.4	-	1.3	0.0	0.0	-	1.2	0.0	-	100.0	-	-	50.0	3.1	-	1.4	-	-	1.5	1.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	_	-	0	-	-		-		0	_	-	-		_	0	-	-	_	_	_	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	<u>-</u>	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



184 Baker Rd

Coatesville, Pennsylvania, United States 19320
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Count Name: Bethany Pike/Potomac Rd Site Code: Start Date: 01/24/2020 Page No: 2



Turning Movement Data Plot



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Coatesville, Pennsylvania, United States 19320 610-466-1469 TSTData@aol.com Serving Transportation Professionals Since 1995 Count Name: Bethany Pike/Potomac Rd Site Code: Start Date: 01/24/2020 Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

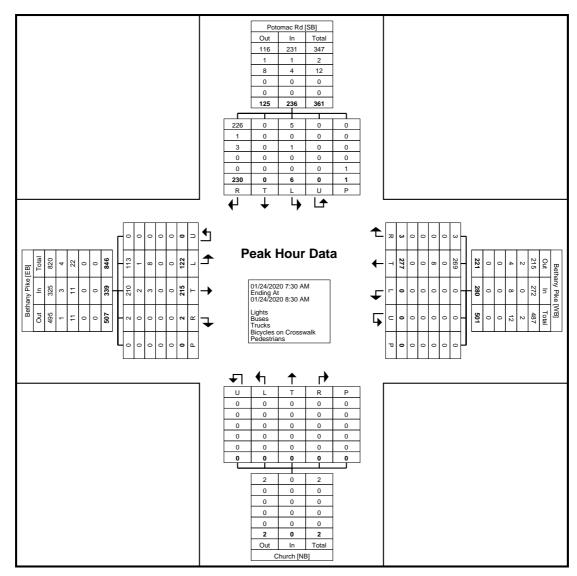
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			Bethar	y Pike					Bethar	ny Pike					Chu	ırch					Potom	ac Rd			1
			Eastb	ound					West	oound					North	bound					South	bound			ĺ
Start Time	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Int. Total
7:30 AM	30	45	0	0	0	75	0	68	1	0	0	69	0	0	0	0	0	0	0	0	65	0	0	65	209
7:45 AM	38	46	0	0	0	84	0	72	1	0	0	73	0	0	0	0	0	0	3	0	77	0	0	80	237
8:00 AM	28	57	0	0	0	85	0	68	1	0	0	69	0	0	0	0	0	0	2	0	46	0	1	48	202
8:15 AM	26	67	2	0	0	95	0	69	0	0	0	69	0	0	0	0	0	0	1	0	42	0	0	43	207
Total	122	215	2	0	0	339	0	277	3	0	0	280	0	0	0	0	0	0	6	0	230	0	1	236	855
Approach %	36.0	63.4	0.6	0.0	-	-	0.0	98.9	1.1	0.0	-	-	0.0	0.0	0.0	0.0	-	-	2.5	0.0	97.5	0.0	-	-	-
Total %	14.3	25.1	0.2	0.0	-	39.6	0.0	32.4	0.4	0.0	-	32.7	0.0	0.0	0.0	0.0	-	0.0	0.7	0.0	26.9	0.0	-	27.6	-
PHF	0.803	0.802	0.250	0.000	-	0.892	0.000	0.962	0.750	0.000	-	0.959	0.000	0.000	0.000	0.000	-	0.000	0.500	0.000	0.747	0.000	-	0.738	0.902
Lights	113	210	2	0	-	325	0	269	3	0	-	272	0	0	0	0	-	0	5	0	226	0	-	231	828
% Lights	92.6	97.7	100.0	-	-	95.9	-	97.1	100.0	-	-	97.1	-	-	-	-	-	-	83.3	-	98.3	-	-	97.9	96.8
Buses	1	2	0	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	4
% Buses	0.8	0.9	0.0	-	-	0.9	-	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	-	0.4	-	-	0.4	0.5
Trucks	8	3	0	0	-	11	0	8	0	0	-	8	0	0	0	0	-	0	1	0	3	0	-	4	23
% Trucks	6.6	1.4	0.0	-	-	3.2	-	2.9	0.0	-	-	2.9	-	-	-	-	-	-	16.7	-	1.3	-	-	1.7	2.7
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	_	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	_	-	-	_	-	-	-	-	-	-	-	-	-	-	100.0	-	-



184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-466-1469 TSTData@aol.com
Serving Transportation Professionals Since 1995

Count Name: Bethany Pike/Potomac Rd Site Code: Start Date: 01/24/2020 Page No: 4



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



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 TSTData@aol.com Serving Transportation Professionals Since 1995 Count Name: Bethany Pike/Potomac Rd Site Code: Start Date: 01/24/2020 Page No: 5

Turning Movement Peak Hour Data (4:30 PM)

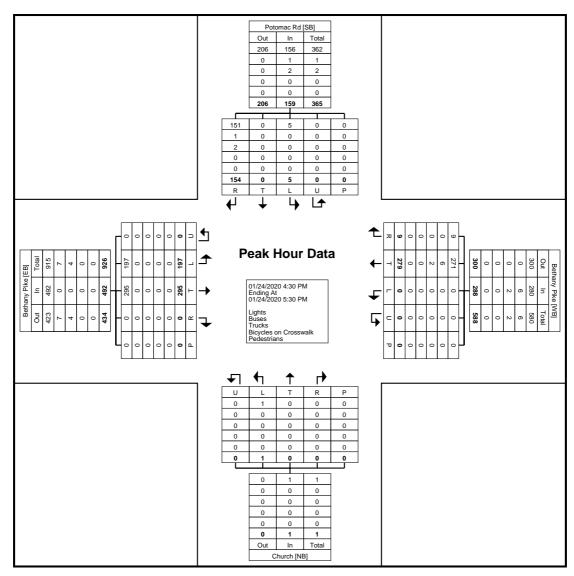
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			Bethar	ny Pike					Bethar	ny Pike					Chu	ırch					Potom	ac Rd			
			Eastb	ound					West	bound					North	bound					South	bound			
Start Time	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Int. Total
4:30 PM	52	69	0	0	0	121	0	64	1	0	0	65	1	0	0	0	0	1	2	0	35	0	0	37	224
4:45 PM	45	63	0	0	0	108	0	63	3	0	0	66	0	0	0	0	0	0	2	0	24	0	0	26	200
5:00 PM	52	81	0	0	0	133	0	76	3	0	0	79	0	0	0	0	0	0	0	0	55	0	0	55	267
5:15 PM	48	82	0	0	0	130	0	76	2	0	0	78	0	0	0	0	0	0	1	0	40	0	0	41	249
Total	197	295	0	0	0	492	0	279	9	0	0	288	1	0	0	0	0	1	5	0	154	0	0	159	940
Approach %	40.0	60.0	0.0	0.0	-	-	0.0	96.9	3.1	0.0	-	-	100.0	0.0	0.0	0.0	-	-	3.1	0.0	96.9	0.0	-	-	-
Total %	21.0	31.4	0.0	0.0	-	52.3	0.0	29.7	1.0	0.0	-	30.6	0.1	0.0	0.0	0.0	-	0.1	0.5	0.0	16.4	0.0	-	16.9	-
PHF	0.947	0.899	0.000	0.000	-	0.925	0.000	0.918	0.750	0.000	-	0.911	0.250	0.000	0.000	0.000	-	0.250	0.625	0.000	0.700	0.000	-	0.723	0.880
Lights	197	295	0	0	-	492	0	271	9	0	-	280	1	0	0	0	-	1	5	0	151	0	-	156	929
% Lights	100.0	100.0	-	-	-	100.0	-	97.1	100.0	-	-	97.2	100.0	-	-	-	-	100.0	100.0	-	98.1	-	-	98.1	98.8
Buses	0	0	0	0	-	0	0	6	0	0	-	6	0	0	0	0	-	0	0	0	1	0	-	1	7
% Buses	0.0	0.0	-	-	-	0.0	-	2.2	0.0	-	-	2.1	0.0	-	-	-	-	0.0	0.0	-	0.6	-	-	0.6	0.7
Trucks	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	0	2	0	-	2	4
% Trucks	0.0	0.0	-	-	-	0.0	-	0.7	0.0	-	-	0.7	0.0	-	-	-	-	0.0	0.0	-	1.3	-	-	1.3	0.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	_	_	-	-	-	-	-	-	-	-	-	-	-	-	-



184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-466-1469 TSTData@aol.com
Serving Transportation Professionals Since 1995

Count Name: Bethany Pike/Potomac Rd Site Code: Start Date: 01/24/2020 Page No: 6



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

Sat Jan 25, 2020

Full Length (11 AM-2 PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 743716, Location: 40.089111, -80.688924



Provided by: Tri-State Traffic Data, Inc. 184 Baker Road, Coatesville, PA, 19320, US

Leg Direction	Potomao Southbo						Be than We s tb c						Chu		tboun			- 1	Be than Northb	,					
	Southbo		т.	U	A	D - 14	westbo		HL	U	App	n . J +	HR		HL	u U	A D	_	HR	ouna R	Т	U	A D	. 14	T
Time 2020-01-25 11:00 AM		<u>в</u> г	1		App 29	Pe d*	1 1	45	нL 0	0	4 6	0	0 0	вк 0	HL 0	0	App Peo	0	0 0	39	13	0	App P 52	0	inτ 127
11:15 AM		0	2	0	40	0	1	57	0	0	58	0	0	0	0	0	0	0	1	36	31	0	68	0	166
11:15AM 11:30AM	39	0	0	0	39	0	1	65	0	0	66	0	0	0	0	0	0	0	0	53	26	0	79	0	184
11:45 AM	35	0	2	0	37	0	2	49	0	0	51	0	0	0	0	0	0	0	0	69	24	0	93	0	181
Hourly Total	140	0	5	0	145	0	5	216	0	0	221	0	0	0	0	0	0	0	1	197	94	0	292	0	658
12:00PM	20	0	2	0	22	0	2	40	0	0	42	0	0	0	0	0	0	0	0	57	28	0	85	0	149
12:15PM	23	0	2		25	0	2	43	0	0	45	0	0	0	1	0	1	0	0	56	23	0	79	0	150
12:30PM	26	0	2		28	0	0	82	0	0	82	0	0	0	0	0	0	0	0	36	28	0	64	0	174
12:45PM		0	0	0	20	0	2	55	0	0	57	0	0	0	0	0	0	0	0	34	21	0	55	0	132
Hourly Total	89	0	6	0	95	0	6	220	0	0	226	0	0	0	1	0	1	0	0	183	100	0	283	0	605
1:00PM	22	0	1	0	23	0	3	59	0	0	62	0	0	0	0	0	0	0	0	47	23	0	70	0	155
1:15PM	23	0	0	0	23	0	1	45	0	0	46	0	0	0	0	0	0	0	0	44	21	0	65	0	134
1:30PM		0	0	0	16	0	1	48	0	0	49	0	0	0	0	0	0	0	0	50	27	0	77	0	142
1:45PM	34	0	1	0	35	1	0	36	0	0	36	0	0	0	0	0	0	0	0	43	30	0	73	0	144
Hourly Total	95	0	2	0	97	1	5	188	0	0	193	0	0	0	0	0	0	0	0	184	101	0	285	0	575
2:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	324	0	13	0	337	1	16	624	0	0	640	0	0	0	1	0	1	0	1	564	295	0	860	0	1838
% Approach	96.1% ()% 3	3.9% ()%	-	-	2.5% 9	7.5%	0% ()%	_	-	0%	0% 1	00% ()%	-	-	0.1% 6	55.6%	34.3% ()%	-	_	-
% Total	17.6% ()% (0.7% (0% 1	18.3%	-	0.9% 3	33.9%	0% ()% 3	34.8%	-	0%	0%	0.1% ()%	0.1%	-	0.1% 3	30.7%	16.1% ()% 4	6.8%	_	-
Lights	323	0	13	0	336	-	16	615	0	0	631	-	0	0	1	0	1	-	1	563	293	0	857	-	1825
% Lights	99.7% ()% 1	00% ()% 9	9.7%	-	100% 9	98.6%	0% ()%	98.6%	-	0%	0% 1	00% ()% 1	100%	-	100% 9	99.8%	99.3% ()% 9	9.7%	-	99.3%
Articulated Trucks and																								\Box	
Single-Unit Trucks	1	0	0	0	1	-	0	9	0	0	9	-	0	0	0	0	0	-	0	1	2	0	3	-	13
% Articulated Trucks	l .	. 0 /	00/	20/	0.00/		0.07	1 40/	00/ /	20/	4.40/		00/	0.07	00/	20/	0.07		0.07	0.00/	0.50/ /	20/	0.00/		0.50/
and Single-Unit Trucks	0.3% (0% (0	0.3%		0%	1.4%	0% (0	1.4 %	-	0%	0%	0% (0	0%	-	0%	0.2%	0.7% (0.3%		0.7%
Buses			0% (-	0 %		0%		-	-	0 %	-		-		-	0 %	-	0%	0%	0	0	0 %		0%
% Buses Pedestrians	0% (J% -	U %	- 1	- 0%	0%			0%	- 0	0%	-	0% (J% -	- 0%	- 0	0%	- 0%	0% (U %	- 0	0%
% Pedestrians	-	-				100%	-		_	-		U				_		U				-		U	
Bicycles on Crosswalk	_	-	-		-	100%	-		_	_		0	_	-	-	_		0				-		0	-
% Bicycles on Crosswalk	_	-	-	-		0%	-		_	_		U			-	-		U			-	-		U	
70 DICYCIES ON Crosswalk	_	-		-		υ%	_		-	-		-	-	-		-	-	-	-		-	-	-	-	_

^{*}Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

Sat Jan 25, 2020

Full Length (11 AM-2 PM)

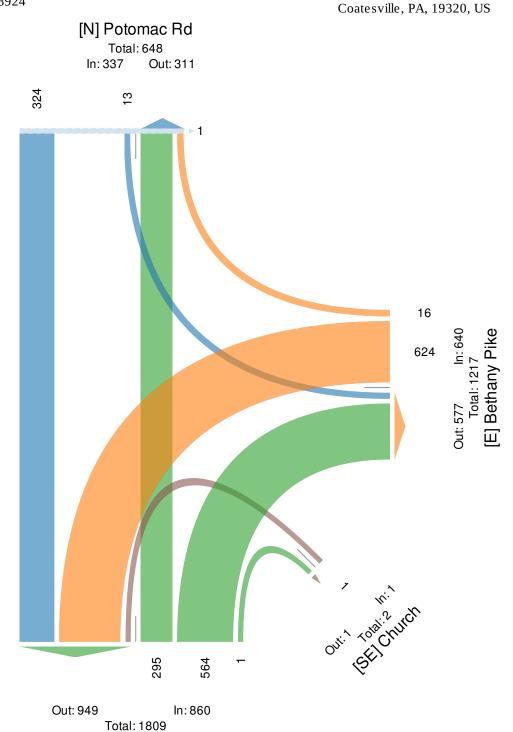
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 743716, Location: 40.089111, -80.688924



Provided by: Tri-State Traffic Data,
Inc.
184 Baker Road,



[S] Bethany Pike

Sat Jan 25, 2020

Midday Peak (WKND) (11:15 AM - 12:15 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 743716, Location: 40.089111, -80.688924



Provided by: Tri-State Traffic Data, Inc. 184 Baker Road, Coatesville, PA, 19320, US

Leg	Potoma	ac R	d				Bethan	y Pike					Chu	rch					Bethar	ny Pike					
Direction	Southb	oun	d				Westbo	ound					Nor	thwe	stbo	und			Northb	ound					
Time	Т	BL	L	U	App P	e d*	R	L	HL	U	App 1	ed*	HR	BR	HL	U	App I	ed*	HR	R	T	U	App I	ed*	Int
2020-01-25 11:15AM	38	0	2	0	40	0	1	57	0	0	58	0	0	0	0	0	0	0	1	36	31	0	68	0	166
11:30 AM	39	0	0	0	39	0	1	65	0	0	66	0	0	0	0	0	0	0	0	53	26	0	79	0	184
11:45AM	35	0	2	0	37	0	2	49	0	0	51	0	0	0	0	0	0	0	0	69	24	0	93	0	181
12:00PM	20	0	2	0	22	0	2	40	0	0	42	0	0	0	0	0	0	0	0	57	28	0	85	0	149
Total	132	0	6	0	138	0	6	211	0	0	217	0	0	0	0	0	0	0	1	215	109	0	325	0	680
% Approach	95.7%	0%	4.3%	0%	-	-	2.8%	97.2%	0%	0%	-	-	0%	0%	0%	0%	-	-	0.3%	66.2%	33.5%	0%	-	-	-
% Total	19.4%	0%	0.9%	0%	20.3%	-	0.9%	31.0%	0%	0%	31.9%	-	0%	0%	0%	0%	0%	-	0.1%	31.6%	16.0%	0%	47.8%	-	-
PHF	0.846	-	0.750	-	0.863	-	0.750	0.812	-	-	0.822	-	-	-	-	-	-	-	0.250	0.779	0.879	-	0.874	-	0.924
Lights	132	0	6	0	138	-	6	208	0	0	214	-	0	0	0	0	0	-	1	214	109	0	324	-	676
% Lights	100%	0%	100%	0%	100%	-	100%	98.6%	0%	0%	98.6%	-	0%	0%	0% (0%	-	-	100%	99.5%	100%	0%	99.7%	-	99.4%
Articulated Trucks and Single-Unit Trucks	0	0	0	0	0	-	0	3	0	0	3	-	0	0	0	0	0	-	0	1	0	0	1	-	4
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	0%	-	0%	1.4%	0%	0%	1.4 %	-	0%	0%	0% (0%	-	-	0%	0.5%	0%	0%	0.3%	-	0.6%
Buses	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Buses	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0% (0%	-	-	0%	0%	0%	0%	0 %	-	0%
Pedestrians	-	-	_	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

^{*}Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

Sat Jan 25, 2020

Midday Peak (WKND) (11:15 AM - 12:15 PM) - Overall Peak Hour

 $All\ Classes\ (Lights,\ Articulated\ Trucks\ and\ Single-Unit\ Trucks,\ Buses,\ Pedestrians,$

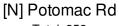
Bicycles on Crosswalk) All Movements

ID: 743716, Location: 40.089111, -80.688924

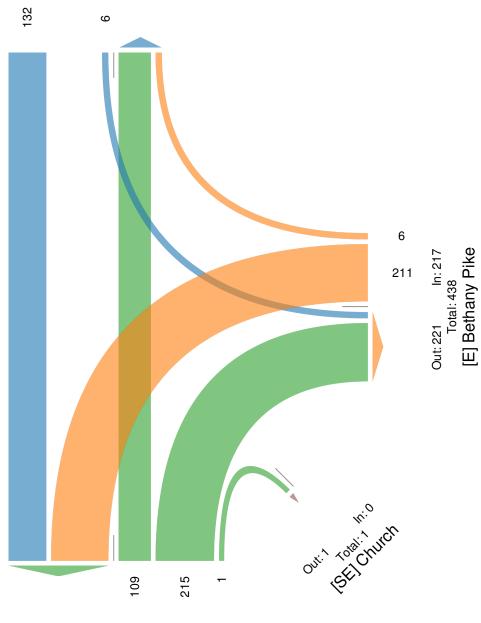


Provided by: Tri-State Traffic Data,
Inc.
184 Baker Road

184 Baker Road, Coatesville, PA, 19320, US



Total: 253 In: 138 Out: 115



Out: 343 In: 325 Total: 668

[S] Bethany Pike

Sat Jan 25, 2020

PM Peak (WKND) (1 PM - 2 PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 743716, Location: 40.089111, -80.688924



Provided by: Tri-State Traffic Data, Inc. 184 Baker Road, Coatesville, PA, 19320, US

Leg	Potoma	c Do	1				Botha	ıv Pike					Chu	rch					Both	any Pik	70				
1 .0								5							a	,									
	Southbo						Westb						_		stbo	_				hbound					
Time	T	BL	L	U	App	Pe d*	R	L	HL	U	App P	e d*	HR	BR	HL	U	App Pe	d*	HR	R	T	U	App P	e d*	Int
2020-01-25 1:00PM	22	0	1	0	23	0	3	59	0	0	62	0	0	0	0	0	0	0	0	47	23	0	70	0	155
1:15PM	23	0	0	0	23	0	1	45	0	0	46	0	0	0	0	0	0	0	0	44	21	0	65	0	134
1:30PM	16	0	0	0	16	0	1	48	0	0	49	0	0	0	0	0	0	0	0	50	27	0	77	0	142
1:45PM	34	0	1	0	35	1	0	36	0	0	36	0	0	0	0	0	0	0	0	43	30	0	73	0	144
Total	95	0	2	0	97	1	5	188	0	0	193	0	0	0	0	0	0	0	0	184	101	0	285	0	575
% Approach	97.9%	0%	2.1%	0%	-	-	2.6%	97.4%	0%	0%	-	-	0%	0%	0%	0%	-	-	0%	64.6%	35.4%)%	-	-	-
% Total	16.5%	0%	0.3%	0%	16.9%	-	0.9%	32.7%	0%	0%	33.6%	-	0%	0%	0%	0%	0%	-	0%	32.0%	17.6%)% 4	19.6%	-	-
PHF	0.699	-	0.500	-	0.693	-	0.417	0.797	-	-	0.778	-	-	-	-	-	-	-	-	0.920	0.842	-	0.925	-	0.927
Lights	95	0	2	0	97	-	5	187	0	0	192	-	0	0	0	0	0	-	0	184	100	0	284	-	573
% Lights	100% (0%	100%	0%	100%	-	100%	99.5%	0%	0%	99.5%	-	0%	0%	0%	0%	-	-	0%	100%	99.0%)% 9	99.6%	-	99.7%
Articulated Trucks and Single-Unit Trucks	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	0	0	1	0	1	-	2
% Articulated Trucks																									
and Single-Unit Trucks	0% (0%	0%	0%	0 %	-	0%	0.5%	0%	0%	0.5%	-	0%	0%	0%	0%	-	-	0%	0%	1.0%)%	0.4 %	-	0.3%
Buses	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Buses	0% (0%	0%	0%	0%	-	0%	0%	0%	0%	0 %	-	0%	0%	0%	0%	-	-	0%	0%	0% ()%	0 %	-	0%
Pe de strians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	- 1	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

^{*}Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

Sat Jan 25, 2020

PM Peak (WKND) (1 PM - 2 PM)

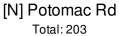
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

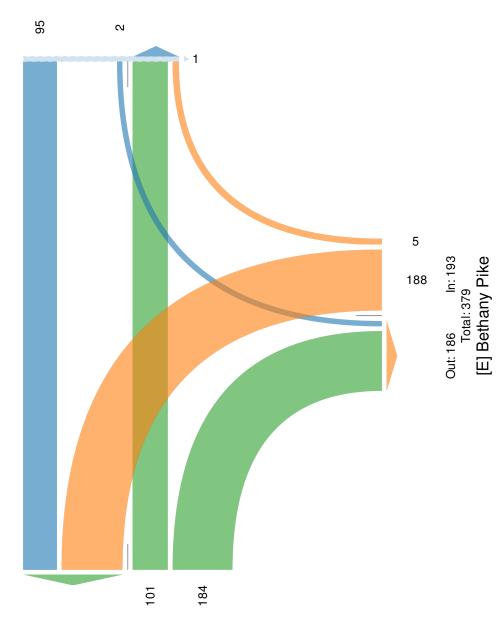
ID: 743716, Location: 40.089111, -80.688924



Provided by: Tri-State Traffic Data, Inc. 184 Baker Road, Coatesville, PA, 19320, US



In: 97 Out: 106



Out: 283 In: 285 Total: 568

[S] Bethany Pike



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/Park Rd Site Code: Start Date: 01/24/2020 Page No: 1

Turning Movement Data

								1					j ivi	Ove	ille	1111													1
			R	oute 4	-0					R	oute 4	0					D	rivewa	ıy					F	Park Ro	b			1
			Ea	astbou	nd					W	estbou	nd					No	rthbou	ınd					So	uthbou	ınd			l
Start Time		_	Righ	Righ	U-	Ped	Арр.			Righ	Righ	U-	Ped	Арр.		_	Righ	Righ	U-	Ped	Арр.			Righ	Righ	U-	Ped	Арр.	Int.
Tillie	Left	Thru	t	t on Red	Turn	s	Tota	Left	Thru	t	t on Red	Turn	s	Tota	Left	Thru	t	t on Red	Turn	S	Tota	Left	Thru	t	t on Red	Turn	s	Tota	Tota
7:00 AM	11	110	1	0	0	0	122	0	122	4	0	0	0	126	1	0	0	0	0	0	1	2	0	3	7	0	0	12	261
7:15 AM	25	163	1	0	0	0	189	0	174	12	1	0	1	187	1	0	0	0	0	0	1	10	0	8	18	0	0	36	413
7:30 AM	17	199		0	0	0	218	0	217	7	0	0	0	224	1	0	0	0	0	0	1	9	0	7	23	0	0	39	482
7:45 AM	44	245	0	0	0	0	289	0	243	9		0	0	254	1	0	0	0	0	3	1	7	0	12	22	0	0	41	585
Hourly Total	97	717	4	0	0	0	818	0	756	32	3	0	1	791	4	0	0	0	0	3	4	28	0	30	70	0	0	128	1741
8:00 AM	57	159		0	0	0	218	0	194	16	0	0	0	210	1	0	0	1	0	1	2	7	0	26	24	0	0	57	487
8:15 AM	44	147		0	0	0	193	0	173	7	1	0	0	181	0	0	0	1	0	1	1	9	0	42	19	0	0	70	445
8:30 AM	19	133	0	0	0	1	152	0	169	2	0	0	0	171	0	0	0	1	0	0	1	12	0	22	16	0	0	50	374
8:45 AM	20	133	3	0	0	0	156	0	204	5	0	0	0	209	0	0	0	0	0	3	0	10	0	12	11	0	1	33	398
Hourly Total	140	572	7	0	0	1	719	0	740	30	1	0	0	771	1	0	0	3	0	5	4	38	0	102	70	0	1	210	1704
*** BREAK ***	140	312			-	-	719	U	- 140	30			-		<u>'</u>	-			-	J		30		102	70		-	- 210	1704
3:00 PM	43	196		0	0	0	241	0	247	10	0	0	0	257	1	0	3	1	0	4	5	9	0	9	29	0	0	47	550
3:15 PM	31	221	0	1	0	0	253	2	262	12	0	0	0	276	2	0	0	0	0	3	2	23	0	33	20	0	0	76	607
3:30 PM	25	210	3	2	0	0	240	2	225	9	1	0	0	237	1	0	0	0	0	5	1	15	0	18	19	0	0	52	530
3:45 PM	21	219		0	0	1	244	1	237	10	'	0	0	248	1	0	0	2	0	4	3	8	0	6	20	0	1	34	529
Hourly Total	120	846	9	3	0	1	978	5	971	41	1	0	0	1018	5	0	3	3	0	16	11	55	0	66	88	0	1	209	2216
4:00 PM	22	209		0	0	1	236	0	181	5	0	0	0	186	1	0	 1	0	0	3	2	7	0	11	23	0	1	41	465
4:15 PM	15	240	 5	2	0	0	262	1	183	5	0	0	0	189	2	0	1	3	0	2	6	1	0	4	24	0	0	29	486
4:30 PM	17	237	5	2	0	0	261	0	195	2	0	0	0	197	3	0	0	0	0	1	3	8	0	2	23	0	1	33	494
4:45 PM	21	229	 	0	0	1	258	2	194	4	0	0	0	200	1	0	1	0	0	1	2	7	0	1	20	0	0	28	488
Hourly Total	75	915	23	4	0	2	1017	3	753	16	0	0	0	772	7	0	3	3	0	7	13	23	0	18	90	0	2	131	1933
5:00 PM	24	233	8	1	0	0	266	2	213	2	0	0	1	217	6	0	1	1	0	2	8	9	0	1	14	0	0	24	515
5:15 PM	17	268	5	1	0	0	291	5	217	10	0	0	0	232	0	0	0	0	0	0	0	10	1	8	20	0	0	39	562
5:30 PM	16	218		0	0	0	241	1	182	2	0	0	0	185	1	0		1	0	4	4	2	1	6	9	0	0	18	448
5:45 PM	10	216	10	0	0	0	236	4	187	6	0	0	0	197	4	0	1	0	0	2	5	4	0	7	10	0	0	21	459
Hourly Total	67	935	30	2	0	0	1034	12	799	20	0	0	1	831	11	0	4	2	0	8	17	25	2	22	53	0	0	102	1984
6:00 PM	0	0	1	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	1
Grand													-																
Total	499	3985	74	9	0	4	4567	20	4019	139	5	0	2	4183	28	0	10	11	0	39	49	169	2	238	371	0	4	780	9579
Approach	10.9	87.3	1.6	0.2	0.0	_		0.5	96.1	3.3	0.1	0.0	_	_	57.1	0.0	20.4	22.4	0.0	_	_	21.7	0.3	30.5	47.6	0.0	_	_	_
- %	-		-						-						-								-	-					
Total %	5.2	41.6	0.8	0.1	0.0	-	47.7	0.2	42.0	1.5	0.1	0.0		43.7	0.3	0.0	0.1	0.1	0.0	-	0.5	1.8	0.0	2.5	3.9	0.0	-	8.1	-
Lights	487	3896	72	9	0	-	4464	20	3918	137	5	0		4080	27	0	10	11	0	-	48	167	2	236	369	0	-	774	9366
% Lights	97.6	97.8	97.3	100.0	-	-	97.7	100.0	97.5	98.6	100.0	-		97.5	96.4	-	100.0	100.0	-	-	98.0	98.8	100.0	99.2	99.5	-	-	99.2	97.8
Buses	10	37		0	0		47	0	51	1	0	0		52	0	0	0	0	0	-	0	1	0	0		0	-	3	102
% Buses	2.0	0.9	0.0	0.0	-	-	1.0	0.0	1.3	0.7	0.0	-		1.2	0.0	0	0.0	0.0	- 0	-	0.0	0.6	0.0	0.0	0.5	-	-	0.4	1.1
Trucks	2	52	2	0	0	-	56	0	50	1		0		51	1	- 0		0		-	1	1	0	2	0	0	_	3	111
% Trucks	0.4	1.3	2.7	0.0			1.2	0.0	1.2	0.7	0.0			1.2	3.6		0.0	0.0		-	2.0	0.6	0.0	0.8	0.0		-	0.4	1.2
Bicycles on	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
Crosswalk																													<u> </u>
% Bicycles on		_	_	_	_	0.0	_	_	_	_	_	_	0.0	_	_	_	_	_	_	0.0	_	_	_	_	_	_	0.0	_	
Crosswalk						0.0							0.0							0.0							0.0		
Pedestrian	_	-	-	_	_	4	-	-	-	_	_	_	2	_	_	-	-	_	_	39	_	_	-	-	_	_	4	_	-
S	 														 														
% Pedestrian	-	-	-	-	-	100.0	-	-	-	-	_	-	100.0	-	-	-	-	-	-	100.0	-	_	-	-	-	-	100.0	-	-
s															<u></u>														Ь



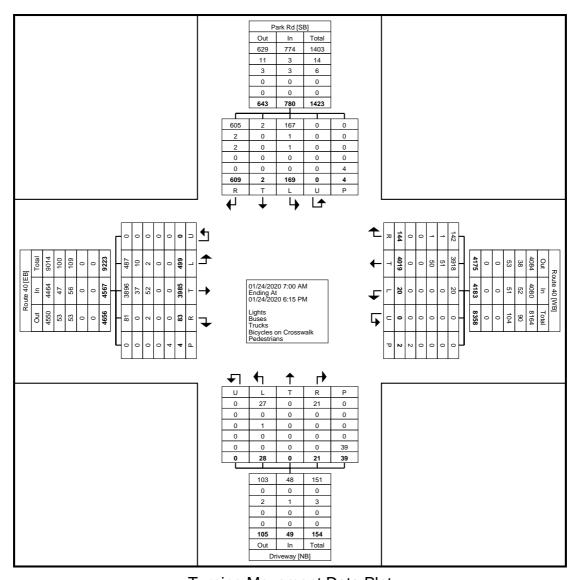
184 Baker Rd

Wheeling, WV Route 40 & Park Rd Friday, January 24, 2020 Location: 40.076494, -80.697291

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/Park Rd Site Code:

Start Date: 01/24/2020 Page No: 2



Turning Movement Data Plot



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Count Name: Route 40/Park Rd Site Code: Start Date: 01/24/2020 Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

			F	Route 4	10				Ü	R	oute 4	10			Driveway								Park Rd								
			E	astbou	nd					W	estbou	ınd			Northbound								Southbound								
Start Time	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Int. Tota I		
7:30 AM	17	199	2	0	0	0	218	0	217	7	0	0	0	224	1	0	0	0	0	0	1	9	0	7	23	0	0	39	482		
7:45 AM	44	245	0	0	0	0	289	0	243	9	2	0	0	254	1	0	0	0	0	3	1	7	0	12	22	0	0	41	585		
8:00 AM	57	159	2	0	0	0	218	0	194	16	0	0	0	210	1	0	0	1	0	1	2	7	0	26	24	0	0	57	487		
8:15 AM	44	147	2	0	0	0	193	0	173	7	1	0	0	181	0	0	0	1	0	1	1	9	0	42	19	0	0	70	445		
Total	162	750	6	0	0	0	918	0	827	39	3	0	0	869	3	0	0	2	0	5	5	32	0	87	88	0	0	207	1999		
Approach %	17.6	81.7	0.7	0.0	0.0	-	-	0.0	95.2	4.5	0.3	0.0	-	-	60.0	0.0	0.0	40.0	0.0	-	_	15.5	0.0	42.0	42.5	0.0	-	-	-		
Total %	8.1	37.5	0.3	0.0	0.0	-	45.9	0.0	41.4	2.0	0.2	0.0	-	43.5	0.2	0.0	0.0	0.1	0.0	-	0.3	1.6	0.0	4.4	4.4	0.0	-	10.4	<u></u>		
PHF	0.71 1	0.765	0.750	0.000	0.000	-	0.794	0.000	0.851	0.609	0.375	0.000	-	0.855	0.750	0.000	0.000	0.500	0.000	-	0.625	0.889	0.000	0.518	0.917	0.000	-	0.739	0.854		
Lights	160	711	4	0	0	-	875	0	803	38	3	0	-	844	2	0	0	2	0	-	4	30	0	86	87	0	-	203	1926		
% Lights	98.8	94.8	66.7	-	-	-	95.3	-	97.1	97.4	100.0	-	-	97.1	66.7	-	-	100.0	-	-	80.0	93.8	-	98.9	98.9	-	-	98.1	96.3		
Buses	1	14	0	0	0	-	15	0	8	0	0	0	-	8	0	0	0	0	0	-	0	1	0	0	1	0	-	2	25		
% Buses	0.6	1.9	0.0	-	_	-	1.6	-	1.0	0.0	0.0	-	-	0.9	0.0	-	-	0.0	-	-	0.0	3.1	-	0.0	1.1	-	-	1.0	1.3		
Trucks	1	25	2	0	0	-	28	0	16	1	0	0	-	17	1	0	0	0	0	-	1	1	0	1	0	0	-	2	48		
% Trucks	0.6	3.3	33.3	-	-	-	3.1	-	1.9	2.6	0.0		-	2.0	33.3	-	-	0.0	-	-	20.0	3.1	_	1.1	0.0	-	-	1.0	2.4		
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	1	-	-	-	-	0	-	1	-	-	-	-	0		-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-		
Pedestrian s	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	5	-	-	-	-	-	-	0		-		
% Pedestrian s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	_	-		

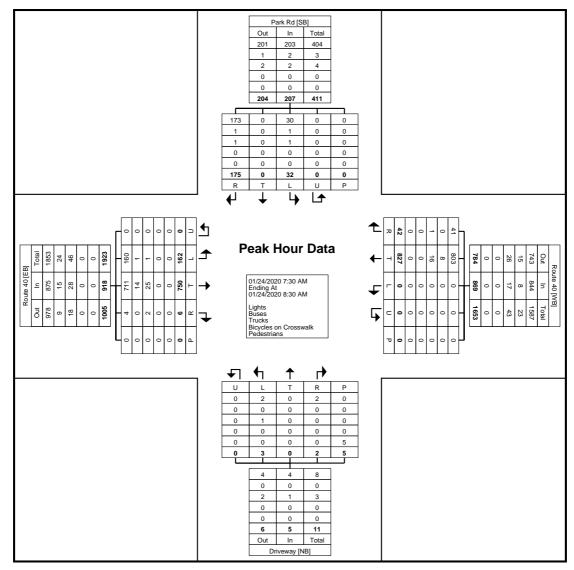


184 Baker Rd Coatesville, Pennsylvania, United States 19320 610-466-1469

Serving Transportation Professionals Since 1995

Count Name: Route 40/Park Rd Site Code:

Start Date: 01/24/2020 Page No: 4



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



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Count Name: Route 40/Park Rd Site Code: Start Date: 01/24/2020 Page No: 5

Turning Movement Peak Hour Data (3:00 PM)

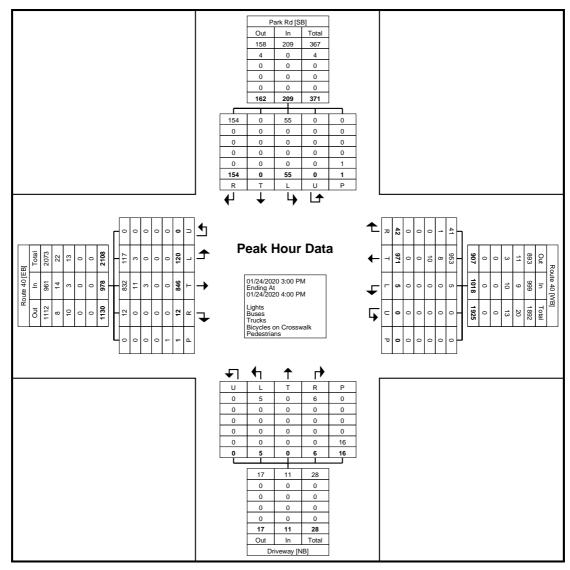
	1														1.10di Bata (0.00 i 111)								1 2.2								
	Route 40 Route 40														D	rivewa	ay			Park Rd											
_			E	astbou	nd					W	estbou	nd					No	rthbou	ınd			Southbound									
Start Time	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Int. Tota I		
3:00 PM	43	196	2	0	0	0	241	0	247	10	0	0	0	257	1	0	3	1	0	4	5	9	0	9	29	0	0	47	550		
3:15 PM	31	221	0	1	0	0	253	2	262	12	0	0	0	276	2	0	0	0	0	3	2	23	0	33	20	0	0	76	607		
3:30 PM	25	210	3	2	0	0	240	2	225	9	1	0	0	237	1	0	0	0	0	5	1	15	0	18	19	0	0	52	530		
3:45 PM	21	219	4	0	0	1	244	1	237	10	0	0	0	248	1	0	0	2	0	4	3	8	0	6	20	0	1	34	529		
Total	120	846	9	3	0	1	978	5	971	41	1	0	0	1018	5	0	3	3	0	16	11	55	0	66	88	0	1	209	2216		
Approach %	12.3	86.5	0.9	0.3	0.0	-	-	0.5	95.4	4.0	0.1	0.0	-	-	45.5	0.0	27.3	27.3	0.0	-	-	26.3	0.0	31.6	42.1	0.0	-	-	-		
Total %	5.4	38.2	0.4	0.1	0.0	-	44.1	0.2	43.8	1.9	0.0	0.0	-	45.9	0.2	0.0	0.1	0.1	0.0	-	0.5	2.5	0.0	3.0	4.0	0.0	-	9.4			
PHF	0.69 8	0.957	0.563	0.375	0.000	-	0.966	0.625	0.927	0.854	0.250	0.000	-	0.922	0.625	0.000	0.250	0.375	0.000	-	0.550	0.598	0.000	0.500	0.759	0.000	-	0.688	0.913		
Lights	117	832	9	3	0	-	961	5	953	40	1	0	-	999	5	0	3	3	0	-	11	55	0	66	88	0	-	209	2180		
% Lights	97.5	98.3	100.0	100.0	-	-	98.3	100.0	98.1	97.6	100.0	-	-	98.1	100.0	-	100.0	100.0	-	-	100.0	100.0	-	100.0	100.0	-	-	100.0	98.4		
Buses	3	11	0	0	0	-	14	0	8	1	0	0	-	9	0	0	0	0	0	-	0	0	0	0	0	0	-	0	23		
% Buses	2.5	1.3	0.0	0.0	-	-	1.4	0.0	0.8	2.4	0.0	-	-	0.9	0.0	-	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	-	0.0	1.0		
Trucks	0	3	0	0	0	-	3	0	10	0	0	0	-	10	0	0	0	0	0	-	0	0	0	0	0	0	-	0	13		
% Trucks	0.0	0.4	0.0	0.0	-	-	0.3	0.0	1.0	0.0	0.0	-	-	1.0	0.0	-	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	-	0.0	0.6		
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-		
% Bicycles on Crosswalk	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-		
Pedestrian s	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	16	-	-	-	-	-	-	1	-	-		
% Pedestrian s	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-		



184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Park Rd Site Code:

Start Date: 01/24/2020 Page No: 6



Turning Movement Peak Hour Data Plot (3:00 PM)



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/Park Rd SAT Site Code: Start Date: 01/25/2020 Page No: 1

Turning Movement Data

	Route 40 Route 40 Driveway Park Rd														1	ı														
																	•													
011			Ea	astbou	nd					W	estbou	nd					No	rthbou	ınd			Southbound								
Start Time	Left	Thru	Righ	Righ t on	_U-	Ped	App. Tota	Left	Thru	Righ	Righ t on	_U-	Ped	App. Tota	Left	Thru	Righ	Righ t on	_U-	Ped	App. Tota	Left	Thru	Righ	Righ t on	_U-	Ped	App. Tota	Int. Tota	
			t	Red	Turn	S	Ĭ			t	Red	Turn	S	Ī			t	Red	Turn	S	Ĭ			t	Red	Turn	S	Ĭ	Ī	
11:00 AM	11	122	3	1	0	0	137	1	149	3	0	0	0	153	1	0	0	0	0	2	1	8	0	1	19	0	0	28	319	
11:15 AM	10	145	3	1	0	0	159	2	150	1	0	0	0	153	2	0	1	0	0	1	3	4	0	1	16	0	1	21	336	
11:30 AM	11	191	2	0	0	0	204	3	178	5	0	0	0	186	4	0	0	0	0	0	4	5	1	2	13	0	1	21	415	
11:45 AM	13	165	11	1	0	0	190	4	172	3	0	0	0	179	0	0	0	0	0	3	0	5	0	3	6	0	0	14	383	
Hourly Total	45	623	19	3	0	0	690	10	649	12	0	0	0	671	7	0	1	0	0	6	8	22	1	7	54	0	2	84	1453	
12:00 PM	16	183	3	0	0	0	202	4	164	4	0	0	0	172	0	0	3	0	0	2	3	0	1	8	2	0	0	11	388	
12:15 PM	4	162	10	0	0	0	176	2	146	1	0	0	0	149	0	0	0	0	0	1	0	4	0	1	9	0	0	14	339	
12:30 PM	5	143	5	1	0	0	154	1	176	4	0	0	0	181	5	0	0	0	0	2	5	2	0	3	8	0	0	13	353	
12:45 PM	15	142	2	_1	0	3	160	3	152	2	0	0	0	157	2	0	1	2	0	1	5	4	0	8	6	0	4	18	340	
Hourly Total	40	630	20	2	0	3	692	10	638	11	0	0	0	659	7	0	4	2	0	6	13	10	1	20	25	0	4	56	1420	
1:00 PM	7	151	7	0	0	0	165	0	168	1	0	0	0	169	5	0	0	1	0	2	6	1	0	3	8	0	0	12	352	
1:15 PM	10	117	5	0	0	0	132	1	150	2	1	0	0	154	10	0	3	0	0	2	13	2	0	1	5	0	0	8	307	
1:30 PM	9	164	3	1	0	0	177	2	140	1	1	0	0	144	3	0	0	0	0	1	3	2	0	2	8	0	0	12	336	
1:45 PM	9	152	9	2	0	0	172	2	142	2	0	0	0	146	3	0	2	0	0	2	5	1	0	2	5	0	0	8	331	
Hourly Total	35	584	24	3	0	0	646	5	600	6	2	0	0	613	21	0	5	1	0	7	27	6	0	8	26	0	0	40	1326	
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	120	1837	63	8	0	3	2028	25	1887	29	2	0	0	1943	35	0	10	3	0	19	48	38	2	35	105	0	6	180	4199	
Approach %	5.9	90.6	3.1	0.4	0.0	-	-	1.3	97.1	1.5	0.1	0.0	-	-	72.9	0.0	20.8	6.3	0.0	-	-	21.1	1.1	19.4	58.3	0.0	-	-	-	
Total %	2.9	43.7	1.5	0.2	0.0	-	48.3	0.6	44.9	0.7	0.0	0.0	-	46.3	0.8	0.0	0.2	0.1	0.0	-	1.1	0.9	0.0	0.8	2.5	0.0	-	4.3		
Lights	120	1826	62	8	0	-	2016	25	1865	29	2	0	-	1921	35	0	10	3	0	-	48	38	2	35	105	0	-	180	4165	
% Lights	100. 0	99.4	98.4	100.0	-	-	99.4	100.0	98.8	100.0	100.0	-	-	98.9	100.0	-	100.0	100.0	-	-	100.0	100.0	100.0	100.0	100.0	-	-	100.0	99.2	
Buses	0	6	0	0	0	-	6	0	7	0	0	0	-	7	0	0	0	0	0	-	0	0	0	0	0	0	-	0	13	
% Buses	0.0	0.3	0.0	0.0	-	-	0.3	0.0	0.4	0.0	0.0	-	-	0.4	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.3	
Trucks	0	5	1	0	0	-	6	0	15	0	0	0	-	15	0	0	0	0	0	-	0	0	0	0	0	0	-	0	21	
% Trucks	0.0	0.3	1.6	0.0	-	-	0.3	0.0	0.8	0.0	0.0	-	-	0.8	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.5	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	
% Bicycles						0.0								-						0.0							0.0			
on Crosswalk	-					0.0	_	-												0.0		-					0.0		<u> </u>	
Pedestrian s	-	-	-	-	-	3	-	-	-	-	-	-	0	-	-	-	-	-	-	19	-	-	-	-	-	-	6	-	-	
% Pedestrian s	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	

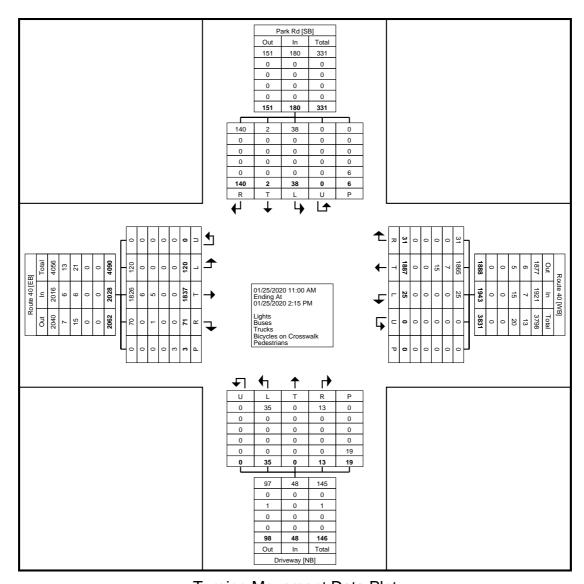


Wheeling, WV Route 40 & Park Rd Saturday, January 25, 2020 Location: 40.076494, -80.697291

184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Park Rd SAT

Site Code: Start Date: 01/25/2020 Page No: 2



Turning Movement Data Plot



Wheeling, WV Route 40 & Park Rd Saturday, January 25, 2020 Location: 40.076494, -80.697291

www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/Park Rd SAT Site Code: Start Date: 01/25/2020 Page No: 3

Turning Movement Peak Hour Data (11:30 AM)

									'9 ''	, I O V	0111	Cit		uit	ָיי וּ	ui L	Jun	~ ('	1.0	0,	`` <i>`'</i>								
			F	Route 4	10					R	oute 4	-0					D	rivewa	ıy					F	Park R	d			
			E	astbou	nd					W	estbou	nd					No	rthbou	ınd					So	uthbou	und			
Start Time	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Left	Thru	Righ t	Righ t on Red	U- Turn	Ped s	App. Tota I	Int. Tota I
11:30 AM	11	191	2	0	0	0	204	3	178	5	0	0	0	186	4	0	0	0	0	0	4	5	1	2	13	0	1	21	415
11:45 AM	13	165	11	1	0	0	190	4	172	3	0	0	0	179	0	0	0	0	0	3	0	5	0	3	6	0	0	14	383
12:00 PM	16	183	3	0	0	0	202	4	164	4	0	0	0	172	0	0	3	0	0	2	3	0	1	8	2	0	0	11	388
12:15 PM	4	162	10	0	0	0	176	2	146	1	0	0	0	149	0	0	0	0	0	1	0	4	0	1	9	0	0	14	339
Total	44	701	26	1	0	0	772	13	660	13	0	0	0	686	4	0	3	0	0	6	7	14	2	14	30	0	1	60	1525
Approach %	5.7	90.8	3.4	0.1	0.0	-	-	1.9	96.2	1.9	0.0	0.0	-	-	57.1	0.0	42.9	0.0	0.0	-	-	23.3	3.3	23.3	50.0	0.0	-	-	-
Total %	2.9	46.0	1.7	0.1	0.0	-	50.6	0.9	43.3	0.9	0.0	0.0	-	45.0	0.3	0.0	0.2	0.0	0.0	-	0.5	0.9	0.1	0.9	2.0	0.0	-	3.9	
PHF	0.68 8	0.918	0.591	0.250	0.000	-	0.946	0.813	0.927	0.650	0.000	0.000	-	0.922	0.250	0.000	0.250	0.000	0.000	-	0.438	0.700	0.500	0.438	0.577	0.000	-	0.714	0.919
Lights	44	696	25	1	0	-	766	13	652	13	0	0	-	678	4	0	3	0	0	-	7	14	2	14	30	0	-	60	1511
% Lights	100. 0	99.3	96.2	100.0	-	-	99.2	100.0	98.8	100.0	-	-	-	98.8	100.0	-	100.0	-	-	-	100.0	100.0	100.0	100.0	100.0	-	-	100.0	99.1
Buses	0	2	0	0	0	-	2	0	2	0	0	0	-	2	0	0	0	0	0	-	0	0	0	0	0	0	-	0	4
% Buses	0.0	0.3	0.0	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	0.3
Trucks	0	3	1	0	0	-	4	0	6	0	0	0	-	6	0	0	0	0	0	-	0	0	0	0	0	0	-	0	10
% Trucks	0.0	0.4	3.8	0.0	-	-	0.5	0.0	0.9	0.0	-	-	-	0.9	0.0	-	0.0	-	-	-	0.0	0.0	0.0	0.0	0.0		-	0.0	0.7
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-
Pedestrian s	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	6	-	-	-	-	-	-	1		-
% Pedestrian s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0		-

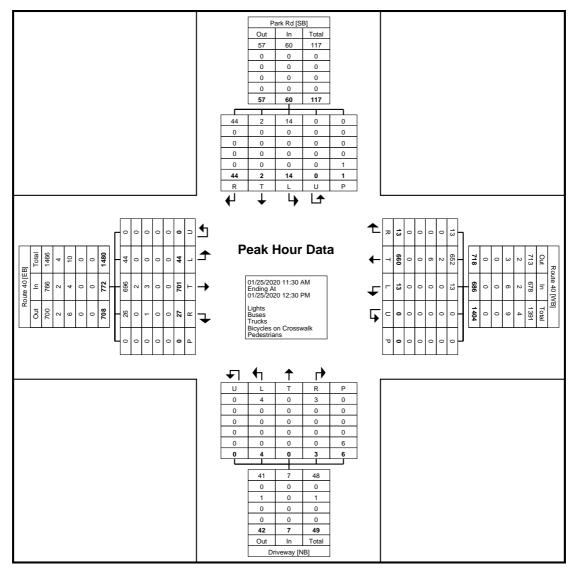


Wheeling, WV Route 40 & Park Rd Saturday, January 25, 2020 Location: 40.076494, -80.697291

184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Park Rd SAT

Site Code: Start Date: 01/25/2020 Page No: 4



Turning Movement Peak Hour Data Plot (11:30 AM)



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Mt DeChantal Rd/EB Ramps Site Code: Start Date: 01/24/2020 Page No: 1

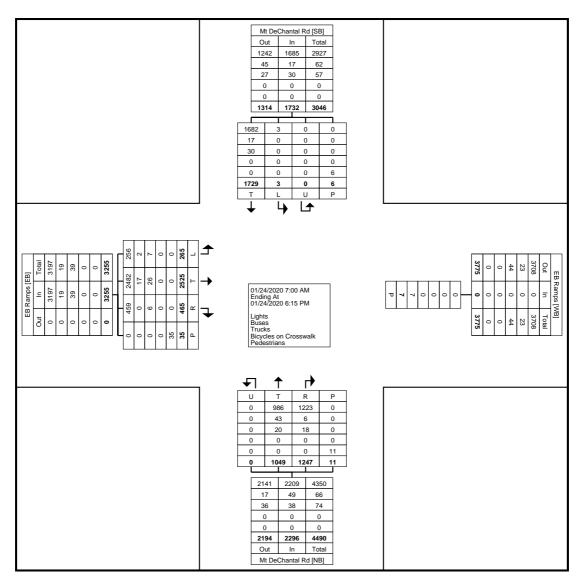
Turning Movement Data

							_. Tui	'ning	຺IMO\	/eme	ent D	ata								
			EB F	Ramps			EB R	amps			Mt DeCh	antal Rd				Mt I	DeChanta	l Rd		
			East	bound			West	oound			North	oound				5	Southboun	d		
Start Time	Left	Thru	Right	Right on Red	Peds	App. Total	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
7:00 AM	7	82	14	4	1	107	0	0	15	19	3	0	0	37	1	44	0	0	45	189
7:15 AM	1	118	15	2	0	136	0	0	24	35	1	0	0	60	0	60	0	0	60	256
7:30 AM	13	150	19	2	1	184	0	0	28	56	4	0	0	88	0	89	0	0	89	361
7:45 AM	10	170	23	2	0	205	0	0	47	62	2	0	0	111	0	103	0	0	103	419
Hourly Total	31	520	71	10	2	632	0	0	114	172	10	0	0	296	1	296	0	0	297	1225
8:00 AM	11	134	15	2	0	162	0	0	43	62	2	0	0	107	0	89	0	0	89	358
8:15 AM	15	102	5	8	1	130	0	0	46	53	1	0	0	100	0	96	0	0	96	326
8:30 AM	19	112	9	. 7	1	147	0	0	43	36	2	0	0	81	1	83	. 0	0	84	312
8:45 AM	16	72	7	2	0	97	0	0	54	49	2	0	0	105	1	81	0	0	82	284
Hourly Total	61	420	36	19	2	536	0	0	186	200	7	0	0	393	2	349	0	0	351	1280
*** BREAK ***	-		-		-	-	-		-				-	-	-	-	 .	-		-
3:00 PM	14	132	29	2	2	177	1	0	45	57	5	0	0	107	0	102	0	1	102	386
3:15 PM	18	121	21	5	1	165	0	0	60	74	2	0	2	136	0	114	0	0	114	415
3:30 PM	15	109	21	10	4	155	0	0	71	71	2	0	0	144	0	99	0	0	99	398
3:45 PM	18	134	24	6	0	182	4	0	64	69	2	0	0	135	0	96	0	4	96	413
Hourly Total	65	496	95	23	7	679	5	0	240	271	11	0	2	522	0	411	0	5	411	1612
4:00 PM	15	134	25	2	5	176	1	0	74	76	0	0	2	150	0	84	0	0	84	410
4:15 PM	10	138	22	0	2	170	0	0	76	61	0	0	2	137	0	90	. 0	0	90	397
4:30 PM	19	148	34	4	0	205	0	0	73	73	1	0	0	147	0	86	0	0	86	438
4:45 PM	9	129	25	5	9	168	1	0	64	81	0	0	3	145	0	94	0	1	94	407
Hourly Total	53	549	106	11	16	719	2	0	287	291	1	0	7	579	0	354	0	1	354	1652
5:00 PM	8	139	22	1	3	170	0	0	56	62	6	0	1	124	0	84	0	0	84	378
5:15 PM	18	141	12	4	3	175	0	0	69	72	1	0	0	142	0	78	0	0	78	395
5:30 PM	12	138	22	. 3	0	175	0	0	52	64	1	0	0	117	0	78	. 0	0	78	370
5:45 PM	17	122	27	3	2	169	0	0	45	73	5	0	11	123	0	79	0	0	79	371
Hourly Total	55	540	83	11	8	689	0	0	222	271	13	0	2	506	0	319	0	0	319	1514
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	265	2525	391	74	35	3255	7	0	1049	1205	42	0	11	2296	3	1729	0	6	1732	7283
Approach %	8.1	77.6	12.0	2.3	-	-	-	-	45.7	52.5	1.8	0.0	-	-	0.2	99.8	0.0	-	-	-
Total %	3.6	34.7	5.4	1.0	-	44.7	-	0.0	14.4	16.5	0.6	0.0	-	31.5	0.0	23.7	0.0	-	23.8	-
Lights	256	2482	387	72	-	3197	-	0	986	1182	41	0	-	2209	3	1682	0	-	1685	7091
% Lights	96.6	98.3	99.0	97.3	-	98.2	-		94.0	98.1	97.6		-	96.2	100.0	97.3		-	97.3	97.4
Buses	2	17	0	0	-	19	-	0	43	6	0	0	-	49	0	17	0	-	17	85
% Buses	0.8	0.7	0.0	0.0	-	0.6	-	-	4.1	0.5	0.0	-	-	2.1	0.0	1.0	-	-	1.0	1.2
Trucks	7	26	4	2	-	39	-	0	20	17	1	0	-	38	0	30	0	-	30	107
% Trucks	2.6	1.0	1.0	2.7	-	1.2	-	-	1.9	1.4	2.4		-	1.7	0.0	1.7	-	-	1.7	1.5
Bicycles on Crosswalk	-	-	-	-	0	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	0.0	-	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-				35	-	7		-				11	-	-	-		6		-
% Pedestrians	-		-		100.0	-	100.0	-	-	-	-	-	100.0	-	-	-		100.0	-	-



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Mt DeChantal Rd/EB Ramps Site Code: Start Date: 01/24/2020 Page No: 2



Turning Movement Data Plot



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Mt DeChantal Rd/EB Ramps Site Code: Start Date: 01/24/2020 Page No: 3

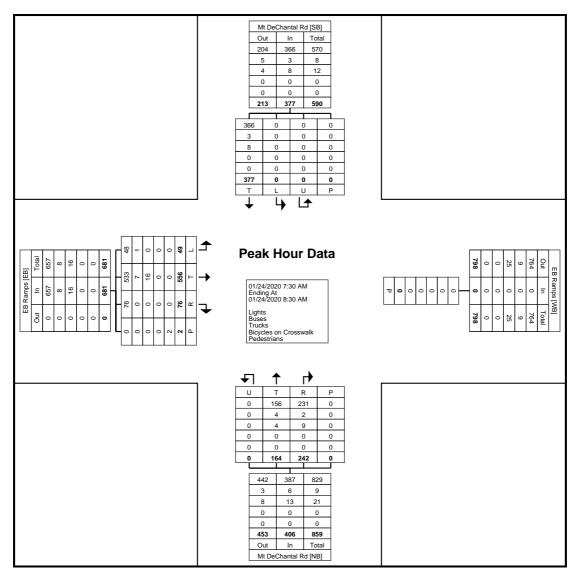
Turning Movement Peak Hour Data (7:30 AM)

					ullil	119 11	1000			41\ 1 I\	Jui L	ouu (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , ,,,,,	,					
			EB R	amps		_	EB R	amps			Mt DeCh	nantal Rd				Mt I	DeChanta	l Rd		
			Easth	oound			West	bound			North	bound				S	outhboun	ıd		
Start Time	Left	Thru	Right	Right on Red	Peds	App. Total	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
7:30 AM	13	150	19	2	1	184	0	0	28	56	4	0	0	88	0	89	0	0	89	361
7:45 AM	10	170	23	2	0	205	0	0	47	62	2	0	0	111	0	103	0	0	103	419
8:00 AM	11	134	15	2	0	162	0	0	43	62	2	0	0	107	0	89	0	0	89	358
8:15 AM	15	102	5	8	1	130	0	0	46	53	1	0	0	100	0	96	0	0	96	326
Total	49	556	62	14	2	681	0	0	164	233	9	0	0	406	0	377	0	0	377	1464
Approach %	7.2	81.6	9.1	2.1	-	-	-	_	40.4	57.4	2.2	0.0	-	-	0.0	100.0	0.0	-	_	-
Total %	3.3	38.0	4.2	1.0	-	46.5	-	0.0	11.2	15.9	0.6	0.0	-	27.7	0.0	25.8	0.0	-	25.8	-
PHF	0.817	0.818	0.674	0.438	-	0.830	-	0.000	0.872	0.940	0.563	0.000	-	0.914	0.000	0.915	0.000	-	0.915	0.874
Lights	48	533	62	14	-	657	-	0	156	222	9	0	-	387	0	366	0	-	366	1410
% Lights	98.0	95.9	100.0	100.0	-	96.5	-	-	95.1	95.3	100.0	-	-	95.3	-	97.1	-	-	97.1	96.3
Buses	1	7	0	0	-	8	-	0	4	2	0	0	-	6	0	3	0	-	3	17
% Buses	2.0	1.3	0.0	0.0	-	1.2	-	-	2.4	0.9	0.0	-	-	1.5	-	0.8	-	-	0.8	1.2
Trucks	0	16	0	0	-	16	-	0	4	9	0	0	-	13	0	8	0	-	8	37
% Trucks	0.0	2.9	0.0	0.0	-	2.3	-	-	2.4	3.9	0.0	-	-	3.2	-	2.1	-	-	2.1	2.5
Bicycles on Crosswalk	-	-	-	-	0	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-		-	-	-	-
Pedestrians	-	-	-	-	2	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Mt DeChantal Rd/EB Ramps Site Code: Start Date: 01/24/2020 Page No: 4



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



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Mt DeChantal Rd/EB Ramps Site Code: Start Date: 01/24/2020 Page No: 5

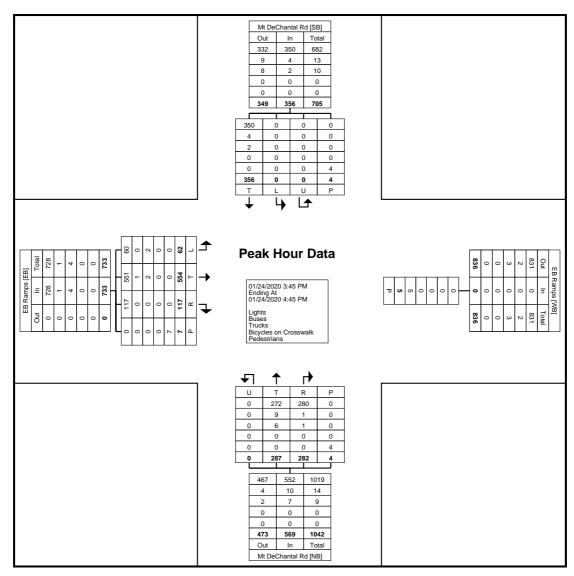
Turning Movement Peak Hour Data (3:45 PM)

					ullil	119 11				<i>X</i>	Jui L	oua (, O. TO	, , ,,,,	,					
			EB R	amps			EB R	amps			Mt DeCh	nantal Rd				Mt I	DeChanta	l Rd		
			Eastl	oound			West	bound			North	bound				S	outhboun	d		
Start Time	Left	Thru	Right	Right on Red	Peds	App. Total	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
3:45 PM	18	134	24	6	0	182	4	0	64	69	2	0	0	135	0	96	0	4	96	413
4:00 PM	15	134	25	2	5	176	1	0	74	76	0	0	2	150	0	84	0	0	84	410
4:15 PM	10	138	22	0	2	170	0	0	76	61	0	0	2	137	0	90	0	0	90	397
4:30 PM	19	148	34	4	0	205	0	0	73	73	1	0	0	147	0	86	0	0	86	438
Total	62	554	105	12	7	733	5	0	287	279	3	0	4	569	0	356	0	4	356	1658
Approach %	8.5	75.6	14.3	1.6	-	-	-	-	50.4	49.0	0.5	0.0	-	-	0.0	100.0	0.0	-	-	-
Total %	3.7	33.4	6.3	0.7	-	44.2	-	0.0	17.3	16.8	0.2	0.0	-	34.3	0.0	21.5	0.0	-	21.5	-
PHF	0.816	0.936	0.772	0.500	-	0.894	-	0.000	0.944	0.918	0.375	0.000	-	0.948	0.000	0.927	0.000	-	0.927	0.946
Lights	60	551	105	12	-	728	-	0	272	277	3	0	-	552	0	350	0	-	350	1630
% Lights	96.8	99.5	100.0	100.0	-	99.3	-	-	94.8	99.3	100.0	-	-	97.0	-	98.3	-	-	98.3	98.3
Buses	0	1	0	0	-	1	-	0	9	1	0	0	-	10	0	4	0	-	4	15
% Buses	0.0	0.2	0.0	0.0	-	0.1	-	_	3.1	0.4	0.0	-	-	1.8	-	1.1	-	-	1.1	0.9
Trucks	2	2	0	0	-	4	-	0	6	1	0	0	-	7	0	2	0	-	2	13
% Trucks	3.2	0.4	0.0	0.0	-	0.5	-	-	2.1	0.4	0.0	-	-	1.2	-	0.6	-	-	0.6	0.8
Bicycles on Crosswalk	-	-	-	-	0	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	0.0	-	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	7	-	5	-	-	-	-	-	4	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	100.0	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Mt DeChantal Rd/EB Ramps Site Code: Start Date: 01/24/2020 Page No: 6



Turning Movement Peak Hour Data Plot (3:45 PM)



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Mt DeChantal Rd/EB Ramps SAT Site Code: Start Date: 01/25/2020 Page No: 1

Turning Movement Data

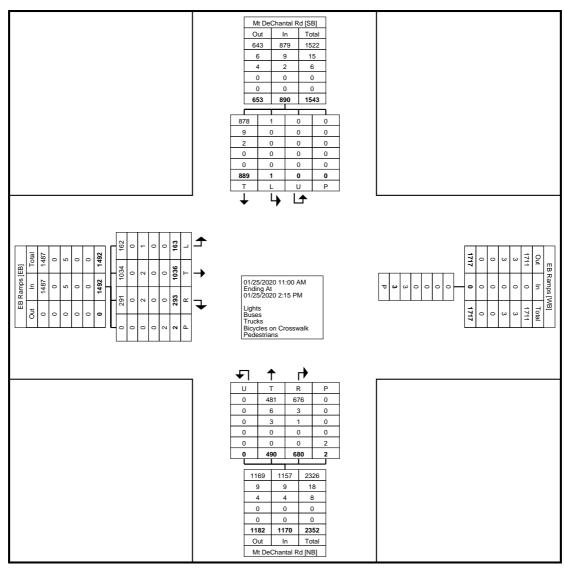
I			FBR	amps				amps		CITIC	Mt DeCh					Mt	DeChanta	l Rd		I
				bound				bound			North						Southboun			
Start Time	Left	Thru	Right	Right on Red	Peds	App.	Peds	Арр.	Thru	Diabt	Right	U-Turn	Peds	App.	Left	Thru	U-Turn	Peds	App.	Int.
	Leit		Right	on Řed	Peus	App. Total	Peas	Total	Thru	Right	on Řed	U-Tum	Peas	Total	Leit	Iniu	U-Turn	Peas	Total	Total
11:00 AM	11	72	19	5	0	107	0	0	42	51	3	0	1	96	0	77	0	0	77	280
11:15 AM	13	84	17	10	0	124	0	0	40	47	4	0	0	91	0	53	0	0	53	268
11:30 AM	16	100	27	6	0	149	0	0	39	48	2	0	0	89	0	87	0	0	87	325
11:45 AM	20	107	22	6	0	155	1	0	58	63	1	0	0	122	0	83	0	0	83	360
Hourly Total	60	363	85	27	0	535	1	0	179	209	10	0	1	398	0	300	0	0	300	1233
12:00 PM	21	103	9	6	0	139	0	0	52	65	2	0	0	119	0	85	0	0	85	343
12:15 PM	13	83	15	5	0	116	0	0	43	62	4	0	0	109	0	76	0	0	76	301
12:30 PM	11	75	10	5	0	101	0	0	38	50	2	0	0	90	1	87	0	0	88	279
12:45 PM	11	83	21	6	0	121	0	0	37	47	6	0	0	90	0	66	0	0	66	277
Hourly Total	56	344	55	22	0	477	0	0	170	224	14	0	0	408	1	314	0	0	315	1200
1:00 PM	15	88	20	4	2	127	0	0	38	51	2	0	1	91	0	76	0	0	76	294
1:15 PM	7	68	19	9	0	103	0	0	40	52	2	0	0	94	0	70	0	0	70	267
1:30 PM	13	82	26	5	0	126	1	0	31	55	4	0	0	90	0	64	0	0	64	280
1:45 PM	12	91	17	4	0	124	1	0	32	53	4	0	0	89	0	65	0	0	65	278
Hourly Total	47	329	82	22	2	480	2	0	141	211	12	0	1	364	0	275	0	0	275	1119
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	163	1036	222	71	2	1492	3	0	490	644	36	0	2	1170	1	889	0	0	890	3552
Approach %	10.9	69.4	14.9	4.8	-	-	-	-	41.9	55.0	3.1	0.0	-	-	0.1	99.9	0.0	-	-	-
Total %	4.6	29.2	6.3	2.0	-	42.0	-	0.0	13.8	18.1	1.0	0.0	-	32.9	0.0	25.0	0.0	-	25.1	-
Lights	162	1034	220	71	-	1487	-	0	481	640	36	0	-	1157	1	878	0	-	879	3523
% Lights	99.4	99.8	99.1	100.0	-	99.7	-	_	98.2	99.4	100.0	-	-	98.9	100.0	98.8	_	-	98.8	99.2
Buses	0	0	0	0	-	0	-	0	6	3	0	0	-	9	0	9	0	-	9	18
% Buses	0.0	0.0	0.0	0.0	-	0.0	-	-	1.2	0.5	0.0	-	-	0.8	0.0	1.0	-	-	1.0	0.5
Trucks	1	2	2	0	-	5	-	0	3	1	0	0	-	4	0	2	0	-	2	11
% Trucks	0.6	0.2	0.9	0.0	-	0.3	-	-	0.6	0.2	0.0		-	0.3	0.0	0.2		-	0.2	0.3
Bicycles on Crosswalk	-	-	-	-	0	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	1	-	-	-	0.0	-	0.0	-	-	-	-	-	0.0	-	-	-	_	-	_	-
Pedestrians	-	_	-		2	-	3	_	-	_	_	_	2	-	-	-	-	0	_	-
% Pedestrians	-	-	-		100.0	-	100.0	-	-	-	-	-	100.0	-	-	-		-	-	-



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Mt DeChantal Rd/EB Ramps SAT Site Code:

Start Date: 01/25/2020 Page No: 2



Turning Movement Data Plot



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Mt DeChantal Rd/EB Ramps SAT Site Code: Start Date: 01/25/2020 Page No: 3

Turning Movement Peak Hour Data (11:30 AM)

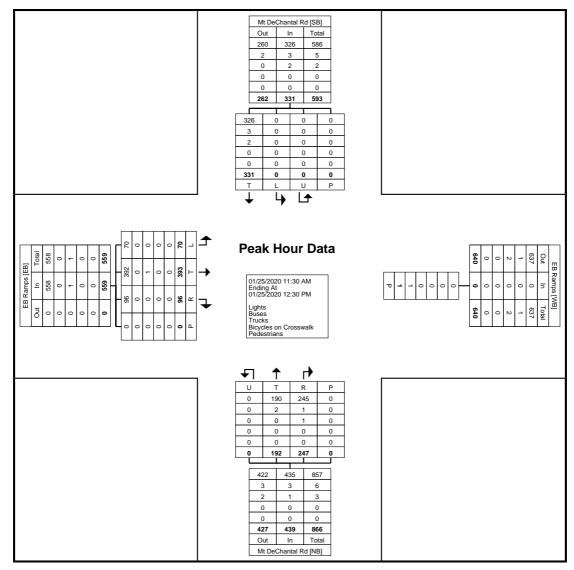
				•	۵	.9					u. –	~ · ·		o ,	''					
			EB R	amps		_	EB R	amps			Mt DeCh	nantal Rd			-	Mt [DeChanta	l Rd		
			Eastl	oound			West	bound			North	bound				S	Southboun	d		
Start Time	Left	Thru	Right	Right on Red	Peds	App. Total	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
11:30 AM	16	100	27	6	0	149	0	0	39	48	2	0	0	89	0	87	0	0	87	325
11:45 AM	20	107	22	6	0	155	1	0	58	63	1	0	0	122	0	83	0	0	83	360
12:00 PM	21	103	9	6	0	139	0	0	52	65	2	0	0	119	0	85	0	0	85	343
12:15 PM	13	83	15	5	0	116	0	0	43	62	4	0	0	109	0	76	0	0	76	301
Total	70	393	73	23	0	559	1	0	192	238	9	0	0	439	0	331	0	0	331	1329
Approach %	12.5	70.3	13.1	4.1	-	-	-	_	43.7	54.2	2.1	0.0	-	-	0.0	100.0	0.0	-	_	-
Total %	5.3	29.6	5.5	1.7	-	42.1	-	0.0	14.4	17.9	0.7	0.0	-	33.0	0.0	24.9	0.0	-	24.9	-
PHF	0.833	0.918	0.676	0.958	-	0.902	-	0.000	0.828	0.915	0.563	0.000	-	0.900	0.000	0.951	0.000	-	0.951	0.923
Lights	70	392	73	23	-	558	-	0	190	236	9	0	-	435	0	326	0	-	326	1319
% Lights	100.0	99.7	100.0	100.0	-	99.8	-	-	99.0	99.2	100.0	-	-	99.1	-	98.5	-	-	98.5	99.2
Buses	0	0	0	0	-	0	-	0	2	1	0	0	-	3	0	3	0	-	3	6
% Buses	0.0	0.0	0.0	0.0	-	0.0	-	_	1.0	0.4	0.0	_	-	0.7	-	0.9	_	-	0.9	0.5
Trucks	0	1	0	0	-	1	-	0	0	1	0	0	-	1	0	2	0	-	2	4
% Trucks	0.0	0.3	0.0	0.0	-	0.2	-	-	0.0	0.4	0.0	-	-	0.2	ı	0.6	-	-	0.6	0.3
Bicycles on Crosswalk	-	-	-	-	0	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	1	-	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Mt DeChantal Rd/EB Ramps SAT Site Code:

Start Date: 01/25/2020 Page No: 4



Turning Movement Peak Hour Data Plot (11:30 AM)



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/I70 EB Ramp Site Code: Start Date: 01/24/2020 Page No: 1

Turning Movement Data

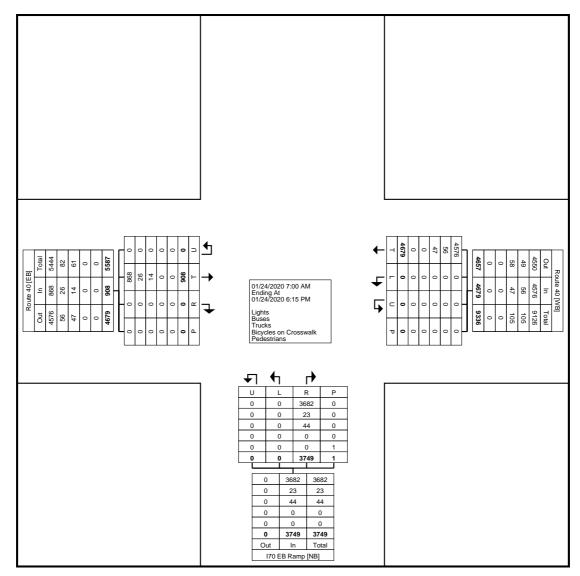
					I	urnin	g Mo	vemer	nt Dat	a						
			Route 40			_		Route 40				1	70 EB Ram	р		
			Eastbound					Westbound	l				Northbound	l		
Start Time	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
7:00 AM	31	0	0	0	31	0	141	0	0	141	0	116	0	0	116	288
7:15 AM	35	0	. 0	0	35	0	205	. 0	0	205	0	159	. 0	0	159	399
7:30 AM	34	0	0	0	34	0	249	0	0	249	0	201	0	0	201	484
7:45 AM	53	0	0	0	53	0	276	0	0	276	0	243	0	0	243	572
Hourly Total	153	0	. 0	0	153	0	871	0	0	871	0	719	. 0	0	719	1743
8:00 AM	28	0	0	0	28	0	251	0	0	251	0	184	0	0	184	463
8:15 AM	26	0	0	0	26	0	228	0	0	228	0	167	0	0	167	421
8:30 AM	24	0	0	0	24	0	227	0	0	227	0	142	0	0	142	393
8:45 AM	47	0	0	0	47	0	216	0	0	216	0	127	0	0	127	390
Hourly Total	125	0	0	0	125	0	922	0	0	922	0	620	0	0	620	1667
9:00 AM *** BREAK ***	0	0	- 0	0	0	0	- 0	0	0	- 0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	49	0	0	0	49	0	294	0	0	294	0	193	0	0	193	536
3:15 PM	51	0	0	0	51	0	312	0	0	312	0	203	0	0	203	566
3:30 PM	52	0	0	0	52	0	264	0	0	264	0	193	0	0	193	509
3:45 PM	45	0	0	0	45	0	253	0	0	253	0	197	0	0	197	495
Hourly Total	197	0	0	0	197	0	1123	0	0	1123	0	786	0	0	786	2106
4:00 PM	49	0	0	0	49	0	223	0	0	223	0	195	0	0	195	467
4:15 PM	56	0	0	0	56	0	212	0	0	212	0	196	0	0	196	464
4:30 PM	46	0	0	0	46	0	230	0	0	230	0	223	0	0	223	499
4:45 PM	45	0	0	0	45	0	213	0	0	213	0	213	0	0	213	471
Hourly Total	196	0	0	0	196	0	878	0	0	878	0	827	0	0	827	1901
5:00 PM	80	0	0	0	80	0	236	0	0	236	0	208	0	0	208	524
5:15 PM	73	0	0	0	73	0	242	0	0	242	0	199	0	0	199	514
5:30 PM	44	0	0	0	44	0	198	0	0	198	0	198	0	1	198	440
5:45 PM	40	0	0	0	40	0	209	0	0	209	0	192	0	0	192	441
Hourly Total	237	0	0	0	237	0	885	0	0	885	0	797	0	1	797	1919
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	908	0	0	0	908	0	4679	0	0	4679	0	3749	0	1	3749	9336
Approach % Total %	100.0 9.7	0.0	0.0	-	9.7	0.0	100.0 50.1	0.0		50.1	0.0	100.0 40.2	0.0	-	40.2	 -
Lights	868	0.0	0.0		868	0.0	4576	0.0		4576	0.0	3682	0.0		3682	9126
% Lights	95.6				95.6	-	97.8	-		97.8	-	98.2	-		98.2	97.8
Buses	26	0	0	_	26	0	56	0		56	0	23	0	_	23	105
% Buses	2.9	-	-	-	2.9	-	1.2	-	-	1.2	-	0.6	-	-	0.6	1.1
Trucks	14	0	0	-	14	0	47	0	-	47	0	44	0	_	44	105
% Trucks	1.5	-	-	-	1.5	-	1.0	-	-	1.0	-	1.2	-	-	1.2	1.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	_	0	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	_	-	-	-	-	-	-	-	-	-	-		100.0	-	-



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/I70 EB Ramp Site Code: Start Date: 01/24/2020 Page No: 2



Turning Movement Data Plot



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Count Name: Route 40/I70 EB Ramp Site Code: Start Date: 01/24/2020 Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

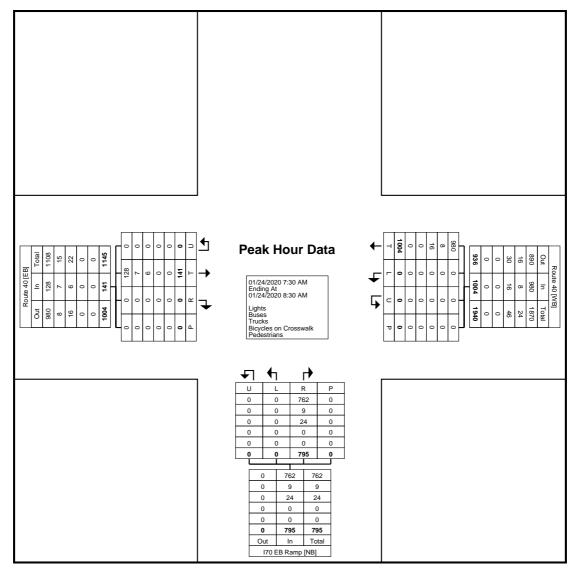
			Route 40 Eastbound		J			Route 40 Westbound		`			70 EB Ram Northbound	•		
Start Time	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
7:30 AM	34	0	0	0	34	0	249	0	0	249	0	201	0	0	201	484
7:45 AM	53	0	0	0	53	0	276	0	0	276	0	243	0	0	243	572
8:00 AM	28	0	0	0	28	0	251	0	0	251	0	184	0	0	184	463
8:15 AM	26	0	0	0	26	0	228	0	0	228	0	167	0	0	167	421
Total	141	0	0	0	141	0	1004	0	0	1004	0	795	0	0	795	1940
Approach %	100.0	0.0	0.0	-	-	0.0	100.0	0.0	-	-	0.0	100.0	0.0	-	-	-
Total %	7.3	0.0	0.0	-	7.3	0.0	51.8	0.0	-	51.8	0.0	41.0	0.0	-	41.0	-
PHF	0.665	0.000	0.000	-	0.665	0.000	0.909	0.000	-	0.909	0.000	0.818	0.000	-	0.818	0.848
Lights	128	0	0	-	128	0	980	0	-	980	0	762	0	-	762	1870
% Lights	90.8	-	-	-	90.8	-	97.6	-	-	97.6	-	95.8	-	-	95.8	96.4
Buses	7	0	0	-	7	0	8	0	-	8	0	9	0	-	9	24
% Buses	5.0	-	-	-	5.0	-	0.8	-	-	0.8	-	1.1	-	-	1.1	1.2
Trucks	6	0	0	-	6	0	16	0	-	16	0	24	0	-	24	46
% Trucks	4.3	-	-	-	4.3	-	1.6	-	-	1.6	-	3.0	-	-	3.0	2.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-		0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Route 40/I70 EB Ramp Site Code: Start Date: 01/24/2020 Page No: 4



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



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/I70 EB Ramp Site Code: Start Date: 01/24/2020 Page No: 5

Turning Movement Peak Hour Data (3:00 PM)

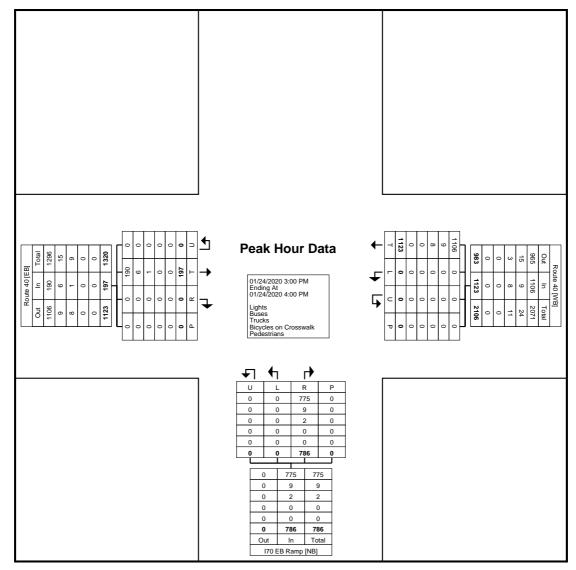
			Route 40 Eastbound		3			Route 40 Westbound		`			70 EB Ram Northbound	'		
Start Time	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
3:00 PM	49	0	0	0	49	0	294	0	0	294	0	193	0	0	193	536
3:15 PM	51	0	0	0	51	0	312	0	0	312	0	203	0	0	203	566
3:30 PM	52	0	0	0	52	0	264	0	0	264	0	193	0	0	193	509
3:45 PM	45	0	0	0	45	0	253	0	0	253	0	197	0	0	197	495
Total	197	0	0	0	197	0	1123	0	0	1123	0	786	0	0	786	2106
Approach %	100.0	0.0	0.0	-	-	0.0	100.0	0.0	-	_	0.0	100.0	0.0	-		-
Total %	9.4	0.0	0.0	-	9.4	0.0	53.3	0.0	-	53.3	0.0	37.3	0.0	-	37.3	-
PHF	0.947	0.000	0.000	-	0.947	0.000	0.900	0.000	-	0.900	0.000	0.968	0.000	-	0.968	0.930
Lights	190	0	0	-	190	0	1106	0	-	1106	0	775	0	-	775	2071
% Lights	96.4	-		-	96.4	-	98.5		-	98.5	-	98.6		-	98.6	98.3
Buses	6	0	0	-	6	0	9	0	-	9	0	9	0	-	9	24
% Buses	3.0	_	-	-	3.0	-	0.8	-	-	0.8	-	1.1		-	1.1	1.1
Trucks	1	0	0	-	1	0	8	0	-	8	0	2	0	-	2	11
% Trucks	0.5	-	-	-	0.5	-	0.7	-	-	0.7	-	0.3	-	-	0.3	0.5
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	_		-	-	-	-		-	_	-	-		-	_	



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/I70 EB Ramp Site Code: Start Date: 01/24/2020 Page No: 6



Turning Movement Peak Hour Data Plot (3:00 PM)



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/I70 EB Ramp SAT Site Code: Start Date: 01/25/2020 Page No: 1

Turning Movement Data

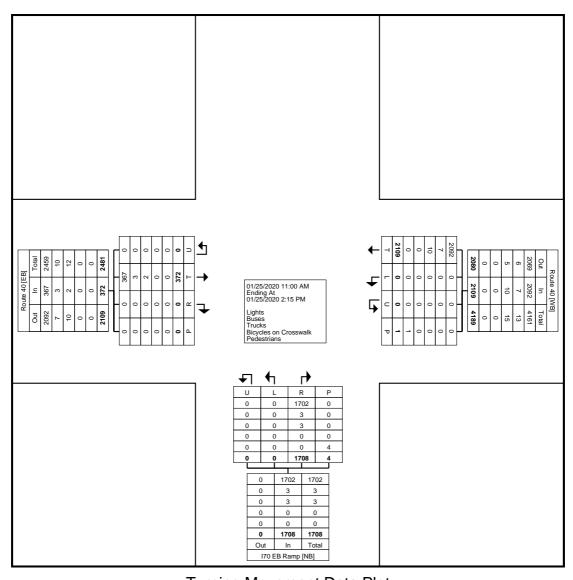
					I	urnın	g iviov	vemer	it Dat	a						
			Route 40					Route 40					70 EB Ram			
Start Time			Eastbound					Westbound					Northbound			
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
11:00 AM	27	0	0	0	27	0	178	0	0	178	0	122	0	0	122	327
11:15 AM	32	0	. 0	0	32	0	182	0	0	182	0	136	. 0	0	136	350
11:30 AM	47	0	0	0	47	0	197	0	0	197	0	150	0	0	150	394
11:45 AM	26	0	0	0	26	0	181	0	0	181	0	164	0	2	164	371
Hourly Total	132	0	0	0	132	0	738	0	0	738	0	572	0	2	572	1442
12:00 PM	43	0	0	0	43	0	191	0	0	191	0	175	0	0	175	409
12:15 PM	32	0	0	0	32	0	169	0	0	169	0	148	0	0	148	349
12:30 PM	28	0	0	0	28	0	182	0	1	182	0	135	0	0	135	345
12:45 PM	30	0	0	0	30	0	176	0	0	176	0	134	0	0	134	340
Hourly Total	133	0	0	0	133	0	718	0	1	718	0	592	0	0	592	1443
1:00 PM	29	0	0	0	29	0	179	0	0	179	0	136	0	1	136	344
1:15 PM	21	0	0	0	21	0	163	. 0	0	163	0	115	0	0	115	299
1:30 PM	29	0	0	0	29	0	153	0	0	153	0	140	0	0	140	322
1:45 PM	27	0	0	0	27	0	158	0	0	158	0	153	0	1	153	338
Hourly Total	106	0	0	0	106	0	653	0	0	653	0	544	0	2	544	1303
2:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	372	0	0	0	372	0	2109	0	1	2109	0	1708	0	4	1708	4189
Approach %	100.0	0.0	0.0	-	-	0.0	100.0	0.0	-	_	0.0	100.0	0.0	-	-	-
Total %	8.9	0.0	0.0	-	8.9	0.0	50.3	0.0	-	50.3	0.0	40.8	0.0	-	40.8	-
Lights	367	0	0	-	367	0	2092	0	-	2092	0	1702	0	-	1702	4161
% Lights	98.7	-	<u> </u>	-	98.7	-	99.2	<u> </u>	-	99.2	-	99.6	<u> </u>	-	99.6	99.3
Buses	3	0	0	-	3	0	7	0	-	7	0	3	0	-	3	13
% Buses	0.8	-	-	-	0.8	-	0.3		-	0.3	-	0.2		-	0.2	0.3
Trucks	2	0	0	-	2	0	10	. 0	-	10	0	3	0	-	3	15
% Trucks	0.5	-		-	0.5	-	0.5		-	0.5	-	0.2		-	0.2	0.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-		0	-	-	-	_	1	-	-	_	-	4	-	-
% Pedestrians	-	-	<u>-</u>	-	-	-	-	<u> </u>	100.0	-	-	-	-	100.0	-	-



184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/I70 EB Ramp SAT Site Code: Start Date: 01/25/2020 Page No: 2



Turning Movement Data Plot



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/I70 EB Ramp SAT Site Code: Start Date: 01/25/2020 Page No: 3

Turning Movement Peak Hour Data (11:15 AM)

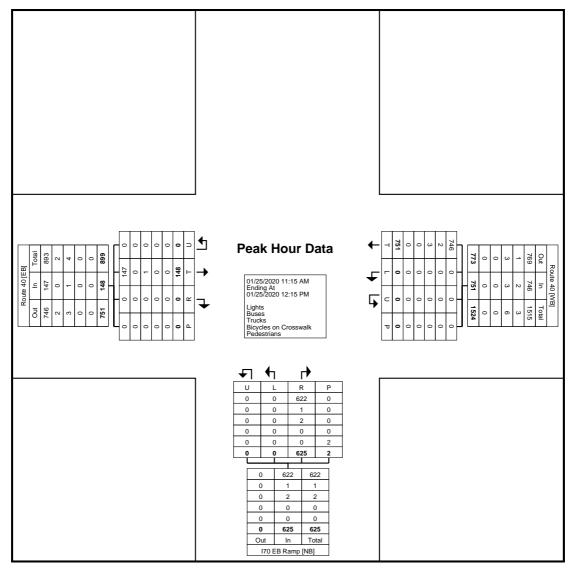
				~	,				. – ~	\sim $\langle \cdot \cdot \cdot \cdot$		·· <i>,</i>				
			Route 40					Route 40				· I	70 EB Ram	р		
			Eastbound					Westbound					Northbound	ı		
Start Time	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
11:15 AM	32	0	0	0	32	0	182	0	0	182	0	136	0	0	136	350
11:30 AM	47	0	0	0	47	0	197	0	0	197	0	150	0	0	150	394
11:45 AM	26	0	0	0	26	0	181	0	0	181	0	164	0	2	164	371
12:00 PM	43	0	0	0	43	0	191	0	0	191	0	175	0	0	175	409
Total	148	0	0	0	148	0	751	0	0	751	0	625	0	2	625	1524
Approach %	100.0	0.0	0.0	-	-	0.0	100.0	0.0	-	-	0.0	100.0	0.0	-	-	-
Total %	9.7	0.0	0.0	-	9.7	0.0	49.3	0.0	-	49.3	0.0	41.0	0.0	-	41.0	-
PHF	0.787	0.000	0.000	-	0.787	0.000	0.953	0.000	-	0.953	0.000	0.893	0.000	-	0.893	0.932
Lights	147	0	0	-	147	0	746	0	-	746	0	622	0	-	622	1515
% Lights	99.3	-	-	-	99.3	-	99.3	-	-	99.3	-	99.5	-	-	99.5	99.4
Buses	0	0	0	-	0	0	2	0	-	2	0	1	0	-	1	3
% Buses	0.0	-	-	-	0.0	-	0.3	-	-	0.3	-	0.2	-	-	0.2	0.2
Trucks	1	0	0	-	1	0	3	0	-	3	0	2	0	-	2	6
% Trucks	0.7	-	-	-	0.7	-	0.4	-	-	0.4	-	0.3	-	-	0.3	0.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	_	_	-	-	-	-	_	-	_	-	_	-	100.0	-	-



184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/I70 EB Ramp SAT Site Code: Start Date: 01/25/2020 Page No: 4



Turning Movement Peak Hour Data Plot (11:15 AM)



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Mt DeChantal Rd Site Code: Start Date: 01/24/2020 Page No: 1

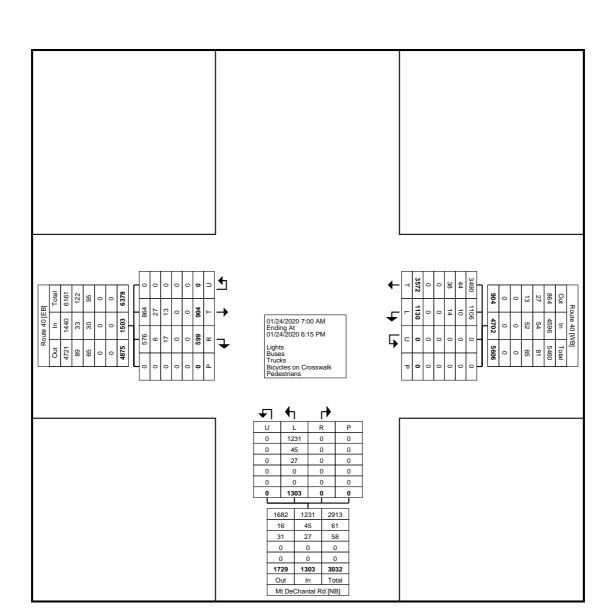
Turning Movement Data

						ΙŲ	ırnıng	j Mov	vemei	nt Da	ata							
			Rout	te 40					Route 40					Mt DeCh	antal Rd			
			Eastb	oound				,	Westbound	l				North	bound			
Start Time	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds	App. Total	Int. Total
7:00 AM	30	9	4	0	0	43	30	113	0	0	143	18	0	0	0	0	18	204
7:15 AM	35	10	. 7	0	0	52	46	155	0	0	201	27	0	0	0	0	27	280
7:30 AM	30	18	10	0	0	58	66	186	0	0	252	40	0	0	0	0	40	350
7:45 AM	51	25	7	0	0	83	66	207	0	0	273	58	0	0	0	0	58	414
Hourly Total	146	62	28	0	0	236	208	661	0	0	869	143	0	0	0	0	143	1248
8:00 AM	28	14	11	0	0	53	64	195	0	0	259	53	0	0	0	0	53	365
8:15 AM	25	19	10	0	0	54	63	172	0	0	235	65	0	0	0	0	65	354
8:30 AM	24	16	13	0	0	53	56	149	. 0	0	205	59	0	. 0	0	0	59	317
8:45 AM	45	17	10	0	0	72	53	182	. 0	0	235	70	0	0	0	0	70	377
Hourly Total	122	66	44	0	0	232	236	698	0	0	934	247	0	0	0	0	247	1413
*** BREAK ***	-			<u> </u>	-		-	-	-	-		-	-			-		-
3:00 PM	49	29	5	0	0	83	65	211	0	0	276	61	0	0	0	0	61	420
3:15 PM	55	28	12	0	0	95	77	255	0	0	332	72	0	0	0	0	72	499
3:30 PM	52	17	7	0	0	76	75	203	0	0	278	87	0	0	0	0	87	441
3:45 PM	46	24	12	0	0	82	66	193	0	0	259	78	0	0	0	0	78	419
Hourly Total	202	98	36	0	0	336	283	862	0	0	1145	298	0	0	0	0	298	1779
4:00 PM	45	22	12	0	0	79	48	171	0	0	219	90	0	0	0	0	90	388
4:15 PM	49	35	4	0	0	88	52	156	. 0	0	208	83	0	0	0	0	83	379
4:30 PM	59	24	8	0	0	91	49	164	0	0	213	96	0	0	0	0	96	400
4:45 PM	47	33	8	0	0	88	54	173	0	0	227	70	0	0	0	0	70	385
Hourly Total	200	114	32	0	0	346	203	664	0	0	867	339	0	0	0	0	339	1552
5:00 PM	80	30	9	0	0	119	46	192	0	0	238	57	0	0	0	0	57	414
5:15 PM	71	18	11	0	0	100	47	197	0	0	244	90	0	0	0	0	90	434
5:30 PM	44	16	10	0	0	70	54	149	. 0	0	203	66	0	0	0	0	66	339
5:45 PM	39	16	9	0	0	64	51	148	0	0	199	63	0	0	0	0	63	326
Hourly Total	234	80	39	0	0	353	198	686	0	0	884	276	0	0	0	0	276	1513
6:00 PM	0	0	0	0	0	0	2	1	. 0	0	3	0	0	0	0	0	0	3
Grand Total	904	420	179	0	0	1503	1130	3572	0	0	4702	1303	0	0	0	0	1303	7508
Approach %	60.1	27.9	11.9	0.0	-	-	24.0	76.0	0.0	-	-	100.0	0.0	0.0	0.0	-	-	-
Total %	12.0	5.6	2.4	0.0	-	20.0	15.1	47.6	0.0	-	62.6	17.4	0.0	0.0	0.0	-	17.4	-
Lights	864	405	171	0	-	1440	1106	3490	0	-	4596	1231	0	0	0	-	1231	7267
% Lights	95.6	96.4	95.5		-	95.8	97.9	97.7		-	97.7	94.5	-	-		-	94.5	96.8
Buses	27	3	3	0	-	33	10	44	. 0	-	54	45	0	0	0	-	45	132
% Buses	3.0	0.7	1.7		-	2.2	0.9	1.2	<u> </u>	-	1.1	3.5	-	-	-	-	3.5	1.8
Trucks	13	12	5	0	-	30	14	38	0	-	52	27	0	0	0	-	27	109
% Trucks	1.4	2.9	2.8		-	2.0	1.2	1.1	 .	-	1.1	2.1	-	-		-	2.1	1.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-			 .	0		-	-	. - .	0		-			<u> </u>	0		-
% Pedestrians	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-



184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Mt DeChantal Rd Site Code: Start Date: 01/24/2020 Page No: 2



Turning Movement Data Plot



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Mt DeChantal Rd Site Code: Start Date: 01/24/2020 Page No: 3

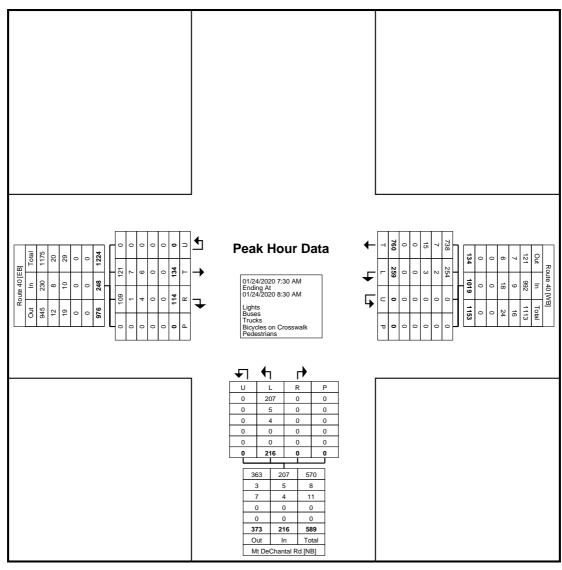
Turning Movement Peak Hour Data (7:30 AM)

	1				U		1				`	1	,					1
			Rou	te 40					Route 40									
			East	bound					Westboun	d				North	bound			
Start Time	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds	App. Total	Int. Total
7:30 AM	30	18	10	0	0	58	66	186	0	0	252	40	0	0	0	0	40	350
7:45 AM	51	25	7	0	0	83	66	207	0	0	273	58	0	0	0	0	58	414
8:00 AM	28	14	11	0	0	53	64	195	0	0	259	53	0	0	0	0	53	365
8:15 AM	25	19	10	0	0	54	63	172	0	0	235	65	0	0	0	0	65	354
Total	134	76	38	0	0	248	259	760	0	0	1019	216	0	0	0	0	216	1483
Approach %	54.0	30.6	15.3	0.0	-	-	25.4	74.6	0.0	-	-	100.0	0.0	0.0	0.0	-	-	-
Total %	9.0	5.1	2.6	0.0	-	16.7	17.5	51.2	0.0	-	68.7	14.6	0.0	0.0	0.0	-	14.6	-
PHF	0.657	0.760	0.864	0.000	-	0.747	0.981	0.918	0.000	-	0.933	0.831	0.000	0.000	0.000	-	0.831	0.896
Lights	121	75	34	0	-	230	254	738	0	-	992	207	0	0	0	-	207	1429
% Lights	90.3	98.7	89.5	-	-	92.7	98.1	97.1	-	-	97.4	95.8	-	-	-	-	95.8	96.4
Buses	7	0	1	0	-	8	2	7	0	-	9	5	0	0	0	-	5	22
% Buses	5.2	0.0	2.6	-	-	3.2	0.8	0.9	-	-	0.9	2.3	-	-	-	-	2.3	1.5
Trucks	6	1	3	0	-	10	3	15	0	-	18	4	0	0	0	-	4	32
% Trucks	4.5	1.3	7.9	-	-	4.0	1.2	2.0	-	-	1.8	1.9	-	-	-	-	1.9	2.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	l .	_			-		_		_			_		_		_		



184 Baker Rd , Pennsylvania, United States 19320

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Mt DeChantal Rd Site Code: Start Date: 01/24/2020 Page No: 4



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



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Mt DeChantal Rd Site Code: Start Date: 01/24/2020 Page No: 5

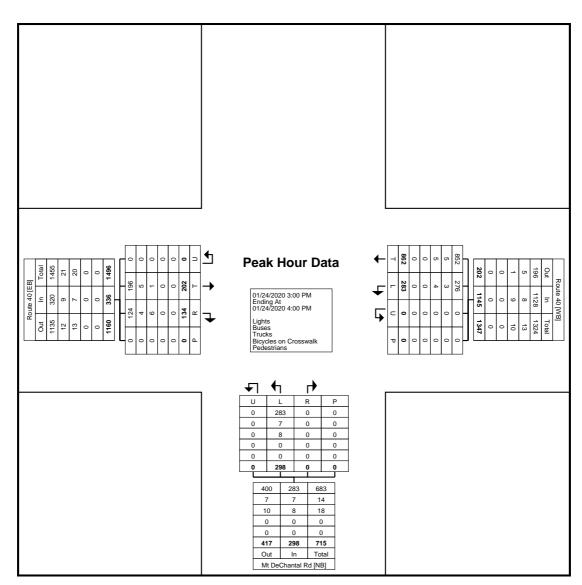
Turning Movement Peak Hour Data (3:00 PM)

				_	3	_	-		-	-			,					
			Rou	te 40					Route 40					Mt DeCl	hantal Rd			
			East	oound					Westbound	t				North	bound			
Start Time	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds	App. Total	Int. Total
3:00 PM	49	29	5	0	0	83	65	211	0	0	276	61	0	0	0	0	61	420
3:15 PM	55	28	12	0	0	95	77	255	0	0	332	72	0	0	0	0	72	499
3:30 PM	52	17	7	0	0	76	75	203	0	0	278	87	0	0	0	0	87	441
3:45 PM	46	24	12	0	0	82	66	193	0	0	259	78	0	0	0	0	78	419
Total	202	98	36	0	0	336	283	862	0	0	1145	298	0	0	0	0	298	1779
Approach %	60.1	29.2	10.7	0.0	-	-	24.7	75.3	0.0	-	-	100.0	0.0	0.0	0.0	-	-	-
Total %	11.4	5.5	2.0	0.0	-	18.9	15.9	48.5	0.0	-	64.4	16.8	0.0	0.0	0.0	-	16.8	-
PHF	0.918	0.845	0.750	0.000	-	0.884	0.919	0.845	0.000	-	0.862	0.856	0.000	0.000	0.000	-	0.856	0.891
Lights	196	89	35	0	-	320	276	852	0	-	1128	283	0	0	0	-	283	1731
% Lights	97.0	90.8	97.2	-	-	95.2	97.5	98.8	-	-	98.5	95.0	-	-	-	-	95.0	97.3
Buses	5	3	1	0	-	9	3	5	0	-	8	7	0	0	0	-	7	24
% Buses	2.5	3.1	2.8	-	-	2.7	1.1	0.6	-	-	0.7	2.3	-	-	-	-	2.3	1.3
Trucks	1	6	0	0	-	7	4	5	0	-	9	8	0	0	0	-	8	24
% Trucks	0.5	6.1	0.0	-	-	2.1	1.4	0.6	-	-	0.8	2.7	-	-	-	-	2.7	1.3
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	_	-	-	-	-	-	_	_	-	-	_	_	-	_	_	_



184 Baker Rd , Pennsylvania, United States 19320

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Mt DeChantal Rd Site Code: Start Date: 01/24/2020 Page No: 6



Turning Movement Peak Hour Data Plot (3:00 PM)



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Mt DeChantal Rd SAT Site Code: Start Date: 01/25/2020 Page No: 1

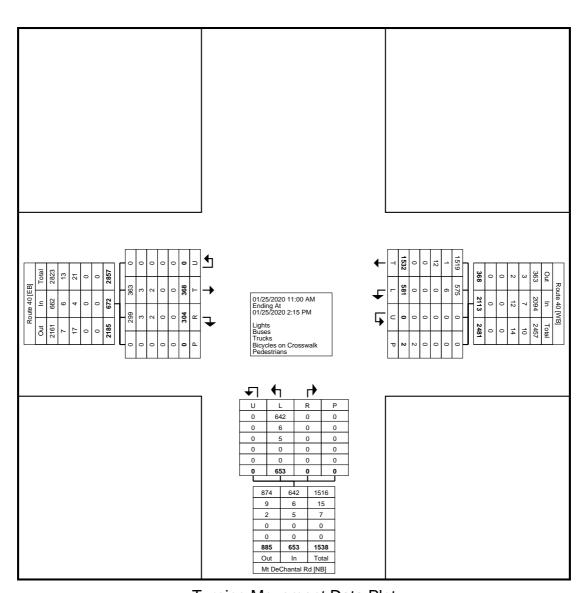
Turning Movement Data

Start Time							ΙL	ırnınç	y Mov	veme	nt Da	ıta											
Start Time				Rout	te 40					Route 40													
Thru				Easth	oound					Westbound	t				North	bound							
11:15 AM	Start Time	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds						
11:30 AM	11:00 AM	27	25	4	0	0	56	46	140	0	0	186	55	0	0	0	0	55	297				
11:45 AM	11:15 AM	33	12	1	0	0	46	41	138	0	0	179	50	0	0	0	0	50	275				
Hourly Total 127 71 26 0 0 224 206 541 0 0 747 236 0 0 0 0 236 1207	11:30 AM	44	16	7	0	0	67	63	133	0	0	196	54	0	0	0	0	54	317				
12:00 PM	11:45 AM	23	18	14	0	0	55	56	130	0	0	186	77	0	0	0	0	77	318				
12:15 PM	Hourly Total	127	71	26	0	0	224	206	541	0	0	747	236	0	0	0	0	236	1207				
12:30 PM	12:00 PM	45	28	5	0	0	78	47	129	0	0	176	78	0	0	0	0	78	332				
12:45 PM	12:15 PM	35	25	6	0	0	66	46	121	0	0	167	52	0	0	0	0	52	285				
Hourly Total 138	12:30 PM	28	23	5	0	0	56	58	135	0	0	193	48	0	0	0	0	48	297				
1:00 PM 28 19 10 0 0 57 48 133 0 0 181 56 0 0 0 0 56 294	12:45 PM	30	11	8	0	0	49	46	132	0	0	178	45	0	0	0	0	45	272				
1:15 PM 17 20 5 0 0 42 52 109 0 0 161 46 0 0 0 46 249 1:30 PM 30 19 5 0 0 54 33 114 0 1 147 45 0 0 0 45 246 1:45 PM 28 9 9 0 0 46 45 118 0 1 163 47 0 0 0 47 256 Hourly Total 103 67 29 0 0 199 178 474 0 2 652 194 0 6	Hourly Total	138	87	24	0	0	249	197	517	0	0	714	223	0	0	0	0	223	1186				
1:30 PM 30 19 5 0 0 54 33 114 0 1 147 45 0 0 0 45 246 1:45 PM 28 9 9 0 0 46 45 118 0 1 163 47 0 0 0 0 47 256 Hourly Total 103 67 29 0 0 199 178 474 0 2 652 194 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1:00 PM	28	19	10	0	0	57	48	133	0	0	181	56	0	0	0	0	56	294				
1:45 PM 28 9 9 0 0 46 45 118 0 1 163 47 0 0 0 47 256 Hourly Total 103 67 29 0 0 199 178 474 0 2 652 194 0 0 0 0 194 1045 2:00 PM 0	1:15 PM	17	20	5	0	0	42	52	109	0	0	161	46	0	0	0	0	46	249				
Hourly Total 103 67 29 0 0 199 178 474 0 2 652 194 0 0 0 0 0 194 1045	1:30 PM	30	19	5	0	0	54	33	114	0	1	147	45	0	0	0	0	45	246				
2:00 PM 0 </td <td>1:45 PM</td> <td>28</td> <td>9</td> <td>9</td> <td>0</td> <td>0</td> <td>46</td> <td>45</td> <td>118</td> <td>0</td> <td>1</td> <td>163</td> <td>47</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>47</td> <td>256</td>	1:45 PM	28	9	9	0	0	46	45	118	0	1	163	47	0	0	0	0	47	256				
Grand Total 368 225 79 0 0 672 581 1532 0 2 2113 653 0 0 0 0 653 3438 Approach % 54.8 33.5 11.8 0.0 - - 27.5 72.5 0.0 - - 100.0 0.0 0.0 0.0 - - - - - - - - - - - - 100.0 0.0 0.0 0.0 0.0 - </td <td>Hourly Total</td> <td>103</td> <td>67</td> <td>29</td> <td>0</td> <td>0</td> <td>199</td> <td>178</td> <td>474</td> <td>0</td> <td>2</td> <td>652</td> <td>194</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>194</td> <td>1045</td>	Hourly Total	103	67	29	0	0	199	178	474	0	2	652	194	0	0	0	0	194	1045				
Approach % 54.8 33.5 11.8 0.0 - - 27.5 72.5 0.0 - - 100.0 0.0 0.0 0.0 - 98.3 99.0 99.2 - - - 99.3 98.3	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total % 10.7 6.5 2.3 0.0 - 19.5 16.9 44.6 0.0 - 61.5 19.0 0.0 0.0 0.0 - 19.0 - Lights 363 223 76 0 - 662 575 1519 0 - 2094 642 0 0 0 - 642 3398 W Lights 98.6 99.1 96.2 - - 98.5 99.0 99.2 - - 99.1 98.3 - - - - 98.3 98.8 Buses 3 1 2 0 - 6 6 1 0 - 7 6 0 0 0 - 6 19 Buses 0.8 0.4 2.5 - - 0.9 1.0 0.1 - - 0.3 0.9 - - - 0.9 0.6 Trucks </td <td>Grand Total</td> <td>368</td> <td>225</td> <td>79</td> <td>0</td> <td>0</td> <td>672</td> <td>581</td> <td>1532</td> <td>0</td> <td>2</td> <td>2113</td> <td>653</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>653</td> <td>3438</td>	Grand Total	368	225	79	0	0	672	581	1532	0	2	2113	653	0	0	0	0	653	3438				
Lights 363 223 76 0 - 662 575 1519 0 - 2094 642 0 0 0 - 642 3398 % Lights 98.6 99.1 96.2 - - 98.5 99.0 99.2 - - 99.1 98.3 - - - - 98.3 98.8 Buses 3 1 2 0 - 6 6 1 0 - 7 6 0 0 0 - 6 19 % Buses 0.8 0.4 2.5 - - 0.9 1.0 0.1 - - 0.3 0.9 - - - 0.9 0.6 Trucks 2 1 1 0 - 4 0 12 0 - 12 5 0 0 0 - - 5 21 % Trucks	Approach %	54.8	33.5	11.8	0.0	-		27.5	72.5	0.0	-	-	100.0	0.0	0.0	0.0	-	_	-				
% Lights 98.6 99.1 96.2 - - 98.5 99.0 99.2 - - 99.1 98.3 - - - - - 98.3 98.8 Buses 3 1 2 0 - 6 6 1 0 - 7 6 0 0 0 - 6 19 % Buses 0.8 0.4 2.5 - - 0.9 1.0 0.1 - - 0.3 0.9 - - - 0.9 0.6 Trucks 2 1 1 0 - 4 0 12 0 - 12 5 0 0 0 - 5 21 % Trucks 0.5 0.4 1.3 - - 0.6 0.0 0.8 - - - - - 0.8 0.6 Bicycles on Crosswalk - - - <td>Total %</td> <td>10.7</td> <td>6.5</td> <td>2.3</td> <td>0.0</td> <td>-</td> <td>19.5</td> <td>16.9</td> <td>44.6</td> <td>0.0</td> <td>-</td> <td>61.5</td> <td>19.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>-</td> <td>19.0</td> <td>-</td>	Total %	10.7	6.5	2.3	0.0	-	19.5	16.9	44.6	0.0	-	61.5	19.0	0.0	0.0	0.0	-	19.0	-				
Buses 3 1 2 0 - 6 6 1 0 - 7 6 0 0 0 - 6 19 % Buses 0.8 0.4 2.5 - - 0.9 1.0 0.1 - - 0.3 0.9 - - - 0.9 0.6 Trucks 2 1 1 0 - 4 0 12 0 - 12 5 0 0 0 - 5 21 % Trucks 0.5 0.4 1.3 - - 0.6 0.0 0.8 - - 0.8 0.6 Bicycles on Crosswalk - </td <td>Lights</td> <td>363</td> <td>223</td> <td>76</td> <td>0</td> <td>-</td> <td>662</td> <td>575</td> <td>1519</td> <td>0</td> <td>-</td> <td>2094</td> <td>642</td> <td>0</td> <td>0</td> <td>0</td> <td>-</td> <td>642</td> <td>3398</td>	Lights	363	223	76	0	-	662	575	1519	0	-	2094	642	0	0	0	-	642	3398				
% Buses 0.8 0.4 2.5 - - 0.9 1.0 0.1 - - 0.3 0.9 - - - - 0.9 0.6 Trucks 2 1 1 0 - 4 0 12 0 - 12 5 0 0 0 - 5 21 % Trucks 0.5 0.4 1.3 - - 0.6 0.0 0.8 - - - - 0.8 0.6 Bicycles on Crosswalk -	% Lights	98.6	99.1	96.2		-	98.5	99.0	99.2		-	99.1	98.3	-	_		-	98.3	98.8				
Trucks 2 1 1 0 - 4 0 12 0 - 12 5 0 0 0 - 5 21 % Trucks 0.5 0.4 1.3 - - 0.6 0.0 0.8 - - 0.6 0.8 - - - 0.8 0.6 Bicycles on Crosswalk - - - - - - - - - - - 0.0 -	Buses	3	1	2	0	-	6	6	1	0	-	7	6	0	0	0	-	6	19				
% Trucks 0.5 0.4 1.3 - - 0.6 0.0 0.8 - - 0.6 0.8 - - - - 0.8 0.6 Bicycles on Crosswalk -	% Buses	0.8	0.4	2.5	-	-	0.9	1.0	0.1	-	-	0.3	0.9	-	-		-	0.9	0.6				
Bicycles on Crosswalk Cr	Trucks	2	11	. 1	0	-	4	0	12	0	-	12	5	0	0	0	-	5	21				
Crosswalk 8 Bicycles on Crosswalk	% Trucks	0.5	0.4	1.3		-	0.6	0.0	0.8		-	0.6	0.8	-			-	0.8	0.6				
Crosswalk	Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-				
Pedestrians 0 2 0		-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-				
	Pedestrians	-		-	-	0		-		-	2	-	-	-	-		0	-	-				
% Pedestrians 100.0	% Pedestrians	-		-		-		-			100.0	-	-	-			-		-				



184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Mt DeChantal Rd SAT Site Code: Start Date: 01/25/2020 Page No: 2



Turning Movement Data Plot



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Mt DeChantal Rd SAT Site Code: Start Date: 01/25/2020 Page No: 3

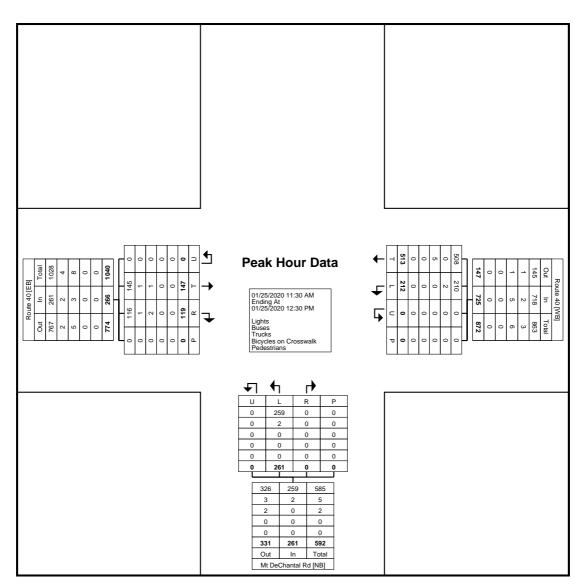
Turning Movement Peak Hour Data (11:30 AM)

			Rou	te 40					Route 40		()		,	Mt DeCh	nantal Rd			
			Easth	oound					Westbound	t				North	bound			
Start Time	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds	App. Total	Int. Total
11:30 AM	44	16	7	0	0	67	63	133	0	0	196	54	0	0	0	0	54	317
11:45 AM	23	18	14	0	0	55	56	130	0	0	186	77	0	0	0	0	77	318
12:00 PM	45	28	5	0	0	78	47	129	0	0	176	78	0	0	0	0	78	332
12:15 PM	35	25	6	0	0	66	46	121	0	0	167	52	0	0	0	0	52	285
Total	147	87	32	0	0	266	212	513	0	0	725	261	0	0	0	0	261	1252
Approach %	55.3	32.7	12.0	0.0	-	-	29.2	70.8	0.0	-	-	100.0	0.0	0.0	0.0	-	-	-
Total %	11.7	6.9	2.6	0.0	-	21.2	16.9	41.0	0.0	-	57.9	20.8	0.0	0.0	0.0	-	20.8	-
PHF	0.817	0.777	0.571	0.000	-	0.853	0.841	0.964	0.000	-	0.925	0.837	0.000	0.000	0.000	-	0.837	0.943
Lights	145	86	30	0	-	261	210	508	0	-	718	259	0	0	0	-	259	1238
% Lights	98.6	98.9	93.8	-	-	98.1	99.1	99.0	-	-	99.0	99.2	-	-	-	-	99.2	98.9
Buses	1	0	1	0	-	2	2	0	0	-	2	2	0	0	0	-	2	6
% Buses	0.7	0.0	3.1	-	-	0.8	0.9	0.0	-	-	0.3	0.8	-	-	-	-	0.8	0.5
Trucks	1	1	1	0	-	3	0	5	0	-	5	0	0	0	0	-	0	8
% Trucks	0.7	1.1	3.1	-	-	1.1	0.0	1.0	-	-	0.7	0.0	-	-	-	-	0.0	0.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	_	-		-	_	-	_	_	-	_	-	_	_	-	-	_	-



184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/Mt DeChantal Rd SAT Site Code: Start Date: 01/25/2020 Page No: 4



Turning Movement Peak Hour Data Plot (11:30 AM)



Wheeling, WV EB Ramps/Krogers & Mt DeChantel Friday, January 24, 2020 Location: 40.073989, -80.700647

www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: EB Ramps/Mt DeChantel Rd/Krogers Site Code: Start Date: 01/24/2020 Page No: 1

Turning Movement Data

1	I Urning Move																								1		
	EB Ramp Krogers Eastbound Westbound													N			ld		Mt DeChantel Rd								
Ctart Times			Easth						West				Northbound								Southbound						
Start Time	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	Int. Total		
7:00 AM	0	0	0	0	0	0	1	4	6	0	0	11	3	31	0	0	0	34	0	32	28	0	0	60	105		
7:15 AM	0	0	0	0	0	0	0	2	4	0	0	6	5	49	0	0	0	54	0	33	40	0	0	73	133		
7:30 AM	0	0	0	0	0	0	1	3	14	0	0	18	8	71	0	0	0	79	0	49	51	0	0	100	197		
7:45 AM	0	0	0	0	0	0	1	0	19	0	2	20	9	87	0	0	0	96	0	74	60	0	0	134	250		
Hourly Total	0	0	0	0	0	0	3	9	43	0	2	55	25	238	0	0	0	263	0	188	179	0	0	367	685		
8:00 AM	0	0	0	0	0	0	1	1	30	0	0	32	10	72	0	0	0	82	0	53	59	0	0	112	226		
8:15 AM	0	0	0	0	0	0	1	5	20	0	0	26	10	88	0	0	0	98	0	43	57	0	0	100	224		
8:30 AM	0	0	0	0	0	0	1	6	21	0	0	28	8	59	0	0	0	67	0	46	55	0	1	101	196		
8:45 AM	0	0	0	0	0	0	1	3	24	0	2	28	6	80	0	0	0	86	0	35	60	0	0	95	209		
Hourly Total	0	0	0	0	0	0	4	15	95	0	2	114	34	299	0	0	0	333	0	177	231	0	1	408	855		
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
*** BREAK ***	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:00 PM	0	0	0	0	0	0	2	6	43	0	0	51	9	72	0	0	0	81	0	68	60	0	0	128	260		
3:15 PM	0	0	0	0	0	0	1	6	41	0	1	48	12	97	0	0	0	109	0	73	61	0	1	134	291		
3:30 PM	0	0	0	0	0	0	0	5	53	0	1	58	17	87	0	0	0	104	0	68	73	0	0	141	303		
3:45 PM	0	0	0	0	0	0	1	7	42	0	0	50	16	95	0	0	0	111	0	80	41	0	0	121	282		
Hourly Total	0	0	0	0	0	0	4	24	179	0	2	207	54	351	0	0	0	405	0	289	235	0	1	524	1136		
4:00 PM	0	0	0	0	0	0	0	3	43	0	0	46	18	100	0	0	0	118	0	56	54	0	5	110	274		
4:15 PM	0	0	0	0	0	0	0	6	44	0	1	50	9	98	0	0	0	107	0	60	53	0	0	113	270		
4:30 PM	0	0	0	0	1	0	1	8	43	0	0	52	16	107	0	0	1	123	0	77	44	0	0	121	296		
4:45 PM	0	0	0	0	0	0	1	10	45	0	0	56	13	91	0	0	0	104	0	71	65	0	0	136	296		
Hourly Total	0	0	0	0	1	0	2	27	175	0	1	204	56	396	0	0	1	452	0	264	216	0	5	480	1136		
5:00 PM	0	0	0	0	0	0	2	10	54	0	0	66	15	73	0	0	0	88	0	66	40	0	0	106	260		
5:15 PM	0	0	0	0	0	0	2	2	62	0	2	66	7	73	0	0	0	80	0	52	44	0	1	96	242		
5:30 PM	0	0	0	0	0	0	1	2	42	0	0	45	7	78	0	0	0	85	0	51	44	0	0	95	225		
5:45 PM	0	0	0	0	0	0	3	7	48	0	2	58	8	80	0	0	0	88	0	67	48	0	0	115	261		
Hourly Total	0	0	0	0	0	0	8	21	206	0	4	235	37	304	0	0	0	341	0	236	176	0	1	412	988		
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	0	0	0	0	1	0	21	96	698	0	11	815	206	1588	0	0	1	1794	0	1154	1037	0	8	2191	4800		
Approach %	0.0	0.0	0.0	0.0	-	-	2.6	11.8	85.6	0.0	-	-	11.5	88.5	0.0	0.0	-	-	0.0	52.7	47.3	0.0	-	-	-		
Total %	0.0	0.0	0.0	0.0	-	0.0	0.4	2.0	14.5	0.0	-	17.0	4.3	33.1	0.0	0.0	-	37.4	0.0	24.0	21.6	0.0	-	45.6	-		
Lights	0	0	0	0	-	0	21	96	691	0	-	808	205	1508	0	0	-	1713	0	1135	1000	0	-	2135	4656		
% Lights	-	_	_	-	-	-	100.0	100.0	99.0	-	-	99.1	99.5	95.0	-	_	-	95.5	-	98.4	96.4	-	-	97.4	97.0		
Buses	0	0	0	0	-	0	0	0	0	0	-	0	1	48	0	0	-	49	0	2	15	0	-	17	66		
% Buses	-	-	-	_	-	-	0.0	0.0	0.0	-	-	0.0	0.5	3.0	-	-	-	2.7	-	0.2	1.4	-	-	0.8	1.4		
Trucks	0	0	0	0	-	0	0	0	7	0	-	7	0	32	0	0	-	32	0	17	22	0	-	39	78		
% Trucks	-	-	-	-	-	-	0.0	0.0	1.0	-	-	0.9	0.0	2.0	-	-	-	1.8	-	1.5	2.1	-	-	1.8	1.6		
Bicycles on Crosswalk	-	-	-	_	0	-	-	-	-	-	0	_	-	-	-	-	0	-	-	-	-	-	0	-	-		
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-		
Pedestrians	-	_	-	_	1	-	-	-	-	_	11	-	-	-	-	_	1	-	-	-	-	-	8	-	-		
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	_	100.0	-	-	-	-	-	100.0	-	-		

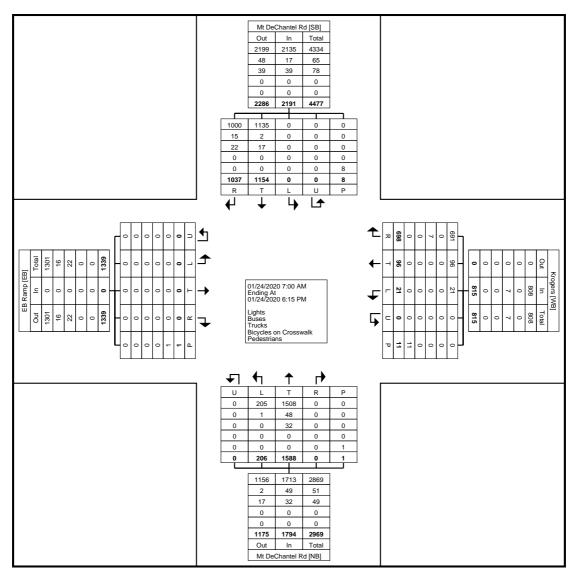


Wheeling, WV EB Ramps/Krogers & Mt DeChantel Friday, January 24, 2020 Location: 40.073989, -80.700647

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Count Name: EB Ramps/Mt DeChantel Rd/Krogers Site Code: Start Date: 01/24/2020 Page No: 2



Turning Movement Data Plot



Wheeling, WV EB Ramps/Krogers & Mt DeChantel Friday, January 24, 2020 Location: 40.073989, -80.700647

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Count Name: EB Ramps/Mt DeChantel Rd/Krogers Site Code: Start Date: 01/24/2020 Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

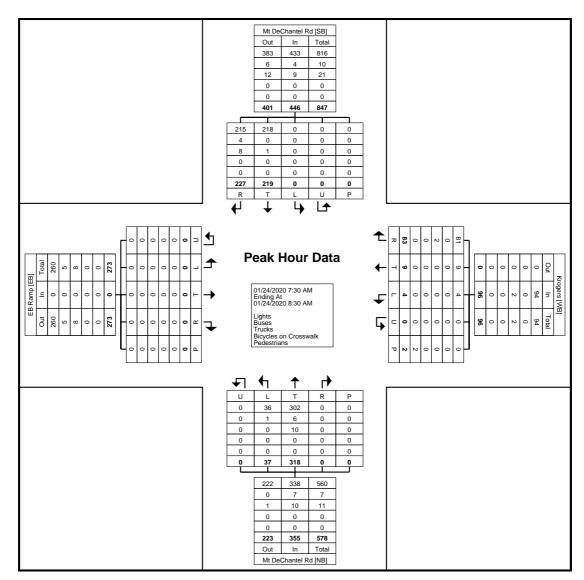
			EB R	amp			'	3	Kro	gers				N	It DeCh	nantel R	ld.		Mt DeChantel Rd							
			Eastb	ound					West	bound					North	bound					South	bound				
Start Time	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Int. Total	
7:30 AM	0	0	0	0	0	0	1	3	14	0	0	18	8	71	0	0	0	79	0	49	51	0	0	100	197	
7:45 AM	0	0	0	0	0	0	1	0	19	0	2	20	9	87	0	0	0	96	0	74	60	0	0	134	250	
8:00 AM	0	0	0	0	0	0	1	1	30	0	0	32	10	72	0	0	0	82	0	53	59	0	0	112	226	
8:15 AM	0	0	0	0	0	0	1	5	20	0	0	26	10	88	0	0	0	98	0	43	57	0	0	100	224	
Total	0	0	0	0	0	0	4	9	83	0	2	96	37	318	0	0	0	355	0	219	227	0	0	446	897	
Approach %	0.0	0.0	0.0	0.0	-	-	4.2	9.4	86.5	0.0	-	-	10.4	89.6	0.0	0.0	-	-	0.0	49.1	50.9	0.0	-	-	-	
Total %	0.0	0.0	0.0	0.0	-	0.0	0.4	1.0	9.3	0.0	-	10.7	4.1	35.5	0.0	0.0	-	39.6	0.0	24.4	25.3	0.0	-	49.7	-	
PHF	0.000	0.000	0.000	0.000	-	0.000	1.000	0.450	0.692	0.000	-	0.750	0.925	0.903	0.000	0.000	-	0.906	0.000	0.740	0.946	0.000	-	0.832	0.897	
Lights	0	0	0	0	-	0	4	9	81	0	-	94	36	302	0	0	-	338	0	218	215	0	-	433	865	
% Lights	-	-	-	-	-	-	100.0	100.0	97.6	-	-	97.9	97.3	95.0	-	-	-	95.2	-	99.5	94.7	-	-	97.1	96.4	
Buses	0	0	0	0	-	0	0	0	0	0	-	0	1	6	0	0	-	7	0	0	4	0	-	4	11	
% Buses	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	2.7	1.9	-	-	-	2.0	-	0.0	1.8	-	-	0.9	1.2	
Trucks	0	0	0	0	-	0	0	0	2	0	-	2	0	10	0	0	-	10	0	1	8	0	-	9	21	
% Trucks	-	-	-	-	-	-	0.0	0.0	2.4	-	-	2.1	0.0	3.1	-	-	-	2.8	-	0.5	3.5	-	-	2.0	2.3	
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



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Start Date: 01/24/2020 Page No: 4



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



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Count Name: EB Ramps/Mt DeChantel Rd/Krogers Site Code: Start Date: 01/24/2020 Page No: 5

Turning Movement Peak Hour Data (3:15 PM)

			EB R	amp				3	Kro	gers				N	It DeCh	nantel R	ld.	,		N	It DeCh	nantel R	ld		
			Eastb	ound					West	bound					North	bound					South	bound			
Start Time	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	Int. Total
3:15 PM	0	0	0	0	0	0	1	6	41	0	1	48	12	97	0	0	0	109	0	73	61	0	1	134	291
3:30 PM	0	0	0	0	0	0	0	5	53	0	1	58	17	87	0	0	0	104	0	68	73	0	0	141	303
3:45 PM	0	0	0	0	0	0	1	7	42	0	0	50	16	95	0	0	0	111	0	80	41	0	0	121	282
4:00 PM	0	0	0	0	0	0	0	3	43	0	0	46	18	100	0	0	0	118	0	56	54	0	5	110	274
Total	0	0	0	0	0	0	2	21	179	0	2	202	63	379	0	0	0	442	0	277	229	0	6	506	1150
Approach %	0.0	0.0	0.0	0.0	-	-	1.0	10.4	88.6	0.0	-	-	14.3	85.7	0.0	0.0	-	-	0.0	54.7	45.3	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.2	1.8	15.6	0.0	-	17.6	5.5	33.0	0.0	0.0	-	38.4	0.0	24.1	19.9	0.0	-	44.0	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.500	0.750	0.844	0.000	-	0.871	0.875	0.948	0.000	0.000	-	0.936	0.000	0.866	0.784	0.000	-	0.897	0.949
Lights	0	0	0	0	-	0	2	21	176	0	-	199	63	365	0	0	-	428	0	266	219	0	-	485	1112
% Lights	-	-	-	-	-	-	100.0	100.0	98.3	-	-	98.5	100.0	96.3	-	-	-	96.8	-	96.0	95.6	-	-	95.8	96.7
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	9	0	0	-	9	0	2	7	0	-	9	18
% Buses	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	2.4	-	-	-	2.0	-	0.7	3.1	-	-	1.8	1.6
Trucks	0	0	0	0	-	0	0	0	3	0	-	3	0	5	0	0	-	5	0	9	3	0	-	12	20
% Trucks	-	-	-	-	-	-	0.0	0.0	1.7	-	-	1.5	0.0	1.3	-	-	-	1.1	-	3.2	1.3	-	-	2.4	1.7
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Mt DeChantel Rd [SB] Total Out In R U **Peak Hour Data** 01/24/2020 3:15 PM Ending At 01/24/2020 4:15 PM Lights Buses Trucks Bicycles on Crosswalk Pedestrians Total

Turning Movement Peak Hour Data Plot (3:15 PM)



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Count Name: EB Ramps/Mt Dechantel Rd/ Krogers SAT Site Code: Start Date: 01/25/2020 Page No: 1

Turning Movement Data

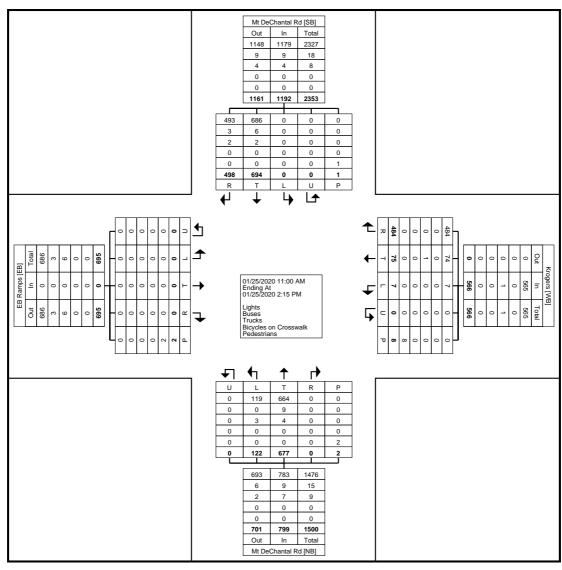
			EB R	amps					Kro		y ivi	OVC	 		ata It DeCh	antal R	d			N	/It DeCh	antal R	ld.		
			Eastb						Westl						North		_				South		-		
Start Time	Left	Thru	Right	U-	Peds	Арр.	Left	Thru	Right	U-	Peds	Арр.	Left	Thru	Right		Peds	App.	Left	Thru	Right	U-	Peds	Арр.	Int.
				Turn		Total				Turn	reus	Total						Total				Turn		Total	Total
11:00 AM	0	0	0	0	0	0	0	4	35	0	1	39	12	57	0	0	0	69	0	57	48	0	0	105	213
11:15 AM	0	0	0	0	. 0	0	0	6	43	0	1	49	8	53	0	0	0	61	0	48	33	0	. 0	81	191
11:30 AM	0	0	0	0	0	0	0	14	30	0	0	44	9	59	0	0	0	68	0	70	44	0	0	114	226
11:45 AM	0	0	0	0	1	0	0	4	42	0	2	46	7	76	0	0	1	83	0	66	46	0	0	112	241
Hourly Total	0	0	0	0	1	0	0	28	150	0	4	178	36	245	0	0	1	281	0	241	171	0	0	412	871
12:00 PM	0	0	0	0	0	0	2	6	46	0	0	54	12	74	0	0	0	86	0	57	45	0	0	102	242
12:15 PM	0	0	0	0	0	0	0	2	48	0	1	50	10	58	0	0	0	68	0	55	41	0	0	96	214
12:30 PM	0	0	0	0	0	0	0	2	39	0	0	41	9	47	0	0	0	56	0	55	51	0	0	106	203
12:45 PM	0	0	0	0	1	0	0	13	38	0	0	51	10	53	0	0	0	63	0	60	30	0	0	90	204
Hourly Total	0	0	0	0	1	0	2	23	171	0	1	196	41	232	0	0	0	273	0	227	167	0	0	394	863
1:00 PM	0	0	0	0	0	0	0	4	40	0	0	44	13	49	0	0	1	62	0	56	47	0	1	103	209
1:15 PM	0	0	0	0	0	0	0	7	38	0	0	45	10	55	0	0	0	65	0	50	43	0	0	93	203
1:30 PM	0	0	0	0	0	0	3	6	51	0	1	60	9	48	0	0	0	57	0	67	29	0	0	96	213
1:45 PM	0	0	0	0	0	0	2	7	34	0	2	43	13	48	0	0	0	61	0	53	41	0	0	94	198
Hourly Total	0	0	0	0	0	0	5	24	163	0	3	192	45	200	0	0	1	245	0	226	160	0	1	386	823
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	2	0	7	75	484	0	8	566	122	677	0	0	2	799	0	694	498	0	1	1192	2557
Approach %	0.0	0.0	0.0	0.0	-	-	1.2	13.3	85.5	0.0	-	-	15.3	84.7	0.0	0.0	-	-	0.0	58.2	41.8	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.3	2.9	18.9	0.0	-	22.1	4.8	26.5	0.0	0.0	-	31.2	0.0	27.1	19.5	0.0	-	46.6	-
Lights	0	0	0	0	-	0	7	74	484	0	-	565	119	664	0	0	-	783	0	686	493	0	-	1179	2527
% Lights	-	-	-	-	-	-	100.0	98.7	100.0	-	-	99.8	97.5	98.1	-	-	-	98.0	-	98.8	99.0	-	-	98.9	98.8
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	9	0	0	-	9	0	6	3	0	-	9	18
% Buses	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	1.3	-	-	-	1.1	-	0.9	0.6	-	-	0.8	0.7
Trucks	0	0	0	0	-	0	0	1	0	0	-	1	3	4	0	0	-	7	0	2	2	0	-	4	12
% Trucks	-	-	-	-	-	-	0.0	1.3	0.0	-	-	0.2	2.5	0.6	-	-	-	0.9	-	0.3	0.4	-	-	0.3	0.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	_	-	-	0.0	-	-
Pedestrians	-	-	-	-	2	-	-	-		_	8	-	-	-		-	2	-	-	_			1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-		-	-	100.0	-	-



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Start Date: 01/25/2020 Page No: 2



Turning Movement Data Plot



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Count Name: EB Ramps/Mt Dechantel Rd/ Krogers SAT Site Code: Start Date: 01/25/2020 Page No: 3

Turning Movement Peak Hour Data (11:30 AM)

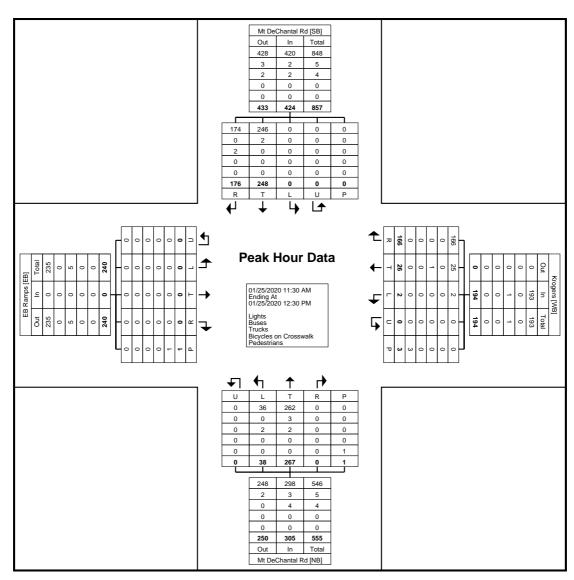
			EB R	amps			`	,	Kro	gers				N	It DeCh	\ nantal R	Rd	,		N	/It DeCh	nantal R	ld.		1
			Easth	ound					West	-					North	bound					South	bound			
Start Time	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Left	Thru	Right	U- Turn	Peds	App. Total	Int. Total
11:30 AM	0	0	0	0	0	0	0	14	30	0	0	44	9	59	0	0	0	68	0	70	44	0	0	114	226
11:45 AM	0	0	0	0	1	0	0	4	42	0	2	46	7	76	0	0	1	83	0	66	46	0	0	112	241
12:00 PM	0	0	0	0	0	0	2	6	46	0	0	54	12	74	0	0	0	86	0	57	45	0	0	102	242
12:15 PM	0	0	0	0	0	0	0	2	48	0	1	50	10	58	0	0	0	68	0	55	41	0	0	96	214
Total	0	0	0	0	1	0	2	26	166	0	3	194	38	267	0	0	1	305	0	248	176	0	0	424	923
Approach %	0.0	0.0	0.0	0.0		-	1.0	13.4	85.6	0.0		_	12.5	87.5	0.0	0.0		-	0.0	58.5	41.5	0.0			_
Total %	0.0	0.0	0.0	0.0	-	0.0	0.2	2.8	18.0	0.0	-	21.0	4.1	28.9	0.0	0.0	-	33.0	0.0	26.9	19.1	0.0	-	45.9	_
PHF	0.000	0.000	0.000	0.000	-	0.000	0.250	0.464	0.865	0.000	-	0.898	0.792	0.878	0.000	0.000	-	0.887	0.000	0.886	0.957	0.000	-	0.930	0.954
Lights	0	0	0	0	-	0	2	25	166	0	-	193	36	262	0	0	-	298	0	246	174	0	-	420	911
% Lights	-	-	-	-	-	-	100.0	96.2	100.0	-	-	99.5	94.7	98.1	-	-	-	97.7	-	99.2	98.9	-	-	99.1	98.7
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	3	0	0	-	3	0	2	0	0	-	2	5
% Buses	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	1.1	-	-	-	1.0	-	0.8	0.0	-	-	0.5	0.5
Trucks	0	0	0	0	-	0	0	1	0	0	-	1	2	2	0	0	-	4	0	0	2	0	-	2	7
% Trucks	-	-	-	-	-	-	0.0	3.8	0.0	-	-	0.5	5.3	0.7	-	-	-	1.3	-	0.0	1.1	-	-	0.5	0.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



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Start Date: 01/25/2020 Page No: 4



Turning Movement Peak Hour Data Plot (11:30 AM)



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Mt DeChantel Rd/Krogers Site Code: Start Date: 01/24/2020 Page No: 1

Turning Movement Data

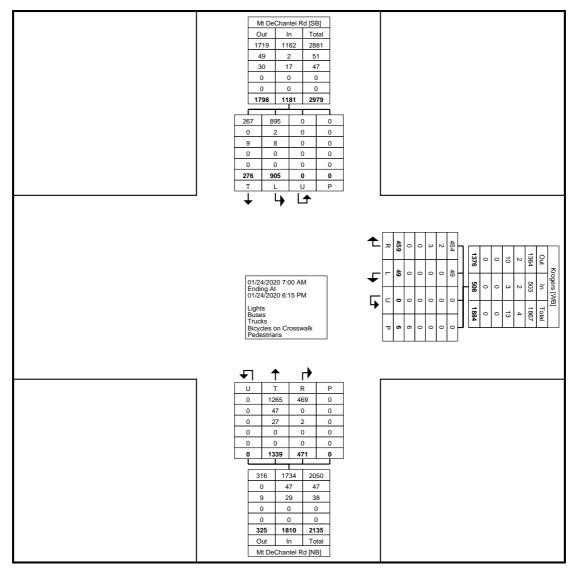
						Ιt	irning	g Mov	veme	nt Da	ıta							
			Kro	gers					Mt DeCh	antel Rd				Mt	DeChantel	Rd		
			Westl	bound					North	oound					Southboun	d		
Start Time	Left	Right	Right on Red	U-Turn	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
7:00 AM	2	1	2	0	0	5	28	10	1	0	0	39	20	15	0	0	35	79
7:15 AM	3	4	. 8	0	0	15	52	13	1	0	0	66	26	10	0	0	36	117
7:30 AM	2	5	9	0	0	16	62	9	5	0	0	76	31	18	0	0	49	141
7:45 AM	1	4	7	0	2	12	85	7	4	0	0	96	36	38	0	0	74	182
Hourly Total	8	14	26	0	2	48	227	39	11	0	0	277	113	81	0	0	194	519
8:00 AM	1	7	10	0	0	18	69	15	7	0	0	91	40	11	0	0	51	160
8:15 AM	2	5	16	0	0	23	71	19	4	0	0	94	32	16	0	0	48	165
8:30 AM	3	3	13	0	0	19	54	14	2	0	0	70	28	16	. 0	0	44	133
8:45 AM	1	2	10	0	2	13	73	10	2	0	0	85	24	10	0	0	34	132
Hourly Total	7	17	49	0	2	73	267	58	15	0	0	340	124	53	0	0	177	590
9:00 AM	0	. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-				-	-	-				-		-			-		-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	6	. 8	14	0	0	28	58	21	4	0	0	83	56	13	0	0	69	180
3:15 PM	2	6	26	0	0	34	84	31	6	0	0	121	55	22	0	0	77	232
3:30 PM	2	7	25	0	0	34	67	27	5	0	0	99	60	7	0	0	67	200
3:45 PM	2	4	32	0	0	38	73	35	6	0	0	114	68	12	0	0	80	232
Hourly Total	12	25	97	0	0	134	282	114	21	0	0	417	239	54	0	0	293	844
4:00 PM	3	11	29	0	0	43	82	24	. 8	0	0	114	46	12	0	0	58	215
4:15 PM	3	4	18	0	0	25	79	19	9	0	0	107	48	13	0	0	61	193
4:30 PM	2	16	17	0	0	35	93	27	. 7	0	0	127	70	9	0	0	79	241
4:45 PM	3	8	24	0	0	35	70	16	8	0	0	94	64	7	0	0	71	200
Hourly Total	11	39	88	0	0	138	324	86	32	0	0	442	228	41	0	0	269	849
5:00 PM	3	. 7	28	0	0	38	51	21	3	0	0	75	58	9	. 0	0	67	180
5:15 PM	3	12	11	0	2	26	61	21	6	0	0	88	41	14	0	0	55	169
5:30 PM	2	8	13	0	0	23	68	17	6	0	0	91	42	11	0	0	53	167
5:45 PM	3	. 8	17	0	0	28	59	19	2	0	0	80	60	13	0	0	73	181
Hourly Total	11	35	69	0	2	115	239	78	17	0	0	334	201	47	0	0	248	697
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	49	130	329	0	6	508	1339	375	96	0	0	1810	905	276	. 0	0	1181	3499
Approach %	9.6	25.6	64.8	0.0	-	-	74.0	20.7	5.3	0.0	-	-	76.6	23.4	0.0	-	-	-
Total %	1.4	3.7	9.4	0.0	-	14.5	38.3	10.7	2.7	0.0	-	51.7	25.9	7.9	0.0	-	33.8	-
Lights	49	128	326	0	-	503	1265	373	96	0	-	1734	895	267	. 0	-	1162	3399
% Lights	100.0	98.5	99.1	_	-	99.0	94.5	99.5	100.0	-	-	95.8	98.9	96.7	-	-	98.4	97.1
Buses	0	0	2	0	-	2	47	0	0	0	-	47	2	0	0	-	2	51
% Buses	0.0	0.0	0.6	-	-	0.4	3.5	0.0	0.0	-	-	2.6	0.2	0.0	-	-	0.2	1.5
Trucks	0	2	1	0	-	3	27	2	0	0	-	29	8	9	0	-	17	49
% Trucks	0.0	1.5	0.3	-	-	0.6	2.0	0.5	0.0	-	-	1.6	0.9	3.3	-	-	1.4	1.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	<u>-</u>	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-		6	-	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	_		-	_	-	-	<u>-</u>	-	-	-



184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Mt DeChantel Rd/Krogers Site Code: Start Date: 01/24/2020 Page No: 2



Turning Movement Data Plot



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Count Name: Mt DeChantel Rd/Krogers Site Code: Start Date: 01/24/2020 Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

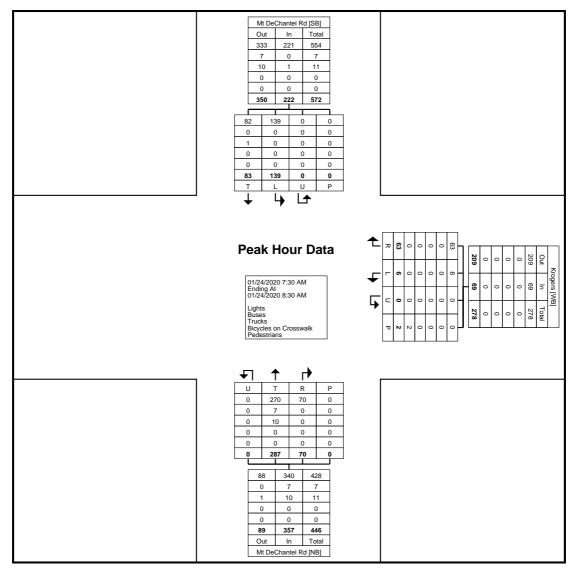
			Kro	gers	•				Mt DeCh	antel Rd	•		′	Mt	DeChantel	Rd		
			West	bound					North	oound				5	Southbound	d		l
Start Time	Left	Right	Right on Red	U-Turn	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
7:30 AM	2	5	9	0	0	16	62	9	5	0	0	76	31	18	0	0	49	141
7:45 AM	1	4	7	0	2	12	85	7	4	0	0	96	36	38	0	0	74	182
8:00 AM	1	7	10	0	0	18	69	15	7	0	0	91	40	11	0	0	51	160
8:15 AM	2	5	16	0	0	23	71	19	4	0	0	94	32	16	0	0	48	165
Total	6	21	42	0	2	69	287	50	20	0	0	357	139	83	0	0	222	648
Approach %	8.7	30.4	60.9	0.0	-	-	80.4	14.0	5.6	0.0	-	-	62.6	37.4	0.0	-	-	-
Total %	0.9	3.2	6.5	0.0	-	10.6	44.3	7.7	3.1	0.0	-	55.1	21.5	12.8	0.0	-	34.3	-
PHF	0.750	0.750	0.656	0.000	-	0.750	0.844	0.658	0.714	0.000	-	0.930	0.869	0.546	0.000	-	0.750	0.890
Lights	6	21	42	0	-	69	270	50	20	0	-	340	139	82	0	-	221	630
% Lights	100.0	100.0	100.0	-	-	100.0	94.1	100.0	100.0	-	-	95.2	100.0	98.8	-	-	99.5	97.2
Buses	0	0	0	0	-	0	7	0	0	0	-	7	0	0	0	-	0	7
% Buses	0.0	0.0	0.0	-	-	0.0	2.4	0.0	0.0	-	-	2.0	0.0	0.0	-	-	0.0	1.1
Trucks	0	0	0	0	-	0	10	0	0	0	-	10	0	1	0	-	1	11
% Trucks	0.0	0.0	0.0	-	-	0.0	3.5	0.0	0.0	-	-	2.8	0.0	1.2	-	-	0.5	1.7
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-



184 Baker Rd

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Count Name: Mt DeChantel Rd/Krogers Site Code: Start Date: 01/24/2020 Page No: 4



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



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Count Name: Mt DeChantel Rd/Krogers Site Code: Start Date: 01/24/2020 Page No: 5

Turning Movement Peak Hour Data (3:45 PM)

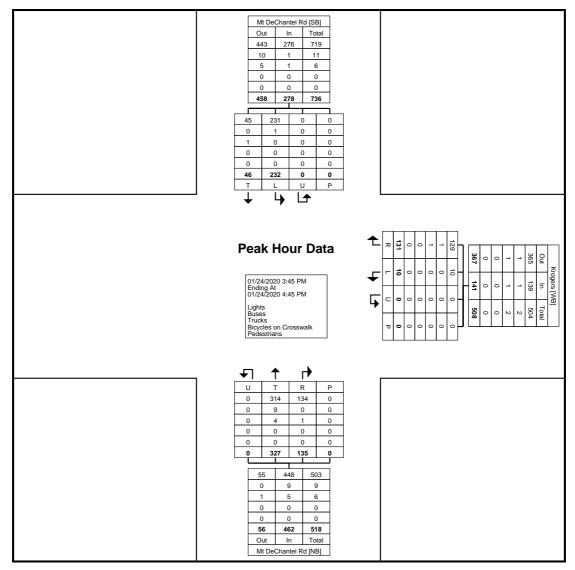
					9		· · · · · · ·		AIN 1 10	. D	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,					
			Kro	gers					Mt DeCh	antel Rd				Mt	DeChantel	Rd		
			West	bound					North	bound				5	Southbound	t		
Start Time	Left	Right	Right on Red	U-Turn	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
3:45 PM	2	4	32	0	0	38	73	35	6	0	0	114	68	12	0	0	80	232
4:00 PM	3	11	29	0	0	43	82	24	. 8	0	0	114	46	12	0	0	58	215
4:15 PM	3	4	18	0	0	25	79	19	9	0	0	107	48	13	0	0	61	193
4:30 PM	2	16	17	0	0	35	93	27	7	0	0	127	70	9	0	0	79	241
Total	10	35	96	0	0	141	327	105	30	0	0	462	232	46	0	0	278	881
Approach %	7.1	24.8	68.1	0.0	-	-	70.8	22.7	6.5	0.0	-	_	83.5	16.5	0.0	-	_	-
Total %	1.1	4.0	10.9	0.0	-	16.0	37.1	11.9	3.4	0.0	-	52.4	26.3	5.2	0.0	-	31.6	-
PHF	0.833	0.547	0.750	0.000	-	0.820	0.879	0.750	0.833	0.000	-	0.909	0.829	0.885	0.000	-	0.869	0.914
Lights	10	34	95	0	-	139	314	104	30	0	-	448	231	45	0	-	276	863
% Lights	100.0	97.1	99.0	-	-	98.6	96.0	99.0	100.0	-	-	97.0	99.6	97.8	-	-	99.3	98.0
Buses	0	0	1	0	-	1	9	0	0	0	-	9	1	0	0	-	1	11
% Buses	0.0	0.0	1.0	-	-	0.7	2.8	0.0	0.0		-	1.9	0.4	0.0	-	-	0.4	1.2
Trucks	0	1	0	0	-	1	4	1	0	0	-	5	0	1	0	-	1	7
% Trucks	0.0	2.9	0.0	<u>-</u>	-	0.7	1.2	1.0	0.0	<u>-</u>	-	1.1	0.0	2.2	<u>-</u>	-	0.4	0.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Mt DeChantel Rd/Krogers Site Code: Start Date: 01/24/2020 Page No: 6



Turning Movement Peak Hour Data Plot (3:45 PM)



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Count Name: Mt DeChantel Rd/Krogers SAT Site Code: Start Date: 01/25/2020 Page No: 1

Turning Movement Data

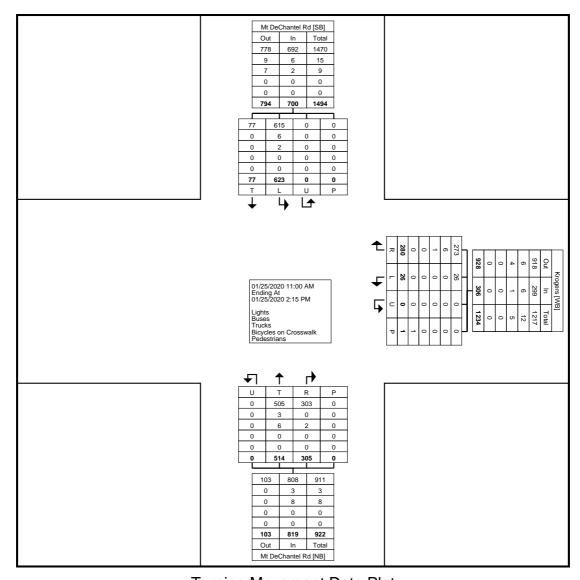
						ΙL	irninć	j iviov	veme	nt Da	ıta							
			Kro	gers					Mt DeCh	antel Rd				Mt	DeChantel	Rd		
			West	bound					North	oound				5	Southbound	b		
Start Time	Left	Right	Right on Red	U-Turn	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
11:00 AM	2	6	13	0	1	21	49	23	3	0	0	75	51	4	0	0	55	151
11:15 AM	1	11	9	0	0	21	37	20	5	0	0	62	43	6	0	0	49	132
11:30 AM	2	9	8	0	0	19	52	20	3	0	0	75	60	11	0	0	71	165
11:45 AM	2	13	17	0	0	32	54	13	6	0	0	73	61	4	0	0	65	170
Hourly Total	7	39	47	0	1	93	192	76	17	0	0	285	215	25	0	0	240	618
12:00 PM	1	0	24	0	0	25	60	29	3	0	0	92	55	5	0	0	60	177
12:15 PM	2	3	20	0	0	25	51	23	1	0	0	75	48	5	0	0	53	153
12:30 PM	2	3	23	0	0	28	27	24	1	0	0	52	47	10	0	0	57	137
12:45 PM	4	3	25	0	0	32	33	20	2	0	0	55	53	6	0	0	59	146
Hourly Total	9	9	92	0	0	110	171	96	7	0	0	274	203	26	0	0	229	613
1:00 PM	4	14	11	0	0	29	37	26	1	0	0	64	51	3	0	0	54	147
1:15 PM	1	14	9	0	0	24	40	23	0	0	0	63	49	7	0	0	56	143
1:30 PM	2	16	8	0	0	26	31	18	2	0	0	51	59	9	0	0	68	145
1:45 PM	3	12	9	0	0	24	43	31	8	0	0	82	46	7	0	0	53	159
Hourly Total	10	56	37	0	0	103	151	98	11	0	0	260	205	26	0	0	231	594
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	26	104	176	. 0	1	306	514	270	35	0	0	819	623	77	0	0	700	1825
Approach %	8.5	34.0	57.5	0.0	-	-	62.8	33.0	4.3	0.0	-	-	89.0	11.0	0.0	-	-	-
Total %	1.4	5.7	9.6	0.0	-	16.8	28.2	14.8	1.9	0.0	-	44.9	34.1	4.2	0.0	-	38.4	-
Lights	26	102	171	0	-	299	505	268	35	0	-	808	615	77	0	-	692	1799
% Lights	100.0	98.1	97.2	-	-	97.7	98.2	99.3	100.0	-	-	98.7	98.7	100.0		-	98.9	98.6
Buses	0	2	4	0	-	6	3	0	0	0	-	3	6	0	0	-	6	15
% Buses	0.0	1.9	2.3	-	-	2.0	0.6	0.0	0.0	-	-	0.4	1.0	0.0	-	-	0.9	0.8
Trucks	0	0	11	0	-	1	6	2	0	0	-	8	2	0	0	-	2	11
% Trucks	0.0	0.0	0.6	-	-	0.3	1.2	0.7	0.0	-	-	1.0	0.3	0.0	-	-	0.3	0.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	_	0.0	-	-	-	-	-	-	-	1		-	-	_	-
Pedestrians	-	_	_	-	1	i <u>-</u> i	-	_	_	-	0	-	-	_	-	0	_	-
% Pedestrians	-		-	-	100.0	-	-			-	-		-		-	-	-	



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Count Name: Mt DeChantel Rd/Krogers SAT Site Code: Start Date: 01/25/2020 Page No: 2



Turning Movement Data Plot



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Count Name: Mt DeChantel Rd/Krogers SAT Site Code: Start Date: 01/25/2020 Page No: 3

Turning Movement Peak Hour Data (11:30 AM)

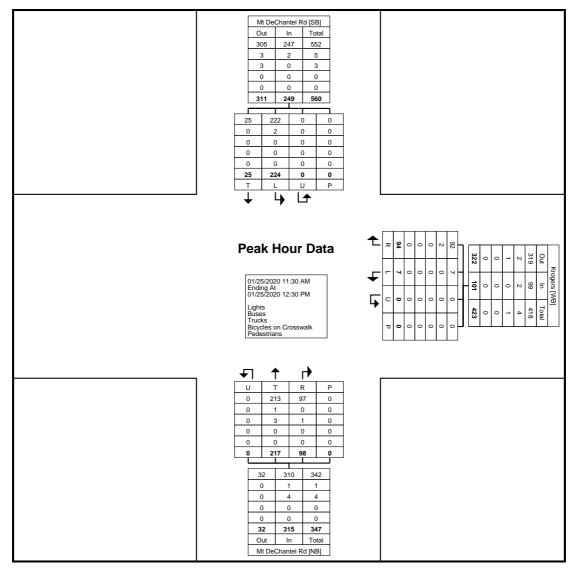
				. •			•				. , .							1
			Kro	gers					Mt DeCh	nantel Rd				Mt	DeChantel	Rd		
			West	bound					North	bound					Southboun	d		
Start Time	Left	Right	Right on Red	U-Turn	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
11:30 AM	2	9	8	0	0	19	52	20	3	0	0	75	60	11	0	0	71	165
11:45 AM	2	13	17	0	0	32	54	13	6	0	0	73	61	4	0	0	65	170
12:00 PM	1	0	24	0	0	25	60	29	3	0	0	92	55	5	0	0	60	177
12:15 PM	2	3	20	0	0	25	51	23	1	0	0	75	48	5	0	0	53	153
Total	7	25	69	0	0	101	217	85	13	0	0	315	224	25	0	0	249	665
Approach %	6.9	24.8	68.3	0.0	-	-	68.9	27.0	4.1	0.0	-	-	90.0	10.0	0.0	-	-	-
Total %	1.1	3.8	10.4	0.0	-	15.2	32.6	12.8	2.0	0.0	-	47.4	33.7	3.8	0.0	-	37.4	-
PHF	0.875	0.481	0.719	0.000	-	0.789	0.904	0.733	0.542	0.000	-	0.856	0.918	0.568	0.000	-	0.877	0.939
Lights	7	25	67	0	-	99	213	84	13	0	-	310	222	25	0	-	247	656
% Lights	100.0	100.0	97.1	-	-	98.0	98.2	98.8	100.0	-	-	98.4	99.1	100.0	-	-	99.2	98.6
Buses	0	0	2	0	-	2	1	0	0	0	-	1	2	0	0	-	2	5
% Buses	0.0	0.0	2.9	-	-	2.0	0.5	0.0	0.0	-	-	0.3	0.9	0.0	-	-	0.8	0.8
Trucks	0	0	0	0	-	0	3	1	0	0	-	4	0	0	0	-	0	4
% Trucks	0.0	0.0	0.0	-	-	0.0	1.4	1.2	0.0	-	-	1.3	0.0	0.0	-	-	0.0	0.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	_	-



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Count Name: Mt DeChantel Rd/Krogers SAT Site Code: Start Date: 01/25/2020 Page No: 4



Turning Movement Peak Hour Data Plot (11:30 AM)



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Count Name: Route 40/I70 WB Ramps Site Code: Start Date: 01/24/2020 Page No: 1

Turning Movement Data

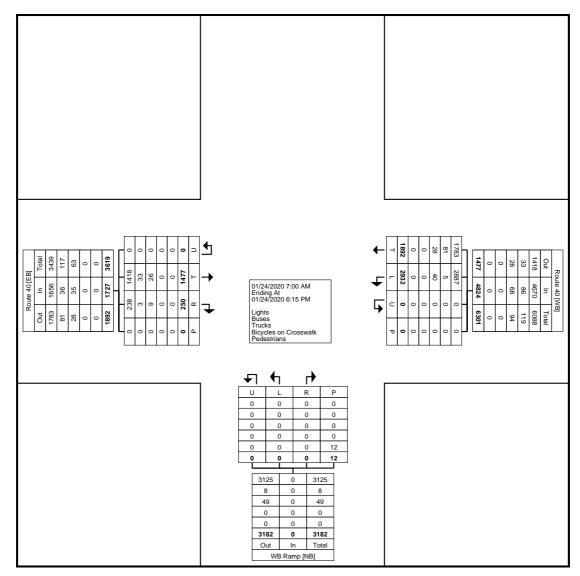
					I	urnin	g Moʻ	vemer	nt Dat	a						
			Route 40					Route 40					WB Ramp			
			Eastbound					Westbound	l				Northbound	i		
Start Time	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
7:00 AM	46	6	0	0	52	96	28	0	0	124	0	0	0	0	0	176
7:15 AM	52	9	. 0	0	61	133	48	0	0	181	0	0	. 0	0	0	242
7:30 AM	61	13	0	0	74	153	74	0	0	227	0	0	0	2	0	301
7:45 AM	83	8	0	0	91	179	90	0	0	269	0	0	0	0	0	360
Hourly Total	242	36	0	0	278	561	240	0	0	801	0	0	0	2	0	1079
8:00 AM	46	6	0	0	52	159	80	0	0	239	0	0	0	0	0	291
8:15 AM	53	10	0	0	63	160	73	0	0	233	0	0	0	0	0	296
8:30 AM	56	. 8	. 0	0	64	117	85	. 0	0	202	0	0	0	0	0	266
8:45 AM	69	18	0	0	87	135	111	0	0	246	0	0	0	0	0	333
Hourly Total	224	42	0	0	266	571	349	0	0	920	0	0	0	0	0	1186
9:00 AM	0	0	. 0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-			-	-	-		-	-		-			-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	86	29	0	0	115	170	104	0	0	274	0	0	0	0	0	389
3:15 PM	90	17	0	0	107	184	132	0	0	316	0	0	0	2	0	423
3:30 PM	72	12	0	0	84	159	125	0	0	284	0	0	0	1	0	368
3:45 PM	75	12	0	0	87	153	119	0	0	272	0	0	0	0	0	359
Hourly Total	323	70	0	0	393	666	480	0	0	1146	0	0	0	3	0	1539
4:00 PM	84	10	0	0	94	145	119	0	0	264	0	0	0	1	0	358
4:15 PM	86	18	0	0	104	134	108	0	0	242	0	0	0	1	0	346
4:30 PM	93	21	0	0	114	139	127	0	0	266	0	0	0	2	0	380
4:45 PM	76	11	0	0	87	128	104	0	0	232	0	0	0	0	0	319
Hourly Total	339	60	0	0	399	546	458	0	0	1004	0	0	0	4	0	1403
5:00 PM	118	16	0	0	134	172	. 77	. 0	0	249	0	0	. 0	1	0	383
5:15 PM	93	9	0	0	102	159	120	0	0	279	0	0	0	0	0	381
5:30 PM	71	8	0	0	79	129	82	0	0	211	0	0	0	2	0	290
5:45 PM	67	9	0	0	76	128	86	0	0	214	0	0	0	0	0	290
Hourly Total	349	42	0	0	391	588	365	0	0	953	0	0	0	3	0	1344
6:00 PM	0	0	0	0	0	0	0	0	0	. 0	0	0	0	0	0	0
Grand Total	1477	250	. 0	0	1727	2932	1892	0	0	4824	0	0	0	12	0	6551
Approach %	85.5	14.5	0.0	-	-	60.8	39.2	0.0	-		0.0	0.0	0.0	-	-	-
Total %	22.5	3.8	0.0	-	26.4	44.8	28.9	0.0	-	73.6	0.0	0.0	0.0	-	0.0	-
Lights	1418	238	0	-	1656	2887	1783	0	-	4670	0	0	. 0	-	0	6326
% Lights	96.0	95.2		-	95.9	98.5	94.2	-	-	96.8	-			-	-	96.6
Buses	33	3	0	-	36	5	81	0	-	86	0	0	0	-	0	122
% Buses	2.2	1.2	-	-	2.1	0.2	4.3		-	1.8	-			-		1.9
Trucks	26	9	0	-	35	40	28	0	-	68	0	0	0	-	0	103
% Trucks	1.8	3.6		-	2.0	1.4	1.5	-	-	1.4	-			-	-	1.6
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	<u>-</u>	0	-	-	-		12	-	-
% Pedestrians	-			-	-	-		-	-	-	-	-	-	100.0	-	-



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/I70 WB Ramps Site Code: Start Date: 01/24/2020 Page No: 2



Turning Movement Data Plot



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/I70 WB Ramps Site Code: Start Date: 01/24/2020 Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

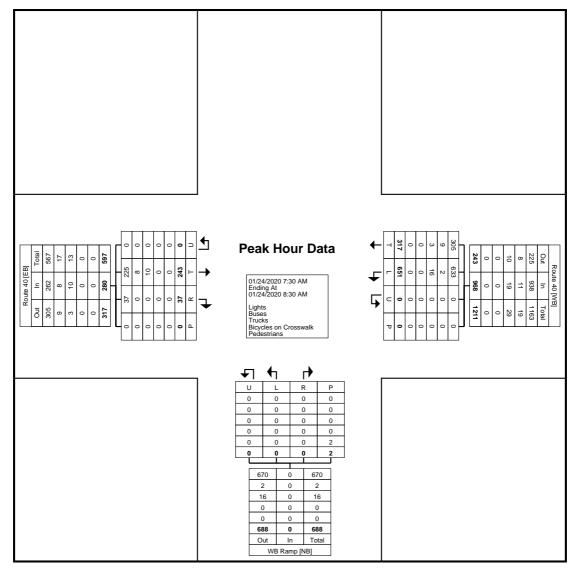
			Route 40		•			Route 40		•		,	WB Ramp			
			Eastbound					Westbound					Northbound	i		
Start Time	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
7:30 AM	61	13	0	0	74	153	74	0	0	227	0	0	0	2	0	301
7:45 AM	83	8	0	0	91	179	90	0	0	269	0	0	0	0	0	360
8:00 AM	46	6	0	0	52	159	80	0	0	239	0	0	0	0	0	291
8:15 AM	53	10	0	0	63	160	73	0	0	233	0	0	0	0	0	296
Total	243	37	0	0	280	651	317	0	0	968	0	0	0	2	0	1248
Approach %	86.8	13.2	0.0	-	-	67.3	32.7	0.0	-	-	0.0	0.0	0.0	-	-	-
Total %	19.5	3.0	0.0	-	22.4	52.2	25.4	0.0	-	77.6	0.0	0.0	0.0	-	0.0	-
PHF	0.732	0.712	0.000	-	0.769	0.909	0.881	0.000	-	0.900	0.000	0.000	0.000	-	0.000	0.867
Lights	225	37	0	-	262	633	305	0	-	938	0	0	0	-	0	1200
% Lights	92.6	100.0	-	-	93.6	97.2	96.2	-	-	96.9	-	-	-	-	-	96.2
Buses	8	0	0	-	8	2	9	0	-	11	0	0	0	-	0	19
% Buses	3.3	0.0	-	-	2.9	0.3	2.8	-	-	1.1	-	-	-	-	-	1.5
Trucks	10	0	0	-	10	16	3	0	-	19	0	0	0	-	0	29
% Trucks	4.1	0.0	-	-	3.6	2.5	0.9	-	-	2.0	-	-	-	-	-	2.3
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/I70 WB Ramps Site Code: Start Date: 01/24/2020 Page No: 4



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



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Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/I70 WB Ramps Site Code: Start Date: 01/24/2020 Page No: 5

Turning Movement Peak Hour Data (3:00 PM)

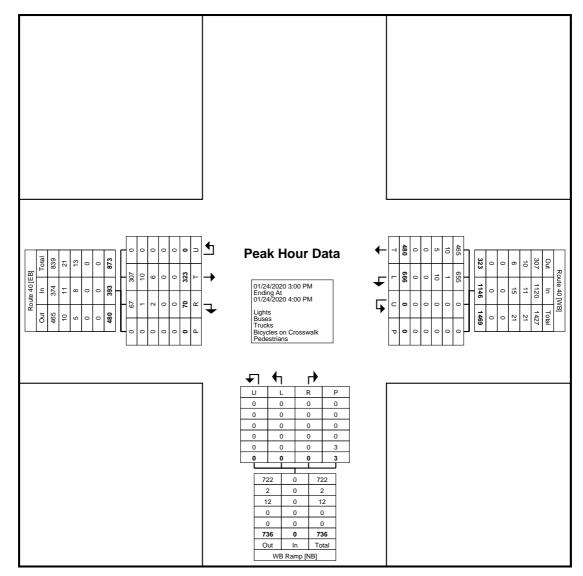
			Route 40 Eastbound		J			Route 40 Westbound		•			WB Ramp	I		
Start Time	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
3:00 PM	86	29	0	0	115	170	104	0	0	274	0	0	0	0	0	389
3:15 PM	90	17	0	0	107	184	132	0	0	316	0	0	0	2	0	423
3:30 PM	72	12	0	0	84	159	125	0	0	284	0	0	0	1	0	368
3:45 PM	75	12	0	0	87	153	119	0	0	272	0	0	0	0	0	359
Total	323	70	0	0	393	666	480	0	0	1146	0	0	0	3	0	1539
Approach %	82.2	17.8	0.0	-	_	58.1	41.9	0.0	-		0.0	0.0	0.0	-	-	-
Total %	21.0	4.5	0.0	-	25.5	43.3	31.2	0.0	-	74.5	0.0	0.0	0.0	-	0.0	-
PHF	0.897	0.603	0.000	-	0.854	0.905	0.909	0.000	-	0.907	0.000	0.000	0.000	-	0.000	0.910
Lights	307	67	0	-	374	655	465	0	-	1120	0	0	0	-	0	1494
% Lights	95.0	95.7	-	-	95.2	98.3	96.9		-	97.7	-	-		-	-	97.1
Buses	10	1	0	-	11	1	10	0	-	11	0	0	0	-	0	22
% Buses	3.1	1.4	_	-	2.8	0.2	2.1	_	-	1.0	-	-	-	-	-	1.4
Trucks	6	2	0	-	8	10	5	0	-	15	0	0	0	-	0	23
% Trucks	1.9	2.9	_	-	2.0	1.5	1.0	<u>-</u>	-	1.3	-	-	<u>-</u>	-	-	1.5
Bicycles on Crosswalk	-	_	-	0	-	-	_	<u>-</u>	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-		0	-	-	-	-	3	-	-
% Pedestrians	-	_	_	-	-	-	-	<u>-</u>	-	-	-	-	<u>-</u>	100.0	-	-



184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Route 40/I70 WB Ramps Site Code: Start Date: 01/24/2020 Page No: 6



Turning Movement Peak Hour Data Plot (3:00 PM)



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/I70 WB Ramps SAT Site Code: Start Date: 01/25/2020 Page No: 1

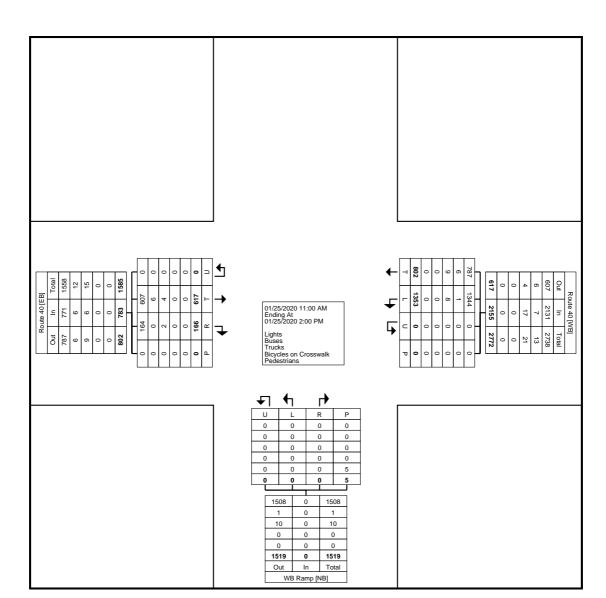
Turning Movement Data

			Route 40 Eastbound		•		_	Route 40 Westbound		-			WB Ramp Northbound			
Start Time	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
11:00 AM	55	15	0	0	70	121	62	0	0	183	0	0	0	0	0	253
11:15 AM	45	17	0	0	62	114	71	0	0	185	0	0	0	1	0	247
11:30 AM	57	16	0	0	73	108	81	0	0	189	0	0	0	1	0	262
11:45 AM	58	14	0	0	72	122	80	0	0	202	0	0	0	2	0	274
Hourly Total	215	62	0	0	277	465	294	0	0	759	0	0	0	4	0	1036
12:00 PM	58	14	0	0	72	132	75	0	0	207	0	0	0	0	0	279
12:15 PM	57	12	0	0	69	98	68	0	0	166	0	0	0	0	0	235
12:30 PM	54	13	0	0	67	103	66	0	0	169	0	0	0	0	0	236
12:45 PM	45	16	0	0	61	116	62	0	0	178	0	0	0	0	0	239
Hourly Total	214	55	0	0	269	449	271	0	0	720	0	0	0	0	0	989
1:00 PM	54	14	0	0	68	132	64	0	0	196	0	0	0	1	0	264
1:15 PM	43	10	0	0	53	99	58	0	0	157	0	0	0	0	0	210
1:30 PM	48	15	0	0	63	109	54	0	0	163	0	0	0	0	0	226
1:45 PM	43	10	0	0	53	99	61	0	0	160	0	0	0	0	0	213
Hourly Total	188	49	0	0	237	439	237	0	0	676	0	0	0	1	0	913
Grand Total	617	166	0	0	783	1353	802	0	0	2155	0	0	0	5	0	2938
Approach %	78.8	21.2	0.0	-	-	62.8	37.2	0.0	-	-	0.0	0.0	0.0	-	-	-
Total %	21.0	5.7	0.0	-	26.7	46.1	27.3	0.0	-	73.3	0.0	0.0	0.0	-	0.0	-
Lights	607	164	0	-	771	1344	787	0	-	2131	0	0	0	-	0	2902
% Lights	98.4	98.8	-	-	98.5	99.3	98.1	_	-	98.9	-	-	-	-	-	98.8
Buses	6	0	0	-	6	1	6	. 0	-	7	0	0	0	-	0	13
% Buses	1.0	0.0	-	-	0.8	0.1	0.7	-	-	0.3	-	-	-	-	-	0.4
Trucks	4	2	0	-	6	8	9	0	-	17	0	0	0	-	0	23
% Trucks	0.6	1.2	-	-	0.8	0.6	1.1	-	-	0.8	-	-	-	-	-	0.8
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	<u>-</u>	0	_	-	-	-	5	-	-
% Pedestrians	-	_	-	-	-	-	-	<u>-</u>	-	_	-			100.0	_	-



184 Baker Rd , Pennsylvania, United States 19320

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/I70 WB Ramps SAT Site Code: Start Date: 01/25/2020 Page No: 2



Turning Movement Data Plot



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/I70 WB Ramps SAT Site Code: Start Date: 01/25/2020 Page No: 3

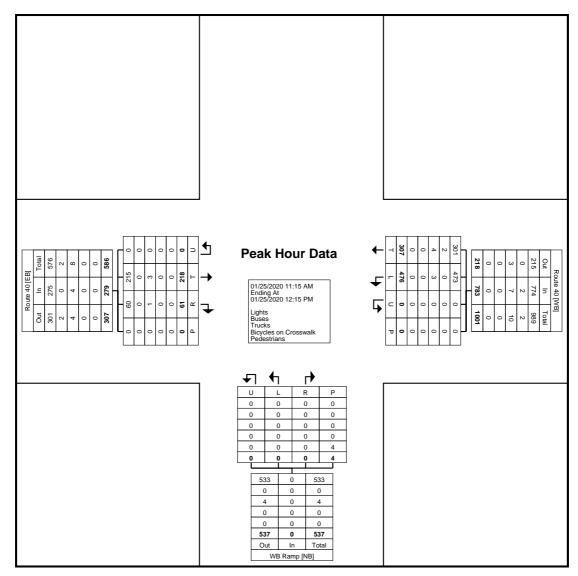
Turning Movement Peak Hour Data (11:15 AM)

			Route 40					Route 40								
			Eastbound					Westbound								
Start Time	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
11:15 AM	45	17	0	0	62	114	71	0	0	185	0	0	0	1	0	247
11:30 AM	57	16	0	0	73	108	81	0	0	189	0	0	0	1	0	262
11:45 AM	58	14	0	0	72	122	80	0	0	202	0	0	0	2	0	274
12:00 PM	58	14	0	0	72	132	75	0	0	207	0	0	0	0	0	279
Total	218	61	0	0	279	476	307	0	0	783	0	0	0	4	0	1062
Approach %	78.1	21.9	0.0	-	-	60.8	39.2	0.0	-	-	0.0	0.0	0.0	-	-	-
Total %	20.5	5.7	0.0	-	26.3	44.8	28.9	0.0	-	73.7	0.0	0.0	0.0	-	0.0	-
PHF	0.940	0.897	0.000	-	0.955	0.902	0.948	0.000	-	0.946	0.000	0.000	0.000	-	0.000	0.952
Lights	215	60	0	-	275	473	301	0	-	774	0	0	0	-	0	1049
% Lights	98.6	98.4	-	-	98.6	99.4	98.0	-	-	98.9	-	-	-	-	-	98.8
Buses	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	2
% Buses	0.0	0.0	-	-	0.0	0.0	0.7	-	-	0.3	-	-	-	-	-	0.2
Trucks	3	1	0	-	4	3	4	0	-	7	0	0	0	-	0	11
% Trucks	1.4	1.6	-	-	1.4	0.6	1.3	-	-	0.9	-	-	-	-	-	1.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	_	-	-	_	-	_	-	-	_	100.0	-	T -



184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Route 40/I70 WB Ramps SAT Site Code: Start Date: 01/25/2020 Page No: 4



Turning Movement Peak Hour Data Plot (11:15 AM)



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Bethany Pike/Warden Rd Site Code: Start Date: 01/24/2020 Page No: 1

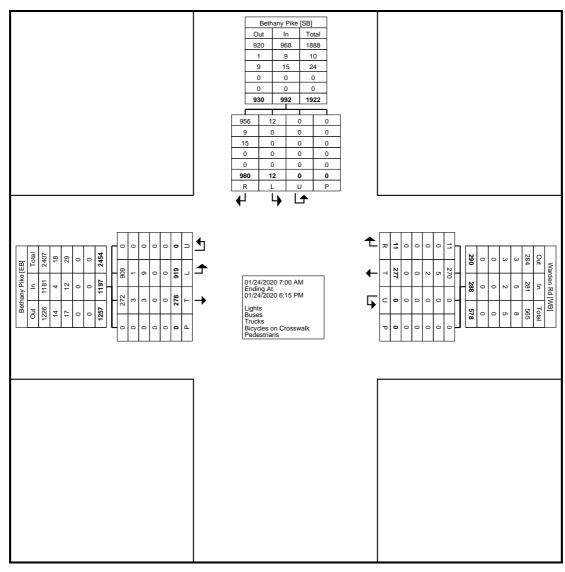
Turning Movement Data

					Т	urnin	g Mov	vemer	nt Dat	a						
			Bethany Pike	9			_	Warden Rd					Bethany Pike	Э		
Otant Time			Eastbound					Westbound					Southbound			
Start Time	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
7:00 AM	14	14	0	0	28	7	1	0	0	8	0	43	0	0	43	79
7:15 AM	32	16	. 0	0	48	18	0	0	0	18	0	56	. 0	0	56	122
7:30 AM	37	10	0	0	47	14	1	0	0	15	0	54	0	0	54	116
7:45 AM	31	17	0	0	48	6	0	0	0	6	1	62	0	0	63	117
Hourly Total	114	57	0	0	171	45	2	. 0	0	47	1	215	0	0	216	434
8:00 AM	40	16	0	0	56	11	1	0	0	12	1	53	0	0	54	122
8:15 AM	53	10	0	0	63	20	0	0	0	20	1	49	0	0	50	133
8:30 AM 8:45 AM	35 42	12	0	0	47 52	11 9	0	0	0	<u>11</u> 9	0	40 36	0	0	40 36	98
	170	48	0	0	218	51	1	0	0	9	2	178	0	0	180	450
Hourly Total 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-		-	-	-	-		-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	46	15	0	0	61	9	1	0	0	10	1	45	0	0	46	117
3:15 PM	46	12	0	0	58	17	1	0	0	18	1	73	0	0	74	150
3:30 PM	50	16	0	0	66	10	1	0	0	11	0	53	0	0	53	130
3:45 PM	64	21	0	0	85	14	1	0	0	15	1	46	0	0	47	147
Hourly Total	206	64	0	0	270	50	4	0	0	54	3	217	0	0	220	544
4:00 PM	54	15	0	0	69	13	1	0	0	14	1	41	0	0	42	125
4:15 PM	48	19	0	0	67	15	0	0	0	15	1	49	0	0	50	132
4:30 PM	53	10	. 0	0	63	16	0	. 0	0	16	0	44	0	0	44	123
4:45 PM	50	14	0	0	64	19	0	0	0	19	0	52	0	0	52	135
Hourly Total	205	58	0	0	263	63	1	0	0	64	2	186	0	0	188	515
5:00 PM	59	20	0	0	79	26	2	. 0	0	28	2	55	0	0	57	164
5:15 PM	60	20	0	0	80	16	0	0	0	16	0	56	0	0	56	152
5:30 PM 5:45 PM	52 53	6 5	0	0	58 58	20 6	0	0	0	21 6	2	40 33	0	0	40 35	119 99
Hourly Total	224	5 51	0	0	275	68	3	0	0	<u>0</u> 	4	184	0	0	188	534
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	919	278	0	0	1197	277	11	0	0	288	12	980	0	0	992	2477
Approach %	76.8	23.2	0.0	-	-	96.2	3.8	0.0	-	-	1.2	98.8	0.0	-	-	-
Total %	37.1	11.2	0.0	-	48.3	11.2	0.4	0.0	-	11.6	0.5	39.6	0.0	-	40.0	-
Lights	909	272	0	-	1181	270	11	0	-	281	12	956	0	-	968	2430
% Lights	98.9	97.8	-	-	98.7	97.5	100.0	-	-	97.6	100.0	97.6	-	-	97.6	98.1
Buses	1	3	0	-	4	5	0	0	-	5	0	9	0	-	9	18
% Buses	0.1	1.1		-	0.3	1.8	0.0		-	1.7	0.0	0.9		-	0.9	0.7
Trucks	9	3	0	-	12	2	0	0	-	2	0	15	0	-	15	29
% Trucks	1.0	1.1		-	1.0	0.7	0.0		-	0.7	0.0	1.5		-	1.5	1.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	<u>-</u>	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-		<u> </u>	0	<u>-</u>	-		<u> </u>	0	-	-	-	-	0	-	-
% Pedestrians	-			-	_	-		. - .	-		-	-		-		-



184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Bethany Pike/Warden Rd Site Code: Start Date: 01/24/2020 Page No: 2



Turning Movement Data Plot



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Bethany Pike/Warden Rd Site Code: Start Date: 01/24/2020 Page No: 3

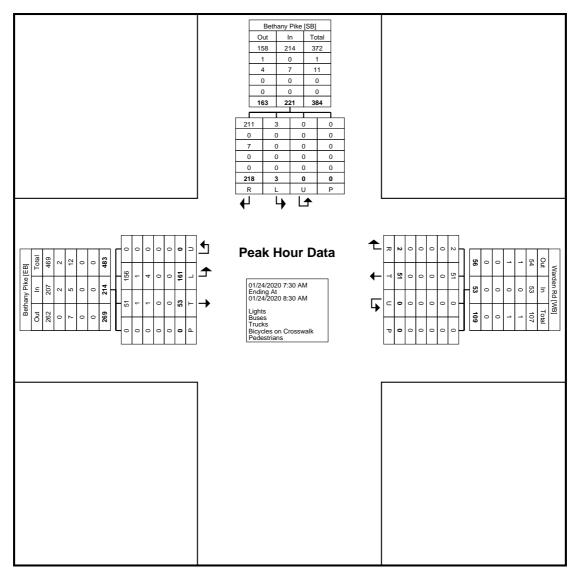
Turning Movement Peak Hour Data (7:30 AM)

				G	9			AIN 1 100	Du	,	, , ,,,,	'/				
		E	Bethany Pik	е				Warden Rd		-			Bethany Pik	е		
			Eastbound					Westbound								
Start Time	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
7:30 AM	37	10	0	0	47	14	1	0	0	15	0	54	0	0	54	116
7:45 AM	31	17	0	0	48	6	0	0	0	6	1	62	0	0	63	117
8:00 AM	40	16	0	0	56	11	1	0	0	12	1	53	0	0	54	122
8:15 AM	53	10	0	0	63	20	0	0	0	20	1	49	0	0	50	133
Total	161	53	0	0	214	51	2	0	0	53	3	218	0	0	221	488
Approach %	75.2	24.8	0.0	-	-	96.2	3.8	0.0	-	-	1.4	98.6	0.0	-	-	-
Total %	33.0	10.9	0.0	-	43.9	10.5	0.4	0.0	-	10.9	0.6	44.7	0.0	-	45.3	-
PHF	0.759	0.779	0.000	-	0.849	0.638	0.500	0.000	-	0.663	0.750	0.879	0.000	-	0.877	0.917
Lights	156	51	0	-	207	51	2	0	-	53	3	211	0	-	214	474
% Lights	96.9	96.2	-	-	96.7	100.0	100.0	-	-	100.0	100.0	96.8	-	-	96.8	97.1
Buses	1	1	0	-	2	0	0	0	-	0	0	0	0	-	0	2
% Buses	0.6	1.9	-	-	0.9	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.4
Trucks	4	1	0	-	5	0	0	0	-	0	0	7	0	-	7	12
% Trucks	2.5	1.9	-	-	2.3	0.0	0.0	-	-	0.0	0.0	3.2	-	-	3.2	2.5
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



184 Baker Rd
Pennsylvania, United States 19320

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Bethany Pike/Warden Rd Site Code: Start Date: 01/24/2020 Page No: 4



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



www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Bethany Pike/Warden Rd Site Code: Start Date: 01/24/2020 Page No: 5

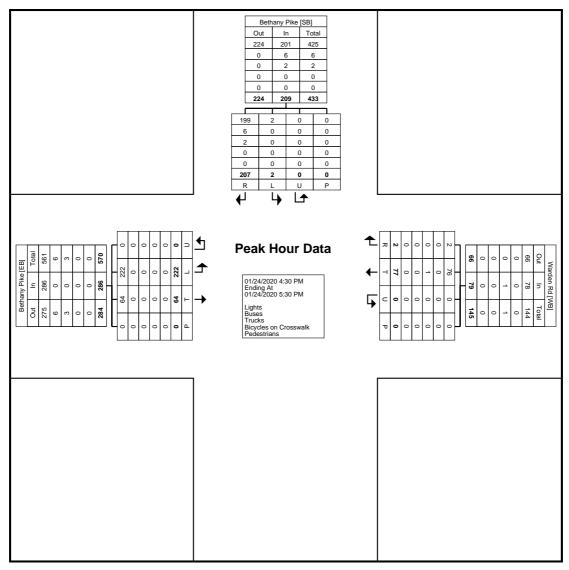
Turning Movement Peak Hour Data (4:30 PM)

				G	9			AIN 1 100	Du	,	,	'/				
		E	Bethany Pik	е				Warden Rd		-			Bethany Pik	е		
			Eastbound					Westbound								
Start Time	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
4:30 PM	53	10	0	0	63	16	0	0	0	16	0	44	0	0	44	123
4:45 PM	50	14	0	0	64	19	0	0	0	19	0	52	0	0	52	135
5:00 PM	59	20	0	0	79	26	2	0	0	28	2	55	0	0	57	164
5:15 PM	60	20	0	0	80	16	0	0	0	16	0	56	0	0	56	152
Total	222	64	0	0	286	77	2	0	0	79	2	207	0	0	209	574
Approach %	77.6	22.4	0.0	-	-	97.5	2.5	0.0	-	-	1.0	99.0	0.0	-	-	-
Total %	38.7	11.1	0.0	-	49.8	13.4	0.3	0.0	-	13.8	0.3	36.1	0.0	-	36.4	-
PHF	0.925	0.800	0.000	-	0.894	0.740	0.250	0.000	-	0.705	0.250	0.924	0.000	-	0.917	0.875
Lights	222	64	0	-	286	76	2	0	-	78	2	199	0	-	201	565
% Lights	100.0	100.0	-	-	100.0	98.7	100.0	-	-	98.7	100.0	96.1	-	-	96.2	98.4
Buses	0	0	0	-	0	0	0	0	-	0	0	6	0	-	6	6
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	2.9	-	-	2.9	1.0
Trucks	0	0	0	-	0	1	0	0	-	1	0	2	0	-	2	3
% Trucks	0.0	0.0	-	-	0.0	1.3	0.0	-	-	1.3	0.0	1.0	-	-	1.0	0.5
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	_	-	-	-	-	-	_	-	_	-	-	-	-	-	-



184 Baker Rd Pennsylvania, United States 19320

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Bethany Pike/Warden Rd Site Code: Start Date: 01/24/2020 Page No: 6



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



Wheeling, WV Bethany Pike & Warden Rd Saturday, January 25, 2020 Location: 40.089503, -80.687613

www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Bethany Pike/Warden Rd SAT Site Code: Start Date: 01/25/2020 Page No: 1

Turning Movement Data

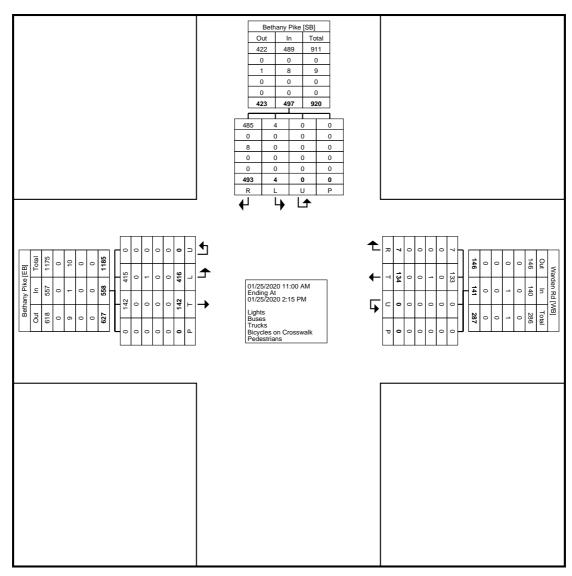
					I	urnın	g iviov	/emer	it Dat	a						
		E	Bethany Pike Eastbound	Э				Warden Rd Westbound								
Start Time	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	Southbound U-Turn	Peds	App. Total	Int. Total
11:00 AM	27	12	0	0	39	12	0	0	0	12	0	33	0	0	33	84
11:15 AM	30	10	0	0	40	12	1	0	0	13	0	46	0	0	46	99
11:30 AM	40	13	0	0	53	15	1	0	0	16	1	51	0	0	52	121
11:45 AM	48	16	0	0	64	15	0	0	0	15	1	29	0	0	30	109
Hourly Total	145	51	0	0	196	54	2	0	0	56	2	159	0	0	161	413
12:00 PM	43	12	0	0	55	12	0	0	0	12	0	29	0	0	29	96
12:15 PM	40	13	0	0	53	12	0	0	0	12	0	47	0	0	47	112
12:30 PM	25	8	0	0	33	16	1	0	0	17	1	50	0	0	51	101
12:45 PM	24	9	0	0	33	8	0	0	0	8	1	56	0	0	57	98
Hourly Total	132	42	0	0	174	48	1	0	0	49	2	182	0	0	184	407
1:00 PM	37	16	0	0	53	13	1	0	0	14	0	46	0	0	46	113
1:15 PM	29	13	0	0	42	4	1	0	0	5	0	36	0	0	36	83
1:30 PM	39	7	0	0	46	8	1	0	0	9	0	41	0	0	41	96
1:45 PM	34	13	0	0	47	7	1	0	0	8	0	29	0	0	29	84
Hourly Total	139	49	0	0	188	32	4	0	0	36	0	152	0	0	152	376
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	416	142	0	0	558	134	7	0	0	141	4	493	0	0	497	1196
Approach %	74.6	25.4	0.0	-	-	95.0	5.0	0.0	-		0.8	99.2	0.0	-	-	-
Total %	34.8	11.9	0.0	-	46.7	11.2	0.6	0.0	-	11.8	0.3	41.2	0.0	-	41.6	-
Lights	415	142	0	-	557	133	7	0	-	140	4	485	0	-	489	1186
% Lights	99.8	100.0	-	-	99.8	99.3	100.0		-	99.3	100.0	98.4	-	-	98.4	99.2
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Trucks	1	0	0	-	1	1	0	0	-	1	0	8	0	-	8	10
% Trucks	0.2	0.0	-	-	0.2	0.7	0.0	-	-	0.7	0.0	1.6	-	-	1.6	0.8
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	<u>-</u>	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	_	-	0	-	-			0	_	-	-	-	0	-	-
% Pedestrians	-			-	-	-			-		-	-		-		-



Wheeling, WV Bethany Pike & Warden Rd Saturday, January 25, 2020 Location: 40.089503, -80.687613

184 Baker Rd , Pennsylvania, United States 19320

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Bethany Pike/Warden Rd SAT Site Code: Start Date: 01/25/2020 Page No: 2



Turning Movement Data Plot



Wheeling, WV Bethany Pike & Warden Rd Saturday, January 25, 2020 Location: 40.089503, -80.687613

www.TSTData.com 184 Baker Rd

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995

Count Name: Bethany Pike/Warden Rd SAT Site Code: Start Date: 01/25/2020 Page No: 3

Turning Movement Peak Hour Data (11:30 AM)

					,					~ (
			Bethany Pik	е				Warden Rd								
			Eastbound					Westbound								
Start Time	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
11:30 AM	40	13	0	0	53	15	1	0	0	16	1	51	0	0	52	121
11:45 AM	48	16	0	0	64	15	0	0	0	15	1	29	0	0	30	109
12:00 PM	43	12	0	0	55	12	0	0	0	12	0	29	0	0	29	96
12:15 PM	40	13	0	0	53	12	0	0	0	12	0	47	0	0	47	112
Total	171	54	0	0	225	54	1	0	0	55	2	156	0	0	158	438
Approach %	76.0	24.0	0.0	-	-	98.2	1.8	0.0	-	-	1.3	98.7	0.0	-	-	-
Total %	39.0	12.3	0.0	-	51.4	12.3	0.2	0.0	-	12.6	0.5	35.6	0.0	-	36.1	-
PHF	0.891	0.844	0.000	-	0.879	0.900	0.250	0.000	-	0.859	0.500	0.765	0.000	-	0.760	0.905
Lights	171	54	0	-	225	54	1	0	-	55	2	151	0	-	153	433
% Lights	100.0	100.0	-	-	100.0	100.0	100.0	-	-	100.0	100.0	96.8	-	-	96.8	98.9
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Trucks	0	0	0	-	0	0	0	0	-	0	0	5	0	-	5	5
% Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	3.2	-	-	3.2	1.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	_	-	_	-	-	_	-	_	-	-	_	-	-	-



Wheeling, WV Bethany Pike & Warden Rd Saturday, January 25, 2020 Location: 40.089503, -80.687613

184 Baker Rd
Pennsylvania, United States 19320

Coatesville, Pennsylvania, United States 19320 610-466-1469 Serving Transportation Professionals Since 1995 Count Name: Bethany Pike/Warden Rd SAT Site Code: Start Date: 01/25/2020 Page No: 4

Bethany Pike [SB] Out In Total 172 153 325 0 0 172 158 330 0 0 0 0 0 0 0 0 0 0 156 2 0 0 U 4 **Peak Hour Data** 01/25/2020 11:30 AM Ending At 01/25/2020 12:30 PM Lights Buses Trucks Bicycles on Crosswalk Pedestrians

Turning Movement Peak Hour Data Plot (11:30 AM)

			2020 Existing Observed Traff	ic Volumes ⁽¹⁾
Direction	Movement	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
		(7:30-8:30 AM) ⁽²⁾	(3:00-4:00 PM) ⁽²⁾	(11:30 AM to 12:30 PM) ⁽²⁾
INTERSECTION	US 40 (NATIONAL ROAD) AND LEATI	IERWOOD LANE/GAS STATION	ON DRIVEWAY
US 40 (NATIONAL RD)	Left Turn	11	3	5
Eastbound	Right Turn	87	56	40
US 40 (NATIONAL RD)	Left Turn	45	34	24
Westbound	Right Turn	11	13	2
LEATHERWOOD LANE	Left Turn	7	40	53
Northbound	Through	0	0	1
Northbound	Right Turn	15	31	26
MARATHON DRIVEWAY	Left Turn	4	7	7
Southbound	Through	1	1	0
Journbound	Right Turn	31	30	12

⁽¹⁾ Turning movement counts based on Miovision videos cunducted at the intersection of US 40 and Park Avenue/TJ's Driveway

⁽²⁾ Peak Hours were determined to be the same as the intersection of US 40 and Park Avenue/TJ's Driveway

Bethany Pike North of US 40 2014-07

Hour of Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	average	pct
	0	78	92					8!	0.6
	1	43	36	,				39.5	0.3
	2	20	28	}				24	0.2
	3	30	34	ļ				32	0.2
	4	61	56	j				58.	0.4
	5	204	207	•				205	1.5
	6	459	478	}				468	3.4
	7	800	828	}				814	1 6
	8	865	920)				892	2 6.5
	9 538	3 776	227	•				513	5.6
1	0 734	712						723	5.3
1	1 803	816						809	5.9
1		834						863	6.3
1	3 915							912	
1								904	
1								1028	
1	6 1067	1039						1053	3 7.7
1	7 1066	1092						1079	7.9
1								792	
1								598	
2								61!	
2								452	
2								268	
2								162	2 1.2
sum	10686								
pct	39.1	50.2	10.6	5 ()	0)	0	

Bethany Pike North of US 40 2014-07

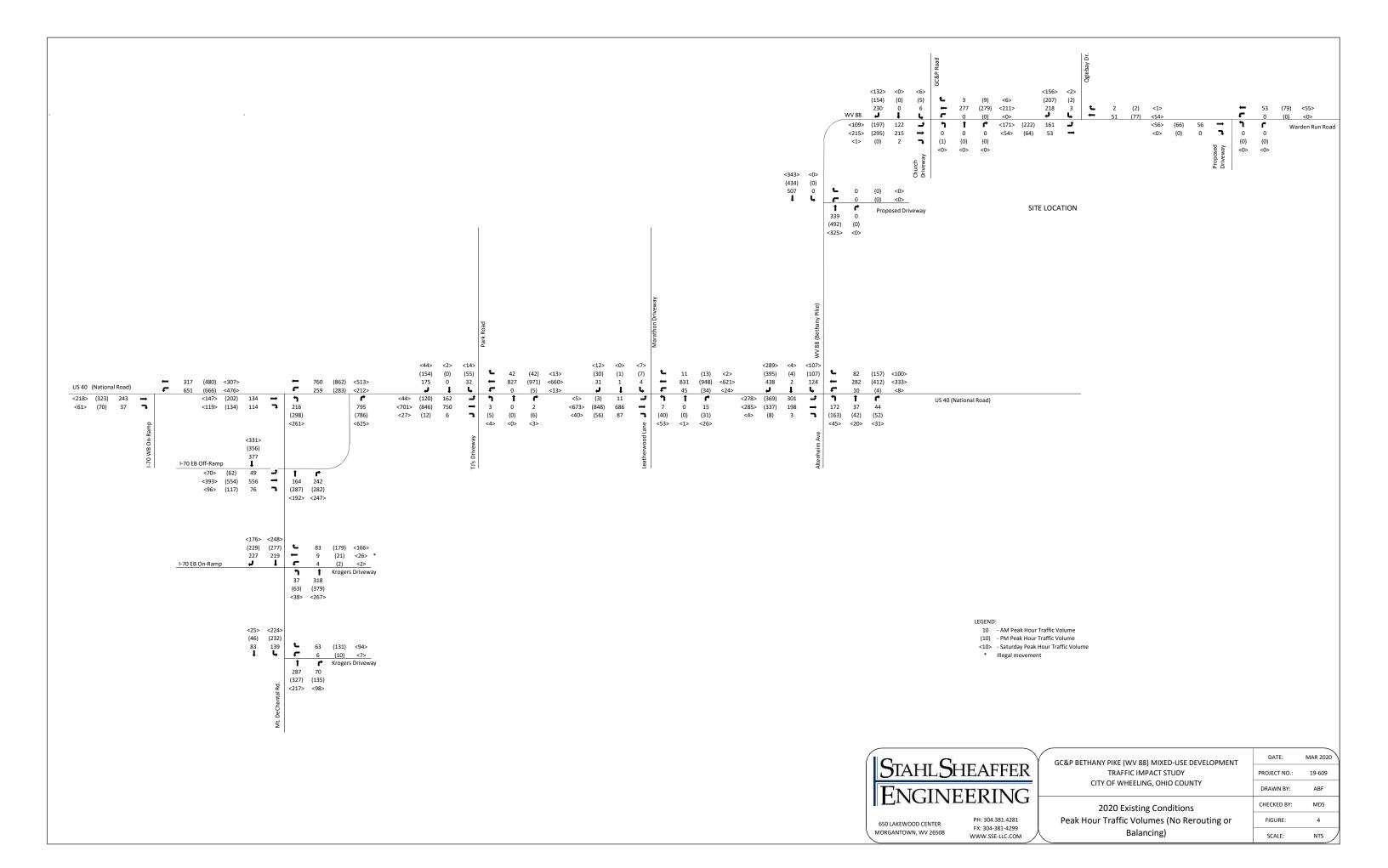
	0 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
hr	Ch 1: North Lane 1		sum
2014-07-21 09	229		538
2014-07-21 10	359	375	734
2014-07-21 11	398	405	803
2014-07-21 12	414	478	892
2014-07-21 13	426	489	915
2014-07-21 14	440	452	892
2014-07-21 15	494	514	1008
2014-07-21 16	531	536	1067
2014-07-21 17	577	489	1066
2014-07-21 18	419	345	764
2014-07-21 19	307	285	592
2014-07-21 20	351	253	604
2014-07-21 21	232	174	406
2014-07-21 22	154	93	
2014-07-21 23	86		
2014-07-22 00	44		
2014-07-22 01	26		
2014-07-22 02	12		
2014-07-22 03	21		
2014-07-22 04	36		
2014-07-22 05	90		
2014-07-22 06	193		
2014-07-22 07	370		
2014-07-22 07	380		
2014-07-22 08	326		
2014-07-22 10			
	337		
2014-07-22 11	376		
2014-07-22 12	396		
2014-07-22 13	451		
2014-07-22 14	461		
2014-07-22 15	478		
2014-07-22 16	541		
2014-07-22 17	601	491	
2014-07-22 18	422	398	
2014-07-22 19	323	281	
2014-07-22 20	354		
2014-07-22 21	290		
2014-07-22 22	179		
2014-07-22 23	100		
2014-07-23 00	50		
2014-07-23 01	23		
2014-07-23 02	21		_
2014-07-23 03	25		_
2014-07-23 04	29		
2014-07-23 05	98		
2014-07-23 06	196		
2014-07-23 07	355	473	828
2014-07-23 08	408	512	920
2014-07-23 09	105	122	227
sum	13534	13765	
count	49	49	

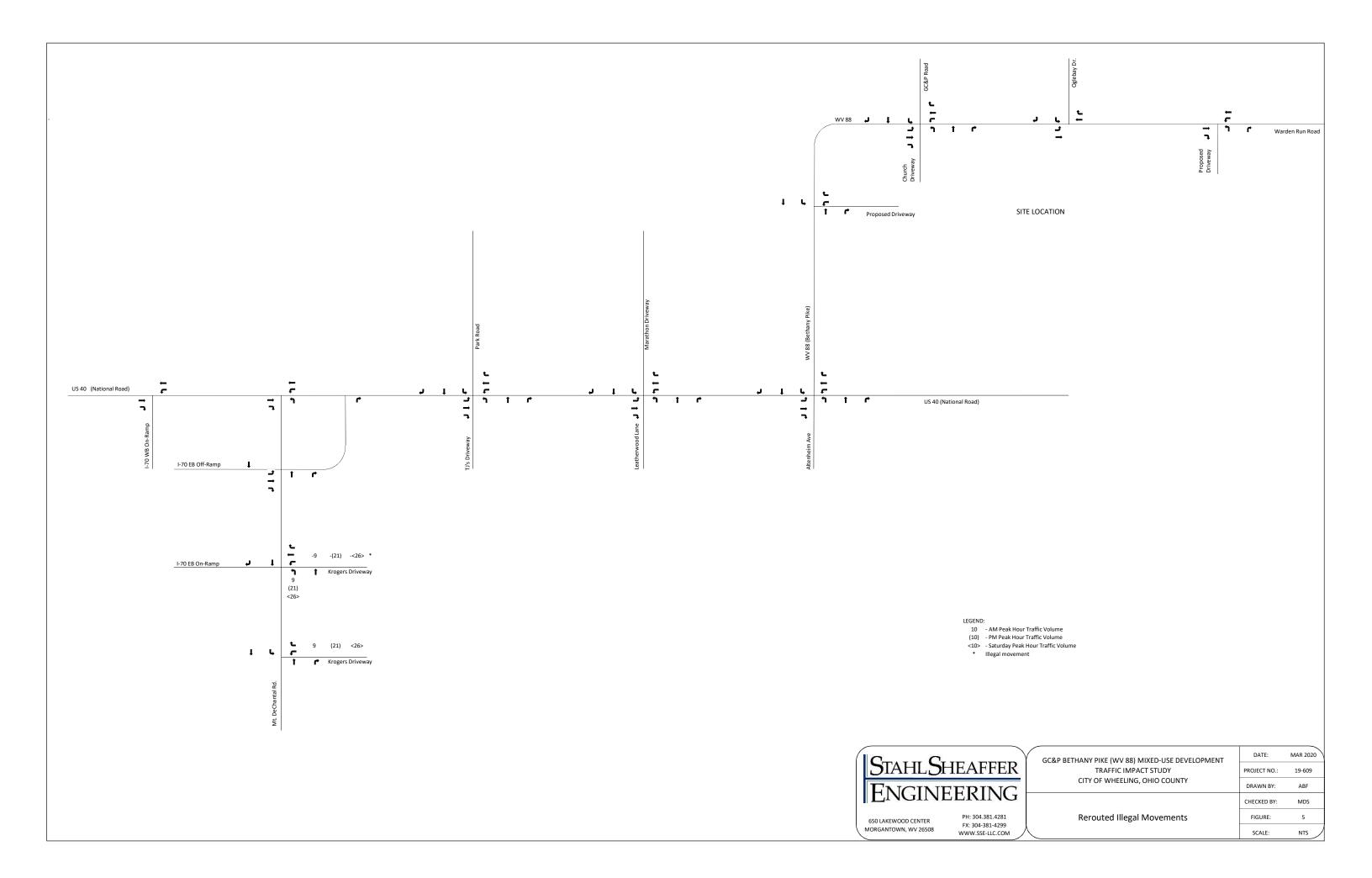
US 40 East of Bethany Pike starting 2017-11-07

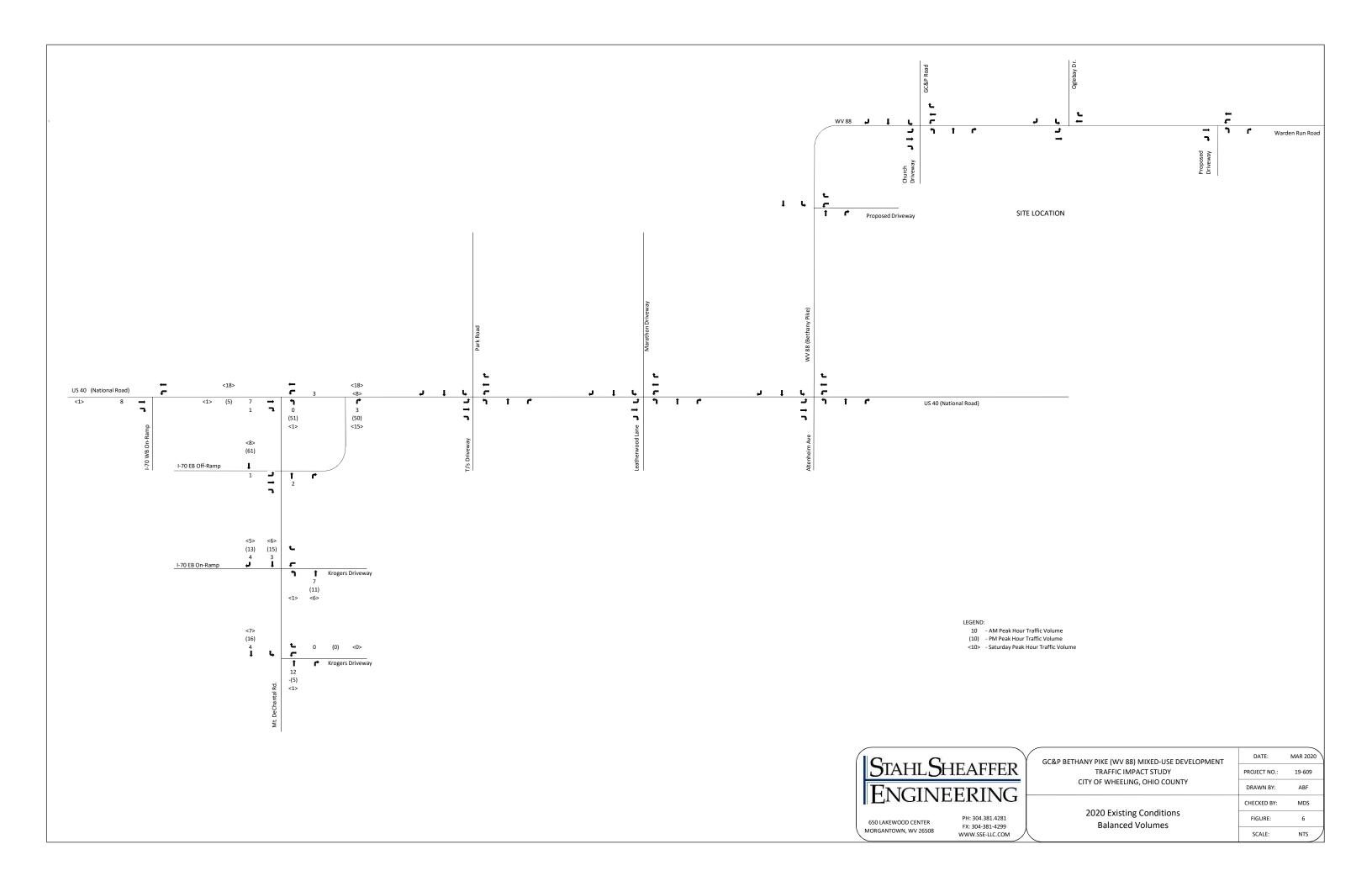
Hour of Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	average	pct
	0	115	116					115	1.1
	1	46	54					50	0.5
	2	27	36					31.5	0.3
	3	20	21					20.5	0.2
	4	28						22	
	5	31						32.5	
	6	83						88.5	
	7	272						264	
	8	585						601	
	9	712						731	
	.0	604						607	
	1	568						589	
	.2	658						673	
	.3	775						795	
	.4	699						725	
	.5	700						722	
	.6	855						888	
	.7	918						895	
	.8	905						929	
	.9	762						760	
	20	496						519	
	21	369						394	
	22	265						267	
	23	163						166	5 1.5
sum	,	10656		•	_		0	0	
pct	(0 48.9	51.1	0	0)	0	0	

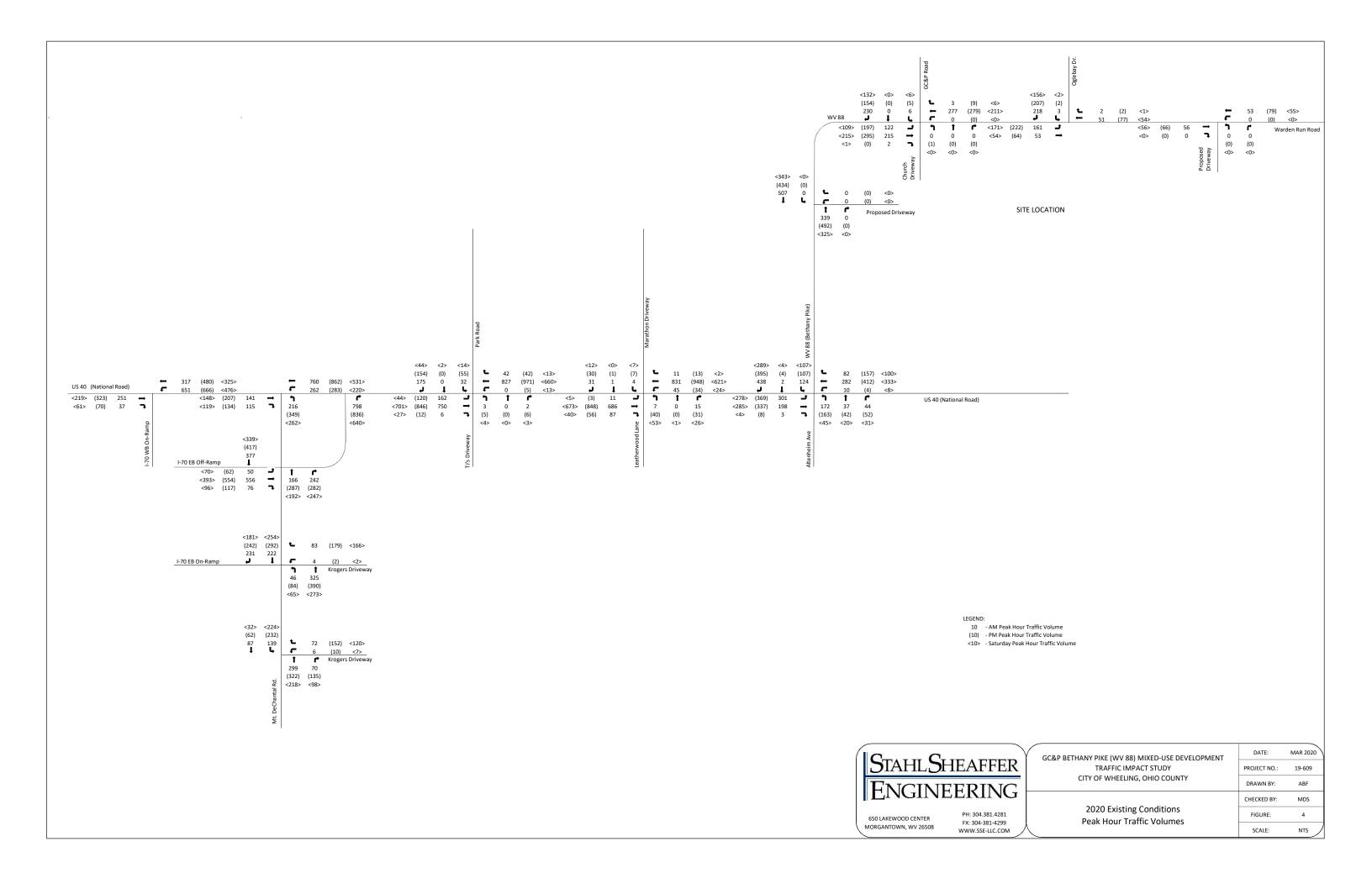
US 40 East of Bethany Pike starting 2017-11-07

hr	Ch 1: East Lane 1 C		sum
2017-11-07 00	59	56	115
2017-11-07 01	24	22	46
2017-11-07 02	15	12	27
2017-11-07 03	11	9	20
2017-11-07 04	16	12	28
2017-11-07 05	12	19	31
2017-11-07-06	36	47	83
2017-11-07-07	126	146	272
2017-11-07 08	250	335	585
2017-11-07 09	314	398	712
2017-11-07 10	333	271	604
2017-11-07 11	302	266	568
2017-11-07 12	356	302	658
2017-11-07 12	388	387	775
2017-11-07 13	386	313	699
2017-11-07 14	373	313	700
2017-11-07 15	433	422	855
2017-11-07 17	487	431	918
2017-11-07 17	507	398	905
2017-11-07 18			
2017-11-07 19	438	324	762 496
	246	250	
2017-11-07 21	215	154	369
2017-11-07 22	142	123	265
2017-11-07 23 2017-11-08 00	83	80 57	163
	59		116
2017-11-08 01	21	33	54
2017-11-08 02	22	14	36
2017-11-08 03 2017-11-08 04	15	6	21
	6	10	16
2017-11-08 05	11	23	34
2017-11-08 06	40	54	94
2017-11-08 07	119	138	257
2017-11-08 08	295	323	618
2017-11-08 09	364	387	751
2017-11-08 10	309	301	610
2017-11-08 11	293	317	610
2017-11-08 12	360	328	688
2017-11-08 13 2017-11-08 14	454	362	816
	397	355	752
2017-11-08 15	422	323	745
2017-11-08 16	468	453	921
2017-11-08 17	474	399	873
2017-11-08 18	539	415	954
2017-11-08 19	430	329	759 542
2017-11-08 20	316	226	542
2017-11-08 21	241	178	419
2017-11-08 22	141	128	269
2017-11-08 23	89	10343	169
sum	11437	10343	
count	48	48	











Appendix E. Level of Service Definitions

Intersection Levels of Service (LOS) Definitions

<u>Level of Service A</u> – LOS A describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

<u>Level of Service B</u> – LOS B describes operations with control delay between 10 and 20 s/veh and a volume–to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

<u>Level of Service C</u> – LOS C describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

<u>Level of Service D</u> – LOS D describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

<u>Level of Service E</u> – LOS E describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

<u>Level of Service F</u> – LOS F describes operations with control delay exceeding 80s/veh when the volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Level of Service Criteria

	Signalized	Unignalized
Level of Service	Intersections	Intersections
á	Control Delay (s./veh.)	Control Delay (s./veh.)
Α	0 - 10	0 - 10
В	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55 - 80	> 35 - 50
F	> 80	> 50

Source: Highway Capacity Manual, 2010 Edition.



Appendix F. 2020 Existing Conditions Synchro Analyses

Lanes, Volumes, Timings 1: Altenheim Ave/Bethany Pike & US 40 National Road

	٠	-	•	•	←	•	1	†	~	-	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	1			414			4			ર્ન	7
Traffic Volume (vph)	301	198	3	10	282	82	172	37	44	124	2	438
Future Volume (vph)	301	198	3	10	282	82	172	37	44	124	2	438
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			2%			7%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			1.00				0.99
Frt		0.997			0.967			0.976				0.850
Flt Protected	0.950				0.999			0.967			0.953	
Satd. Flow (prot)	1693	1683	0	0	3362	0	0	1713	0	0	1793	1584
Flt Permitted	0.338				0.945			0.647			0.634	
Satd. Flow (perm)	602	1683	0	0	3180	0	0	1144	0	0	1193	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			36			10				515
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		879			1354			343			3796	
Travel Time (s)		17.1			26.4			9.4			86.3	
Confl. Peds. (#/hr)			2	2			2					2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	5%	11%	0%	0%	3%	2%	1%	0%	2%	2%	0%	3%
Adj. Flow (vph)	354	233	4	12	332	96	202	44	52	146	2	515
Shared Lane Traffic (%)												
Lane Group Flow (vph)	354	237	0	0	440	0	0	298	0	0	148	515
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0	•		0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.02	1.02	1.02	1.01	1.01	1.01	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		Cl+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	0.0	94		0.0	94		3.5	94		0.0	94	3.3
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Type Detector 2 Channel		OI LX			OI LX			OI LX			OI. LX	
2500001 2 OHUIHOI												

2020 Existing AM Peak Synchro 10 Report Page 1 af/ms

Lane Group	Ø3
LaneConfigurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
FIt Protected	
Satd. Flow (prot)	
FIt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%) Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	

2020 Existing AM Peak

slynchro 10 Report

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Page 2

1: Altenheim Ave/Bethany Pike & US 40 National Road

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	15.0	20.0		20.0	20.0		17.0	17.0		17.0	17.0	17.0
Total Split (s)	20.0	50.0		30.0	30.0		25.0	25.0		25.0	25.0	25.0
Total Split (%)	21.1%	52.6%		31.6%	31.6%		26.3%	26.3%		26.3%	26.3%	26.3%
Maximum Green (s)	15.0	45.0		25.0	25.0		20.0	20.0		20.0	20.0	20.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	46.0	46.0			26.6			20.0			20.0	20.0
Actuated g/C Ratio	0.48	0.48			0.28			0.21			0.21	0.21
v/c Ratio	0.78	0.29			0.48			1.20			0.59	0.70
Control Delay	31.6	17.0			28.3			156.8			44.6	8.9
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	31.6	17.0			28.3			156.8			44.6	8.9
LOS	С	В			С			F			D	Α
Approach Delay		25.8			28.3			156.8			16.9	
Approach LOS		С			С			F			В	
Queue Length 50th (ft)	209	129			106			~216			81	0
Queue Length 95th (ft)	277	193			143			#350			137	61
Internal Link Dist (ft)		799			1274			263			3716	
Turn Bay Length (ft)												130
Base Capacity (vph)	463	815			915			248			251	735
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.76	0.29			0.48			1.20			0.59	0.70
Intersection Summary												

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 46 (48%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.20

Lane Group	Ø3	
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	
Minimum Split (s)	19.0	
Total Split (s)	20.0	
Total Split (%)	21%	
Maximum Green (s)	15.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	
Recall Mode	Ped	
Walk Time (s)	5.0	
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	1	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

1: Altenheim Ave/Bethany Pike & US 40 National Road

Intersection Signal Delay: 43.0
Intersection LOS: D
Intersection Capacity Utilization 64.7%
ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Altenheim Ave/Bethany Pike & US 40 National Road

02 (R)

20 s

20 s

25 s

2020 Existing AM Peak Synchro 10 Report af/ms Page 5

HCM 6th Edition methodology does not support exclusive ped or hold phases.

Analysis Period (min) 15

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1			4			4			4	
Traffic Volume (vph)	122	215	2	0	277	3	0	0	0	6	0	230
Future Volume (vph)	122	215	2	0	277	3	0	0	0	6	0	230
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.999						0.869	
Flt Protected	0.950										0.999	
Satd. Flow (prot)	1466	1674	0	0	1641	0	0	1907	0	0	1400	0
Flt Permitted	0.950										0.999	
Satd. Flow (perm)	1466	1674	0	0	1641	0	0	1907	0	0	1400	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	2%	0%	0%	3%	0%	0%	0%	0%	17%	0%	2%
Adj. Flow (vph)	136	239	2	0	308	3	0	0	0	7	0	256
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	241	0	0	311	0	0	0	0	0	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11	, i		0	Ţ.		0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
71	Other											
Control Type: Unsignalized												
Intersection Capacity Utilizati	ion 55.5%			IC	CU Level of	of Service	В					
A I . '. D . '. I / . ' . \ 45												

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	f)			4			4			4	
Traffic Vol, veh/h	122	215	2	0	277	3	0	0	0	6	0	230
Future Vol, veh/h	122	215	2	0	277	3	0	0	0	6	0	230
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage	е,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	7	2	0	0	3	0	0	0	0	17	0	2
Mvmt Flow	136	239	2	0	308	3	0	0	0	7	0	256
Major/Minor	Major1		N	//ajor2			Minor1		_	Minor2		
Conflicting Flow All	312	0	0	241	0	0	950	824	240	823	824	311
Stage 1	-	-	-	<u></u>	-	-	512	512	-	311	311	-
Stage 2	_	_	_	_	-	-	438	312	_	512	513	_
Critical Hdwy	4.17	_	_	4.1	-	-	7.5	6.9	6.4	7.07	6.3	6.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	6.07	5.3	-
Critical Hdwy Stg 2	_	_	-	-	-	-	6.5	5.9	-	6.07	5.3	-
Follow-up Hdwy	2.263	-	_	2.2	-	-	3.5	4	3.3	3.653		3.318
Pot Cap-1 Maneuver	1221	_	_	1337	_	_	218	283	793	289	325	735
Stage 1	-	-	-	-	-	-	518	510	-	680	673	-
Stage 2	-	-	-	-	-	-	573	639	-	533	555	_
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1220	-	-	1337	-	-	130	251	793	264	289	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	130	251	-	264	289	-
Stage 1	-	-	-	-	-	-	461	453	-	604	672	-
Stage 2	-	-	-	-	-	-	373	638	-	474	493	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3			0			0			13.2		
HCM LOS							A			В		
Minor Lane/Major Mvn	nt N	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR :	SRI n1			
Capacity (veh/h)	nt I	NDLIII	1220	LDI	LDK	1337	VVDT	WDK	702			
HCM Lane V/C Ratio		-	0.111	-	-		-	-	0.374			
HCM Control Delay (s)	\	0	8.3	-	-	0	-		13.2			
HCM Lane LOS		A	0.3 A	-	-	A	-	- -	13.2 B			
HCM 95th %tile Q(veh	1	А	0.4	-	-	0	-	-	1.7			
HOW JOHN JOHN QUE QUEN	1		0.4	_	_	U			1.7			

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1			4			4			4	
Traffic Volume (veh/h)	122	215	2	0	277	3	0	0	0	6	0	230
Future Volume (Veh/h)	122	215	2	0	277	3	0	0	0	6	0	230
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			1%			2%			-1%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	136	239	2	0	308	3	0	0	0	7	0	256
Pedestrians											1	
Lane Width (ft)											11.0	
Walking Speed (ft/s)											3.5	
Percent Blockage											0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	312			241			1078	824	240	822	824	310
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	312			241			1078	824	240	822	824	310
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.3	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.7	4.0	3.3
p0 queue free %	89			100			100	100	100	97	100	65
cM capacity (veh/h)	1219			1337			117	275	804	253	276	729
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	136	241	311	0	263							
Volume Left	136	0	0	0	7							
Volume Right	0	2	3	0	256							
cSH	1219	1700	1337	1700	694							
Volume to Capacity	0.11	0.14	0.00	0.00	0.38							
Queue Length 95th (ft)	9	0	0	0	44							
Control Delay (s)	8.3	0.0	0.0	0.0	13.3							
Lane LOS	Α			Α	В							
Approach Delay (s)	3.0		0.0	0.0	13.3							
Approach LOS				Α	В							
Intersection Summary												
Average Delay			4.9									
Intersection Capacity Utilizati	ion		55.5%	IC	CU Level o	of Service			В			
Analysis Period (min)			15									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	↑ ↑		*	†			4			4	7
Traffic Volume (vph)	162	750	6	0	827	42	3	0	2	32	0	175
Future Volume (vph)	162	750	6	0	827	42	3	0	2	32	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	16	14
Grade (%)		0%			0%			-4%			2%	
Storage Length (ft)	150		0	0		0	0		0	0		300
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00										
Frt		0.999			0.993			0.955				0.850
Flt Protected	0.950							0.968			0.950	
Satd. Flow (prot)	1787	3427	0	1900	3482	0	0	1664	0	0	1911	1689
Flt Permitted	0.117							0.846			0.754	
Satd. Flow (perm)	220	3427	0	1900	3482	0	0	1455	0	0	1516	1689
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			6			172				206
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1133			236			237			1020	
Travel Time (s)		22.1			4.6			6.5			27.8	
Confl. Peds. (#/hr)			5	5								
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	1%	5%	33%	0%	3%	2%	33%	0%	0%	6%	0%	1%
Adj. Flow (vph)	191	882	7	0	973	49	4	0	2	38	0	206
Shared Lane Traffic (%)												
Lane Group Flow (vph)	191	889	0	0	1022	0	0	6	0	0	38	206
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	

Lane Group	Ø2	Ø3	Ø7	Ø11
Lane Configurations	~_	~0	21	~ 11
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Delector 2 Type				

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	16.0	42.0					15.0	15.0		15.0	15.0	15.0
Total Split (%)	16.8%	44.2%					15.8%	15.8%		15.8%	15.8%	15.8%
Maximum Green (s)	11.0	37.0					10.0	10.0		10.0	10.0	10.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	44.0	44.0			43.2			10.0			10.0	10.0
Actuated g/C Ratio	0.46	0.46			0.45			0.11			0.11	0.11
v/c Ratio	0.72	0.56			0.64			0.02			0.24	0.57
Control Delay	36.2	18.2			2.2			0.2			43.2	12.6
Queue Delay	0.0	0.0			1.1			0.0			0.0	0.0
Total Delay	36.2	18.2			3.3			0.2			43.2	12.6
LOS	D	В			Α			Α			D	В
Approach Delay		21.4			3.3			0.2			17.4	
Approach LOS		С			Α			Α			В	
Queue Length 50th (ft)	65	177			6			0			21	0
Queue Length 95th (ft)	122	204			m12			0			49	53
Internal Link Dist (ft)		1053			156			157			940	
Turn Bay Length (ft)	150											300
Base Capacity (vph)	283	1587			1585			307			159	362
Starvation Cap Reductn	0	0			320			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.67	0.56			0.81			0.02			0.24	0.57

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 80

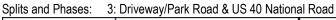
Control Type: Actuated-Coordinated

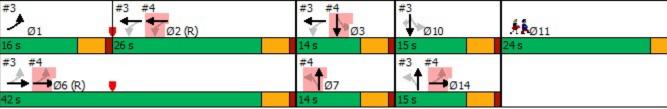
Lane Group	Ø2	Ø3	Ø7	Ø11
Detector 2 Channel	~-	~~	~.	~
Detector 2 Extend (s)				
Turn Type				
Protected Phases	2	3	7	11
Permitted Phases	<u>-</u>		,	
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	15.0	15.0	17.0
Total Split (s)	26.0	14.0	14.0	24.0
Total Split (%)	27%	15%	15%	25%
Maximum Green (s)	21.0	9.0	9.0	21.0
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	0.0
Lost Time Adjust (s)	1.0	1.0	1.0	0.0
Total Lost Time (s)				
Lead/Lag	Lag			
Lead-Lag Optimize?	Yes			
Vehicle Extension (s)	5.0	4.0	4.0	3.0
Recall Mode	C-Max	None	None	Ped
Walk Time (s)	O-IVIAX	INOLIC	INOHE	5.0
Flash Dont Walk (s)				9.0
Pedestrian Calls (#/hr)				9.0
Act Effct Green (s)				
Actuated g/C Ratio v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				
intoroccion Summary				

3: Driveway/Park Road & US 40 National Road

Maximum v/c Ratio: 0.92
Intersection Signal Delay: 13.1
Intersection Capacity Utilization 51.7%
ICU Level of Service A
Analysis Period (min) 15

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





HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		†		7	↑ ↑			4			4	
Traffic Volume (vph)	11	686	87	45	831	11	7	0	15	4	1	31
Future Volume (vph)	11	686	87	45	831	11	7	0	15	4	1	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%			0%	
Storage Length (ft)	0		0	105		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.998			0.907			0.884	
Flt Protected		0.999		0.950				0.985			0.994	
Satd. Flow (prot)	0	3388	0	1770	3498	0	0	1656	0	0	1637	0
Flt Permitted		0.887		0.310				0.901			0.964	
Satd. Flow (perm)	0	3008	0	577	3498	0	0	1515	0	0	1587	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			1			172			36	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			3.5	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	13	807	102	53	978	13	8	0	18	5	1	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	922	0	53	991	0	0	26	0	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	J
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Type Detector 2 Channel		OI LX			OI LX			OI LX			OI LX	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Turri Type	i Cilli	INA		ı Cilli	INA		ı Cilli	INA		ı Cilli	INA	

2020 Existing AM Peak Synchro 10 Report Page 15 af/ms

Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Grade (%)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Lane Util. Factor					
Frt					
Flt Protected					
Satd. Flow (prot)					
Flt Permitted					
Satd. Flow (perm)					
Right Turn on Red					
Satd. Flow (RTOR)					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Peak Hour Factor					
Heavy Vehicles (%)					
Adj. Flow (vph)					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Enter Blocked Intersection					
Lane Alignment					
Median Width(ft)					
Link Offset(ft)					
Crosswalk Width(ft)					
Two way Left Turn Lane					
Headway Factor					
Turning Speed (mph)					
Number of Detectors					
Detector Template					
Leading Detector (ft)					
Trailing Detector (ft)					
Detector 1 Position(ft)					
Detector 1 Size(ft)					
Detector 1 Type					
Detector 1 Channel					
Detector 1 Extend (s)					
Detector 1 Queue (s)					
Detector 1 Delay (s)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					

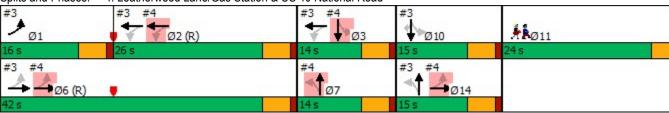
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		6 14			2			7			3	
Permitted Phases	6 14			2			7			3		
Detector Phase	6 14	6 14		2	2		7	7		3	3	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)				20.0	20.0		15.0	15.0		15.0	15.0	
Total Split (s)				26.0	26.0		14.0	14.0		14.0	14.0	
Total Split (%)				27.4%	27.4%		14.7%	14.7%		14.7%	14.7%	
Maximum Green (s)				21.0	21.0		9.0	9.0		9.0	9.0	
Yellow Time (s)				4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)				0.0	0.0		1.0	0.0		1.0	0.0	
Total Lost Time (s)				5.0	5.0			5.0			5.0	
Lead/Lag				Lag	Lag			0.0			0.0	
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode				C-Max	C-Max		None	None		None	None	
Walk Time (s)				O-IVIAX	O-IVIAX		INOITE	INOTIC		NONE	INOITE	
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
		54.0		29.2	29.2			9.0			9.0	
Act Effct Green (s)		0.57		0.31	0.31			0.09			0.09	
Actuated g/C Ratio		0.57		0.30	0.92			0.09			0.09	
v/c Ratio		2.6		35.1				0.09			19.4	
Control Delay					47.5							
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		2.6		35.1	47.5			0.6			19.4	
LOS		A		D	D			A			В	
Approach Delay		2.6			46.8			0.6			19.4	
Approach LOS		Α		00	D			A			В	
Queue Length 50th (ft)		16		28	313			0			3	
Queue Length 95th (ft)		2		m45	m#342			0			32	
Internal Link Dist (ft)		156			799			398			76	
Turn Bay Length (ft)				105								
Base Capacity (vph)		1718		177	1075			299			182	
Starvation Cap Reductn		5		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.54		0.30	0.92			0.09			0.23	
Intersection Summary	Other											
	Other											
Cycle Length: 95												
Actuated Cycle Length: 95		MDT	10 =5=	0: :								
Offset: 0 (0%), Referenced to	o phase 2:\	WBIL and	d 6:EBTL	., Start of	Green, M	aster Inte	ersection					
Natural Cycle: 80												
Control Type: Actuated-Cool	rdinated											
Maximum v/c Ratio: 0.92	_											
Intersection Signal Delay: 25					ntersection							
Intersection Capacity Utilizat	tion 49.9%			I	CU Level o	of Service	eΑ					

Lana Oraun	. ~1	- AC	C40	011	C4.4
Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Protected Phases	1	6	10	11	14
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.0	20.0	12.0	17.0	12.0
Total Split (s)	16.0	42.0	15.0	24.0	15.0
Total Split (%)	17%	44%	16%	25%	16%
Maximum Green (s)	11.0	37.0	10.0	21.0	10.0
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead				
Lead-Lag Optimize?	Yes				
Vehicle Extension (s)	2.0	5.0	4.0	3.0	4.0
Recall Mode	None	C-Max	None	Ped	None
Walk Time (s)				5.0	
Flash Dont Walk (s)				9.0	
Pedestrian Calls (#/hr)				1	
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn Reduced v/c Ratio					
Reduced Wc Ratio					
Intersection Summary					

Analysis Period (min) 15

- # 95th percentile volume exceeds capacity, queue may be longer.
 - Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Leatherwood Lane/Gas Station & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Lane Configurations	† \$		*	^	77					
Traffic Volume (vph)	141	115	262	760	216	0				
Future Volume (vph)	141	115	262	760	216	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	11	11	10	11	11	12				
Grade (%)	0%			0%	-1%					
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	1.00				
Frt	0.933									
Flt Protected			0.950		0.950					
Satd. Flow (prot)	3034	0	1652	3388	3271	0				
FIt Permitted			0.429		0.950					
Satd. Flow (perm)	3034	0	746	3388	3271	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)	128									
Link Speed (mph)	35			35	25					
Link Distance (ft)	562			201	135					
Travel Time (s)	10.9			3.9	3.7					
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				
Heavy Vehicles (%)	10%	4%	2%	3%	4%	0%				
Adj. Flow (vph)	157	128	291	844	240	0				
Shared Lane Traffic (%)		0		• • • • • • • • • • • • • • • • • • • •						
Lane Group Flow (vph)	285	0	291	844	240	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	10			10	22					
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	16			16	16					
Two way Left Turn Lane	Yes									
Headway Factor	1.04	1.04	1.09	1.04	1.04	0.99				
Turning Speed (mph)		9	15		15	9				
Number of Detectors	2		1	2	1	•				
Detector Template	Thru		Left	Thru	Left					
Leading Detector (ft)	100		20	100	20					
Trailing Detector (ft)	0		0	0	0					
Detector 1 Position(ft)	0		0	0	0					
Detector 1 Size(ft)	6		20	6	20					
Detector 1 Type	Cl+Ex		CI+Ex	Cl+Ex	Cl+Ex					
Detector 1 Channel	Ψ. <u>-</u> ,		J,.	V/	J/					
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft)	94		0.0	94	0.0					
Detector 2 Size(ft)	6			6						
Detector 2 Type	CI+Ex			CI+Ex						
Detector 2 Channel	OI - EX			OI ZX						
Detector 2 Extend (s)	0.0			0.0						
Turn Type	NA		pm+pt	NA	Prot					
Protected Phases	2		1	16	8		3	4	6	
Permitted Phases	L		16	10				7		
			10							

	\rightarrow	*	200,000	1					
Lane Group	EBT	EBR WBL	. WBT	NBL	NBR	Ø3	Ø4	Ø6	
Detector Phase	2	1	16	8					
Switch Phase									
Minimum Initial (s)	5.0	5.0		5.0		5.0	5.0	5.0	
Minimum Split (s)	20.0	15.0		17.0		17.0	17.0	20.0	
Total Split (s)	25.0	16.0		54.0		30.0	24.0	41.0	
Total Split (%)	26.3%	16.8%		56.8%		32%	25%	43%	
Maximum Green (s)	20.0	11.0		49.0		25.0	19.0	36.0	
Yellow Time (s)	4.0	4.0		4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0					
Total Lost Time (s)	5.0	5.0		5.0					
Lead/Lag	Lag	Lead				Lead	Lag		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes		
Vehicle Extension (s)	5.0	2.5		4.0		4.0	5.0	5.0	
Recall Mode	C-Max	None		None		None	None	C-Max	
Act Effct Green (s)	21.2	37.2	37.2	47.8					
Actuated g/C Ratio	0.22	0.39	0.39	0.50					
v/c Ratio	0.37	0.73	0.64	0.15					
Control Delay	18.8	35.5	29.0	4.6					
Queue Delay	0.0	0.0		1.2					
Total Delay	18.8	35.5		5.8					
LOS	В		_	Α					
Approach Delay	18.8		30.6	5.8					
Approach LOS	В		С	Α					
Queue Length 50th (ft)	41	182	281	14					
Queue Length 95th (ft)	78	#289		m14					
Internal Link Dist (ft)	482		121	55					
Turn Bay Length (ft)									
Base Capacity (vph)	776	397	1327	1687					
Starvation Cap Reductn	0	(0	1222					
Spillback Cap Reductn	0	(0	0					
Storage Cap Reductn	0	(0					
Reduced v/c Ratio	0.37	0.73	0.64	0.52					
Intersection Summary									

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 25.0 Intersection LOS: C Intersection Capacity Utilization 40.8% ICU Level of Service A

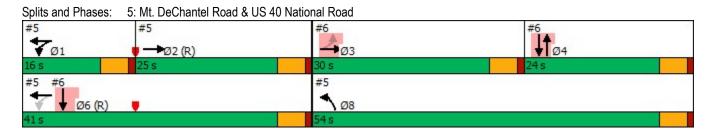
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Synchro 10 Report 2020 Existing AM Peak Page 22 af/ms



HCM 6th Edition methodology does not support clustered intersections.

Lanes, Volumes, Timings 2020 Existing AM Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 刊析2020

Lane Configurations		۶	-	•	•	•	•	4	1	-	-	ţ	1
Traffic Volume (vph)	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	Lane Configurations		473						†			^	
Ideal Flow (ryphpi) 1900	Traffic Volume (vph)	50		76	0	0	0	0		242	0		0
Ideal Flow (ryphpi) 1900	Future Volume (vph)	50	556	76	0	0	0	0	166	242	0	377	0
Lane Width (ft)		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Circular (%)		12	12	12	12	12	12	13	13	13	12	16	12
Lane Unil. Factor 0.95 0.95 0.95 0.95 1.00 1.00 1.00 0.95 0.95 0.95 1.00 1	. ,		-1%			0%			0%				
Fith	` ,	0.95		0.95	1.00		1.00	1.00		0.95	1.00		1.00
Fit Protected 0.996 Satc. Flow (prot) 0.3435 0.0 0.0 0.0 0.3237 0.0 0.	Ped Bike Factor												
Satd. Flow (prot) 0 3435 0 0 0 0 0 3237 0 0 2080 0	Frt		0.983						0.911				
File Permitted	Flt Protected		0.996										
File Permitted	Satd. Flow (prot)	0	3435	0	0	0	0	0	3237	0	0	2080	0
Satd. Flow (perm)			0.996										
Right Turn on Red Yes	Satd. Flow (perm)	0	3435	0	0	0	0	0	3237	0	0	2080	0
Satd. Flow (RTOR)				Yes			Yes			Yes			Yes
Link Speed (mph)	· ·		14						278				
Link Distance (ft)						30						25	
Travel Time (s)													
Confil Peds. (#/hr)													
Peak Hour Factor	\ <i>\</i>		0.1			1.0		2				0.1	2
Heavy Vehicles (%)	` ,	0.87	0.87	0.87	0.87	0.87	0.87		0.87	0.87	0.87	0.87	
Adj. Flow (vph) 57 639 87 0 0 0 0 191 278 0 433 0													
Shared Lane Traffic (%) Lane Group Flow (vph) 0 783 0 0 0 0 0 0 469 0 0 433 0	. ,												
Lane Group Flow (vph)					-	-		-					-
Enter Blocked Intersection No No No No No No No	· ,	0	783	0	0	0	0	0	469	0	0	433	0
Left Left Right Right Median Width(ft) 0	,	No	No	No	No	No	No	No	No	No	No		No
Median Width(ft) 0 0 0 0 0 Link Offset(ft) 0 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 0 9 10 10 10 10	Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 0 10 10 10 10 10 10			0	•		0	•		0	•		0	
Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 0 9 10 10 10 10 10 10 10 10 10	Link Offset(ft)		0			0			0			0	
Headway Factor 0.99 0.99 0.99 1.00 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01			16			16			16			16	
Turning Speed (mph) 15 9 15 9 15 9 15 9 Number of Detectors 1 2 2 2 Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 100 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 20 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 12 2 2 12 12 2 <t< td=""><td>Two way Left Turn Lane</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Two way Left Turn Lane												
Turning Speed (mph) 15 9 15 9 15 9 15 9 Number of Detectors 1 2 2 2 Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 100 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 20 6 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	0.96	0.96	0.96	1.01	0.85	1.01
Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel 0.0 0.0 0.0 0.0 Detector 1 Extend (s) 0.0 0.	Turning Speed (mph)	15		9	15		9	15		9	15		9
Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type Cl+Ex Cl+Ex Cl+Ex Detector 2 Channel 0.0 0.0 0.0 Detector 2 Extend (s) 0.0 0.0 0.0	Number of Detectors	1	2						2			2	
Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel 0.0 0.0 0.0 Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type Cl+Ex Cl+Ex Cl+Ex Detector 2 Channel 0.0 0.0 0.0 Detector 2 Extend (s) 0.0 0.0 0.0	Detector Template	Left	Thru						Thru			Thru	
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Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel 0.0 0.0 0.0 Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 1 Position(ft)	0	0						0			0	
Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 1 Size(ft)	20	6						6			6	
Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Type	CI+Ex	Cl+Ex						Cl+Ex			CI+Ex	
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Detector 2 Position(ft) 94 94 Detector 2 Size(ft) 6 6 Detector 2 Type CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0	Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 2 Position(ft)		94						94			94	
Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 2 Size(ft)		6						6			6	
Detector 2 Channel Detector 2 Extend (s) 0.0 0.0 0.0	` ,		CI+Ex						Cl+Ex			CI+Ex	
			0.0						0.0			0.0	
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2020 Existing AM Peak Synchro 10 Report Page 1 af/ms

Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Ideal Flow (pot) Ideal Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (prot) If Permitted Satd. Flow (prem) Right Turn on Red Satd. Flow (RTOR) Iink Speed (mph) Iink Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Iink Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Extend (s) Detector 2 Position(ft) Detector 2 Position(ft) Detector 2 Channel Detector 2 Type Detector 2 Extend (s)	Lane Group	Ø1	Ø2	Ø6	Ø8
Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft) Grade (%) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Detector 1 Position(ft) Detector 1 Type Detector 1 Delay (s) Detector 2 Desition(ft) Detector 2 Size(ft) Detector 2 Size(ft) Detector 2 Channel Detector 2 Extend (s)	·	~ .			
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Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Type Detector 1 Channel Detector 1 Queue (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Type Detector 2 Channel Detector 2 Channel Detector 2 Channel Detector 2 Extend (s)					
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Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Extend (s) Detector 1 Delay (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Channel Detector 2 Extend (s)	Enter Blocked Intersection				
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Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Extend (s) Detector 1 Delay (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Size(ft) Detector 2 Channel Detector 2 Channel Detector 2 Extend (s)					
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Detector 2 Channel Detector 2 Extend (s)					
Detector 2 Extend (s)					
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T T	·				
Turn Type	Turn Type				

Synchro 10 Report 2020 Existing AM Peak Page 2 af/ms

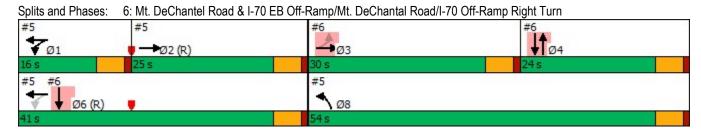
6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Tชิศติ/2020

	•	→	•	•	•	•	1	†	1	-	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		3						4			6 4	
Permitted Phases	3											
Detector Phase	3	3						4			6 4	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0				
Minimum Split (s)	17.0	17.0						17.0				
Total Split (s)	30.0	30.0						24.0				
Total Split (%)	31.6%	31.6%						25.3%				
Maximum Green (s)	25.0	25.0						19.0				
Yellow Time (s)	4.0	4.0						4.0				
All-Red Time (s)	1.0	1.0						1.0				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag	Lead	Lead						Lag				
Lead-Lag Optimize?	Yes	Yes						Yes				
Vehicle Extension (s)	4.0	4.0						5.0				
Recall Mode	None	None						None				
Act Effct Green (s)		24.5						18.3			60.5	
Actuated g/C Ratio		0.26						0.19			0.64	
v/c Ratio		0.87						0.55			0.33	
Control Delay		45.2						23.9			2.5	
Queue Delay		0.0						0.0			1.6	
Total Delay		45.2						23.9			4.0	
LOS		D						С			Α	
Approach Delay		45.2						23.9			4.0	
Approach LOS		D						С			Α	
Queue Length 50th (ft)		232						77			18	
Queue Length 95th (ft)		#298						111			37	
Internal Link Dist (ft)		402			135			190			55	
Turn Bay Length (ft)												
Base Capacity (vph)		914						869			1318	
Starvation Cap Reductn		0						0			681	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.86						0.54			0.68	
Intersection Summary												
Area Type:	Other											
Cycle Length: 95												
Actuated Cycle Length: 95												
Offset: 70 (74%), Reference	ed to phase	2:EBT an	d 6:WBT	L, Start o	f Green							
Natural Cycle: 75												
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.87												
Intersection Signal Delay: 2	28.7			In	tersection	LOS: C						
Intersection Capacity Utilization				IC	CU Level	of Service	Α					
Analysis Pariod (min) 15												

95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Analysis Period (min) 15

6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Tህተብ/2020



Lane Group	Ø1	Ø2	Ø6	Ø8
	<u>الع</u> 1	2	6	8
Protected Phases	1	2	0	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	20.0	20.0	17.0
Total Split (s)	16.0	25.0	41.0	54.0
Total Split (%)	17%	26%	43%	57%
Maximum Green (s)	11.0	20.0	36.0	49.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.5	5.0	5.0	4.0
Recall Mode	None	C-Max		None
Act Effct Green (s)			2	
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
• ,				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				
intersection outlinally				

2020 Existing AM Peak Synchro 10 Report Page 5 af/ms

HCM 6th Edition methodology does not support clustered intersections.

	→	7	F	•	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	^			ተተተ		77
Traffic Volume (vph)	141	0	0	1022	0	798
Future Volume (vph)	141	0	0	1022	0	798
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	11	12	12
Grade (%)	0%			0%	-2%	
Storage Length (ft)		0	590		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	0.88
Frt						0.850
Flt Protected						
Satd. Flow (prot)	2963	0	0	4398	0	2470
Flt Permitted						
Satd. Flow (perm)	2963	0	0	4398	0	2470
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			1133	215	
Travel Time (s)	3.9			22.1	4.2	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	9%	0%	0%	2%	0%	4%
Adj. Flow (vph)	166	0	0	1202	0	939
Shared Lane Traffic (%)						
Lane Group Flow (vph)	166	0	0	1202	0	939
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	1	J -		1	0	J
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	1.15	1.15	1.20	1.14	1.14
Turning Speed (mph)		9	15	= •	15	9
Sign Control	Free		. 3	Free	Yield	
Intersection Summary						
	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	tion 42.2%			IC	U Level o	of Service

Analysis Period (min) 15

Synchro 10 Report 2020 Existing AM Peak Page 1 af/ms

7: Mt. DeChantal Road/I-70 Off-Ramp Right Turn & US 40 National Road

	-	7	*	-	•	/		
Movement	EBT	EBR	WBL	WBT	NEL	NER		
Lane Configurations	^			^		77		
Traffic Volume (veh/h)	141	0	0	1022	0	798		
Future Volume (Veh/h)	141	0	0	1022	0	798		
Sign Control	Free			Free	Yield			
Grade	0%			0%	-2%			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85		
Hourly flow rate (vph)	166	0	0	1202	0	939		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			TWLTL				
Median storage veh)				2				
Upstream signal (ft)	201			1133				
pX, platoon unblocked					0.92			
vC, conflicting volume			166		567	83		
vC1, stage 1 conf vol					166			
vC2, stage 2 conf vol					401			
vCu, unblocked vol			166		229	83		
tC, single (s)			4.1		6.8	7.0		
tC, 2 stage (s)					5.8			
tF (s)			2.2		3.5	3.3		
p0 queue free %			100		100	2		
cM capacity (veh/h)			1424		790	953		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1	NE 2	
Volume Total	83	83	401	401	401	470	470	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	470	470	
cSH	1700	1700	1700	1700	1700	953	953	
Volume to Capacity	0.05	0.05	0.24	0.24	0.24	0.49	0.49	
Queue Length 95th (ft)	0	0	0	0	0	70	70	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	12.4	12.4	
Lane LOS						В	В	
Approach Delay (s)	0.0		0.0			12.4		
Approach LOS						В		
Intersection Summary								
Average Delay			5.0					
Intersection Capacity Utiliza	ation		42.2%	IC	U Level c	of Service		
Analysis Period (min)			15					

	۶	→	•	1	•	•	1	†	-	-	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				7		7	*	^			1	
Traffic Volume (vph)	0	0	0	4	0	83	46	325	0	0	222	231
Future Volume (vph)	0	0	0	4	0	83	46	325	0	0	222	231
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.931	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1519	1576	1627	0	0	1528	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1519	1576	1627	0	0	1528	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	3%	5%	0%	0%	1%	5%
Adj. Flow (vph)	0	0	0	4	0	92	51	361	0	0	247	257
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	4	0	92	51	361	0	0	504	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
, , , , , , , , , , , , , , , , , , ,	ther											
Control Type: Unsignalized												

Intersection Capacity Utilization 45.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations						7	7	^			Þ	
Traffic Vol, veh/h	0	0	0	4	0	83	46	325	0	0	222	231
Future Vol, veh/h	0	0	0	4	0	83	46	325	0	0	222	231
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	170	-	-	-	-	-
Veh in Median Storage,	# -	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-1	-	-	-1	-	-	1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	2	3	5	0	0	1	5
Mvmt Flow	0	0	0	4	0	92	51	361	0	0	247	257
Major/Minor			N	Minor1			Major1		N	Major2		
Conflicting Flow All				839	_	361	504	0	-			0
Stage 1				463	_	301	504	-	-	-	-	
9					-		-	-				-
Stage 2				376	-	6 10	4.13	-	-	-	-	-
Critical Hdwy				6.2	-	6.12	4.13	-	-	-	-	-
Critical Hdwy Stg 1				5.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.2	-	2 240	0.007	-	-	-	-	-
Follow-up Hdwy				3.5	-	3.318		-	-	-	-	-
Pot Cap-1 Maneuver				355	0	690	1055	-	0	0	-	-
Stage 1				654	0	-	-	-	0	0	-	-
Stage 2				713	0	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				338	0	690	1055	-	-	-	-	-
Mov Cap-2 Maneuver				338	0	-	-	-	-	-	-	-
Stage 1				623	0	-	-	-	-	-	-	-
Stage 2				713	0	-	-	-	-	-	-	-
Approach				WB			NB			SB		
HCM Control Delay, s				11.2			1.1			0		
HCM LOS				В								
Minor Lane/Major Mvmt		NBL	NRTV	VBLn1V	VBI n2	SBT	SBR					
Capacity (veh/h)		1055		338	690	-						
HCM Lane V/C Ratio		0.048		0.013			-					
HCM Control Delay (s)		8.6	-	15.8	11	-	<u>-</u>					
HCM Lane LOS			-			-	-					
		A	-	С	В	-	-					
HCM 95th %tile Q(veh)		0.2	-	0	0.5	-	-					

	•	→	*	1	+	•	1	†	-	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				1		7	1	†			7	
Traffic Volume (veh/h)	0	0	0	4	0	83	46	325	0	0	222	231
Future Volume (Veh/h)	0	0	0	4	0	83	46	325	0	0	222	231
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-1%			-1%			1%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	4	0	92	51	361	0	0	247	257
Pedestrians					2							
Lane Width (ft)					15.0							
Walking Speed (ft/s)					3.5							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								477			270	
pX, platoon unblocked	0.91	0.91	0.90	0.91	0.91	0.96	0.90			0.96		
vC, conflicting volume	838	840	376	840	969	363	504			363		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	689	691	246	691	831	321	389			321		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	99	100	87	95			100		
cM capacity (veh/h)	276	321	715	317	267	693	1044			1203		
Direction, Lane#	WB 1	WB 2	NB 1	NB 2	SB 1							
Volume Total	4	92	51	361	504							
Volume Left	4	0	51	0	0							
Volume Right	0	92	0	0	257							
cSH	317	693	1044	1700	1700							
Volume to Capacity	0.01	0.13	0.05	0.21	0.30							
Queue Length 95th (ft)	1	11	4	0	0							
Control Delay (s)	16.5	11.0	8.6	0.0	0.0							
Lane LOS	С	В	Α									
Approach Delay (s)	11.2		1.1		0.0							
Approach LOS	В											
Intersection Summary												
Average Delay			1.5									
Intersection Capacity Utiliza	ation		45.5%	IC	U Level	of Service			Α			
Analysis Period (min)			15									

	1	•	†	1	1	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	*	7	†	7	*	†
Traffic Volume (vph)	6	72	299	70	139	87
Future Volume (vph)	6	72	299	70	139	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	14	13	14
Grade (%)	2%	10	1%	17	10	1%
Storage Length (ft)	0	80	1 /0	120	210	1 /0
Storage Lanes	1	1		120	1	
Taper Length (ft)	25				25	
	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00			1.00
Ped Bike Factor		0.050		0.98	1.00	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1652	1783	1714	1856	1997
Flt Permitted	0.950				0.507	
Satd. Flow (perm)	1787	1652	1783	1676	990	1997
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		81		79		
Link Speed (mph)	25		25			25
Link Distance (ft)	249		332			477
Travel Time (s)	6.8		9.1			13.0
Confl. Peds. (#/hr)	3.5			2	2	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	6%	0%	0%	1%
Adj. Flow (vph)	7	81	336	79	156	98
Shared Lane Traffic (%)	ı	O1	330	13	150	30
()	7	81	336	79	156	98
Lane Group Flow (vph) Enter Blocked Intersection					No	
	No	No	No	No		No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		13			13
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	0.97	1.01	0.92	0.96	0.92
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	CI+Ex	Cl+Ex	Cl+Ex	Cl+Ex	CI+Ex
Detector 1 Channel	OITLA	OLLEY	OITEX	OITEX	OFFLA	OITEX
	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			CI+Ex			CI+Ex

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	50.0	50.0	20.0	70.0
Total Split (%)	26.3%	26.3%	52.6%	52.6%	21.1%	73.7%
Maximum Green (s)	20.0	20.0	45.0	45.0	15.0	65.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	0.0	0.0	Lag	Lag	Lead	0.0
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	2.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	8.7	8.7	67.6	67.6	78.8	79.8
Actuated g/C Ratio	0.09	0.09	0.71	0.71	0.83	0.84
v/c Ratio	0.04	0.36	0.27	0.07	0.18	0.06
Control Delay	38.7	14.0	6.5	1.6	1.6	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	14.0	6.5	1.6	1.6	1.3
LOS	D	В	A	A	A	A
Approach Delay	16.0		5.6	7.	7.	1.5
Approach LOS	В		Α			A
Queue Length 50th (ft)	4	0	66	0	4	2
Queue Length 95th (ft)	16	41	124	15	m20	m13
Internal Link Dist (ft)	169	71	252	10	11120	397
Turn Bay Length (ft)	103	80	232	120	210	331
Base Capacity (vph)	376	411	1267	1214	958	1678
Starvation Cap Reductn	0	411	0	0	0	0
Spillback Cap Reductin	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.20	0.27	0.07	0.16	0.06
	0.02	0.20	0.21	0.07	0.10	0.00
Intersection Summary						
Area Type:	Other					
Cycle Length: 95						
Actuated Cycle Length: 95						

Actuated Cycle Length: 95

Offset: 60 (63%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 5.4

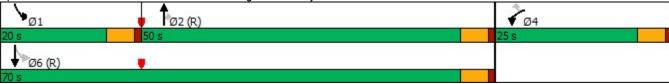
Intersection Capacity Utilization 40.1%

Intersection LOS: A ICU Level of Service A

Analysis Period (min) 15

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





	1	•	†	1	-	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	۲	7	↑	7	7	†
Traffic Volume (veh/h)	6	72	299	70	139	87
Future Volume (veh/h)	6	72	299	70	139	87
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1876	1952	1805	1970	1970	1954
Adj Flow Rate, veh/h	7	81	336	79	156	98
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	6	0	0	1
Cap, veh/h	118	109	1308	1208	849	1620
Arrive On Green	0.07	0.07	0.72	0.72	0.09	1.00
Sat Flow, veh/h	1787	1654	1805	1667	1876	1954
Grp Volume(v), veh/h	7	81	336	79	156	98
Grp Sat Flow(s),veh/h/ln	1787	1654	1805	1667	1876	1954
Q Serve(g_s), s	0.3	4.6	6.0	1.3	1.8	0.0
Cycle Q Clear(g_c), s	0.3	4.6	6.0	1.3	1.8	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	118	109	1308	1208	849	1620
V/C Ratio(X)	0.06	0.74	0.26	0.07	0.18	0.06
Avail Cap(c_a), veh/h	376	348	1308	1208	1048	1620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	43.6	4.4	3.8	2.4	0.0
Incr Delay (d2), s/veh	0.4	19.0	0.5	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.4	2.1	0.4	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.1	62.6	4.9	3.9	2.5	0.1
LnGrp LOS	D	Е	Α	Α	Α	Α
Approach Vol, veh/h	88		415			254
Approach Delay, s/veh	61.0		4.7			1.5
Approach LOS	E		Α			A
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.9	73.8		11.3		83.7
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	45.0		20.0		65.0
Max Q Clear Time (g_c+l1), s	3.8	8.0		6.6		2.0
Green Ext Time (p_c), s	0.2	5.3		0.4		1.2
`` '	J, _					.,_
Intersection Summary			40.0			
HCM 6th Ctrl Delay			10.2			
HCM 6th LOS			В			

	→	7	F	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	†			414		
Traffic Volume (vph)	251	37	651	317	0	0
Future Volume (vph)	251	37	651	317	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.981					
FIt Protected				0.967		
Satd. Flow (prot)	2987	0	0	3023	0	0
FIt Permitted				0.967		
Satd. Flow (perm)	2987	0	0	3023	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	0%	3%	4%	0%	0%
Adj. Flow (vph)	289	43	748	364	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	332	0	0	1112	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
	Other					
Control Type: Unsignalized	Outer					
,,	tion 56 20/			10	III ovol s	of Service
Intersection Capacity Utiliza	11011 30.3%			IC	U Level C	n Selvice
Analysis Period (min) 15						

	-	P	*	•	•	/	
Movement	EBT	EBR	WBL	WBT	NEL	NER	
Lane Configurations	†			414			
Traffic Volume (veh/h)	251	37	651	317	0	0	
Future Volume (Veh/h)	251	37	651	317	0	0	
Sign Control	Free			Free	Stop		
Grade	0%			0%	3%		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	
Hourly flow rate (vph)	289	43	748	364	0	0	
Pedestrians					2		
Lane Width (ft)					0.0		
Walking Speed (ft/s)					3.5		
Percent Blockage					0		
Right turn flare (veh)							
Median type	None			TWLTL			
Median storage veh)				2			
Upstream signal (ft)				562			
pX, platoon unblocked					0.80		
vC, conflicting volume			291		1990	168	
vC1, stage 1 conf vol					312		
vC2, stage 2 conf vol					1678		
vCu, unblocked vol			291		1741	168	
tC, single (s)			4.2		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			41		100	100	
cM capacity (veh/h)			1260		66	853	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2			
Volume Total	193	139	869	243			
Volume Left	0	0	748	0			
Volume Right	0	43	0	0			
cSH	1700	1700	1260	1700			
Volume to Capacity	0.11	0.08	0.59	0.14			
Queue Length 95th (ft)	0	0	103	0			
Control Delay (s)	0.0	0.0	11.3	0.0			
Lane LOS			В				
Approach Delay (s)	0.0		8.9				
Approach LOS							
Intersection Summary							
Average Delay			6.8				
Intersection Capacity Utiliza	ation		56.3%	IC	U Level c	f Service	
Analysis Period (min)			15				

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	14		ĵ.			ર્ન
Traffic Volume (vph)	51	2	161	53	3	218
Future Volume (vph)	51	2	161	53	3	218
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	11	11
Grade (%)	3%		-2%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995		0.966			
Flt Protected	0.954					0.999
Satd. Flow (prot)	1589	0	1606	0	0	1563
Flt Permitted	0.954					0.999
Satd. Flow (perm)	1589	0	1606	0	0	1563
Link Speed (mph)	30		30			30
Link Distance (ft)	1796		396			959
Travel Time (s)	40.8		9.0			21.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	3%	4%	0%	3%
Adj. Flow (vph)	55	2	175	58	3	237
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	0	233	0	0	240
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12	· ·	0	•		0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.18	1.18	1.14	1.14	1.23	1.23
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary	•					
	74h e =					
	Other					
Control Type: Unsignalized	i 05 50/			10	ا در ما الا	-4 0
Intersection Capacity Utilizat	ion 25.5%			IC	U Level	of Service
Analysis Period (min) 15						

2020 Existing AM Peak Synchro 10 Report Page 39 af/ms

Intersection						
Int Delay, s/veh	1.4					
-		WDD	NDT	NDD	CDI	CDT
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y	0	101	F2	2	4
Traffic Vol, veh/h	51	2	161	53	3	218
Future Vol, veh/h	51	2	161	53	3	218
Conflicting Peds, #/hr	0	0	0	_ 0	0	_ 0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	0	-	-	0
Grade, %	3	-	-2	-	-	4
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	4	0	3
Mvmt Flow	55	2	175	58	3	237
Major/Minor N	Minor1		Anior1	N	Major?	
			Major1		Major2	
Conflicting Flow All	447	204	0	0	233	0
Stage 1	204	-	-	-	-	-
Stage 2	243	-	-	-	-	-
Critical Hdwy	7	6.5	-	-	4.1	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	532	828	-	-	1346	-
Stage 1	807	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	530	828	-	_	1346	_
Mov Cap-2 Maneuver	530	-	_	_	-	_
Stage 1	807	_	_	_	_	_
Stage 2	768	_	_	_	_	_
Olage 2	700					
Approach	WB		NB		SB	
HCM Control Delay, s	12.5		0		0.1	
HCM LOS	В					
N.C. 1 /2.4 . 2.4		NET	MDD	MDL 4	051	OPT
Minor Lane/Major Mvm	τ	NBT		WBLn1	SBL	SBT
Capacity (veh/h)		-	-		1346	-
HCM Lane V/C Ratio		-	-	0.107		-
HCM Control Delay (s)		-	-		7.7	0
HCM Lane LOS		-	-	В	Α	Α
		-	-	0.4	A 0	A -

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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		1→			र्स
Traffic Volume (veh/h)	51	2	161	53	3	218
Future Volume (Veh/h)	51	2	161	53	3	218
Sign Control	Stop		Free			Free
Grade	3%		-2%			4%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	55	2	175	58	3	237
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	447	204			233	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	447	204			233	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	0.1	J. <u>L</u>				
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	100			100	
cM capacity (veh/h)	571	842			1346	
					1040	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	57	233	240			
Volume Left	55	0	3			
Volume Right	2	58	0			
cSH	578	1700	1346			
Volume to Capacity	0.10	0.14	0.00			
Queue Length 95th (ft)	8	0	0			
Control Delay (s)	11.9	0.0	0.1			
Lane LOS	В		Α			
Approach Delay (s)	11.9	0.0	0.1			
Approach LOS	В					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utiliza	ation		25.5%	IC	U Level o	f Service
Analysis Period (min)	audii		15	10	O LEVEL O	I OEI VICE
Alialysis Feliou (IIIIII)			15			

	•	•	†	-	1	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		1₃			र्स
Traffic Volume (vph)	0	0	339	0	0	507
Future Volume (vph)	0	0	339	0	0	507
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%		-1%			-2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1667	0	1675	0	0	1683
FIt Permitted						
Satd. Flow (perm)	1667	0	1675	0	0	1683
Link Speed (mph)	30		30			30
Link Distance (ft)	660		3796			747
Travel Time (s)	15.0		86.3			17.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	377	0	0	563
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	377	0	0	563
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.15	1.15	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	ion 33.2%			IC	U Level c	f Service
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0					
		WED	NET	NDD	ODI	ODT
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	À	^	1	^	^	4
Traffic Vol, veh/h	0	0	339	0	0	507
Future Vol, veh/h	0	0	339	0	0	507
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	0	-	-	0
Grade, %	0	-	-1	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	377	0	0	563
NA ' (NA'	1. d.				4 : 0	
	Minor1		//ajor1		Major2	
Conflicting Flow All	940	377	0	0	377	0
Stage 1	377	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	293	670	-	-	1181	-
Stage 1	694	-	-	-	-	-
Stage 2	570	_	-	-	-	_
Platoon blocked, %			_	_		_
Mov Cap-1 Maneuver	293	670	_	_	1181	_
Mov Cap-1 Maneuver		-	_	_	- 101	_
Stage 1	694				_	
Stage 2	570	_			_	_
Staye 2	310	-	-	<u>-</u>	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	0		0		0	
HCM LOS	Α					
Minor Lane/Major Mvr	nt	NBT	NBRV	WBLn1	SBL	SBT
Capacity (veh/h)		-	-	-	1181	-
HCM Lane V/C Ratio		-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS		-	-	Α	Α	-
HCM 95th %tile Q(veh	1)	-	-	-	0	-

	-	•	1	←	1	-
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	ĵ₃			स्	W	
Traffic Volume (vph)	56	0	0	53	0	0
Future Volume (vph)	56	0	0	53	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%			3%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1667	0	0	1642	1667	0
Flt Permitted						
Satd. Flow (perm)	1667	0	0	1642	1667	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	1796			721	825	
Travel Time (s)	49.0			19.7	22.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	62	0	0	59	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	0	0	59	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	J
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	tion 6.7%			IC	U Level o	of Service
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0					
	EDT	EDD	WDI	WDT	NDI	NDD
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4		•	4	W	•
Traffic Vol, veh/h	56	0	0	53	0	0
Future Vol, veh/h	56	0	0	53	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
•	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage,	# 0	-	-	0	0	-
Grade, %	0	-	-	3	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	0	0	59	0	0
		_				
	ajor1		Major2		Minor1	
Conflicting Flow All	0	0	62	0	121	62
Stage 1	-	-	-	-	62	-
Stage 2	-	-	-	-	59	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	_	_	_	_	5.42	_
Follow-up Hdwy	_	_	2.218	_	3.518	3.318
Pot Cap-1 Maneuver	_	_	1541	-	874	1003
Stage 1	_	_	-	<u>-</u>	961	-
Stage 2	_	_	_	_	964	_
Platoon blocked, %		-	_		304	_
	-	-	1511	-	074	1002
Mov Cap-1 Maneuver	-	-	1541	-	874	1003
Mov Cap-2 Maneuver	-	-	-	-	874	-
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	964	-
Approach	EB		WB		NB	
	0		0		0	
HCM Control Delay, s HCM LOS	U		U			
UCINI FOS					Α	
Minor Lane/Major Mvmt	1	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		_	_		1541	_
HCM Lane V/C Ratio		_	_	_	-	_
HCM Control Delay (s)		0	_	_	0	_
HCM Lane LOS		A	_	_	A	-
HCM 95th %tile Q(veh)				-	0	
HOW SOUT MILE Q(VEIT)			-	-	U	-

	۶	-	*	•	-	•	1	1	~	/	Ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	f)			4 14			4			ર્ન	7
Traffic Volume (vph)	369	337	8	4	412	157	163	42	52	107	4	395
Future Volume (vph)	369	337	8	4	412	157	163	42	52	107	4	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			2%			7%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99				0.98
Frt		0.996			0.959			0.973				0.850
Flt Protected	0.950							0.969			0.954	
Satd. Flow (prot)	1760	1810	0	0	3370	0	0	1718	0	0	1813	1553
Flt Permitted	0.305				0.953			0.697			0.607	
Satd. Flow (perm)	565	1810	0	0	3211	0	0	1228	0	0	1154	1525
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			47			10				425
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		879			1354			343			3796	
Travel Time (s)		17.1			26.4			9.4			86.3	
Confl. Peds. (#/hr)			1	1			9					9
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	3%	0%	0%	2%	1%	1%	0%	0%	1%	0%	5%
Adj. Flow (vph)	397	362	9	4	443	169	175	45	56	115	4	425
Shared Lane Traffic (%)												
Lane Group Flow (vph)	397	371	0	0	616	0	0	276	0	0	119	425
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16	•		0	•		0	•		0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.02	1.02	1.02	1.01	1.01	1.01	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		CI+Ex	CI+Ex		CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			Cl+Ex	
Detector 2 Channel		O, LX			O. LX			OI LX			OI LX	

2020 Existing PM Peak Synchro 10 Report Page 1 af/ms

Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Grade (%) Storage Length (ft) Storage Length (ft) Storage Length (ft) Lane Util. Factor Ped Bike Factor Frt FIt Protected Satd. Flow (prot) FIt Permitted Satd. Flow (prot) Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vyh) Enter Blocked Intersection Lane Alignment Median Width(ft)
Traffic Volume (vph) Future Volume (vph) Futur
Future Volume (vph) Ideal Flow (vphpl) Grade (%) Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permit Purn on Red Satd. Flow (RTOR) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Ideal Flow (vphpl) Grade (%) Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Grade (%) Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (prem) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (yph) Shared Lane Traffic (%) Lane Group Flow (yph) Enter Blocked Intersection Lane Alignment
Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Frit Frit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Enter Blocked Intersection Lane Alignment
Lane Alignment
Median Width(ft)
Link Offset(ft)
Crosswalk Width(ft)
Two way Left Turn Lane
Headway Factor
Turning Speed (mph)
Number of Detectors
Detector Template
Leading Detector (ft)
Trailing Detector (ft)
Detector 1 Position(ft)
Detector 1 Size(ft)
Detector 1 Type
Detector 1 Channel
Detector 1 Extend (s)
Detector 1 Queue (s)
Detector 1 Delay (s)
Detector 2 Position(ft)
Detector 2 Size(ft)
Detector 2 Type
Detector 2 Channel

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6			2			4			4	1
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	15.0	20.0		20.0	20.0		17.0	17.0		17.0	17.0	15.0
Total Split (s)	28.0	65.0		37.0	37.0		30.0	30.0		30.0	30.0	28.0
Total Split (%)	24.3%	56.5%		32.2%	32.2%		26.1%	26.1%		26.1%	26.1%	24.3%
Maximum Green (s)	23.0	60.0		32.0	32.0		25.0	25.0		25.0	25.0	23.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lag	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	76.2	76.2			52.6			25.0			25.0	43.6
Actuated g/C Ratio	0.66	0.66			0.46			0.22			0.22	0.38
v/c Ratio	0.70	0.31			0.41			1.01			0.48	0.50
Control Delay	27.8	9.4			22.3			100.3			46.6	4.0
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	27.8	9.4			22.3			100.3			46.6	4.0
LOS	С	Α			С			F			D	Α
Approach Delay		19.0			22.3			100.3			13.3	
Approach LOS		В			С			F			В	
Queue Length 50th (ft)	129	90			136			~201			77	0
Queue Length 95th (ft)	253	162			258			#380			139	55
Internal Link Dist (ft)		799			1274			263			3716	
Turn Bay Length (ft)												130
Base Capacity (vph)	613	1199			1495			274			250	889
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.65	0.31			0.41			1.01			0.48	0.48

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 100 (87%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Lane Group	Ø3		
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3		
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0		
Minimum Split (s)	19.0		
Total Split (s)	20.0		
Total Split (%)	17%		
Maximum Green (s)	15.0		
Yellow Time (s)	4.0		
All-Red Time (s)	1.0		
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	4.0		
Recall Mode	None		
Walk Time (s)	5.0		
Flash Dont Walk (s)	9.0		
Pedestrian Calls (#/hr)	1		
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			
Intersection Summary			

2020 Existing PM Peak Synchro 10 Report Page 4 af/ms

1: Altenheim Ave/Bethany Pike & US 40 National Road

Intersection Signal Delay: 28.7 Intersection LOS: C
Intersection Capacity Utilization 70.5% ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: Altenheim Ave/Bethany Pike & US 40 National Road

02 (R)

100 Level of Service C

ICU Level of Service C

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

HCM 6th Edition methodology does not support exclusive ped or hold phases.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1			4			4			4	
Traffic Volume (vph)	197	295	0	0	279	9	1	0	0	5	0	154
Future Volume (vph)	197	295	0	0	279	9	1	0	0	5	0	154
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.996						0.869	
FIt Protected	0.950							0.950			0.998	
Satd. Flow (prot)	1569	1708	0	0	1637	0	0	1812	0	0	1405	0
FIt Permitted	0.950							0.950			0.998	
Satd. Flow (perm)	1569	1708	0	0	1637	0	0	1812	0	0	1405	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	2%
Adj. Flow (vph)	224	335	0	0	317	10	1	0	0	6	0	175
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	335	0	0	327	0	0	1	0	0	181	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
	Other											

Area Type: Othe

Control Type: Unsignalized

Intersection Capacity Utilization 55.2%

ICU Level of Service B

Analysis Period (min) 15

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	13			4			4			4	
Traffic Vol, veh/h	197	295	0	0	279	9	1	0	0	5	0	154
Future Vol, veh/h	197	295	0	0	279	9	1	0	0	5	0	154
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-		None	-	-	None
Storage Length	130	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0	0	0	2
Mvmt Flow	224	335	0	0	317	10	1	0	0	6	0	175
Major/Minor N	Major1		_	Major2		<u> </u>	Minor1		N	Minor2		
Conflicting Flow All	327	0	0	335	0	0	1193	1110	335	1105	1105	322
Stage 1	-	-	-	-	-	-	783	783	-	322	322	-
Stage 2	-	-	-	-	-	-	410	327	-	783	783	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.9	6.4	6.9	6.3	6.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5		3.318
Pot Cap-1 Maneuver	1244	-	-	1236	-	-	145	187	698	202	226	725
Stage 1	-	-	-	-	-	-	357	373	-	707	666	-
Stage 2	-	-	-	-	-	-	595	628	-	407	426	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1244	-	-	1236	-	-	95	153	698	174	185	725
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	153	-	174	185	-
Stage 1	-	-	-	-	-	-	293	306	-	580	666	-
Stage 2	-	-	-	-	-	-	451	628	-	334	349	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.4			0			43.4			12.5		
HCM LOS							Е			В		
Minor Lane/Major Mvm	t I	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR :	SBLn1			
Capacity (veh/h)		95	1244	-	-	1236	-	-	659			
HCM Lane V/C Ratio		0.012	0.18	-	-	-	-	-	0.274			
HCM Control Delay (s)		43.4	8.5	-	-	0	-	-	12.5			
HCM Lane LOS		Е	Α	-	-	Α	-	-	В			
HCM 95th %tile Q(veh)		0	0.7	-	-	0	-	-	1.1			

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	1			4			4			4	
Traffic Volume (veh/h)	197	295	0	0	279	9	1	0	0	5	0	154
Future Volume (Veh/h)	197	295	0	0	279	9	1	0	0	5	0	154
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			1%			2%			-1%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	224	335	0	0	317	10	1	0	0	6	0	175
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	327			335			1280	1110	335	1105	1105	322
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	327			335			1280	1110	335	1105	1105	322
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	82			100			99	100	100	96	100	76
cM capacity (veh/h)	1244			1236			94	173	711	164	174	719
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	224	335	327	1	181							
Volume Left	224	0	0	1	6							
Volume Right	0	0	10	0	175							
cSH	1244	1700	1236	94	646							
Volume to Capacity	0.18	0.20	0.00	0.01	0.28							
Queue Length 95th (ft)	16	0	0	1	29							
Control Delay (s)	8.5	0.0	0.0	43.8	12.7							
Lane LOS	Α			Е	В							
Approach Delay (s)	3.4		0.0	43.8	12.7							
Approach LOS				E	В							
Intersection Summary												
Average Delay			4.0									
Intersection Capacity Utilization	on		55.2%	IC	U Level o	of Service			В			
Analysis Period (min)			15									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	^		7	†			4			ર્ન	7
Traffic Volume (vph)	120	846	12	5	971	42	5	0	6	55	0	154
Future Volume (vph)	120	846	12	5	971	42	5	0	6	55	0	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	16	14
Grade (%)		0%			0%			-4%			2%	
Storage Length (ft)	150		0	0		0	0		0	0		300
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00			1.00				0.99
Frt		0.998			0.994			0.921				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1752	3531	0	1805	3515	0	0	1982	0	0	2025	1705
Flt Permitted	0.175			0.303				0.915			0.750	
Satd. Flow (perm)	323	3531	0	572	3515	0	0	1850	0	0	1599	1682
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			4			142				169
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1133			236			237			1020	
Travel Time (s)		22.1			4.6			6.5			27.8	
Confl. Peds. (#/hr)	1		16	16		1	1	0.0				1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	2%	0%	0%	2%	2%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	132	930	13	5	1067	46	5	0	7	60	0	169
Shared Lane Traffic (%)			. •			.,			•			
Lane Group Flow (vph)	132	943	0	5	1113	0	0	12	0	0	60	169
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	J
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	O	O		O	O		O	O		O	0	O
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	- 0.0	94		0.0	94		0.0	94		0.0	94	0.0
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			Cl+Ex	
Dolotto Z Type		OI - LX			O1 · LX			OI. LX			OLILA	

Lane Group Ø2 Ø3 Ø7 Ø11 Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl)
Traffic Volume (vph) Future Volume (vph)
Future Volume (vph)
Lane Width (ft)
Grade (%)
Storage Length (ft)
Storage Lanes
Taper Length (ft)
Lane Util. Factor
Ped Bike Factor
Frt
Fit Protected
Satd. Flow (prot)
Fit Permitted
Satd. Flow (perm)
Right Turn on Red
Satd. Flow (RTOR)
Link Speed (mph)
Link Distance (ft)
Travel Time (s)
Confl. Peds. (#/hr)
Peak Hour Factor
Heavy Vehicles (%)
Adj. Flow (vph) Shared Lane Traffic (%)
Lane Group Flow (vph) Enter Blocked Intersection
Lane Alignment
Median Width(ft)
Link Offset(ft)
Crosswalk Width(ft)
Two way Left Turn Lane
Headway Factor
Turning Speed (mph) Number of Detectors
Detector Template
Leading Detector (ft) Trailing Detector (ft)
Trailing Detector (ft)
Detector 1 Position(ft)
Detector 1 Size(ft)
Detector 1 Type
Detector 1 Channel
Detector 1 Extend (s)
Detector 1 Queue (s)
Detector 1 Delay (s)
Detector 2 Position(ft)
Detector 2 Size(ft)
Detector 2 Type

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	20.0	52.0					23.0	23.0		23.0	23.0	23.0
Total Split (%)	17.4%	45.2%					20.0%	20.0%		20.0%	20.0%	20.0%
Maximum Green (s)	15.0	47.0					18.0	18.0		18.0	18.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	71.3	71.3		73.9	73.9			17.7			17.7	17.7
Actuated g/C Ratio	0.62	0.62		0.64	0.64			0.15			0.15	0.15
v/c Ratio	0.43	0.43		0.01	0.49			0.03			0.24	0.42
Control Delay	13.8	10.6		0.4	1.1			0.1			45.5	9.9
Queue Delay	0.0	0.0		0.0	0.1			0.0			0.0	0.0
Total Delay	13.8	10.6		0.4	1.3			0.1			45.5	9.9
LOS	В	В		Α	Α			Α			D	Α
Approach Delay		11.0			1.3			0.1			19.2	
Approach LOS		В			Α			Α			В	
Queue Length 50th (ft)	33	152		0	8			0			39	0
Queue Length 95th (ft)	65	183		m0	9			0			81	61
Internal Link Dist (ft)		1053			156			157			940	
Turn Bay Length (ft)	150											300
Base Capacity (vph)	386	2188		367	2259			409			250	405
Starvation Cap Reductn	0	0		0	298			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
D	0.04	0.40		0.04	^ ==			0.00			0.04	0.40

Intersection Summary

Reduced v/c Ratio

Area Type: Other

Cycle Length: 115 Actuated Cycle Length: 115

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

0.43

0.34

Natural Cycle: 90

Control Type: Actuated-Coordinated

Synchro 10 Report 2020 Existing PM Peak af/ms Page 11

0.01

0.57

0.03

0.24

0.42

Lane Group	Ø2	Ø3	Ø7	Ø11
Detector 2 Channel	~_	~~	~-	
Detector 2 Extend (s)				
Turn Type				
Protected Phases	2	3	7	11
Permitted Phases		J	'	11
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	15.0	15.0	17.0
Total Split (s)	32.0	16.0	16.0	24.0
Total Split (%)	28%	14%	14%	21%
Maximum Green (s)	27.0	11.0	11.0	21.0
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	0.0
Lost Time Adjust (s)	1.0	1.0	1.0	0.0
Total Lost Time (s)				
Lead/Lag	Lag			
Lead-Lag Optimize?	Yes			
Vehicle Extension (s)	5.0	4.0	4.0	3.0
Recall Mode	C-Max	None	None	None
Walk Time (s)	O-IVIAX	NOHE	NOHE	5.0
Flash Dont Walk (s)				9.0
				9.0
Pedestrian Calls (#/hr)				U
Act Effct Green (s)				
Actuated g/C Ratio v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				
into cootion ourimary				

3: Driveway/Park Road & US 40 National Road

Maximum v/c Ratio: 0.59
Intersection Signal Delay: 7.2
Intersection Capacity Utilization 54.5%
Analysis Period (min) 15
Intersection LOS: A
ICU Level of Service A

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



HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		†		*	1			4			4	
Traffic Volume (vph)	3	848	56	34	948	13	40	0	31	7	1	30
Future Volume (vph)	3	848	56	34	948	13	40	0	31	7	1	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%			0%	
Storage Length (ft)	0		0	105		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.998			0.941			0.894	
Flt Protected				0.950				0.973			0.991	
Satd. Flow (prot)	0	3507	0	1770	3532	0	0	1697	0	0	1650	0
Flt Permitted		0.953		0.069				0.845			0.951	
Satd. Flow (perm)	0	3343	0	129	3532	0	0	1474	0	0	1584	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			1			142			33	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			3.5	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	3	932	62	37	1042	14	44	0.01	34	8	1	33
Shared Lane Traffic (%)		002	<u> </u>	O.	1012	• • •			Ų.		•	
Lane Group Flow (vph)	0	997	0	37	1056	0	0	78	0	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			10			10	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel	OI LX	OI LX		OI · LX	OI LX		OI LX	OI · LX		OI LX	OI · LX	
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			CI+Ex	
Detector 2 Channel		OFFEX			OLITEX			OLITEX			OLITEX	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
	Dorm	NA		Dorm	NA		Perm	NA		Dorm	NA	
Turn Type Protected Phases	Perm			Perm			reilli			Perm		
Frolected Phases		6 14			2			7			3	

2020 Existing PM Peak Synchro 10 Report Page 15 af/ms

Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Lane Configurations	~ .	~0	~ 10	~ 11	~
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
· · · ·					
Grade (%)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Lane Util. Factor					
Frt					
Flt Protected					
Satd. Flow (prot)					
Flt Permitted					
Satd. Flow (perm)					
Right Turn on Red					
Satd. Flow (RTOR)					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Peak Hour Factor					
Adj. Flow (vph)					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Enter Blocked Intersection					
Lane Alignment					
Median Width(ft)					
Link Offset(ft)					
Crosswalk Width(ft)					
Two way Left Turn Lane					
Headway Factor					
Turning Speed (mph)					
Number of Detectors					
Detector Template					
Leading Detector (ft)					
Trailing Detector (ft)					
Detector 1 Position(ft)					
Detector 1 Size(ft)					
Detector 1 Type					
Detector 1 Channel					
Detector 1 Extend (s)					
Detector 1 Queue (s)					
Detector 1 Delay (s)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					
Protected Phases	1	6	10	11	14
- 10160160 F118363	ſ	U	10	11	TT

Synchro 10 Report Page 16 2020 Existing PM Peak af/ms

Intersection Signal Delay: 11.0

Analysis Period (min) 15

Intersection Capacity Utilization 46.8%

	۶	→	•	•	←	•	4	†	-	-	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6 14			2			7			3		
Detector Phase	6 14	6 14		2	2		7	7		3	3	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)				20.0	20.0		15.0	15.0		15.0	15.0	
Total Split (s)				32.0	32.0		16.0	16.0		16.0	16.0	
Total Split (%)				27.8%	27.8%		13.9%	13.9%		13.9%	13.9%	
Maximum Green (s)				27.0	27.0		11.0	11.0		11.0	11.0	
Yellow Time (s)				4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				5.0	5.0			5.0			5.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode				C-Max	C-Max		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		94.0		57.9	57.9			11.0			11.0	
Actuated g/C Ratio		0.82		0.50	0.50			0.10			0.10	
v/c Ratio		0.36		0.57	0.59			0.29			0.23	
Control Delay		1.3		52.7	18.8			2.7			23.8	
Queue Delay		0.1		0.0	0.0			0.0			0.0	
Total Delay		1.4		52.7	18.8			2.7			23.8	
LOS		Α		D	В			Α			С	
Approach Delay		1.4			19.9			2.7			23.8	
Approach LOS		Α			В			Α			С	
Queue Length 50th (ft)		4		13	201			0			6	
Queue Length 95th (ft)		0		m#65	m253			1			42	
Internal Link Dist (ft)		156			799			398			76	
Turn Bay Length (ft)				105								
Base Capacity (vph)		2713		65	1777			269			181	
Starvation Cap Reductn		558		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.46		0.57	0.59			0.29			0.23	
Intersection Summary												
Area Type:	Other											
Cycle Length: 115												
Actuated Cycle Length: 1				_								
Offset: 0 (0%), Reference	d to phase 2	:WBTL an	d 6:EBTL	., Start of	Green, M	aster Inte	ersection					
Natural Cycle: 90												
Control Type: Actuated-Co	oordinated											
Maximum v/c Ratio: 0.59												

2020 Existing PM Peak Synchro 10 Report af/ms Page 17

Intersection LOS: B

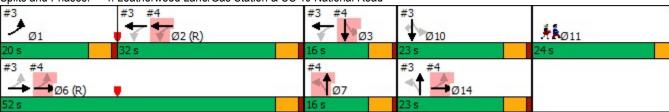
ICU Level of Service A

Permitted Phases Detector Phase Switch Phase Minimum Initial (s) 5.0 5.0 5.0 5.0 5.0 Minimum Split (s) 13.0 20.0 12.0 17.0 12.0 Total Split (s) 20.0 52.0 23.0 24.0 23.0 Total Split (%) 17% 45% 20% 21% 20% Maximum Green (s) 15.0 47.0 18.0 21.0 18.0 Yellow Time (s) 4.0 4.0 3.0 4.0 All-Red Time (s) 1.0 1.0 1.0 0.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead Lead-Lag Optimize? Yes Vehicle Extension (s) 2.0 5.0 4.0 3.0 4.0 Recall Mode None C-Max None None Walk Time (s) 5.0 Flash Dont Walk (s) 9.0 Pedestrian Calls (#hr) 0 Act Effet Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio	Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14	
Detector Phase Switch Phase Switch Phase Minimum Initial (s) 5.0 5.0 5.0 5.0 5.0 5.0 Minimum Split (s) 13.0 20.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 12.0 17.0 17.0 12.0 17.0 1		~'	~~		~	~	
Switch Phase Minimum Initial (s) 5.0 5.0 5.0 5.0 5.0 Minimum Split (s) 13.0 20.0 12.0 17.0 12.0 Total Split (s) 20.0 52.0 23.0 24.0 23.0 Total Split (%) 17% 45% 20% 21% 20% Maximum Green (s) 15.0 47.0 18.0 21.0 18.0 Yellow Time (s) 4.0 4.0 4.0 3.0 4.0 All-Red Time (s) 1.0 1.0 1.0 0.0 1.0 Lost Time Adjust (s) Total Lost Time (s) 1.0 1.0 0.0 1.0 Lead/Lag Lead Lead/Lag Lead/Lag Lead/Lag None None None Vehicle Extension (s) 2.0 5.0 4.0 3.0 4.0 Recall Mode None C-Max None None Walk Time (s) 5.0 5.0 Flash Dont Walk (s) 9.0 9.0 Pedestrian Calls (#hr) 0 0 Actuated g/C Ratio <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
Minimum Initial (s) 5.0 5.0 5.0 5.0 5.0 Minimum Split (s) 13.0 20.0 12.0 17.0 12.0 17.0 12.0 17.10 12.0 17.10 12.0 17.10 12.0 17.10 12.0 17.10 12.0 17.10 12.0 17.10 12.0 17.10 12.0 17.10 12.0 17.10 12.0 17.10 12.0 17.10 12.0 17.10 17.0 12.0 17.10 17.0 12.0 17.10 17.0 17.10 17.0 17.10 17.0 17.10 17.0 17.							
Minimum Split (s)		5.0	5.0	5.0	5.0	5.0	
Total Split (s)							
Total Split (%) 17% 45% 20% 21% 20% Maximum Green (s) 15.0 47.0 18.0 21.0 18.0 Yellow Time (s) 4.0 4.0 4.0 3.0 4.0 All-Red Time (s) 1.0 1.0 1.0 0.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead Lead-Lag Optimize? Yes Vehicle Extension (s) 2.0 5.0 4.0 3.0 4.0 Recall Mode None C-Max None None None Walk Time (s) 5.0 Flash Dont Walk (s) 9.0 Pedestrian Calls (#/hr) 0 Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LoS Approach LOS Queue Length 95th (ft) Internal Link Disk (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Reduced v/c Ratio							
Maximum Green (s) 15.0 47.0 18.0 21.0 18.0 Yellow Time (s) 4.0 4.0 3.0 4.0 All-Red Time (s) 1.0 1.0 1.0 0.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) 2.0 5.0 4.0 3.0 4.0 Recall Mode None C-Max None None None Walk Time (s) 5.0 Flash Dont Walk (s) 9.0 Pedestrian Calls (#/hr) 0 Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach Dolay Approach LOS Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Yellow Time (s) 4.0 4.0 3.0 4.0 All-Red Time (s) 1.0 1.0 0.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Image: Control of the cont							
All-Red Time (s)							
Lost Time Adjust (s) Total Lost Time (s) Lead/Lag							
Total Lost Time (s) Lead/Lag	. ,				0.0		
Lead/Lag Detimize? Vehicle Extension (s) Recall Mode None None C-Max None Non							
Vehicle Extension (s) Recall Mode None Vone Vehicle Extension (s) Recall Mode None Vone Vone Vole Vehicle Extension (s) Recall Mode None Vone Vone Vole		Lead					
Vehicle Extension (s) Recall Mode None Valk Time (s) Flash Dont Walk (s) Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Storage Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Recall Mode None C-Max None None None Walk Time (s) 5.0 Flash Dont Walk (s) 9.0 Pedestrian Calls (#/hr) 0 Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio			5.0	4.0	3.0	4.0	
Walk Time (s) 5.0 Flash Dont Walk (s) 9.0 Pedestrian Calls (#/hr) 0 Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Flash Dont Walk (s) 9.0 Pedestrian Calls (#/hr) 0 Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Reduced v/c Ratio			, .				
Pedestrian Calls (#/hr) Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio	. ,						
Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Reduced v/c Ratio	,						
v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio	•						
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio	Approach Delay						
Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn Reduced v/c Ratio							
Storage Cap Reductn Reduced v/c Ratio							
Storage Cap Reductn Reduced v/c Ratio							
Reduced v/c Ratio							
Intersection Cummeny							
IIILEI SECLIOIT SUITIITIATY	Intersection Summary						

2020 Existing PM Peak Synchro 10 Report Page 18 af/ms

- # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Leatherwood Lane/Gas Station & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

Turn Type Protected Phases

Permitted Phases

NA

2

5: Mt. DeChantel R	oad & t	JS 40	Nation	iai Roa	ad					03/09/2020
	2000	1		+	*	*				
	550 8500	▼:			1	7				
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Lane Configurations	1		*	^	14.14					
Traffic Volume (vph)	207	134	283	862	349	0				
Future Volume (vph)	207	134	283	862	349	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	11	11	10	11	11	12				
Grade (%)	0%			0%	-1%					
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	1.00				
Frt	0.941									
Flt Protected			0.950		0.950					
Satd. Flow (prot)	3140	0	1636	3455	3240	0				
Flt Permitted	00	•	0.339		0.950	•				
Satd. Flow (perm)	3140	0	584	3455	3240	0				
Right Turn on Red	0110	Yes	001	0 100	0210	Yes				
Satd. Flow (RTOR)	118	100				100				
Link Speed (mph)	35			35	25					
Link Distance (ft)	562			201	135					
Travel Time (s)	10.9			3.9	3.7					
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89				
Heavy Vehicles (%)	3%	7%	3%	1%	5%	0%				
Adj. Flow (vph)	233	151	318	969	392	0				
Shared Lane Traffic (%)	00.4	•	0.40	000	000	•				
Lane Group Flow (vph)	384	0	318	969	392	.0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	10			10	22					
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	16			16	16					
Two way Left Turn Lane	Yes									
Headway Factor	1.04	1.04	1.09	1.04	1.04	0.99				
Turning Speed (mph)		9	15		15	9				
Number of Detectors	2		1	2	1					
Detector Template	Thru		Left	Thru	Left					
Leading Detector (ft)	100		20	100	20					
Trailing Detector (ft)	0		0	0	0					
Detector 1 Position(ft)	0		0	0	0					
Detector 1 Size(ft)	6		20	6	20					
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	CI+Ex					
Detector 1 Channel										
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft)	94		0.0	94	0.0					
Detector 2 Size(ft)	6			6						
Detector 2 Type	Cl+Ex			CI+Ex						
Detector 2 Type Detector 2 Channel	CITEX			OITEX						
	.0.0			0.0						
Detector 2 Extend (s)	0.0			0.0	_					

2020 Existing PM Peak Synchro 10 Report af/ms Page 21

Prot

8

6

NA

16

pm+pt

16

	\rightarrow	*	1	10000	1	1				
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Detector Phase	2		1	16	8					
Switch Phase										
Minimum Initial (s)	5.0		5.0		5.0		5.0	5.0	5.0	
Minimum Split (s)	20.0		15.0		17.0		17.0	17.0	20.0	
Total Split (s)	30.0		20.0		65.0		33.0	32.0	50.0	
Total Split (%)	26.1%		17.4%		56.5%		29%	28%	43%	
Maximum Green (s)	25.0		15.0		60.0		28.0	27.0	45.0	
Yellow Time (s)	4.0		4.0		4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0		1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0		0.0					
Total Lost Time (s)	5.0		5.0		5.0					
Lead/Lag	Lag		Lead				Lead	Lag		
Lead-Lag Optimize?	Yes		Yes				Yes	Yes		
Vehicle Extension (s)	5.0		2.5		4.0		4.0	5.0	5.0	
Recall Mode	C-Max		None		None		None	None	C-Max	
Act Effct Green (s)	26.6		46.6	46.6	58.4					
Actuated g/C Ratio	0.23		0.41	0.41	0.51					
v/c Ratio	0.47		0.85	0.69	0.24					
Control Delay	28.7		65.6	43.3	5.9					
Queue Delay	0.0		0.0	0.0	1.8					
Total Delay	28.7		65.6	43.3	7.6					
LOS	С		E	D	Α					
Approach Delay	28.7			48.8	7.6					
Approach LOS	С			D	Α					
Queue Length 50th (ft)	90		198	285	26					
Queue Length 95th (ft)	137		#338	396	m27					
Internal Link Dist (ft)	482			121	55					
Turn Bay Length (ft)										
Base Capacity (vph)	816		373	1399	1690					
Starvation Cap Reductn	0		0	0	1106					
Spillback Cap Reductn	0		0	0	0					
Storage Cap Reductn	0		0	0	0					
Reduced v/c Ratio	0.47		0.85	0.69	0.67					

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 100 (87%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

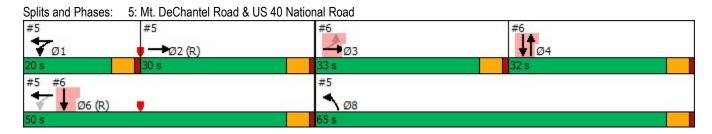
Intersection Signal Delay: 37.2 Intersection LOS: D
Intersection Capacity Utilization 48.2% ICU Level of Service A

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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



HCM 6th Edition methodology does not support clustered intersections.

Lanes, Volumes, Timings 2020 Existing PM Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 刊析列2020

Lane Group		۶	-	•	•	•	•	1	†	1	-	↓	1
Traffic Volume (vph)	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Future Volume (vph)	Lane Configurations		413						†			^	
Ideal Flow (yphpl)	Traffic Volume (vph)	62	554	117	0	0	0	0	287	282	0	417	0
Lane Width (ft)	Future Volume (vph)	62	554	117	0	0	0	0	287	282	0	417	0
Grade (%)	Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor 0.95 0.95 0.95 0.95 1.00 1.00 1.00 0.99 0.95 1.00 1	Lane Width (ft)	12	12	12	12		12	13		13	12	16	12
Ped Bike Factor	Grade (%)					0%						1%	
Fit Protected	Lane Util. Factor	0.95		0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Fit Protected 0.996 Satt. Flow (prot) 0.3476 0.0 0.0 0.0 0.3323 0.0 0.2101 0.0	Ped Bike Factor								0.99				
Satd. Flow (prot)									0.926				
Fit Permitted	Flt Protected												
Satd. Flow (perm)	Satd. Flow (prot)	0	3476	0	0	0	0	0	3323	0	0	2101	0
Right Turn on Red Yes	Flt Permitted		0.996										
Satd. Flow (RTOR)	Satd. Flow (perm)	0	3475	0	0	0	0	0	3323	0	0	2101	-
Link Speed (mph) 35 30 25 25 Link Distance (ft) 482 215 270 135 Travel Time (s) 9.4 4.9 7.4 3.7 Confl. Peds. (#/hr) 4 4 4 7 5 5 7 Peak Hour Factor 0.95 </td <td>Right Turn on Red</td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td> <td>Yes</td>	Right Turn on Red			Yes			Yes			Yes			Yes
Link Distance (ft)	Satd. Flow (RTOR)		18						202				
Travel Time (s)	Link Speed (mph)		35			30			25			25	
Confi. Peds. (#/hr)	Link Distance (ft)		482			215			270			135	
Peak Hour Factor	Travel Time (s)		9.4			4.9			7.4			3.7	
Heavy Vehicles (%)	Confl. Peds. (#/hr)	4		4	4		4	7		5	5		7
Adj. Flow (vph) 65 583 123 0 0 0 302 297 0 439 0 Shared Lane Traffic (%) Lane Group Flow (vph) 0 771 0 0 0 599 0 0 439 0 Enter Blocked Intersection No	Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%) Lane Group Flow (vph) 0 771 0 0 0 0 0 599 0 0 439 0	Heavy Vehicles (%)	3%	1%	0%	0%	0%	0%	0%	5%	1%	0%	2%	0%
Lane Group Flow (vph)	Adj. Flow (vph)	65	583	123	0	0	0	0	302	297	0	439	0
Enter Blocked Intersection	Shared Lane Traffic (%)												
Left Left Right Left Right Left Right Left Right Left Left Right Left Left Right Right Median Width(fft) 0	Lane Group Flow (vph)	0	771	0	0	0	0	0	599	0	0	439	0
Median Width(ft) 0 0 0 0 0 Link Offset(ft) 0 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Headway Factor 0.99 0.99 0.99 1.00 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 0 0 0 0	Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Link Offset(ft) 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane 16 16 16 16 Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 0 15 10 10 10 </td <td>Lane Alignment</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td>	Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Crosswalk Width(fft) 16 16 16 16 Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 0 10 10 10 10 10 10	Median Width(ft)		0			0			0			0	
Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01	Link Offset(ft)		0			0			0			0	
Headway Factor 0.99 0.99 0.99 1.00 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15	Crosswalk Width(ft)		16			16			16			16	
Turning Speed (mph) 15 9 15 9 15 9 Number of Detectors 1 2 2 2 Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 100 Trailing Detector (ft) 0	Two way Left Turn Lane												
Number of Detectors 1 2 2 2 Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel 0.0 0.0 0.0 0.0 Detector 1 Extend (s) 0.0	Headway Factor		0.99	0.99		1.00	1.00	0.96	0.96	0.96	1.01	0.85	
Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 100 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 20 6 6 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0	Turning Speed (mph)	15		9	15		9	15		9	15		9
Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type Cl+Ex Cl+Ex Cl+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Number of Detectors	1	2						2			2	
Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type Cl+Ex Cl+Ex Cl+Ex Detector 2 Channel 0.0 0.0 0.0 Detector 2 Extend (s) 0.0 0.0 0.0	Detector Template	Left	Thru						Thru			Thru	
Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0 Detector 2 Extend (s) 0.0 0.0 0.0	Leading Detector (ft)	20	100						100			100	
Detector 1 Size(ft) 20 6 6 6 Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel CI+Ex CI+Ex Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Trailing Detector (ft)	0	0						0			0	
Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel 0.0 0.0 0.0 Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 1 Position(ft)		0						0			0	
Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 1 Size(ft)	20	6									6	
Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0 0.0	Detector 1 Type	CI+Ex	Cl+Ex						CI+Ex			CI+Ex	
Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Channel												
Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 2 Position(ft) 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 2 Position(ft)		94						94			94	
Detector 2 Channel Detector 2 Extend (s) 0.0 0.0 0.0	Detector 2 Size(ft)		6						6			6	
Detector 2 Channel Detector 2 Extend (s) 0.0 0.0 0.0			CI+Ex						Cl+Ex			Cl+Ex	
	Detector 2 Extend (s)		0.0						0.0			0.0	
••	. ,	Perm	NA						NA			NA	

2020 Existing PM Peak Synchro 10 Report Page 1 af/ms

Lane Group	Ø1	Ø2	Ø6	Ø8
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Opeed (mpn) Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%) Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph) Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
. ,				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type				

Synchro 10 Report 2020 Existing PM Peak Page 2 af/ms

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings 2020 Existing PM Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 198/11/2020

	•	→	•	•	—	•	1	†	1	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		3						4			6 4	
Permitted Phases	3											
Detector Phase	3	3						4			6 4	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0				
Minimum Split (s)	17.0	17.0						17.0				
Total Split (s)	33.0	33.0						32.0				
Total Split (%)	28.7%	28.7%						27.8%				
Maximum Green (s)	28.0	28.0						27.0				
Yellow Time (s)	4.0	4.0						4.0				
All-Red Time (s)	1.0	1.0						1.0				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag	Lead	Lead						Lag				
Lead-Lag Optimize?	Yes	Yes						Yes				
Vehicle Extension (s)	4.0	4.0						5.0				
Recall Mode	None	None						None				
Act Effct Green (s)		27.8						25.6			77.2	
Actuated g/C Ratio		0.24						0.22			0.67	
v/c Ratio		0.90						0.67			0.31	
Control Delay		56.4						27.4			2.9	
Queue Delay		0.0						0.0			2.0	
Total Delay		56.4						27.4			4.9	
LOS		Е						С			Α	
Approach Delay		56.4						27.4			4.9	
Approach LOS		Е						С			Α	
Queue Length 50th (ft)		286						140			27	
Queue Length 95th (ft)		#396						166			m27	
Internal Link Dist (ft)		402			135			190			55	
Turn Bay Length (ft)												
Base Capacity (vph)		859						934			1409	
Starvation Cap Reductn		0						0			794	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.90						0.64			0.71	
Intersection Summary												
Area Type:	Other											
Cycle Length: 115												
Actuated Cycle Length: 115	5											
Offset: 100 (87%), Reference	ced to phas	se 2:EBT a	nd 6:WB	TL, Start	of Green							
Natural Cycle: 80	· _											
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 0.90												
Intersection Signal Delay: 3	4.3			In	tersection	LOS: C						
Intersection Capacity Utiliza) <u> </u>		IC	CU Level o	of Service	Α					
Analysis Period (min) 15												
# 95th percentile volume	exceeds ca	pacity, qu	eue may	be longer	·							
Queue shown is maximu			,									

Synchro 10 Report 2020 Existing PM Peak Page 3 af/ms

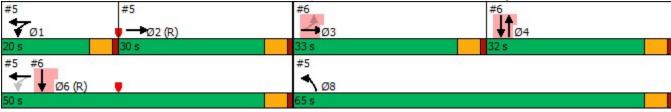
Lane Group	Ø1	Ø2	Ø6	Ø8
Protected Phases	1	2	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	20.0	20.0	17.0
Total Split (s)	20.0	30.0	50.0	65.0
Total Split (%)	17%	26%	43%	57%
Maximum Green (s)	15.0	25.0	45.0	60.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.5	5.0	5.0	4.0
Recall Mode	None	C-Max	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Cummer:				
Intersection Summary				

2020 Existing PM Peak Synchro 10 Report Page 4 af/ms

6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Tថ/fr//2020

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

Splits and Phases: 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Turn



HCM 6th Edition methodology does not support clustered intersections.

Synchro 10 Report 2020 Existing PM Peak af/ms Page 6

	→	7	F	←	7	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	^			ተተተ		77
Traffic Volume (vph)	207	0	0	1145	0	836
Future Volume (vph)	207	0	0	1145	0	836
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	11	12	12
Grade (%)	0%			0%	-2%	
Storage Length (ft)		0	590		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	0.88
Frt						0.850
Flt Protected						
Satd. Flow (prot)	3106	0	0	4398	0	2543
Flt Permitted						
Satd. Flow (perm)	3106	0	0	4398	0	2543
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			1133	215	
Travel Time (s)	3.9			22.1	4.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	0%	0%	2%	0%	1%
Adj. Flow (vph)	223	0	0	1231	0	899
Shared Lane Traffic (%)						
Lane Group Flow (vph)	223	0	0	1231	0	899
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	1			1	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	1.15	1.15	1.20	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	
Intersection Summary						
7 1	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	tion 45.7%			IC	U Level of	of Service A

Analysis Period (min) 15

2020 Existing PM Peak Synchro 10 Report Page 1 af/ms

## Configurations		-	7	*	•	7	/		
## Configurations	Movement	EBT	EBR	WBL	WBT	NEL	NER		
affic Volume (Veh/h) 207 0 0 1145 0 836 ture Volume (Veh/h) 207 0 0 1145 0 836 ture Volume (Veh/h) 207 0 0 1145 0 836 pro Control Free reade 0 0% 0% -2% 84 Hour Factor 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93									
ture Volume (Veh/h)			0	0		0			
Prec	,								
ade									
ak Hour Factor 0.93 0.93 0.93 0.93 0.93 0.93 0.93 o.93 o.93 o.93 o.93 o.93 o.93 o.93 o	rade								
Surfly flow rate (vph) 223 0 0 1231 0 899			0.93	0.93			0.93		
destrians ne Width (ft) alking Speed (ft/s) recent Blockage ght turn flare (veh) sedian type									
ne Width (ft) alking Speed (ft/s) rorent Blockage right turn flare (veh) bdian type									
alking Speed (ft/s) reent Blockage ght turn flare (veh) gedian type									
And the process of th	` ,								
## Spirit turn flare (veh) ## Spirit turn flare									
Adian type None TWLTL adian storage veh) 2									
Section Signal (ft) Section Signal Signal (ft) Section Signal S		None			TWLTL				
Stream signal (ft) 201									
A platoon unblocked		201							
conflicting volume 223 633 112						0.95			
223 22, stage 2 conf vol 410 22, stage 2 conf vol 410 22, stage 2 conf vol 410 22, single (s) 4.1 6.8 6.9 2.2 stage (s) (s) 5.8 (s) 2.2 3.5 3.3 queue free % 100 100 3 1 capacity (veh/h) 1358 682 924 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Itume Total 112 112 410 410 410 450 450 Itume Right 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				223			112		
2, stage 2 conf vol 223									
tu, unblocked vol 223 441 112 t, single (s) 4.1 6.8 6.9 t, 2 stage (s) 5.8 (s) 2.2 3.5 3.3 queue free % 100 100 3 I capacity (veh/h) 1358 682 924 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 lume Total 112 112 410 410 450 450 lume Left 0 0 0 0 0 0 0 0 0 lume Right 0 0 0 0 0 450 450 HH 1700 1700 1700 1700 1700 924 924 lume to Capacity 0.07 0.07 0.24 0.24 0.24 0.49 0.49 lume Length 95th (ft) 0 0 0 0 0 68 68 lume Lord (s) 0.0 0.0 0.0 12.5 12.5 lume LOS lume LOS lume Sersection Summary lerage Delay lerage Delay lerage Delay lerage Delay lerage Delay lerage Delay lerage Service A lume to Capacity Utilization 45.7% ICU Level of Service A									
Single (s) 4.1 6.8 6.9 2 stage (s) 5.8 (s) 2.2 3.5 3.3 queue free % 100 100 3 Lapacity (veh/h) 1358 682 924 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # 0 0 0 0 0 0 rection, Lane # 0 0 0 0 0 0 rection, Lane # 0 0 0 0 0 0 rection, Lane # 0 0 0 0 0 0 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # FB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # FB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # FB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # FB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # FB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # FB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # FB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # FB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # FB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 rection, Lane # FB 1 Lane # FB 1 Lane # FB 1 rection, Lane # FB 1 Lane # FB 1 Lane # FB 1 rection, Lane # FB 1 Lane # FB 1 Lane # FB 1 rection, Lane # FB 1 Lane # FB 1 rection, Lane # FB 1 Lane # FB 1 rection, Lane # FB 1 Lane # FB 1 rection, Lane # FB 1 Lane # FB 1 rection, Lane # FB 1 Lane # FB 1 rection, La				223			112		
2 stage (s)	-								
Solution									
Topacity (veh/h) 1358 682 924 1358 682 924 1358 682 924 1358 682 924 1358 13	(s)			2.2			3.3		
Capacity (veh/h)									
Silume Total	M capacity (veh/h)								
Silume Total	irection, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1	NE 2	
Illume Left	olume Total								
Hume Right 0 0 0 0 0 450 450 H 1700 1700 1700 1700 1700 924 924 Hume to Capacity 0.07 0.07 0.24 0.24 0.24 0.49 0.49 Heue Length 95th (ft) 0 0 0 0 0 68 68 Introl Delay (s) 0.0 0.0 0.0 0.0 12.5 12.5 Ine LOS Ine LOS Ine LOS Ine LOS In Introl Delay (s) 0.0 0.0 0.0 12.5 Introl Delay (s) 0.0 0.0 0.0 12.5 Introl Delay (s) 0.0 12.5 Intr	olume Left								
H 1700 1700 1700 1700 1700 924 924 Illume to Capacity 0.07 0.07 0.24 0.24 0.24 0.49 0.49 ILlume to Capacity 0.07 0.07 0.07 0.24 0.24 0.24 0.49 0.49 ILLUME to Capacity 0.09 0.09 0.09 0.49 ILLUME to Capacity (ft) 0 0 0 0 0 0 68 68 ILLUME to Capacity (s) 0.0 0.0 0.0 0.0 0.0 12.5 12.5 ILLUME to Capacity (s) 0.0 0.0 0.0 0.0 12.5 12.5 ILLUME to Capacity 0.49 0.49 ILLUME to Capacity 0.49 ILL	olume Right		0	0		0			
lume to Capacity 0.07 0.07 0.24 0.24 0.24 0.49 0.49 leue Length 95th (ft) 0 0 0 0 0 68 68 introl Delay (s) 0.0 0.0 0.0 0.0 12.5 12.5 line LOS B B liproach Delay (s) 0.0 0.0 0.0 12.5 liproach LOS B lersection Summary lerage Delay 4.8 lersection Capacity Utilization 45.7% ICU Level of Service A	SH J		1700	1700	1700	1700	924		
reue Length 95th (ft) 0 0 0 0 0 68 68 ontrol Delay (s) 0.0 0.0 0.0 0.0 12.5 12.5 one LOS B B B oproach Delay (s) 0.0 0.0 12.5 proach LOS B B B oproach LOS B B C oproach LOS B C oproach LOS B B C oproach LOS B C oproach LOS B C oproach LOS B B C oproach LOS	olume to Capacity						0.49		
ontrol Delay (s) 0.0 0.0 0.0 0.0 12.5 12.5 ne LOS B B oproach Delay (s) 0.0 0.0 12.5 proach LOS B ersection Summary erage Delay 4.8 ersection Capacity Utilization 45.7% ICU Level of Service A	ueue Length 95th (ft)	0	0	0	0	0	68	68	
B B B	ontrol Delay (s)	0.0	0.0	0.0	0.0	0.0	12.5	12.5	
proach Delay (s) 0.0 0.0 12.5 proach LOS B ersection Summary erage Delay 4.8 ersection Capacity Utilization 45.7% ICU Level of Service A	ane LOS						В	В	
ersection Summary erage Delay ersection Capacity Utilization 4.8 EVALUATE: A SERVICE	oproach Delay (s)	0.0		0.0			12.5		
erage Delay 4.8 ersection Capacity Utilization 45.7% ICU Level of Service A	pproach LOS								
ersection Capacity Utilization 45.7% ICU Level of Service A	tersection Summary								
ersection Capacity Utilization 45.7% ICU Level of Service A	verage Delay			4.8					
alysis Period (min) 15		zation		45.7%	IC	U Level c	f Service		Α
	Analysis Period (min)			15					

	۶	→	*	•	←	*	1	1	~	-		4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				1		7	*	↑			1	
Traffic Volume (vph)	0	0	0	2	0	179	84	390	0	0	292	242
Future Volume (vph)	0	0	0	2	0	179	84	390	0	0	292	242
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.939	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1519	1623	1643	0	0	1527	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1519	1623	1643	0	0	1527	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)	6					6			2	2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	4%	0%	0%	4%	4%
Adj. Flow (vph)	0	0	0	2	0	188	88	411	0	0	307	255
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	2	0	188	88	411	0	0	562	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
7 1	Other											
Control Type: Unsignalized												

Intersection Capacity Utilization 52.2%

ICU Level of Service A

Analysis Period (min) 15

Synchro 10 Report Page 32 2020 Existing PM Peak af/ms

Int Delay, s/veh	Intersection												
Lane Configurations		2.6											
Traffic Vol, veh/h	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	Lane Configurations				*		1	*	^			ĵ.	
Future Vol, veh/h Conflicting Peds, #hr 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0	0	0		0				0	0		242
Sign Control Stop Stop	Future Vol, veh/h	0	0	0	2	0	179	84	390	0	0	292	242
Sign Control Stop Stop	Conflicting Peds, #/hr	6	0	0	0	0	6	0	0	2	2	0	0
RT Channelized		Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Veh in Median Storage, # 2 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 0 - 0 0 - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - - 0 0 4 4 Mwmth Flow 0 0 0 0 2 0 4 1 2 2 2 4 3 2								-	-	None	-	-	None
Veh in Median Storage, # 2 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 0 - 0 0 - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 - - 1 0 0 - - 0 0 0 0 0 0 0 4 4 4 4 Mwmm Flow 0 0 0 0 0 0 0 0 4 2 2 4 3 <	Storage Length	-	-	-	0	-	0	170	-	-	-	-	-
Peak Hour Factor 95	Veh in Median Storage,	# -	2	-	-	0	-	-	0	-	-	0	-
Heavy Vehicles, %	Grade, %	-	1	-	-	-1	-	-	-1	-	-	1	-
Mynt Flow 0 0 0 2 0 188 88 411 0 0 307 255 Major/Minor Minor1 Major1 Major2 Conflicting Flow All 1022 - 417 562 0 - - 0 Stage 1 587 -		95	95	95	95	95	95	95	95	95	95	95	95
Mymt Flow 0 0 0 2 0 188 88 411 0 0 307 255 Major/Minor Minor1 Major1 Major2 Conflicting Flow All 1022 - 417 562 0 - - 0 Stage 1 587 -	Heavy Vehicles, %	0	0	0	0	0	2	0	4	0	0	4	4
Conflicting Flow All	Mvmt Flow	0	0	0	2	0	188	88	411	0	0	307	255
Conflicting Flow All													
Stage 1 587 -	Major/Minor				Minor1			Major1			//ajor2		
Stage 2	Conflicting Flow All				1022	-	417	562	0	-	-	-	0
Critical Hdwy 6.2 - 6.12 4.1	Stage 1				587	-	-	-	-	-	-	-	-
Critical Hdwy 6.2 - 6.12 4.1	Stage 2				435	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2 5.2 - 0 0 - - - - 0 0 - - - - 0 0 - - - - 0 0 -					6.2	-	6.12	4.1	-	-	-	-	-
Follow-up Hdwy 3.5 - 3.318 2.2 Stage 1	Critical Hdwy Stg 1					-	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	Critical Hdwy Stg 2					-	-		-	-	-	-	-
Stage 1 578 0 - - 0 0 - - Stage 2 673 0 - - 0 0 - - - 0 0 -	Follow-up Hdwy				3.5	-	3.318	2.2	-	-	-	-	-
Stage 2 673 0 - - 0 0 - - Platoon blocked, % - <td>Pot Cap-1 Maneuver</td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td>643</td> <td>1019</td> <td>-</td> <td>0</td> <td>0</td> <td>-</td> <td>-</td>	Pot Cap-1 Maneuver					0	643	1019	-	0	0	-	-
Platoon blocked, %						0	-	-	-	0		-	-
Mov Cap-1 Maneuver 255 0 639 1019 - <td></td> <td></td> <td></td> <td></td> <td>673</td> <td>0</td> <td>-</td> <td>-</td> <td>-</td> <td>0</td> <td>0</td> <td>-</td> <td>-</td>					673	0	-	-	-	0	0	-	-
Mov Cap-2 Maneuver 255 0 -	Platoon blocked, %								-			-	-
Stage 1 528 0 -	Mov Cap-1 Maneuver					0	639	1019	-	-	-	-	-
Stage 2 673 0 -	Mov Cap-2 Maneuver					0	-	-	-	-	-	-	-
Approach WB NB SB HCM Control Delay, s 13.1 1.6 0 HCM LOS B Minor Lane/Major Mvmt NBL NBTWBLn1WBLn2 SBT SBR Capacity (veh/h) 1019 - 255 639 - HCM Lane V/C Ratio 0.087 - 0.008 0.295 - HCM Control Delay (s) 8.9 - 19.2 13 - HCM Lane LOS A - C B -							-	-	-	-	-	-	-
HCM Control Delay, s	Stage 2				673	0	-	-	-	-	-	-	-
HCM Control Delay, s													
B Minor Lane/Major Mvmt NBL NBTWBLn1WBLn2 SBT SBR Capacity (veh/h) 1019 - 255 639 HCM Lane V/C Ratio 0.087 - 0.008 0.295 HCM Control Delay (s) 8.9 - 19.2 13 HCM Lane LOS A - C B													
Minor Lane/Major Mvmt NBL NBTWBLn1WBLn2 SBT SBR Capacity (veh/h) 1019 - 255 639 HCM Lane V/C Ratio 0.087 - 0.008 0.295 HCM Control Delay (s) 8.9 - 19.2 13 HCM Lane LOS A - C B								1.6			0		
Capacity (veh/h) 1019 - 255 639 - HCM Lane V/C Ratio 0.087 - 0.008 0.295 - HCM Control Delay (s) 8.9 - 19.2 13 - HCM Lane LOS A - C B -	HCM LOS				В								
Capacity (veh/h) 1019 - 255 639 - HCM Lane V/C Ratio 0.087 - 0.008 0.295 - HCM Control Delay (s) 8.9 - 19.2 13 - HCM Lane LOS A - C B -													
HCM Lane V/C Ratio 0.087 - 0.008 0.295 - HCM Control Delay (s) 8.9 - 19.2 13 HCM Lane LOS A - C B				NBTV			SBT	SBR					
HCM Control Delay (s) 8.9 - 19.2 13 HCM Lane LOS A - C B				-			-	-					
HCM Lane LOS A - C B				-			-	-					
				-			-	-					
HCM 95th %tile Q(veh) 0.3 - 0 1.2				-			-	-					
	HCM 95th %tile Q(veh)		0.3	-	0	1.2	-	-					

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				Y		7	7	^			ĵ.	
Traffic Volume (veh/h)	0	0	0	2	0	179	84	390	0	0	292	242
Future Volume (Veh/h)	0	0	0	2	0	179	84	390	0	0	292	242
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-1%			-1%			1%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	2	0	188	88	411	0	0	307	255
Pedestrians					2						6	
Lane Width (ft)					15.0						12.0	
Walking Speed (ft/s)					3.5						3.5	
Percent Blockage					0						1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								477			270	
pX, platoon unblocked	0.92	0.92	0.90	0.92	0.92	0.97	0.90			0.97		
vC, conflicting volume	1028	1024	434	1024	1151	419	562			413		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	904	900	321	900	1038	381	462			375		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	99	100	71	91			100		
cM capacity (veh/h)	156	235	655	224	195	638	1003			1151		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1							
Volume Total	2	188	88	411	562							
Volume Left	2	0	88	0	0							
Volume Right	0	188	0	0	255							
cSH	224	638	1003	1700	1700							
Volume to Capacity	0.01	0.29	0.09	0.24	0.33							
Queue Length 95th (ft)	1	31	7	0	0							
Control Delay (s)	21.2	13.0	8.9	0.0	0.0							
Lane LOS	С	В	Α									
Approach Delay (s)	13.1		1.6		0.0							
Approach LOS	В											
Intersection Summary												
Average Delay			2.6									
Intersection Capacity Utiliza	ation		52.2%	IC	U Level	of Service			Α			
Analysis Period (min)			15									

	•	•	†	~	-	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	*	7	↑	7	*	†
Traffic Volume (vph)	10	152	322	135	232	62
Future Volume (vph)	10	152	322	135	232	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	1300	1300	12	14	1300	14
. ,	2%	13	1%	14	13	1%
Grade (%)		00	1%	400	040	1%
Storage Length (ft)	0	80		120	210	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1620	1818	1697	1856	1977
Flt Permitted	0.950				0.499	
Satd. Flow (perm)	1787	1620	1818	1697	975	1977
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		167		148		
Link Speed (mph)	25		25			25
Link Distance (ft)	249		332			477
Travel Time (s)	6.8		9.1			13.0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
	0.91	2%	4%	1%	0.91	2%
Heavy Vehicles (%)						
Adj. Flow (vph)	11	167	354	148	255	68
Shared Lane Traffic (%)	11	407	054	440	055	20
Lane Group Flow (vph)	11	167	354	148	255	68
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		13			13
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	0.97	1.01	0.92	0.96	0.92
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
			0.0			0.0

	•				-	+
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	70.0	70.0	20.0	90.0
Total Split (%)	21.7%	21.7%	60.9%	60.9%	17.4%	78.3%
Maximum Green (s)	20.0	20.0	65.0	65.0	15.0	85.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	2.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.6	9.6	82.6	82.6	95.4	95.4
Actuated g/C Ratio	0.08	0.08	0.72	0.72	0.83	0.83
v/c Ratio	0.07	0.58	0.27	0.12	0.29	0.04
Control Delay	47.7	15.8	6.9	1.3	7.2	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	15.8	6.9	1.3	7.2	5.1
LOS	D	В	Α	Α	Α	Α
Approach Delay	17.7		5.2			6.7
Approach LOS	В		Α			Α
Queue Length 50th (ft)	8	0	75	0	76	17
Queue Length 95th (ft)	26	63	152	22	m153	m35
Internal Link Dist (ft)	169		252			397
Turn Bay Length (ft)		80		120	210	
Base Capacity (vph)	310	419	1306	1261	923	1640
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.40	0.27	0.12	0.28	0.04

Intersection Summary

Area Type: Other

Cycle Length: 115

Actuated Cycle Length: 115

Offset: 40 (35%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 7.9 Intersection LOS: A Intersection Capacity Utilization 46.5% ICU Level of Service A

Analysis Period (min) 15

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



	1	4	†	-	-	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ň	7	^	7	*	↑
Traffic Volume (veh/h)	10	152	322	135	232	62
Future Volume (veh/h)	10	152	322	135	232	62
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1876	1921	1835	1954	1970	1939
Adj Flow Rate, veh/h	11	167	354	148	255	68
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	2	4	1	0	2
Cap, veh/h	219	199	1262	1140	753	1533
Arrive On Green	0.12	0.12	0.69	0.69	0.10	1.00
Sat Flow, veh/h	1787	1628	1835	1656	1876	1939
Grp Volume(v), veh/h	11	167	354	148	255	68
Grp Sat Flow(s), veh/h/ln	1787	1628	1835	1656	1876	1939
Q Serve(g_s), s	0.6	11.5	8.6	3.5	4.6	0.0
Cycle Q Clear(g_c), s	0.6	11.5	8.6	3.5	4.6	0.0
Prop In Lane	1.00	1.00	0.0	1.00	1.00	0.0
Lane Grp Cap(c), veh/h	219	199	1262	1140	753	1533
V/C Ratio(X)	0.05	0.84	0.28	0.13	0.34	0.04
Avail Cap(c_a), veh/h	311	283	1262	1140	886	1533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	49.4	6.9	6.1	4.2	0.0
Incr Delay (d2), s/veh	0.2	20.5	0.9	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.2	0.0	0.0	0.2	0.0	0.1
%ile BackOfQ(50%),veh/ln	0.0	5.9	3.4	1.3	1.4	0.0
Unsig. Movement Delay, s/veh		3.9	3.4	1.3	1.4	0.0
•	44.8	69.9	7.5	6.4	4.3	0.1
LnGrp Delay(d),s/veh		69.9 E				
LnGrp LOS	D 470	<u> </u>	A	A	A	A
Approach Vol, veh/h	178		502			323
Approach Delay, s/veh	68.3		7.2			3.4
Approach LOS	Е		Α			Α
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.8	84.1		19.1		95.9
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0		20.0		85.0
Max Q Clear Time (g_c+l1), s	6.6	10.6		13.5		2.0
Green Ext Time (p_c), s	0.3	6.7		0.6		0.9
Intersection Summary	J. C			,,,		
			10.0			
HCM 6th Ctrl Delay			16.8			
HCM 6th LOS			В			

	-	7	*	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	†			414		
Traffic Volume (vph)	323	70	666	480	0	0
Future Volume (vph)	323	70	666	480	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.973					
Flt Protected				0.972		
Satd. Flow (prot)	2998	0	0	3065	0	0
FIt Permitted				0.972		
Satd. Flow (perm)	2998	0	0	3065	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	4%	2%	3%	0%	0%
Adj. Flow (vph)	355	77	732	527	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	432	0	0	1259	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	tion 60.5%			IC	ULevelo	of Service I

Intersection Capacity Utilization 60.5%

Analysis Period (min) 15

	-	P	*	•	•	/	
Movement	EBT	EBR	WBL	WBT	NEL	NER	
Lane Configurations	† 1>			414			
Traffic Volume (veh/h)	323	70	666	480	0	0	
Future Volume (Veh/h)	323	70	666	480	0	0	
Sign Control	Free			Free	Stop		
Grade	0%			0%	3%		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	
Hourly flow rate (vph)	355	77	732	527	0	0	
Pedestrians					3		
Lane Width (ft)					0.0		
Walking Speed (ft/s)					3.5		
Percent Blockage					0		
Right turn flare (veh)							
Median type	None			TWLTL			
Median storage veh)				2			
Upstream signal (ft)				562			
pX, platoon unblocked					0.78		
vC, conflicting volume			358		2124	219	
vC1, stage 1 conf vol					396		
vC2, stage 2 conf vol					1728		
vCu, unblocked vol			358		1870	219	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			39		100	100	
cM capacity (veh/h)			1197		61	791	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2			
Volume Total	237	195	908	351			
Volume Left	0	0	732	0			
Volume Right	0	77	0	0			
cSH	1700	1700	1197	1700			
Volume to Capacity	0.14	0.11	0.61	0.21			
Queue Length 95th (ft)	0	0	110	0			
Control Delay (s)	0.0	0.0	11.8	0.0			
Lane LOS			В				
Approach Delay (s)	0.0		8.5				
Approach LOS							
Intersection Summary							
Average Delay			6.4				
Intersection Capacity Utiliza	ation		60.5%	IC	U Level c	f Service	
Analysis Period (min)			15				

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		ĵ»		_	4
Traffic Volume (vph)	77	2	222	64	2	207
Future Volume (vph)	77	2	222	64	2	207
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	11	11
Grade (%)	3%		-2%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997		0.970			
Flt Protected	0.953					
Satd. Flow (prot)	1576	0	1665	0	0	1549
Flt Permitted	0.953					
Satd. Flow (perm)	1576	0	1665	0	0	1549
Link Speed (mph)	30		30			30
Link Distance (ft)	1796		396			959
Travel Time (s)	40.8		9.0			21.8
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	1%	0%	0%	0%	0%	4%
Adj. Flow (vph)	88	2	252	73	2	235
Shared Lane Traffic (%)						
Lane Group Flow (vph)	90	0	325	0	0	237
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.18	1.18	1.14	1.14	1.23	1.23
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
	0					
Intersection Summary						
	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	ion 29.0%			IC	U Level o	of Service
Analysis Period (min) 15						

2020 Existing PM Peak Synchro 10 Report Page 39 af/ms

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
		WDR		NDR	ODL	
Lane Configurations	77	0	222	64	0	207
Traffic Vol, veh/h	77	2	222	64	2	207
Future Vol, veh/h	77	2	222	64	2	207
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	0	-	-	0
Grade, %	3	-	-2	-	-	4
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	0	0	0	0	4
Mvmt Flow	88	2	252	73	2	235
Major/Minor	Minor1	N	Major1	ı	Major2	
						^
Conflicting Flow All	528	289	0	0	325	0
Stage 1	289	-	-	-	-	-
Stage 2	239	-	-	-	-	-
Critical Hdwy	7.01	6.5	-	-	4.1	-
Critical Hdwy Stg 1	6.01	-	-	-	-	-
Critical Hdwy Stg 2	6.01	-	-	-	-	-
Follow-up Hdwy	3.509	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	469	737	-	-	1246	-
Stage 1	727	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	468	737	-	-	1246	-
Mov Cap-2 Maneuver	468	-	-	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	770	_	_	_	-	-
- 13-3 -						
	,					
Approach	WB		NB		SB	
HCM Control Delay, s	14.4		0		0.1	
HCM LOS	В					
			NDDV	VBLn1	SBL	SBT
Minor Lane/Major Mym	nt	NRI		V I J I I I I	ODL	וטט
Minor Lane/Major Mvn	nt	NBT				
Capacity (veh/h)	nt	-	-	472	1246	-
Capacity (veh/h) HCM Lane V/C Ratio		- NBI	-	472 0.19	1246 0.002	- - 0
Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)		- - -	- - -	472 0.19 14.4	1246 0.002 7.9	0
Capacity (veh/h) HCM Lane V/C Ratio		-	-	472 0.19	1246 0.002	

	•	•	†	~	/	↓	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	14		1>			र्स	
Traffic Volume (veh/h)	77	2	222	64	2	207	
Future Volume (Veh/h)	77	2	222	64	2	207	
Sign Control	Stop		Free			Free	
Grade	3%		-2%			4%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	
Hourly flow rate (vph)	88	2	252	73	2	235	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	528	288			325		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	528	288			325		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	83	100			100		
cM capacity (veh/h)	512	755			1246		
			OD 4				
Direction, Lane #	WB 1	NB 1	SB 1				
Volume Total	90	325	237				
Volume Left	88	0	2				
Volume Right	2	73	0				
cSH	515	1700	1246				
Volume to Capacity	0.17	0.19	0.00				
Queue Length 95th (ft)	16	0	0				
Control Delay (s)	13.5	0.0	0.1				
Lane LOS	В		Α				
Approach Delay (s)	13.5	0.0	0.1				
Approach LOS	В						
Intersection Summary							
Average Delay			1.9				
Intersection Capacity Utilization	on		29.0%	IC	U Level of	Service	
Analysis Period (min)			15		2 20.0.01	2000	

	•	•	†	-	/	Ţ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		1>			र्स
Traffic Volume (vph)	0	0	492	0	0	434
Future Volume (vph)	0	0	492	0	0	434
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%		-1%			-2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
FIt Protected						
Satd. Flow (prot)	1667	0	1675	0	0	1683
FIt Permitted						
Satd. Flow (perm)	1667	0	1675	0	0	1683
Link Speed (mph)	30		30			30
Link Distance (ft)	660		3796			747
Travel Time (s)	15.0		86.3			17.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	547	0	0	482
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	547	0	0	482
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.15	1.15	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	ion 32.3%			IC	U Level o	of Service
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	₩.	וטוי	1 3	TOIL	ODL	- 6 1
Traffic Vol. veh/h	0	0	492	0	0	434
Future Vol, veh/h	0	0	492	0	0	434
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	_	-	_	INOITE
Veh in Median Storage		_	0	_	_	0
Grade, %	0	_	-1	<u> </u>	_	-2
Peak Hour Factor	90	90	90	90	90	90
			2			2
Heavy Vehicles, %	2	2		2	2	
Mvmt Flow	0	0	547	0	0	482
Major/Minor I	Minor1	N	Major1	N	Major2	
Conflicting Flow All	1029	547	0	0	547	0
Stage 1	547	-	-	-	_	-
Stage 2	482	_	_	_	_	_
Critical Hdwy	6.42	6.22	_	_	4.12	_
Critical Hdwy Stg 1	5.42	-	_	_	- 1.12	_
Critical Hdwy Stg 2	5.42	_	_			
Follow-up Hdwy	3.518		_	_	2.218	_
Pot Cap-1 Maneuver	259	537	_	_	1022	
Stage 1	580	55 <i>1</i>		-	1022	_
Stage 2	621	-	_	<u>-</u>	-	
Platoon blocked, %	UZ I	-		-	•	
	250	537	-	-	1022	-
Mov Cap-1 Maneuver	259		-	-		-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	0		0		0	
HCM LOS	A				•	
TIOW LOO	,,					
Minor Lane/Major Mvm	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)		-	-	-	1022	-
HCM Lane V/C Ratio		-	-	-	-	-
HCM Control Delay (s)		-	-	0	0	-
HCM Lane LOS		-	-	Α	Α	-
HCM 95th %tile Q(veh)		-	-	-	0	-

2020 Existing PM Peak Synchro 10 Report af/ms Page 42

	-	*	1	•	1	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1>			4	W	
Traffic Volume (vph)	66	0	0	79	0	0
Future Volume (vph)	66	0	0	79	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%			3%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1667	0	0	1642	1667	0
Flt Permitted						
Satd. Flow (perm)	1667	0	0	1642	1667	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	1796			721	825	
Travel Time (s)	49.0			19.7	22.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	73	0	0	88	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	73	0	0	88	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	ation 8.0%			IC	U Level o	of Service A
Analysis Period (min) 15						

2020 Existing PM Peak Synchro 10 Report af/ms Page 43

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations		LDIX	VVDL	₩DI	M	NOIX
Traffic Vol. veh/h	66	0	0	4	0	0
Future Vol, veh/h	66	0	0	79	0	0
Conflicting Peds, #/hr	00	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	Stop -	None
Storage Length	_	NOHE -	_	None -	0	-
				0	0	
Veh in Median Storage	, # 0		-	3	0	
Grade, %	-	-	-	90		-
Peak Hour Factor	90	90	90		90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	0	0	88	0	0
Major/Minor N	/lajor1	N	Major2	N	Minor1	
Conflicting Flow All	0	0	73	0	161	73
Stage 1	_	_	-	-	73	-
Stage 2	_	_	_	_	88	_
Critical Hdwy	_	_	4.12	_	6.42	6.22
Critical Hdwy Stg 1	_	_	7.12	_	5.42	-
Critical Hdwy Stg 2			_	_	5.42	_
Follow-up Hdwy	<u>-</u>	_	2.218		3.518	
Pot Cap-1 Maneuver			1527	-	830	989
Stage 1	_	_	1321	_	950	- 303
		-				
Stage 2	-	-	-	-	935	-
Platoon blocked, %	-	-	4507	-	000	000
Mov Cap-1 Maneuver	-	-	1527	-	830	989
Mov Cap-2 Maneuver	-	-	-	-	830	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	935	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS	U		U		A	
TICIVI LOG						
Minor Lane/Major Mvm	t 1	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		_	-	-	1527	-
HCM Lane V/C Ratio		-	-	-	-	-
HCM Control Delay (s)		0	-	-	0	-
HCM Lane LOS		Α	-	-	Α	-
HCM 95th %tile Q(veh)		-	-	-	0	-

2020 Existing PM Peak Synchro 10 Report af/ms Page 44

Lanes, Volumes, Timings 1: Altenheim Ave/Bethany Pike & US 40 National Road

	۶	-	•	•	•	•	4	†	~	1	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	f)			413			4			ર્ન	7
Traffic Volume (vph)	278	285	4	8	333	100	45	20	31	107	4	289
Future Volume (vph)	278	285	4	8	333	100	45	20	31	107	4	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			2%			7%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt		0.998			0.966			0.956				0.850
Flt Protected	0.950				0.999			0.977			0.954	
Satd. Flow (prot)	1778	1849	0	0	3408	0	0	1713	0	0	1831	1615
Flt Permitted	0.426				0.948			0.757			0.640	
Satd. Flow (perm)	797	1849	0	0	3233	0	0	1327	0	0	1228	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			33			19				307
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		879			1354			343			3796	
Travel Time (s)		17.1			26.4			9.4			86.3	
Confl. Peds. (#/hr)			6	6				• • • • • • • • • • • • • • • • • • • •			00.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	296	303	4	9	354	106	48	21	33	114	4	307
Shared Lane Traffic (%)			•								•	
Lane Group Flow (vph)	296	307	0	0	469	0	0	102	0	0	118	307
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0			0			0	9
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.02	1.02	1.02	1.01	1.01	1.01	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		Cl+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel	OI · LX	OI · LX		OI · LX	OI · LX		OI · LX	OI · LX		OI · LX	OI · LX	OI · LX
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	0.0
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Type Detector 2 Channel		UI+EX			OI+EX			UI+EX			OI+EX	
Detector 2 Channel												

2020 Existing SAT Peak Synchro 10 Report Page 1 af/ms

Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Grade (%) Storage Length (ft) Storage Length (ft) Storage Length (ft) Lane Util. Factor Ped Bike Factor Frt FIt Protected Satd. Flow (prot) FIt Permitted Satd. Flow (prot) Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vyh) Enter Blocked Intersection Lane Alignment Median Width(ft)
Traffic Volume (vph) Future Volume (vph) Futur
Future Volume (vph) Ideal Flow (vphpl) Grade (%) Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Fit Permit Purn on Red Satd. Flow (RTOR) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Ideal Flow (vphpl) Grade (%) Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Grade (%) Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (prem) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (yph) Shared Lane Traffic (%) Lane Group Flow (yph) Enter Blocked Intersection Lane Alignment
Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Frit Frit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment
Enter Blocked Intersection Lane Alignment
Lane Alignment
Median Width(ft)
Link Offset(ft)
Crosswalk Width(ft)
Two way Left Turn Lane
Headway Factor
Turning Speed (mph)
Number of Detectors
Detector Template
Leading Detector (ft)
Trailing Detector (ft)
Detector 1 Position(ft)
Detector 1 Size(ft)
Detector 1 Type
Detector 1 Channel
Detector 1 Extend (s)
Detector 1 Queue (s)
Detector 1 Delay (s)
Detector 2 Position(ft)
Detector 2 Size(ft)
Detector 2 Type
Detector 2 Channel

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Reserved	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6			2			4			4	1
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	20.0		20.0	20.0		17.0	17.0		17.0	17.0	9.5
Total Split (s)	28.0	65.0		37.0	37.0		30.0	30.0		30.0	30.0	28.0
Total Split (%)	24.3%	56.5%		32.2%	32.2%		26.1%	26.1%		26.1%	26.1%	24.3%
Maximum Green (s)	23.5	60.0		32.0	32.0		25.0	25.0		25.0	25.0	23.5
Yellow Time (s)	3.5	4.0		4.0	4.0		4.0	4.0		4.0	4.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	4.5	5.0			5.0			5.0			5.0	4.5
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lag	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	83.8	83.3			66.1			17.9			17.9	35.6
Actuated g/C Ratio	0.73	0.72			0.57			0.16			0.16	0.31
v/c Ratio	0.43	0.23			0.25			0.46			0.62	0.43
Control Delay	9.5	5.7			15.3			41.1			58.5	4.3
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	9.5	5.7			15.3			41.1			58.5	4.3
LOS	Α	A			В			D			E	Α
Approach Delay		7.6			15.3			41.1			19.4	
Approach LOS	4.0	A			В			D			В	
Queue Length 50th (ft)	46	49			68			56			83	0
Queue Length 95th (ft)	100	98			191			105			136	48
Internal Link Dist (ft)		799			1274			263			3716	400
Turn Bay Length (ft)	=0.4	40.40			4070			000			000	130
Base Capacity (vph)	781	1340			1872			303			266	834
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.38	0.23			0.25			0.34			0.44	0.37
Intersection Cummers												

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 100 (87%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

2020 Existing SAT Peak

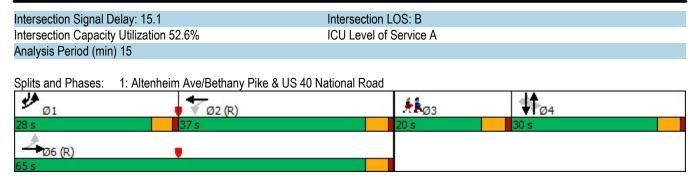
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Synchro 10 Report

Page 3

Lane Group	Ø3		
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3		
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0		
Minimum Split (s)	19.0		
Total Split (s)	20.0		
Total Split (%)	17%		
Maximum Green (s)	15.0		
Yellow Time (s)	4.0		
All-Red Time (s)	1.0		
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	4.0		
Recall Mode	None		
Walk Time (s)	5.0		
Flash Dont Walk (s)	9.0		
Pedestrian Calls (#/hr)	1		
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			
Intersection Summary			

2020 Existing SAT Peak Synchro 10 Report Page 4 af/ms



2020 Existing SAT Peak

af/ms

Synchro 10 Report
Page 5

HCM 6th Edition methodology does not support exclusive ped or hold phases.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	1			4			4			4	
Traffic Volume (vph)	109	215	1	0	211	6	0	0	0	6	0	132
Future Volume (vph)	109	215	1	0	211	6	0	0	0	6	0	132
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.996						0.871	
Flt Protected	0.950										0.998	
Satd. Flow (prot)	1569	1690	0	0	1669	0	0	1907	0	0	1436	0
Flt Permitted	0.950										0.998	
Satd. Flow (perm)	1569	1690	0	0	1669	0	0	1907	0	0	1436	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	118	234	1	0	229	7	0	0	0	7	0	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	235	0	0	236	0	0	0	0	0	150	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
	Other											

Area Type: Othe

Control Type: Unsignalized

Intersection Capacity Utilization 45.0%

ICU Level of Service A

Analysis Period (min) 15

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	f			4			4			4	
Traffic Vol, veh/h	109	215	1	0	211	6	0	0	0	6	0	132
Future Vol, veh/h	109	215	1	0	211	6	0	0	0	6	0	132
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,	, # -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	118	234	1	0	229	7	0	0	0	7	0	143
Major/Minor N	/lajor1		N	Major2			Minor1		N	/linor2		
Conflicting Flow All	236	0	0	235	0	0	775	707	235	704	704	233
Stage 1	-	-	-	-	-	-	471	471	-	233	233	-
Stage 2	-	-	-	-	-	-	304	236	-	471	471	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.9	6.4	6.9	6.3	6.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1343	-	-	1344	-	-	291	335	799	368	378	816
Stage 1	-	-	-	-	-	-	548	534	-	785	725	-
Stage 2	-	-	-	-	-	-	686	695	-	592	578	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1343	-	-	1344	-	-	224	306	799	343	345	816
Mov Cap-2 Maneuver	-	-	-	-	-	-	224	306	-	343	345	-
Stage 1	-	-	-	-	-	-	500	487	-	716	725	-
Stage 2	-	-	-	-	-	-	565	695	-	540	527	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.7			0			0			10.8		
HCM LOS							Α			В		
Minor Lane/Major Mvm	t N	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR :	SBLn1			
Capacity (veh/h)			1343	-	-		-	-				
HCM Lane V/C Ratio			0.088	-	-	-	_	_	0.195			
HCM Control Delay (s)		0	7.9	-	-	0	-	-				
HCM Lane LOS		A	Α	-	-	A	-	-	В			
HCM 95th %tile Q(veh)		-	0.3	-	-	0	-	-	0.7			

2020 Existing SAT Peak
sq/ms
Synchro 10 Report
Page 8

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	₽			4			4			4	
Traffic Volume (veh/h)	109	215	1	0	211	6	0	0	0	6	0	132
Future Volume (Veh/h)	109	215	1	0	211	6	0	0	0	6	0	132
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			1%			2%			-1%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	118	234	1	0	229	7	0	0	0	7	0	143
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	236			235			846	706	234	702	704	232
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	236			235			846	706	234	702	704	232
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			100			100	100	100	98	100	82
cM capacity (veh/h)	1343			1344			218	331	809	331	332	812
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	118	235	236	0	150							
Volume Left	118	0	0	0	7							
Volume Right	0	1	7	0	143							
cSH	1343	1700	1344	1700	760							
Volume to Capacity	0.09	0.14	0.00	0.00	0.20							
Queue Length 95th (ft)	7	0	0	0	18							
Control Delay (s)	7.9	0.0	0.0	0.0	10.9							
Lane LOS	А			Α	В							
Approach Delay (s)	2.7		0.0	0.0	10.9							
Approach LOS				Α	В							
Intersection Summary												
Average Delay			3.5									
Intersection Capacity Utiliz	ation		45.0%	IC	CU Level o	f Service			Α			
Analysis Period (min)			15									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	† 1>		*	†			4			ર્ન	7
Traffic Volume (vph)	44	701	27	13	660	13	4	0	3	14	2	44
Future Volume (vph)	44	701	27	13	660	13	4	0	3	14	2	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	16	14
Grade (%)		0%			0%			-4%			2%	
Storage Length (ft)	150		0	0		0	0		0	0		300
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00							
Frt		0.995			0.997			0.942				0.850
Flt Protected	0.950			0.950				0.972			0.958	
Satd. Flow (prot)	1805	3549	0	1805	3563	0	0	2011	0	0	2042	1705
Flt Permitted	0.320			0.352				0.904			0.817	
Satd. Flow (perm)	608	3549	0	667	3563	0	0	1870	0	0	1742	1705
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			2			142				142
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1133			236			237			1020	
Travel Time (s)		22.1			4.6			6.5			27.8	
Confl. Peds. (#/hr)	1		6	6		1		0.0				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	4%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	48	762	29	14	717	14	4	0	3	15	2	48
Shared Lane Traffic (%)						• •	·				_	. •
Lane Group Flow (vph)	48	791	0	14	731	0	0	7	0	0	17	48
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Turning Speed (mph)	15	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	Cl+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OI LX	OI · LX		OI LX	OI LX		OI · LX	OI · LX		OI · LX	OI LX	OI LX
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	0.0
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			CI+Ex			CI+Ex			Cl+Ex	
Detector 2 Type		OITEX			OITEX			OITEX			OI+EX	

2020 Existing SAT Peak
sq/ms
Synchro 10 Report
Page 9

Lane Group 02 03 07 011 Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft) Grade (%) Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Right Turn on Red Satd. Flow (RTOR) Link Distance (ft) Travel Time (s) Confil. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft) Grade (%) Storage Length (ft) Storage Length (ft) Storage Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (prot) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confi. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft) Grade (%) Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Trow way Left Turn Lane Headway Factor
Ideal Flow (vphpl) Lane Width (ft) Grade (%) Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Flt Protected Satd. Flow (prot) Flt Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Lane Width (ft) Grade (%) Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Grade (%) Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Flt Protected Satd. Flow (prot) Flt Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confi. Peds. (#hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Storage Length (ft) Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Storage Lanes Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Frt Frt Frt Frey Frey Frey Frey Frey Frey Frey Frey
Taper Length (ft) Lane Util. Factor Ped Bike Factor Frt Flt Protected Satd. Flow (prot) Flt Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Lane Util. Factor Ped Bike Factor Frt Flt Protected Satd. Flow (prot) Flt Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confil. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
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Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Crosswalk Width(ft) Two way Left Turn Lane Headway Factor
Two way Left Turn Lane Headway Factor
Headway Factor
Turning Speed (mph)
Number of Detectors
Detector Template
Leading Detector (ft)
Trailing Detector (ft)
Detector 1 Position(ft)
Detector 1 Size(ft)
Detector 1 Type
Detector 1 Channel
Detector 1 Extend (s)
Detector 1 Queue (s)
Detector 1 Delay (s)
Detector 2 Position(ft)
Detector 2 Size(ft)
Detector 2 Type

2020 Existing SAT Peak
sq/ms
Synchro 10 Report
Page 10

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3:	Driveway	y/Park Ro	ad & US	S 40 National	Road

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	20.0	52.0					23.0	23.0		23.0	23.0	23.0
Total Split (%)	17.4%	45.2%					20.0%	20.0%		20.0%	20.0%	20.0%
Maximum Green (s)	15.0	47.0					18.0	18.0		18.0	18.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	73.0	73.0		79.8	79.8			16.4			16.4	16.4
Actuated g/C Ratio	0.63	0.63		0.69	0.69			0.14			0.14	0.14
v/c Ratio	0.11	0.35		0.03	0.30			0.02			0.07	0.13
Control Delay	8.2	9.3		0.9	0.9			0.2			42.4	0.8
Queue Delay	0.0	0.0		0.0	0.1			0.0			0.0	0.0
Total Delay	8.2	9.3		0.9	1.0			0.2			42.4	0.8
LOS	Α	Α		Α	Α			Α			D	Α
Approach Delay		9.2			1.0			0.2			11.6	
Approach LOS		Α			Α			Α			В	
Queue Length 50th (ft)	12	121		0	3			0			11	0
Queue Length 95th (ft)	24	148		m1	13			0			33	0
Internal Link Dist (ft)		1053			156			157			940	
Turn Bay Length (ft)	150											300
Base Capacity (vph)	542	2255		465	2487			412			272	386
Starvation Cap Reductn	0	0		0	766			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.09	0.35		0.03	0.42			0.02			0.06	0.12
Intersection Cummery												

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 80

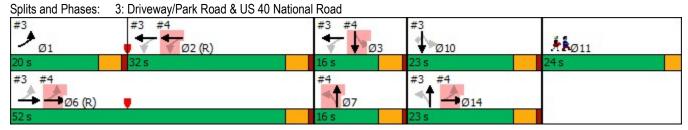
Control Type: Actuated-Coordinated

Lane Group	Ø2	Ø3	Ø7	Ø11	
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					
Protected Phases	2	3	7	11	
Permitted Phases			•	• • •	
Detector Phase					
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	
Minimum Split (s)	20.0	15.0	15.0	17.0	
Total Split (s)	32.0	16.0	16.0	24.0	
Total Split (%)	28%	14%	14%	21%	
Maximum Green (s)	27.0	11.0	11.0	21.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	0.0	
Lost Time Adjust (s)	1.0	1.0	1.0	0.0	
Total Lost Time (s)	Log				
Lead/Lag	Lag				
Lead-Lag Optimize?	Yes	4.0	4.0	2.0	
Vehicle Extension (s)	5.0	4.0	4.0	3.0	
Recall Mode	C-Max	None	None	None	
Walk Time (s)				5.0	
Flash Dont Walk (s)				9.0	
Pedestrian Calls (#/hr)				0	
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

2020 Existing SAT Peak
sq/ms
Synchro 10 Report
Page 12

03/09/2020

Maximum v/c Ratio: 0.60
Intersection Signal Delay: 5.6
Intersection Capacity Utilization 41.1%
ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.



2020 Existing SAT Peak

af/ms

Synchro 10 Report

Page 13

HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		†		*	†			4			4	
Traffic Volume (vph)	5	673	40	24	621	2	53	1	26	7	0	12
Future Volume (vph)	5	673	40	24	621	2	53	1	26	7	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%			0%	
Storage Length (ft)	0		0	105		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992						0.957			0.916	
Flt Protected		0.00		0.950				0.968			0.981	
Satd. Flow (prot)	0	3546	0	1787	3574	0	0	1734	0	0	1690	0
Flt Permitted		0.952		0.063		•	•	0.787	-		0.903	-
Satd. Flow (perm)	0	3375	0	119	3574	0	0	1410	0	0	1556	0
Right Turn on Red			Yes			Yes			Yes	•		Yes
Satd. Flow (RTOR)		8	. 00			. 00		16	. 00		142	100
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			4.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	5	732	43	26	675	2	58	1 / 1	28	8	0	13
Shared Lane Traffic (%)	0	102	70	20	070		50		20	U	U	10
Lane Group Flow (vph)	0	780	0	26	677	0	0	87	0	0	21	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	Loit	12	ragne	Lon	12	rugiit	Loit	0	rugiit	Lon	0	rugiit
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			10			10	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Turning Speed (mph)	15	1.00	9	15	1.00	9	15	1.01	9	15	1.00	9
Number of Detectors	1	2		1	2	•	1	2	, and the second	1	2	J
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel	O. LX	O. LX		OI EX	OI EX		O. LA	OI - EX		O. LX	OI - Ex	
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel		OI. LX			OI? LX			OI. LX			OI. LX	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
тангтурс	i Giiii	INA		i Giiii	INA		i Giiii	INA		i Giiii	INA	

2020 Existing SAT Peak Synchro 10 Report Page 15 af/ms

Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Grade (%)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Lane Util. Factor					
Frt					
Flt Protected					
Satd. Flow (prot)					
Flt Permitted					
Satd. Flow (perm)					
Right Turn on Red					
Satd. Flow (RTOR)					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Peak Hour Factor					
Heavy Vehicles (%)					
Adj. Flow (vph)					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Enter Blocked Intersection					
Lane Alignment					
Median Width(ft)					
Link Offset(ft)					
Crosswalk Width(ft)					
Two way Left Turn Lane					
Headway Factor					
Turning Speed (mph)					
Number of Detectors					
Detector Template					
Leading Detector (ft)					
Trailing Detector (ft)					
Detector 1 Position(ft)					
Detector 1 Size(ft)					
Detector 1 Type					
Detector 1 Channel					
Detector 1 Extend (s)					
Detector 1 Queue (s)					
Detector 1 Delay (s)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		6 14			2			7			3	
Permitted Phases	6 14			2			7			3		
Detector Phase	6 14	6 14		2	2		7	7		3	3	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)				20.0	20.0		15.0	15.0		15.0	15.0	
Total Split (s)				32.0	32.0		16.0	16.0		16.0	16.0	
Total Split (%)				27.8%	27.8%		13.9%	13.9%		13.9%	13.9%	
Maximum Green (s)				27.0	27.0		11.0	11.0		11.0	11.0	
Yellow Time (s)				4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				5.0	5.0			5.0			5.0	
Lead/Lag				Lag	Lag			0.0			0.0	
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode				C-Max	C-Max		None	None		None	None	
Walk Time (s)				O-IVIAX	O-IVIAX		INOITE	INOILE		NONE	INOTIC	
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effet Green (s)		94.4		64.3	64.3			10.6			10.6	
Actuated g/C Ratio		0.82		0.56	0.56			0.09			0.09	
v/c Ratio		0.02		0.30	0.34			0.60			0.09	
Control Delay		0.20		35.8	12.1			58.9			0.06	
		0.9		0.0	0.0			0.0			0.0	
Queue Delay		1.1		35.8	12.1			58.9			0.6	
Total Delay LOS				33.0 D	12.1 B			50.9 E				
		A		U							A	
Approach Delay		1.1			12.9			58.9 E			0.6	
Approach LOS		A		40	B						A	
Queue Length 50th (ft)		1		12	156			51			0	
Queue Length 95th (ft)		13		#55	126			#114			0	
Internal Link Dist (ft)		156		405	799			398			76	
Turn Bay Length (ft)		0700		105	4007			4.40			077	
Base Capacity (vph)		2728		66	1997			149			277	
Starvation Cap Reductn		942		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.44		0.39	0.34			0.58			0.08	
Intersection Summary	Oth											
	Other											
Cycle Length: 115												
Actuated Cycle Length: 115		MOTI	10 557	01 1								
Offset: 0 (0%), Referenced to	o phase 2:\	WBTL and	d 6:EBTl	., Start of	Green, M	aster Inte	ersection					
Natural Cycle: 80												
Control Type: Actuated-Coo	rdinated											
Maximum v/c Ratio: 0.60												
Intersection Signal Delay: 9.					ntersection		_					
Intersection Capacity Utilizat	tion 39.7%			[(CU Level of	of Service	eΑ					

Synchro 10 Report 2020 Existing SAT Peak Page 17 af/ms

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Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Protected Phases	1	6	10	11	14
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.0	20.0	12.0	17.0	12.0
Total Split (s)	20.0	52.0	23.0	24.0	23.0
Total Split (%)	17%	45%	20%	21%	20%
Maximum Green (s)	15.0	47.0	18.0	21.0	18.0
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead				
Lead-Lag Optimize?	Yes				
Vehicle Extension (s)	2.0	5.0	4.0	3.0	4.0
Recall Mode	None	C-Max	None	None	None
Walk Time (s)				5.0	
Flash Dont Walk (s)				9.0	
Pedestrian Calls (#/hr)				0	
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

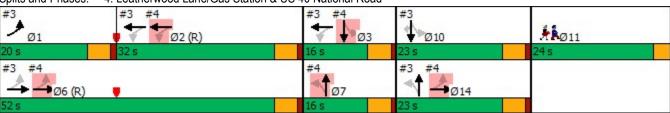
2020 Existing SAT Peak Synchro 10 Report Page 18 af/ms

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 4: Leatherwood Lane/Gas Station & US 40 National Road



2020 Existing SAT Peak

af/ms

Synchro 10 Report

Page 19

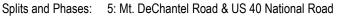
2020 Existing SAT Peak 03/09/2020

HCM 6th Edition methodology does not support clustered intersections.

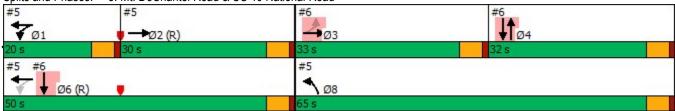
	-	*	1	←	1	-				
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Lane Configurations	† 1>		*	^	77					
Traffic Volume (vph)	148	119	220	531	262	0				
Future Volume (vph)	148	119	220	531	262	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	11	11	10	11	11	12				
Grade (%)	0%			0%	-1%					
Lane Util, Factor	0.95	0.95	1.00	0.95	0.97	1.00				
Frt	0.933									
Flt Protected			0.950		0.950					
Satd. Flow (prot)	3195	0	1668	3455	3368	0				
Flt Permitted			0.466		0.950					
Satd. Flow (perm)	3195	0	818	3455	3368	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)	127									
Link Speed (mph)	35			35	25					
Link Distance (ft)	562			201	135					
Travel Time (s)	10.9			3.9	3.7					
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				
Heavy Vehicles (%)	1%	3%	1%	1%	1%	0%				
Adj. Flow (vph)	157	127	234	565	279	0				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	284	0	234	565	279	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	10			10	22	J				
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	16			16	16					
Two way Left Turn Lane	Yes									
Headway Factor	1.04	1.04	1.09	1.04	1.04	0.99				
Turning Speed (mph)		9	15		15	9				
Number of Detectors	2		1	2	1					
Detector Template	Thru		Left	Thru	Left					
Leading Detector (ft)	100		20	100	20					
Trailing Detector (ft)	0		0	0	0					
Detector 1 Position(ft)	0		0	0	0					
Detector 1 Size(ft)	6		20	6	20					
Detector 1 Type	Cl+Ex		CI+Ex	CI+Ex	Cl+Ex					
Detector 1 Channel										
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft)	94			94						
Detector 2 Size(ft)	6			6						
Detector 2 Type	Cl+Ex			CI+Ex						
Detector 2 Channel										
Detector 2 Extend (s)	0.0			0.0						
Turn Type	NA		pm+pt	NA	Prot					
Protected Phases	2		1	16	8		3	4	6	
Permitted Phases			16							

2020 Existing SAT Peak
sq/ms
Synchro 10 Report
Page 21

	-	*	1	←	1	1				
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Detector Phase	2		1	16	8					
Switch Phase										
Minimum Initial (s)	5.0		5.0		5.0		5.0	5.0	5.0	
Minimum Split (s)	20.0		15.0		17.0		17.0	17.0	20.0	
Total Split (s)	30.0		20.0		65.0		33.0	32.0	50.0	
Total Split (%)	26.1%		17.4%		56.5%		29%	28%	43%	
Maximum Green (s)	25.0		15.0		60.0		28.0	27.0	45.0	
Yellow Time (s)	4.0		4.0		4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0		1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0		0.0					
Total Lost Time (s)	5.0		5.0		5.0					
Lead/Lag	Lag		Lead				Lead	Lag		
Lead-Lag Optimize?	Yes		Yes				Yes	Yes		
Vehicle Extension (s)	5.0		2.5		4.0		4.0	5.0	5.0	
Recall Mode	C-Max		None		None		None	None	C-Max	
Act Effct Green (s)	33.4		52.6	52.6	52.4					
Actuated g/C Ratio	0.29		0.46	0.46	0.46					
v/c Ratio	0.28		0.49	0.36	0.18					
Control Delay	19.9		37.2	34.2	7.3					
Queue Delay	0.0		0.0	0.0	0.6					
Total Delay	19.9		37.2	34.2	7.9					
LOS	В		D	С	Α					
Approach Delay	19.9			35.1	7.9					
Approach LOS	В			D	Α					
Queue Length 50th (ft)	47		162	211	23					
Queue Length 95th (ft)	91		258	284	23					
Internal Link Dist (ft)	482			121	55					
Turn Bay Length (ft)										
Base Capacity (vph)	1016		485	1581	1757					
Starvation Cap Reductn	0		0	0	1134					
Spillback Cap Reductn	0		0	0	0					
Storage Cap Reductn	0		0	0	0					
Reduced v/c Ratio	0.28		0.48	0.36	0.45					
Intersection Summary										
Area Type:	Other									
Cycle Length: 115										
Actuated Cycle Length: 11	5									
Offset: 70 (61%), Reference		2:EBT ar	nd 6:WBT	L, Start c	of Green					
Natural Cycle: 70										
Control Type: Actuated-Co	ordinated									
Maximum v/c Ratio: 0.77										
Intersection Signal Delay: 2	26.3			Ir	ntersection	LOS: C				
Intersection Capacity Utiliza					CU Level o		A			
Analysis David (min) 15										



Analysis Period (min) 15



HCM 6th Edition methodology does not support clustered intersections.

Lanes, Volumes, Timings 2020 Existing SAT Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 刊析2020

Lane Configurations		۶	→	*	•	•	•	1	†	1	-	Ţ	1
Traffic Volume (vph)	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	Lane Configurations		473						†			^	
Ideal Flow (ryphpi)		70		96	0	0	0	0		247	0	339	0
Lane Width (ft)	Future Volume (vph)	70	393	96	0	0	0	0	192	247	0	339	0
Circular (%)	Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Unit Factor 0.95 0.95 0.95 0.95 1.00 1.00 1.00 0.95 0.95 1.00	Lane Width (ft)	12	12	12	12	12	12	13	13	13	12	16	12
Ped Bike Factor	Grade (%)		-1%			0%			0%			1%	
Fith	Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Fit Protected Satd. Flow (prot) O 3513 O O O O O O 3358 O O 2121 O O O O O O O O O O O O O O O O O O	Ped Bike Factor								0.99				
Satd. Flow (prot) 0 3513 0 0 0 0 0 3358 0 0 2121 0	Frt		0.974						0.916				
Fit Permitted	Flt Protected		0.994										
Satd. Flow (perm)	Satd. Flow (prot)	0	3513	0	0	0	0	0	3358	0	0	2121	0
Right Turn on Red	Flt Permitted		0.994										
Satd. Flow (RTOR)	Satd. Flow (perm)	0	3513	0	0	0	0	0	3358	0	0	2121	0
Link Speed (mph)	Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph) 35 30 25 25 Link Distance (ft) 482 215 270 135 Travel Time (s) 9.4 4.9 7.4 3.7 Confl. Peds. (#hr) 0.92	Satd. Flow (RTOR)		20						267				
Travel Time (s)			35			30			25			25	
Confil Peds. (#/hr)	Link Distance (ft)		482			215			270			135	
Peak Hour Factor	Travel Time (s)		9.4			4.9			7.4			3.7	
Heavy Vehicles (%)	Confl. Peds. (#/hr)									1	1		
Adj. Flow (vph) 76 427 104 0 0 0 209 268 0 368 0 Shared Lane Traffic (%) Lane Group Flow (vph) 0 607 0 0 0 0 477 0 0 368 0 Enter Blocked Intersection No	Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%) Lane Group Flow (vph) 0 607 0 0 0 0 0 0 0 477 0 0 368 0	Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%	0%
Shared Lane Traffic (%) Lane Group Flow (yph) 0 607 0 0 0 0 0 0 0 477 0 0 368 0	Adj. Flow (vph)		427	104		0	0	0	209	268		368	
Lane Group Flow (vph)													
Left Left Right Right Median Width(ft) 0		0	607	0	0	0	0	0	477	0	0	368	0
Median Width(ft) 0 0 0 0 0 Link Offset(ft) 0 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 Toway Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 10 10 10 10 10 10 10 10 <td< td=""><td>Enter Blocked Intersection</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td></td<>	Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Link Offset(ft) 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane 16 16 16 16 Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 0 15 10 15 10 </td <td>Lane Alignment</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td>	Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 0 10 10 10 10 10 10	Median Width(ft)		0			0			0			0	
Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01	Link Offset(ft)		0			0			0			0	
Headway Factor 0.99 0.99 0.99 1.00 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01	Crosswalk Width(ft)		16			16			16			16	
Turning Speed (mph) 15 9 15 9 15 9 15 9 Number of Detectors 1 2 2 2 Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 100 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 20 6 6 6 6 Detector 1 Size(ft) 20 6 6 6 6 6 0 <td>Two way Left Turn Lane</td> <td></td>	Two way Left Turn Lane												
Number of Detectors 1 2 2 2 Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Extend (s) 0.0	Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	0.96	0.96	0.96		0.85	1.01
Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 94 Detector 2 Size(ft) 6 6 6 6 Detector 2 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 2 Extend (s) 0.0 0.0 0.0 0.0	Turning Speed (mph)	15		9	15		9	15		9	15		9
Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel 0.0 0.0 0.0 Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type Cl+Ex Cl+Ex Cl+Ex Detector 2 Channel 0.0 0.0 0.0 Detector 2 Extend (s) 0.0 0.0 0.0	Number of Detectors	1	2						2			2	
Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0 Detector 2 Extend (s) 0.0 0.0 0.0	Detector Template	Left	Thru						Thru			Thru	
Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type Cl+Ex Cl+Ex Cl+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Leading Detector (ft)	20	100						100			100	
Detector 1 Size(ft) 20 6 6 6 Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Trailing Detector (ft)	0	0						0			0	
Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel 0.0 0.0 0.0 Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 1 Position(ft)		0						0			0	
Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 1 Size(ft)	20	6									6	
Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 1 Type	CI+Ex	CI+Ex						CI+Ex			CI+Ex	
Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Channel												
Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 2 Position(ft) 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 2 Position(ft)		94						94			94	
Detector 2 Channel Detector 2 Extend (s) 0.0 0.0 0.0	Detector 2 Size(ft)		6						6			6	
Detector 2 Extend (s) 0.0 0.0	Detector 2 Type		CI+Ex						Cl+Ex			CI+Ex	
\sqrt{I}	Detector 2 Channel												
Turn Type Perm NA NA NA	Detector 2 Extend (s)		0.0						0.0			0.0	
	Turn Type	Perm	NA						NA			NA	

2020 Existing SAT Peak Synchro 10 Report Page 1 af/ms

Lanes, Volumes, Timings 2020 Existing SAT Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 198/11/2020

Lane Group	Ø1	Ø2	Ø6	Ø8
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Opeed (mpn) Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%) Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph) Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
. ,				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type				

Synchro 10 Report 2020 Existing SAT Peak Page 2 af/ms

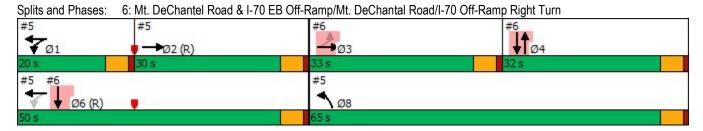
Analysis Period (min) 15

Lanes, Volumes, Timings 2020 Existing SAT Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 198/11/2020

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		3						4			6 4	
Permitted Phases	3											
Detector Phase	3	3						4			6 4	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0				
Minimum Split (s)	17.0	17.0						17.0				
Total Split (s)	33.0	33.0						32.0				
Total Split (%)	28.7%	28.7%						27.8%				
Maximum Green (s)	28.0	28.0						27.0				
Yellow Time (s)	4.0	4.0						4.0				
All-Red Time (s)	1.0	1.0						1.0				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag	Lead	Lead						Lag				
Lead-Lag Optimize?	Yes	Yes						Yes				
Vehicle Extension (s)	4.0	4.0						5.0				
Recall Mode	None	None						None				
Act Effct Green (s)		25.4						21.9			79.6	
Actuated g/C Ratio		0.22						0.19			0.69	
v/c Ratio		0.77						0.56			0.25	
Control Delay		47.4						25.7			1.8	
Queue Delay		0.0						0.0			0.6	
Total Delay		47.4						25.7			2.4	
LOS		D						С			Α	
Approach Delay		47.4						25.7			2.4	
Approach LOS		D						С			Α	
Queue Length 50th (ft)		212						87			17	
Queue Length 95th (ft)		274						130			18	
Internal Link Dist (ft)		402			135			190			55	
Turn Bay Length (ft)												
Base Capacity (vph)		870						992			1463	
Starvation Cap Reductn		0						0			737	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.70						0.48			0.51	
Intersection Summary												
Area Type:	Other											
Cycle Length: 115												
Actuated Cycle Length: 11	5											_
Offset: 70 (61%), Reference	ed to phase	2:EBT an	d 6:WBT	L, Start o	f Green							
Natural Cycle: 70												
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.77												
Intersection Signal Delay:	28.9			In	ntersection	LOS: C						
Intersection Capacity Utiliz	ation 42.1%			IC	CU Level	of Service	A					
A B												

2020 Existing SAT Peak Synchro 10 Report Page 3 af/ms

6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Tህተብ/2020



2020 Existing SAT Peak

af/ms

Synchro 10 Report
Page 4

Lanes, Volumes, Timings 2020 Existing SAT Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 刊析2020

Lane Group	Ø1	Ø2	Ø6	Ø8	
Protected Phases	1	2	6	8	
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	
Minimum Split (s)	15.0	20.0	20.0	17.0	
Total Split (s)	20.0	30.0	50.0	65.0	
Total Split (%)	17%	26%	43%	57%	
Maximum Green (s)	15.0	25.0	45.0	60.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.5	5.0	5.0	4.0	
Recall Mode	None	C-Max	C-Max	None	
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					
intorocotion outlinary					

2020 Existing SAT Peak Synchro 10 Report Page 5 af/ms

HCM 6th Edition methodology does not support clustered intersections.

Synchro 10 Report 2020 Existing SAT Peak af/ms Page 6

	-	7	F	←	7	/	
Lane Group	EBT	EBR	WBL	WBT	NEL	NER	
Lane Configurations	^			ተተተ		77	
Traffic Volume (vph)	148	0	0	751	0	640	
Future Volume (vph)	148	0	0	751	0	640	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	
Lane Width (ft)	12	12	12	11	12	12	
Grade (%)	0%			0%	-2%		
Storage Length (ft)		0	590		0	0	
Storage Lanes		0	1		0	2	
Taper Length (ft)			25		25		
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	0.88	
Ped Bike Factor							
Frt						0.850	
Flt Protected							
Satd. Flow (prot)	3198	0	0	4442	0	2543	
Flt Permitted							
Satd. Flow (perm)	3198	0	0	4442	0	2543	
Link Speed (mph)	35			35	35		
Link Distance (ft)	201			1133	215		
Travel Time (s)	3.9			22.1	4.2		
Confl. Peds. (#/hr)		2	2				
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	1%	0%	0%	1%	0%	1%	
Adj. Flow (vph)	159	0	0	808	0	688	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	159	0	0	808	0	688	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	1			1	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane				Yes			
Headway Factor	1.15	1.15	1.15	1.20	1.14	1.14	
Turning Speed (mph)		9	15		15	9	
Sign Control	Free			Free	Yield		
Intersection Summary							
	Other						
Control Type: Unsignalized							
Intersection Capacity Utilization 36.8% ICU Level of Service A							
Analysis Period (min) 15							
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2020 Existing SAT Peak Synchro 10 Report Page 1 af/ms

7: Mt. DeChantal Road/I-70 Off-Ramp Right Turn & US 40 National Road

	-	7	F	4	7	/		
Movement	EBT	EBR	WBL	WBT	NEL	NER		
Lane Configurations	^			^		77		
Traffic Volume (veh/h)	148	0	0	751	0	640		
Future Volume (Veh/h)	148	0	0	751	0	640		
Sign Control	Free			Free	Yield			
Grade	0%			0%	-2%			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Hourly flow rate (vph)	159	0	0	808	0	688		
Pedestrians					2			
Lane Width (ft)					12.0			
Walking Speed (ft/s)					3.5			
Percent Blockage					0			
Right turn flare (veh)								
Median type	None			TWLTL				
Median storage veh)				2				
Upstream signal (ft)	201			1133				
pX, platoon unblocked								
vC, conflicting volume			161		430	82		
vC1, stage 1 conf vol					161			
vC2, stage 2 conf vol					269			
vCu, unblocked vol			161		430	82		
tC, single (s)			4.1		6.8	6.9		
tC, 2 stage (s)					5.8			
tF (s)			2.2		3.5	3.3		
p0 queue free %			100		100	29		
cM capacity (veh/h)			1428		698	963		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1	NE 2	
Volume Total	80	80	269	269	269	344	344	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	344	344	
cSH	1700	1700	1700	1700	1700	963	963	
Volume to Capacity	0.05	0.05	0.16	0.16	0.16	0.36	0.36	
Queue Length 95th (ft)	0	0	0	0	0	41	41	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.8	10.8	
Lane LOS						В	В	
Approach Delay (s)	0.0		0.0			10.8		
Approach LOS						В		
Intersection Summary								
Average Delay			4.5					
Intersection Capacity Utiliza	ıtion		36.8%	IC	CU Level c	of Service		
Analysis Period (min)			15					

Analysis Period (min) 15

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				7		7	7	†			1	
Traffic Volume (vph)	0	0	0	2	0	166	65	273	0	0	254	181
Future Volume (vph)	0	0	0	2	0	166	65	273	0	0	254	181
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.944	
FIt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1549	1546	1675	0	0	1581	0
FIt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1549	1546	1675	0	0	1581	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	2%	0%	0%	1%	1%
Adj. Flow (vph)	0	0	0	2	0	175	68	287	0	0	267	191
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	2	0	175	68	287	0	0	458	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:)ther											
Control Type: Unsignalized												
Intersection Capacity Utilization	on 44.7%			IC	U Level	of Service	: A					

Synchro 10 Report Page 31 2020 Existing SAT Peak af/ms

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				*		7	*	↑			1	
Traffic Vol, veh/h	0	0	0	2	0	166	65	273	0	0	254	181
Future Vol, veh/h	0	0	0	2	0	166	65	273	0	0	254	181
Conflicting Peds, #/hr	0	0	1	1	0	0	1	0	3	3	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	_	-	-	0	-	0	170	-	-	-	-	-
Veh in Median Storage,	# -	2	-	-	0	-	-	0	_	-	0	_
Grade, %	_	1	-	_	-1	-	_	-1	_	-	1	_
Peak Hour Factor	92	92	92	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	5	2	0	0	1	1
Mvmt Flow	0	0	0	2	0	175	68	287	0	0	267	191
Major/Minor			1	Minor1		1	Major1		N	Major2		
Conflicting Flow All				787	_	287	459	0	_	-	_	0
Stage 1				423	-	-	-	-	-	-	-	-
Stage 2				364	_	_	_	_	_	_	_	_
Critical Hdwy				6.2	-	6.1	4.15	-	_	-	-	_
Critical Hdwy Stg 1				5.2	-	-	-	_	_	-	-	_
Critical Hdwy Stg 2				5.2	_	-	-	_	_	-	-	-
Follow-up Hdwy				3.5	-	3.3	2.245	_	_	-	-	_
Pot Cap-1 Maneuver				379	0	763	1086	_	0	0	-	-
Stage 1				681	0	-	-	-	0	0	-	-
Stage 2				722	0	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				355	0	763	1086	-	-	-	-	-
Mov Cap-2 Maneuver				355	0	-	-	-	-	-	-	-
Stage 1				638	0	-	-	-	-	-	-	-
Stage 2				721	0	-	-	-	-	-	-	-
Ĭ												
Approach				WB			NB			SB		
HCM Control Delay, s				11.1			1.6			0		
HCM LOS				В								
Minor Lane/Major Mvmt		NBL	NBTV	VBLn1V	VBLn2	SBT	SBR					
Capacity (veh/h)		1086	-	355	763	-	-					
HCM Lane V/C Ratio		0.063	-	0.006		-	-					
HCM Control Delay (s)		8.5	-	15.2	11.1	-	-					
HCM Lane LOS		Α	-	С	В	-	-					
HCM 95th %tile Q(veh)		0.2	-	0	0.9	-	-					

	٠	→	*	1	+	•	1	1	~	-	↓	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				×		7	7	†			ĵ.	
Traffic Volume (veh/h)	0	0	0	2	0	166	65	273	0	0	254	181
Future Volume (Veh/h)	0	0	0	2	0	166	65	273	0	0	254	181
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-1%			-1%			1%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	2	0	175	68	287	0	0	267	191
Pedestrians		1			3			1				
Lane Width (ft)		0.0			15.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								477			270	
pX, platoon unblocked	0.93	0.93	0.93	0.93	0.93		0.93	.,,			2,0	
vC, conflicting volume	786	790	364	790	885	290	459			290		
vC1, stage 1 conf vol	100	700	001	700	000	200	100			200		
vC2, stage 2 conf vol												
vCu, unblocked vol	733	736	279	736	839	290	381			290		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	7.1	0.0	0.2	7.1	0.0	0.2	7.1			7.1		
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	77	94			100		
cM capacity (veh/h)	229	303	710	297	264	751	1080			1279		
						751	1000			1213		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1							
Volume Total	2	175	68	287	458							
Volume Left	2	0	68	0	0							
Volume Right	0	175	0	0	191							
cSH	297	751	1080	1700	1700							
Volume to Capacity	0.01	0.23	0.06	0.17	0.27							
Queue Length 95th (ft)	1	22	5	0	0							
Control Delay (s)	17.2	11.2	8.6	0.0	0.0							
Lane LOS	С	В	Α									
Approach Delay (s)	11.3		1.6		0.0							
Approach LOS	В											
Intersection Summary												
Average Delay			2.6									
Intersection Capacity Utiliza	ation		44.7%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

2020 Existing SAT Peak

slynchro 10 Report

af/ms

Page 1

Lane Group		•	*	†	1	-	ļ
Lane Configurations	Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)							
Future Volume (vphy)							
Ideal Flow (vphpl)	(1 /						
Lane Width (ft)	· · · ·						
Grade (%) 2% 1% 19 Storage Length (ft) 0 80 120 210 Storage Lanes 1 1 1 1 Taper Length (ft) 25 25 Lane Util. Factor 1.00							
Storage Length (fft)			10		17	10	
Storage Lanes	,		80	1 /0	120	210	1 /0
Taper Length (ft)							
Lane Util. Factor	<u> </u>						
Fit Protected 0.950 0.850 0.950 Composition 1787 1620 1853 1697 1837 2017 Composition 1787 1620 1853 1697 1837 2017 Composition 1787 1620 1853 1697 1120 2017 Composition 128 104 Composition 128 104 Composition 128 104 Composition 128 104 Composition 130 Composit			1 00	1 00	1 00		1.00
Fit Protected 0.950 1787 1620 1853 1697 1837 2017 1787 1620 1853 1697 1837 2017 1787 1620 1853 1697 1120 2017 1787 1620 1853 1697 1120 2017 1787 1620 1853 1697 1120 2017 1787 1620 1853 1697 1120 2017 1787 1620 1853 1697 1120 2017 1787 1620 1853 1697 1120 2017 1787 1620 1853 1697 1120 2017 1787 1620 1853 1697 1120 2017 1787 1620 1853 1697 1120 2017 1787 1288 104 128 104 128 128 104 130 13		1.00		1.00		1.00	1.00
Satd. Flow (prot) 1787 1620 1853 1697 1837 2017 Fit Permitted 0.950 0.579 0.579 0.579 Satd. Flow (perm) 1787 1620 1853 1697 1120 2017 Right Turn on Red Yes Yes Satd. Flow (RTOR) 128 104 104 104 104 104 104 104 104 105 106 108 108 104		0.050	0.030		0.000	0.050	
Satd. Flow (perm) 1787 1620 1853 1697 1120 2017 Right Turn on Red Yes Yes Satd. Flow (RTOR) 128 104 Link Speed (mph) 25 25 25 Link Distance (ft) 249 332 477 Travel Time (s) 6.8 9.1 13.0 Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 Heavy Vehicles (%) 0% 2% 2% 1% 1% 0% Adj. Flow (vph) 7 128 232 104 238 34 Shared Lane Traffic (%) Lane Group Flow (vph) 7 128 232 104 238 34 Enter Blocked Intersection No No No No No Lane Alignment Left Right Left Right Left Left Median Width(ft) 12 13 13 Link Offset(ft) 0 0 0 0 Crosswalk Width(ft) 16 16 16 Two way Left Turn Lane Headway Factor 1.01 0.97 1.01 0.92 0.96 0.92 Turning Speed (mph) 15 9 9 15 Number of Detectors 1 1 2 1 1 2 Detector Template Left Right Left Thru Leading Detector (ft) 20 20 100 20 20 100 Detector 1 Position(ft) 0 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 0 0 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Queue (s) 0.0 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 Detector 2 Type CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex Detector 2 Type CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex Detector 2 Type CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex CI+Ex			1620	1052	1607		2017
Satd. Flow (perm) 1787 1620 1853 1697 1120 2017 Right Turn on Red Yes Yes Yes Yes Satd. Flow (RTOR) 128 104			1020	1003	1097		2017
Right Turn on Red Yes Yes Satd. Flow (RTOR) 128 104 Link Speed (mph) 25 25 25 Link Distance (ft) 249 332 477 Travel Time (s) 6.8 9.1 13.0 Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 Heavy Vehicles (%) 0% 2% 2% 1% 1% 0% Adj. Flow (vph) 7 128 232 104 238 34 Shared Lane Traffic (%) Lane Group Flow (vph) 7 128 232 104 238 34 Enter Blocked Intersection No No <td></td> <td></td> <td>1600</td> <td>1052</td> <td>1607</td> <td></td> <td>2017</td>			1600	1052	1607		2017
Satd. Flow (RTOR) 128 104 Link Speed (mph) 25 25 25 Link Distance (ft) 249 332 477 Travel Time (s) 6.8 9.1 13.0 Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 Heavy Vehicles (%) 0% 2% 2% 1% 1% 0% Adj. Flow (vph) 7 128 232 104 238 34 Shared Lane Traffic (%) Lane Group Flow (vph) 7 128 232 104 238 34 Enter Blocked Intersection No N		1/8/		1853		1120	2017
Link Speed (mph) 25 25 25 Link Distance (ft) 249 332 477 Travel Time (s) 6.8 9.1 13.0 Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 0.94 Heavy Vehicles (%) 0% 2% 2% 1% 1% 0% Adj. Flow (vph) 7 128 232 104 238 34 Shared Lane Traffic (%) Lane Group Flow (vph) 7 128 232 104 238 34 Enter Blocked Intersection No	•						
Link Distance (ft) 249 332 477 Travel Time (s) 6.8 9.1 13.0 Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 Heavy Vehicles (%) 0% 2% 2% 1% 1% 0% Adj. Flow (vph) 7 128 232 104 238 34 Shared Lane Traffic (%) Lane Group Flow (vph) 7 128 232 104 238 34 Enter Blocked Intersection No No <t< td=""><td></td><td>^=</td><td>128</td><td>^=</td><td>104</td><td></td><td>^=</td></t<>		^=	128	^=	104		^=
Travel Time (s) 6.8 9.1 13.0 Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 Heavy Vehicles (%) 0% 2% 2% 1% 1% 0% Adj. Flow (vph) 7 128 232 104 238 34 Shared Lane Traffic (%) Lane Group Flow (vph) 7 128 232 104 238 34 Enter Blocked Intersection No							
Peak Hour Factor 0.94 0.96 0.92 0.96 0.92 1.01 0.95 0.91 0.95 0.92 0.96 0.92 0.92 0.96 0.92 1.01 0.97 1.01 0.92 0.96 0.92 1.01 0.92 0.96 0.92 1.01 0.92 0.96 0.92 1.01 0.92 0.96 0.92 1.01 0.92 0.96 0.92							
Heavy Vehicles (%)							
Adj. Flow (vph) 7 128 232 104 238 34 Shared Lane Traffic (%) Lane Group Flow (vph) 7 128 232 104 238 34 Enter Blocked Intersection No							
Shared Lane Traffic (%) Lane Group Flow (vph) 7 128 232 104 238 34	, ,	0%					
Lane Group Flow (vph) 7 128 232 104 238 34 Enter Blocked Intersection No No No No No No Lane Alignment Left Right Left Right Left Left Median Width(ft) 12 13 13 13 Link Offset(ft) 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane Headway Factor 1.01 0.97 1.01 0.92 0.96 0.92 Turning Speed (mph) 15 9 9 15 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 <t< td=""><td></td><td>7</td><td>128</td><td>232</td><td>104</td><td>238</td><td>34</td></t<>		7	128	232	104	238	34
Enter Blocked Intersection No Left Thru Right Left Thru Left Thru Left Thru Left Thru Leading Detector (ft) Detector 100 Detec	Shared Lane Traffic (%)						
Lane Alignment Left Right Left Right Left Left Median Width(ft) 12 13 13 Link Offset(ft) 0 0 0 Crosswalk Width(ft) 16 16 16 Two way Left Turn Lane 101 0.97 1.01 0.92 0.96 0.92 Turning Speed (mph) 15 9 9 15 9 15 9 15 9 15 10 <t< td=""><td>Lane Group Flow (vph)</td><td>7</td><td></td><td>232</td><td></td><td>238</td><td></td></t<>	Lane Group Flow (vph)	7		232		238	
Median Width(ft) 12 13 13 Link Offset(ft) 0 0 0 Crosswalk Width(ft) 16 16 16 Two way Left Turn Lane Headway Factor 1.01 0.97 1.01 0.92 0.96 0.92 Turning Speed (mph) 15 9 9 15 Number of Detectors 1 1 2 1 1 2 Number of Detectors 1 1 2 1 1 2 Number of Detectors 1 1 2 1 1 2 Number of Detectors 1 1 2 1 1 2 Detector Template Left Right Thru Right Left Thru Leading Detector (ft) 20 20 100 20 20 100 Trailing Detector (ft) 0 0 0 0 0 0 0 Detector 1 Position(ft) 0 0 0 <	Enter Blocked Intersection	No	No	No	No	No	No
Median Width(ft) 12 13 13 Link Offset(ft) 0 0 0 Crosswalk Width(ft) 16 16 16 Two way Left Turn Lane 1.01 0.97 1.01 0.92 0.96 0.92 Turning Speed (mph) 15 9 9 15 15 15 15 16 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 <td< td=""><td>Lane Alignment</td><td>Left</td><td>Right</td><td>Left</td><td>Right</td><td>Left</td><td>Left</td></td<>	Lane Alignment	Left	Right	Left	Right	Left	Left
Crosswalk Width(ft) 16 16 16 Two way Left Turn Lane 1.01 0.97 1.01 0.92 0.96 0.92 Turning Speed (mph) 15 9 9 15 Number of Detectors 1 1 2 1 1 2 Detector Template Left Right Thru Right Left Thru Leading Detector (ft) 20 20 100 20 20 100 Trailing Detector (ft) 0 0 0 0 0 0 0 0 Trailing Detector (ft) 0	Median Width(ft)	12		13			13
Crosswalk Width(ft) 16 16 16 Two way Left Turn Lane Headway Factor 1.01 0.97 1.01 0.92 0.96 0.92 Turning Speed (mph) 15 9 9 15 Number of Detectors 1 1 2 1 1 2 Detector Template Left Right Thru Right Left Thru Leading Detector (ft) 20 20 100 20 20 100 Trailing Detector (ft) 0 </td <td>` '</td> <td>0</td> <td></td> <td>0</td> <td></td> <td></td> <td>0</td>	` '	0		0			0
Two way Left Turn Lane Headway Factor 1.01 0.97 1.01 0.92 0.96 0.92 Turning Speed (mph) 15 9 9 15 Number of Detectors 1 1 2 1 1 2 Detector Template Left Right Thru Right Left Thru Leading Detector (ft) 20 20 100 20 20 100 Trailing Detector (ft) 0 0 0 0 0 0 0 0 Detector 1 Position(ft) 0<		16		16			16
Headway Factor 1.01 0.97 1.01 0.92 0.96 0.92 Turning Speed (mph) 15 9 9 15 Number of Detectors 1 1 2 1 1 2 Detector Template Left Right Thru Right Left Thru Leading Detector (ft) 20 20 100 20 20 100 Trailing Detector (ft) 0	()						
Turning Speed (mph) 15 9 9 15 Number of Detectors 1 1 2 1 1 2 Detector Template Left Right Thru Right Left Thru Leading Detector (ft) 20 20 100 20 20 100 Trailing Detector (ft) 0		1 01	0.97	1 01	0.92	0.96	0.92
Number of Detectors 1 1 2 1 1 2 Detector Template Left Right Thru Right Left Thru Leading Detector (ft) 20 20 100 20 20 100 Trailing Detector (ft) 0 0 0 0 0 0 0 Detector 1 Position(ft) 0 <t< td=""><td>•</td><td></td><td></td><td>1.01</td><td></td><td></td><td>0.02</td></t<>	•			1.01			0.02
Detector Template Left Right Thru Right Left Thru Leading Detector (ft) 20 20 100 20 20 100 Trailing Detector (ft) 0 0 0 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 0 0 0 Detector 1 Size(ft) 20 20 6 20 20 6 Detector 1 Type CI+Ex				2			2
Leading Detector (ft) 20 20 100 20 20 100 Trailing Detector (ft) 0 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
Trailing Detector (ft) 0 0 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 0 0 0 Detector 1 Size(ft) 20 20 6 20 20 6 Detector 1 Type CI+Ex C							
Detector 1 Position(ft) 0 6 20 20 6 6 20 20 6 20 20 6 20 20 6 20 20 6 20 20 6 20 20 6 20 20 6 20 20 6 20 21 Ex CI+Ex							
Detector 1 Size(ft) 20 20 6 20 20 6 Detector 1 Type CI+Ex CI+Ex <td< td=""><td>. ,</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	. ,						
Detector 1 Type CI+Ex	. ,						
Detector 1 Channel Detector 1 Extend (s) 0.0 <td>. ,</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	. ,						
Detector 1 Extend (s) 0.0		CI+EX	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX
Detector 1 Queue (s) 0.0		2.2	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s) 0.0	. ,						
Detector 2 Position(ft) 94 94 Detector 2 Size(ft) 6 6 Detector 2 Type CI+Ex CI+Ex							
Detector 2 Size(ft) 6 6 Detector 2 Type CI+Ex CI+Ex		0.0	0.0		0.0	0.0	
Detector 2 Type CI+Ex CI+Ex							
•							
Detector 2 Channel				CI+Ex			CI+Ex
	Detector 2 Channel						
Detector 2 Extend (s) 0.0 0.0	Detector 2 Extend (s)			0.0			0.0

	•				-	+
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	70.0	70.0	20.0	90.0
Total Split (%)	21.7%	21.7%	60.9%	60.9%	17.4%	78.3%
Maximum Green (s)	20.0	20.0	65.0	65.0	15.0	85.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	3.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.2	9.2	82.3	82.3	95.8	95.8
Actuated g/C Ratio	0.08	0.08	0.72	0.72	0.83	0.83
v/c Ratio	0.05	0.52	0.17	0.08	0.24	0.02
Control Delay	47.7	16.1	6.2	1.4	1.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	16.1	6.2	1.4	1.5	0.9
LOS	D	В	Α	Α	Α	А
Approach Delay	17.7		4.7			1.4
Approach LOS	В		Α			Α
Queue Length 50th (ft)	5	0	46	0	8	1
Queue Length 95th (ft)	19	57	95	18	m26	m5
Internal Link Dist (ft)	169		252			397
Turn Bay Length (ft)		80		120	210	
Base Capacity (vph)	310	387	1326	1244	1026	1679
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.33	0.17	0.08	0.23	0.02

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 45 (39%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 5.9 Intersection LOS: A Intersection Capacity Utilization 40.6% ICU Level of Service A

Analysis Period (min) 15

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



2020 Existing SAT Peak

slynchro 10 Report

af/ms

Page 35

	•	*	†	-	-	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	*	7	↑	7	7	†
Traffic Volume (veh/h)	7	120	218	98	224	32
Future Volume (veh/h)	7	120	218	98	224	32
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1876	1921	1864	1954	1954	1970
Adj Flow Rate, veh/h	7	128	232	104	238	34
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	1	1	0
Cap, veh/h	174	159	1342	1192	902	1606
Arrive On Green	0.10	0.10	0.72	0.72	0.05	0.82
Sat Flow, veh/h	1787	1628	1864	1656	1861	1970
Grp Volume(v), veh/h	7	128	232	104	238	34
Grp Sat Flow(s),veh/h/ln	1787	1628	1864	1656	1861	1970
Q Serve(g_s), s	0.4	8.9	4.6	2.2	3.6	0.4
Cycle Q Clear(g_c), s	0.4	8.9	4.6	2.2	3.6	0.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	174	159	1342	1192	902	1606
V/C Ratio(X)	0.04	0.81	0.17	0.09	0.26	0.02
Avail Cap(c_a), veh/h	311	283	1342	1192	1047	1606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	50.8	5.2	4.8	3.2	2.0
Incr Delay (d2), s/veh	0.2	18.1	0.2	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.4	1.8	0.7	1.1	0.0
Unsig. Movement Delay, s/veh	0.2	7.7	1.0	0.1	1.1	0.1
LnGrp Delay(d),s/veh	47.2	68.9	5.4	5.0	3.3	2.0
LnGrp LOS	47.2 D	00.9 E	J.4 A	3.0 A	3.3 A	2.0 A
Approach Vol, veh/h	135	<u> </u>	336			272
Approach Vol, ven/n Approach Delay, s/veh	67.8		5.3			3.2
	_					
Approach LOS	E		А			А
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.0	87.8		16.2		98.8
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0		20.0		85.0
Max Q Clear Time (g_c+l1), s	5.6	6.6		10.9		2.4
Green Ext Time (p_c), s	0.5	4.1		0.5		0.4
Intersection Summary						
			15.9			
HCM 6th Ctrl Delay						
HCM 6th LOS			В			

	-	7	F	←	7	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	† 1>			414		
Traffic Volume (vph)	219	61	476	325	0	0
Future Volume (vph)	219	61	476	325	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.967					
Flt Protected				0.971		
Satd. Flow (prot)	3086	0	0	3093	0	0
Flt Permitted				0.971		
Satd. Flow (perm)	3086	0	0	3093	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		4	4			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	1%	2%	0%	0%
Adj. Flow (vph)	231	64	501	342	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	295	0	0	843	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0	•		0	0	•
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary					·	
	Other					
Control Type: Unsignalized	Olilei					
Intersection Capacity Utilizat	tion 45 7%			10	III ovel c	of Service A
	1011 43.7 %			IC	O Level C	of Service F
Analysis Period (min) 15						

	-	7	*	•	•	/	
Movement	EBT	EBR	WBL	WBT	NEL	NER	
Lane Configurations	↑ 1>			414			
Traffic Volume (veh/h)	219	61	476	325	0	0	
Future Volume (Veh/h)	219	61	476	325	0	0	
Sign Control	Free			Free	Stop		
Grade	0%			0%	3%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly flow rate (vph)	231	64	501	342	0	0	
Pedestrians					4		
Lane Width (ft)					0.0		
Walking Speed (ft/s)					3.5		
Percent Blockage					0		
Right turn flare (veh)							
Median type	None			TWLTL			
Median storage veh)				2			
Upstream signal (ft)				562			
pX, platoon unblocked					0.90		
vC, conflicting volume			235		1440	152	
vC1, stage 1 conf vol					267		
vC2, stage 2 conf vol					1173		
vCu, unblocked vol			235		1266	152	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			63		100	100	
cM capacity (veh/h)			1337		181	874	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2			
Volume Total	154	141	615	228			
Volume Left	0	0	501	0			
Volume Right	0	64	0	0			
cSH	1700	1700	1337	1700			
Volume to Capacity	0.09	0.08	0.37	0.13			
Queue Length 95th (ft)	0	0	44	0			
Control Delay (s)	0.0	0.0	8.3	0.0			
Lane LOS			Α				
Approach Delay (s)	0.0		6.0				
Approach LOS							
Intersection Summary							
Average Delay			4.5				
Intersection Capacity Utiliza	ntion		45.7%	IC	U Level c	f Service	
Analysis Period (min)			15				

2020 Existing SAT Peak

slynchro 10 Report

af/ms

Page 1

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	N/F		ĵ.			र्स
Traffic Volume (vph)	54	1	171	54	2	156
Future Volume (vph)	54	1	171	54	2	156
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	11	11
Grade (%)	3%		-2%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998		0.968			
Flt Protected	0.953					0.999
Satd. Flow (prot)	1593	0	1662	0	0	1563
Flt Permitted	0.953					0.999
Satd. Flow (perm)	1593	0	1662	0	0	1563
Link Speed (mph)	30		30			30
Link Distance (ft)	1796		396			959
Travel Time (s)	40.8		9.0			21.8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%
Adj. Flow (vph)	59	1	188	59	2	171
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	247	0	0	173
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.18	1.18	1.14	1.14	1.23	1.23
Turning Speed (mph)	15	9		9	15	0
Sign Control	Stop		Free			Free
Intersection Summary						
	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	ion 23.8%			IC	U Level	of Service
Analysis Period (min) 15						

2020 Existing SAT Peak Synchro 10 Report Page 38 af/ms

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
		WDIX		NDIX	ODL	
Lane Configurations	Y	4	}	- - - - - - - - - -	0	વ
Traffic Vol, veh/h	54	1	171	54	2	156
Future Vol, veh/h	54	1	171	54	2	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage,	# 0	-	0	_	-	0
Grade, %	3	-	-2	_	_	4
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	3
Mymt Flow	59	1	188	59	2	171
IVIVIIIL FIOW	59		100	39	2	17.1
Major/Minor N	/linor1	N	Major1	N	Major2	
Conflicting Flow All	393	218	0	0	247	0
Stage 1	218	-	-	-		-
Stage 2	175	_	_	<u> </u>	_	_
	7	6.5			4.1	
Critical Hdwy			-	-		-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	576	812	-	-	1331	-
Stage 1	794	-	-	-	-	-
Stage 2	836	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	575	812	-	-	1331	-
Mov Cap-2 Maneuver	575	-	_	_	-	_
Stage 1	794	_	_	_	_	_
Stage 2	834	_	_		_	_
Staye Z	034	-	-	<u>-</u>	<u>-</u>	-
Approach	WB		NB		SB	
HCM Control Delay, s	12		0		0.1	
HCM LOS	В		Ū		0.1	
TIOWI LOO	U					
Minor Lane/Major Mvm	t	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)		-	-	578	1331	_
HCM Lane V/C Ratio		_	_	0.105		-
HCM Control Delay (s)		_	_	12	7.7	0
HCM Lane LOS		<u>-</u>	_	В	Α	A
HCM 95th %tile Q(veh)			_	0.3	0	-
		_	-	0.5	U	_

	•	•	†	~	/	Ţ
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		₽			र्स
Traffic Volume (veh/h)	54	1	171	54	2	156
Future Volume (Veh/h)	54	1	171	54	2	156
Sign Control	Stop		Free			Free
Grade	3%		-2%			4%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	59	1	188	59	2	171
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	392	218			247	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	392	218			247	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	100			100	
cM capacity (veh/h)	614	827			1331	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	60	247	173			
Volume Left	59	0	2			
Volume Right	1	59	0			
cSH	617	1700	1331			
Volume to Capacity	0.10	0.15	0.00			
Queue Length 95th (ft)	8	0	0			
Control Delay (s)	11.5	0.0	0.1			
Lane LOS	В		Α			
Approach Delay (s)	11.5	0.0	0.1			
Approach LOS	В					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization	on		23.8%	IC	U Level c	f Service
Analysis Period (min)			15			

2020 Existing SAT Peak

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	•	•	†	-	-	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		1→			ર્ન
Traffic Volume (vph)	0	0	325	0	0	343
Future Volume (vph)	0	0	325	0	0	343
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%		-1%			-2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1667	0	1675	0	0	1683
FIt Permitted						
Satd. Flow (perm)	1667	0	1675	0	0	1683
Link Speed (mph)	30		30			30
Link Distance (ft)	660		3796			747
Travel Time (s)	15.0		86.3			17.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	361	0	0	381
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	361	0	0	381
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.15	1.15	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
	Other					
Control Type: Unsignalized	Julei					
Intersection Capacity Utilizat	ion 23 5%			IC	III ovol o	of Service
Analysis Period (min) 15	1011 20.0 /0			iC	O FEASI (, OEIVICE

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	N.		1			सी
Traffic Vol, veh/h	0	0	325	0	0	343
Future Vol, veh/h	0	0	325	0	0	343
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	_	None	_		_	None
Storage Length	0	-	_	-	_	-
Veh in Median Storage		_	0	_	-	0
Grade, %	0	_	-1	_	_	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	0	0	361	0	0	381
MOLL LIOM	U	U	301	U	U	301
Major/Minor	Minor1	N	Major1		Major2	
Conflicting Flow All	742	361	0	0	361	0
Stage 1	361	-	-	_	-	_
Stage 2	381	_	_	_	_	_
Critical Hdwy	6.42	6.22	_	_	4.12	_
Critical Hdwy Stg 1	5.42	0.22		-	4.12	
			-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	- 0.40	-
Follow-up Hdwy	3.518		-	_	2.218	-
Pot Cap-1 Maneuver	383	684	-	-	1198	-
Stage 1	705	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	383	684	-	-	1198	-
Mov Cap-2 Maneuver	383	-	-	-	-	-
Stage 1	705	-	-	-	-	-
Stage 2	691	-	-	_	-	-
	30 1					
Approach	WB		NB		SB	
HCM Control Delay, s	0		0		0	
HCM LOS	Α					
Minor Long/Major Myr	mt	NBT	NDDV	VBLn1	SBL	SBT
Minor Lane/Major Mvr	IIL	INDI	NDE	VDLIII		SDI
Capacity (veh/h)		-	-	-	1198	-
HCM Lane V/C Ratio		-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS		-	-	Α	Α	-
HCM 95th %tile Q(veh	1)	-	-	-	0	-

	-	*	1	•	1	-
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	7>			र्स	W	
Traffic Volume (vph)	56	0	0	55	0	0
Future Volume (vph)	56	0	0	55	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%			3%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1667	0	0	1642	1667	0
Flt Permitted						
Satd. Flow (perm)	1667	0	0	1642	1667	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	1796			721	825	
Travel Time (s)	49.0			19.7	22.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	62	0	0	61	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	0	0	61	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	tion 6.7%			IC	U Level	of Service
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0					
		EDD	WDI	WDT	NDI	NDD
	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	0	^	4	¥	^
Traffic Vol, veh/h	56	0	0	55	0	0
Future Vol, veh/h	56	0	0	55	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #		-	-	0	0	-
Grade, %	0	-	-	3	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	0	0	61	0	0
Major/Minor Ma	ajor1	ľ	Major2		Minor1	
Conflicting Flow All	0	0	62	0	123	62
Stage 1	-	-	-	-	62	-
Stage 2	_	_	_	_	61	_
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	_	_	-	_	5.42	-
Critical Hdwy Stg 2	-	_	_	_	5.42	_
Follow-up Hdwy	_	_	2.218	_	3.518	3.318
Pot Cap-1 Maneuver	-	_	1541	_	872	1003
Stage 1	_	_	-	_	961	-
Stage 2	-	-	-	-	962	_
Platoon blocked, %	_	_		_	002	
Mov Cap-1 Maneuver	_	_	1541	-	872	1003
Mov Cap-2 Maneuver	_	_	-	_	872	-
Stage 1	_	_	_	_	961	_
Stage 2			_	_	962	_
Slage 2	_	-	-	-	302	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					Α	
Minor Lane/Major Mvmt	N	NBLn1	EBT	EBR	WBL	WBT
	I	NDLIII -	<u> </u>		1541	-
Capacity (veh/h) HCM Lane V/C Ratio						
		0	-	-	0	-
HCM Control Delay (s) HCM Lane LOS					A	
HCM 95th %tile Q(veh)		Α	-	-	0	-
HOW SOUT WITH Q(VEII)		-	-	-	U	-



Appendix G. Trip Generation and Distribution

TABLE G1 THE HIGHLANDS DEVELOPMENT COMPONENT SUMMARY (FROM OPENING YEAR TO MARCH 2018)

Parcel ID #	Development	Land Use	Year Built	SF
35-06-00T8-0040-0017	CABELAS WHOLESALE INC	RETAIL-SINGLE OCCUPANCY RETAIL STORE, WAREHOUSE, OFFICE BUILDING	2004	180,656
35-06-00T8-0040-0019	OHIO COUNTY DEVELOPMENT AUTHORITY	VACANT COMMERCIAL LAND		0
35-06-00T8-0040-0020	OHIO COUNTY DEVELOPMENT AUTHORITY	VACANT COMMERCIAL LAND		0
35-06-00T8-0040-0024	RUSSELL STOVER CANDIES INC	RETAIL-SINGLE OCCUPANCY FRANCHINE FOOD	2007	5,040
35-06-00T8-0040-0025	APPALACHIAN LAND & LEASING COMPANY LLC	FRANCHISE FOOD	2005	5,575
35-06-00T8-0040-0030	WALMART REAL ESTATE BUSINESS TRUST	DISCOUNT DEPARTMENT STORE DISCOUNT STORE OR MARKET, AUTO PARTS OR SERVICE	2006	206,552
35-06-00T8-0040-0031	OHIO COUNTY DEVELOPMENT AUTHORITY	WAREHOUSE	2012	120,424
35-06-00T8-0040-0032	TARGET CORPORATION PROPERTY	DEPARTMENT STORE/ ANCHOR STORE DISCOUNT STORE OR MARKET	2006	127,576
35-06-00T8-0040-0033	BOB EVANS FARMS OHIO COUNTY DEV AUTHORITY	FRANCHISE FOOD	2006	5,981
35-06-00T8-0040-0034	OCDA BUILDING ONE C/O OHIO COUNTY DEV	FRANCHISE FOOD	2007	4,757
35-06-00T8-0040-0035	-00T8-0040-0035 EAT N PARK HOSPITALITY GRP INC OHIO COUNTY DEV AUTHORITY FRANCHISE FOO		2006	7,296
35-06-00T8-0040-0036	MCDONALDS USA LLC OHIO COUNTY DEV AUTH	FRANCHISE FOOD	2006	4,095
35-06-00T8-0040-0037	WENDYS EASTERN MGT GP INC OHIO COUNTY DEV AUTHORITY	FRANCHISE FOOD	2006	3,325
35-06-00T8-0040-0038	OHIO COUNTY DEVELOPMENT AUTHORITY	VACANT COMMERCIAL LAND		0
35-06-00T8-0040-0039	NATIONAL RETAIL PROPERTIES LP	RESTAURANT FRANCHISE FOOD	2007	8,399
35-06-00T8-0040-0040	POWER CENTER OHIO COUNTY DEVELOPMENT AUTHORITY	REGIONAL SHOPPING MALL RETAIL STORE, SUPPORT AREA	2007-2008	163,748
35-06-00T8-0040-0041	JC PENNEY OHIO COUNTY DEV AUTH	DEPARTMENT STORE/ ANCHOR STORE DEPARTMENT STORE, SUPPORT AREA	2007	110,396
35-06-00T8-0040-0042	KOHLS	DEPARTMENT STORE/ ANCHOR STORE	2007	68,671
35-06-00T8-0040-0043	WESBANCO	BANK	2009	3,399
35-06-00T8-0040-0045	SPT PRAIRIE	TRUCK TERMINAL WAREHOUSE, MULTI-USE OFFICE	2004	1,200,257
35-06-00T8-0040-0046	FCPT RESTAURANT PROPERTIES TRUST INC	FRANCHISE FOOD	2008	7,403
35-06-00T8-0040-0047	ALCADAN LLC C/O OHIO COUNTY DEV AUTH	RETAIL-MULTIPLE OCCUPANCY - FRANCHISE FOOD, RETAIL STORE, MEDICAL CENTER, SUPPORT AREA	2007	17,870
35-06-00T8-0040-0048	OHIO COUNTY DEVELOPMENT AUTHORITY	RESTAURANT FRANCHISE FOOD	2009	8,959
35-06-00T8-0040-0049	NICHOLAS & PATRINOS PROP LLC	RESTAURANT	2014	6,240
35-06-00T8-0040-0050	BEST BUY OHIO COUNTY DEV AUTH	RETAIL-SINGLE OCCUPANCY RETAIL STORE	2009	30,051
35-06-00T8-0040-0051	OHIO COUNTY DEVELOPMENT AUTHORITY	VACANT COMMERCIAL LAND	2004	0

TABLE G1 (CONT'D) THE HIGHLANDS DEVELOPMENT COMPONENTS SUMMARY (FROM OPENING YEAR TO MARCH 2018)

Parcel ID #	Development	Land Use	Year Built	SF	
35-06-00T8-0040-0052	TOWN CENTER C/O OHIO COUNTY DEV AUTH	REGIONAL SHOPPING MALL - FRANCHISE FOOD, RETAIL STORE, OFFICE BLDG, MULTI-USE OFFICE AND SALES	2008-2009	111,096	
35-06-00T8-0040-0053	MARQUEE CINEMA-WV INC C/O OHIO COUNTY DEV AUTH	MOTION PICTURE THEATER CINEMA	2008	61,265	
35-06-00T8-0040-0054	X & W ENTERPRISES LLC	COMMUNITY SHOPPING CENTER	2009	16,142	
35-06-00T8-0040-0055	OHIO COUNTY DEVELOPMENT AUTHORITY	VACANT COMMERCIAL LAND		0	
35-06-00T8-0040-0056	OHIO COUNTY DEVELOPMENT AUTHORITY	VACANT COMMERCIAL LAND		0	
35-06-00T8-0040-0058	RSV WHEELING LLC	HOTEL/MOTEL - HIGH RISE	2013	72,444	
35-06-00T8-0040-0059	PTM LP C/O SHEETZ TAX DEPT	CONVENIENCE FOOD MARKET CONVENIENCE STORE, CAR WASH-AUTOMATIC	2009	6,869	
35-06-00T8-0040-0060	OT8-0040-0060 WEST LIBERTY UNIVERSITY C/O OHIO RETAIL-MULTIPLE OCCUPANCY RETAIL STORE, OFFICE BLDG, SCHOOL, SUPPORT AREA		2009	42,367	
35-06-00T8-0040-0063	0178-0040-0063 HIGHLANDS HOSPITALITY LLC HOTEL/MOTEL - HIGH RISE		2012	40,086	
35-06-00T8-0040-0065	LOGANS ROADHOUSE INC	RESTAURANT FRANCHISE FOOD	2012	6,736	
35-06-00T8-0040-0066	DEE CORPORATION	RESTAURANT	2015	7,144	
35-06-00T8-0040-0067	TRIADELPHIA ASS LLC PLAZA AT THE HIGHLANDS LLC	AUTO DEALER-FULL SERVICE RETAIL STORE	2015	14,700	
35-06-00T8-0040-0068	CENTURY HOSPITALITY 3D LLC	HOTEL/MOTEL - LOW RISE	2015	56,774	
35-06-00T8-0040-0069	MENARD INC C/O PROPERTY DIVISIONS	VACANT COMMERCIAL LAND		0	
35-06-00T8-0040-0071	CENTURY TCS LLC	HOTEL/MOTEL - HIGH RISE MOTEL, WAREHOUSE	2016	66,097	
35-06-00T8-0040-0072	EAST COAST METAL	INDUSTRIAL METAL WORKING MANUFACTURING, MULTI-USE OFFICE/STORAGE, SUPPORT	2016	65,508	
35-06-00T8-0040-0073	EAST COAST METAL	INDUSTRIAL METAL WORKING	2018	0	
35-06-00T8-0040-0074	OHIO COUNTY DEVELOPMENT AUTHORITY	VACANT COMMERCIAL LAND		0	
35-06-00T8-0040-0078	OHIO COUNTY DEVELOPMENT AUTHORITY	PARKING MISCELLANEOUS		0	
THE HIGHLANDS TOTAL DEVELOPMENT					

Note: Development components for The Highlands were obtained through West Virginia Property Viewer, a WV Property Tax Division and WV GIS Technical Center on-line application. This application allows for searching an displaying property ownership, location and detailed development information.

TABLE G2 THE HIGHLANDS DAILY SITE GENERATED TRAFFIC

Development	Size (Sq. Ft.)	Weekday Daily Site Generated Traffic (Trips Per Day) ⁽¹⁾	Weekday Daily Site Generated Trip Rate (Trips Per 1,000 SF)
The Highlands	2,769,331	23,500	8.4858

⁽¹⁾ Daily site generated traffic obtained from daily count data summarized in <u>The Highlands Multiple Project Agreement; Task Order #6, Traffic Data Collection Letter Report</u> prepared by HDR Engineering, Inc., dated June 19, 2018.

 ${\it Source: Summary \ by \ Stahl \ Sheaffer \ Engineering, \ LLC.}$

TABLE G3 GC&P BETHANY PIKE (WV 88) MIXED-USE VILLAGE DEVELOPMENT COMPONENT SUMMARY

Developmen	Size ⁽¹⁾ (Sq. Ft.)	
Residential	Townhouses (88 Units)	132,000
Hotel	Hotel (125 Rooms)	62,400
Futurbing and /Downsking of	Fitness Center/Bowling Alley	21,500
Entertainment/Recreational	Theater	67,000
Office	Office/Institutional Building	490,000
	Specialty Retail	158,200
	Restaurant (Fast Casual)	2,500
Retail	Restaurant (Fast Casual)	2,500
Retail	Restaurant (Coffee Shop)	4,800
	Grocery Store	43,000
	Drug Store	14,000
GC&P BETHAN MIXED-USE VILLAGE I	997,900	

⁽¹⁾ Total GC&P development size based on master plan components utilized in preparation of the TIS. It was assumed that each townhome was and average of approximately 1,500 SF.

TABLE G4

TRIP GENERATION SUMMARY

TOTAL SITE GENERATED TRAFFIC - WITHOUT INTERNAL CAPTURE AND WITHOUT PASS-BY TRIP REDUCTION

GC&P Bethany Pike (WV 88) Mixed-Use Village Development TIS

City of Wheeling, Ohio County, West Virginia

					erated 24-			Site G	enerated F	Peak Hour	Traffic Volu	mes ⁽¹⁾		
Land Use	Development Component		ITE Land Use	Hour Dail	y Traffic ⁽²⁾	Α	M Peak Ho			M Peak Ho			rday Peak	Hour
Category	Development component	Size	Tre Lund Osc	Weekday	Saturday	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
RESIDENTIAL	MULTIFAMILY HOUSING (LOW-RISE)	88 Townhomes (132,000 SF)	220	644	716	10	32	42	33	20	53	33	29	62
HOTEL	HOTEL	125 Rooms (62,400 SF)	310	1,045	1,024	35	24	59	38	37	75	51	40	91
	BOWLING ALLEY ⁽³⁾	10,750 SF	437	160	160	8	1	9	10	6	16	10	6	16
ENTERTAINMENT/ RECREATIONAL	MULTIPLEX MOVIE THEATER ⁽⁴⁾	8 Screens (67,000 SF)	445	2,340	2,340	0	0	0	107	75	182	115	45	160
	HEALTH/FITNESS CLUB ⁽⁵⁾	10,750 SF	492	560	560	7	7	14	32	24	56	17	17	34
OFFICE	GENERAL OFFICE	490,000 SF	710	4,957	1,083	419	68	487	82	433	515	140	120	260
	SHOPPING CENTER	168,000 SF	820	8,555	12,294	146	90	236	383	415	798	485	448	933
RETAIL	SUPERMARKET	43,000 SF	850	4,592	7,638	98	66	164	212	204	416	252	243	495
	PHARMACY/DRUGSTORE WITH DRIVE- THROUGH WINDOW	14,000 SF	881	1,528	1,608	29	25	54	72	72	144	60	63	123
	TOTAL RESIDENTIAL	132,000 SF		644	716	10	32	42	33	20	53	33	29	62
	TOTAL HOTEL	62,400 SF		1,045	1,024	35	24	59	38	37	75	51	40	91
TOTAL E	NTERTAINMENT/RECREATIONAL	88,500 SF		3,060	3,060	15	8	23	149	105	254	142	68	210
TOTAL OFFICE		490,000 SF		4,957	1,083	419	68	487	82	433	515	140	120	260
	TOTAL RETAIL	225,000 SF		14,675	21,540	273	181	454	667	691	1,358	797	754	1,551
	TOTAL DEVELOPMENT	997,900 SF		24,381	27,423	752	313	1,065	969	1,286	2,255	1,163	1,011	2,174

⁽¹⁾ Total number of peak hour vehicle trips generated determined through the use of methodologies presented in Trip Generation Manual, 10th Edition Supplement, published by the Institute of Transportation Engineers (ITE).

⁽²⁾ Total number of weekday daily and Saturday daily 24-hour vehicle trips generated determined through the use of methodologies presented in Trip Generation Manual, 10th Edition Supplement, published by the Institute of Transportation Engineers (ITE).

⁽³⁾ Total weekday and Saturday daily 24-hour traffic data is not provided for ITE Land Use 437 (Bowling Alley). Therefore, the total PM peak hour traffic is anticipated to represent 10% of the total weekday daily traffic (16/.1=160). The Saturday 24-daily traffic is anticipated to reflect the total weekday daily 24-hour traffic projections.

⁽⁴⁾ Total Saturday daily 24-hour traffic data is not provided for ITE Land Use 445 (Multiplex Theater). Therefore, the Saturday 24-daily traffic is anticipated to reflect the total weekday daily 24-hour traffic projections.

⁽⁵⁾ Total weekday and Saturday daily 24-hour traffic data is not provided for ITE Land Use 492 (Health/Fitness Club). Therefore, the total PM peak hour traffic is anticipated to represent 10% of the total weekday daily traffic (16/.1=160). The Saturday 24-daily traffic is anticipated to reflect the total weekday daily 24-hour traffic projections.

TABLE G5 TRIP RATE COMPARISON The Highlands (Locally Collected Data) VS. GC&P (ITE Data)

Development	Size		Weekday Daily Site Generated Traffic (Trips Per Day) ⁽¹⁾	Weekday Daily Site Generated Trip Rate (Trips Per 1,000 SF)
The Highlands	Locally Collected Data ⁽¹⁾ 2,769,331		23,500	8.4858
GC&P	ITE ⁽²⁾	997,900	24,381	24.4323
Percent Difference (Between GC&P and The Highlands)		-64.0%	3.7%	187.9%

⁽¹⁾ As detailed and summarized in Table G2.

⁽²⁾ As detailed and summarized in Table G4.

TABLE G6 GC&P DEVELOPMENT - REGIONAL TRIP GENERATION CALCULATION SUMMARY

STEP 1: Calculate Regional Trip Generation Rate Based on The Highlands SF and Existing Daily Traffic (See Tables G1 & G2)

Development	Total Development	Average	Vehicles per Day
	Size	Daily Traffic ⁽²⁾	per 1,000 Sq. Ft.
The Highlands	2,769,331 SF	23,500 vpd	8.485804

STEP 2: Determine GC&P Forecasted Daily Traffic Projections per ITE (See Table G4)

Development	Total Development	Average Daily Traffic Per ITE ⁽²⁾			
Development	Size ⁽¹⁾	Weekday	Saturday		
GC&P Development	997,900 SF	24,381 vpd	27,423 vpd		

Note : Saturday Daily traffic is approximately

12.48%

greater than the Weekday Daily Traffic.

STEP3: Determine GC&P Daily Traffic based on the Calculated Regional Trip Generation Rate from The Highlands Data

Development	Total Development	Calculated Regional GC&P Daily Traffic			
Development	Size	Weekday ⁽¹⁾	Saturday ⁽²⁾		
GC&P Development	997,900 SF	8,468 vpd	9,525 vpd		

(1) Weekday daily traffic was determined by multiplying the total GC&P development SF 797,900sf by the Highlands calculated Vehicles per Day per 1,000 SF (from

STEP 4: Determine Weekday AM, Weekday PM and Saturday Peak Hour Traffic Volumes Based on Calculated Regional GC&P Daily Traffic

Development	Total Development	Calculate	Calculated Weekday AM Peak Hour Traffic ⁽¹⁾				
Development	Size	Enter	Exit	Total			
		261	109	370			
		Calculated Weekday PM Peak Hour Traffic					
		Enter	Exit	Total			
GC&P Development	997,900 SF	337	447	783			
		Calculated Saturday Peak Hour Traffic					
		Enter	Exit	Total			
		404	351	755			

⁽¹⁾ Weekday AM, Weekday PM, and Saturday peak hour traffic determined by applying the correlating proportion of ITE Trip Generation peak hour projections (as summarized in Table G4, and the quick reference table before) with ITE Weekday Daily and Saturday Daily Traffic Projections, to the Calculated Regional GC&P Daily Traffic Projections (as summarized in Step 3 above).

Quick Reference Table: ITE Trip Generation Summary (from Table G4)

	Total Development		ITE Trip G	eneration	
Development	Size	Weekday Dai	ly Traffic	Saturday Dai	ly Traffic
		24,381	. vpd	27,423	3 vpd
		ITE	Weekday AM	Peak Hour Traffic	
		Enter	Exit	Tota	_
		Enter	EXIL	Volume	% of Daily
		752	313	1,065	4.3682%
		ITE	Weekday PM	Peak Hour Traffic	
GC&P Development	997,900 SF	Enter	Exit	Tota	I
		Enter	EXIL	Volume	% of Daily
		969	1,286	2,255	9.2490%
		17	E Saturday Pe	eak Hour Traffic	
		Enter	Exit	Tota	I
		Liitei	LXIL	Volume	% of Daily
		1,163	1,011	2,174	7.9277%

⁽²⁾ Saturday daily traffic was determined by calculating the percent difference between ITE's Saturday daily traffic to ITE's Weekday daily traffic (20.43% as summarized in Step 2 above), and applying this percentage to the Calculated Regional GC&P Weekday Daily Traffic (6,771vpd) to determine the projected Saturday daily traffic (8 154vpd).

TABLE G7 TRIP GENERATION SUMMARY

GC&P Bethany Pike (WV 88) Mixed-Use Village Development TIS City of Wheeling, Ohio County, West Virginia

		Site Gene	rated 24-			Site	Generated	Peak Hour	Trafic Volui	nes		
Development	Size	Hour Dai	ly Traffic	А	M Peak Ho	ır	P	M Peak Hoι	ır	Satu	ırday Peak I	Hour
		Weekday	Saturday	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
GC&P Mixed-Use Village Development	997,900 SF	8,468	9,525	261	109	370	337	447	783	404	351	755



June 19, 2018

Mr. Gregory L. Stewart, Secretary/Treasurer Ohio Count Development Authority 1500 Chapline Street, 215 City County Building Wheeling, WV 26003

Re: The Highlands Multiple Project Agreement; Task Order #6

Traffic Data Collection

Letter Report

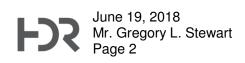
Dear Mr. Stewart:

This letter report documents the traffic data collected at the Highlands in March and April 2018. The project includes 24-hour machine counts at 8 locations along Cabela Drive (CR 41), ranging from the I-70 Interchange to the Target Driveway. Methodology and traffic data collected are summarized below.

HDR collected hourly traffic counts using video from Miovision traffic recorders and used these data recorders to estimate the average daily traffic (ADT), truck percentages and peak hours along Cabela Drive. The data was collected from March 22 to April 1, 2018. The results for each segment of Cabela Drive within the project area are provided in Table 1. The ADTs shown in this table are the sum of both directions of Cabela Drive. The ADTs were rounded to the nearest 100 vehicles and the truck percentages were rounded to the nearest 0.5 percent. The peak hours for each location were determined by analyzing the day in 15-minute periods and determining which peak hour was the most common. In addition, summary of the ADT for each segment along Cabela Drive is included on the attached figure.

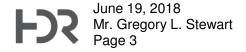
Table 1: Summary of Daily Traffic by Segment

Cabela Drive	2018 ADT	Truck	Peak
Segment	(vpd)	Percentage	Hours
I-70 EB Ramps to	12,000	3.5%	8a – 9a
I-70 WB Ramps			4p – 5p
I-70 WB Ramps to	23,500	2.5%	8a – 9a
CR 41/5 Cruzer Road			3p – 4p
Stewart Ln to	9,500	1.0%	8a – 9a
Target/Kohls Driveways			3p – 4p

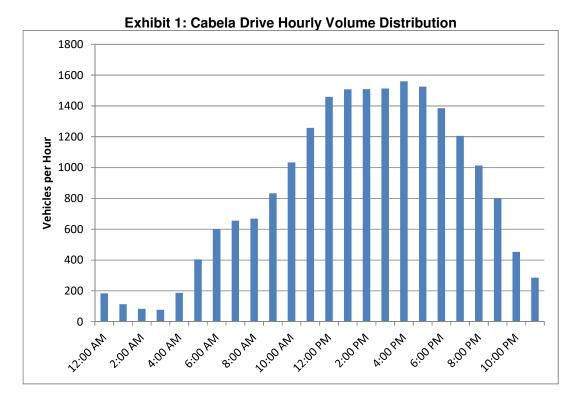


Average Daily Traffic (vehicles per day) Traffic Signal Service Layer Credits: © 2018 Microsoft Corporation © 2018 DigitalGlobe ©CNES (2018) Distribution Airbus DS

Figure 1: 2018 Average Daily Traffic at the Highlands



The Highlands Development draws close to 25,000 vehicles per day to its existing retailers and is highly visible from I-70, which carries more than 53,0000 vehicles per day. The location has shown an increase since 2014 with traffic increasing along Cabela Drive and coming from I-70. As shown in Table 1, the total daily volume on Cabela Drive at the entrance to the Highlands Development is 23,500 vpd. Exhibit 1 illustrates the hourly distribution of traffic at this location. The peak hour is from 4:00-5:00 pm with 1,960 vph entering the Highlands; however, it should be noted the hourly volumes from 12:00 PM to 6:00 PM are similar and represent a peak time period for the development.



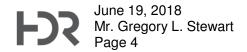
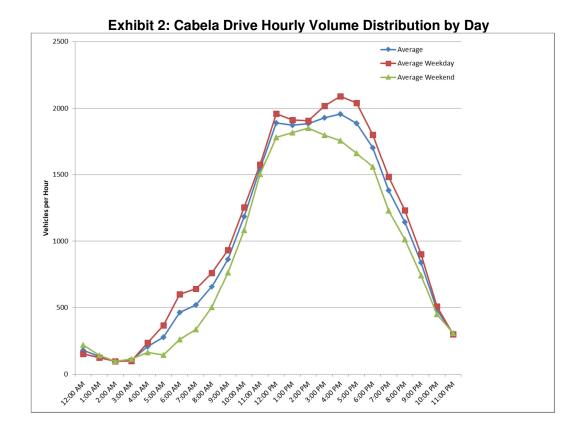


Exhibit 2 provides the hourly distribution for an average day, average weekday, and average weekend. As shown, the hourly distribution is very similar regardless of the day of the week.



Thank you for the opportunity to work with you on this project. If you have any questions or comments, please do not hesitate to contact me.

Sincerely yours,

HDR ENGINEERING, INC.

Amy Balmer Staud, P.E., PTOE Associate Vice President

any Balmer Stand

Commercial/Office Trip Distribution Gravity Model

County	Census Tract ⁽¹⁾	On The Map - Job Counts by Census Tracts (Where Workers Live) ⁽²⁾	Travel Route	Estimated Travel Time (Minute)	Gravity Model Per Census Tract (Count / Travel Time ²) ⁽³⁾	Percent Distribution per Census Tract Within a 15-Minute Travel Radius
	2	842	I-70 West	14	4.2959183673	2.10%
	3	448	US 40 West	7	9.1428571429	4.47%
	4	202	US 40 West	9	2.4938271605	1.22%
	5	339	I-70 West	11	2.8016528926	1.37%
	6	252	I-70 West	11	2.0826446281	1.02%
	7	224	US 40 West	6	6.22222222	3.04%
	13	342	I-70 West	10	3.420000000	1.67%
	14	646	Mt. DeChantal	7	13.1836734694	6.45%
	15	629	US 40 East	3	69.888888889	34.17%
	16	531	US 40 East	5	21.240000000	10.38%
Ohio County, WV	17	477	US 40 East	8	7.4531250000	3.64%
	18	1144	I-70 East	12	7.944444444	3.88%
	19.01	678	I-70 West	11	5.6033057851	2.74%
		345	Bethany Pike East	8	5.3906250000	2.64%
	20	346	GC&P Rd North	8	5.4062500000	2.64%
		346	Warden Run East	8	5.4062500000	2.64%
	24	239	Bethany Pike East	8	3.7343750000	1.83%
	21	240	Warden Run East	8	3.7500000000	1.83%
	22	346	I-70 East	15	1.537777778	0.75%
	26	443	I-70 West	11	3.6611570248	1.79%
	27	200	I-70 West	8	3.1250000000	1.53%
	202	180	I-70 West	15	0.800000000	0.39%
	205	195	I-70 West	10	1.950000000	0.95%
Marshall County, WV	206.01	344	I-70 West	12	2.388888889	1.17%
	207.02	187	I-70 West	15	0.831111111	0.41%
	211	436	I-70 West	15	1.937777778	0.95%
	101	453	I-70 West	15	2.0133333333	0.98%
	102	340	I-70 West	15	1.5111111111	0.74%
	115	127	I-70 West	15	0.564444444	0.28%
Dalmant County Oll	116	87	I-70 West	15	0.386666667	0.19%
Belmont County, OH	117	135	I-70 West	15	0.600000000	0.29%
	119	373	I-70 West	15	1.6577777778	0.81%
	121	138	I-70 West	15	0.6133333333	0.30%
	124	341	I-70 West	15	1.515555556	0.74%
					204.5539948040	100.00%

Commercial/Office Trip Distribution Summary

Travel Route (To/From)	Distribution (%)	Final Primary Distbution %
I-70 West	20.41%	20%
I-70 East	4.64%	5%
US 40 West	8.73%	9%
US 40 East	48.19%	48%
Mt. DeChantal	6.45%	6%
GC&P Rd North	2.64%	3%
Warden Run East	4.48%	5%
Bethany Pike East	4.46%	4%
Total	100.00%	100%

⁽¹⁾ Census tracts for Ohio County, WV, Marshall County WV, and Belmont County, OH obtained from the United States Census website and database.

⁽²⁾ Based on population survey job counts per Census Tract of where workers live within a 15-minute travel radius of the City of Wheeling Centroid, obtained from OnTheMap Version 6, a web-based mapping and reporting application provided by the United State Census that shows where workers are employed and where they live.

⁽³⁾ A Gravity Model is a mathematical model used to estimate the number of trips that will be drawn to a development based on population and/or employment data and travel time. A gravity model is represented by the equation (population and/or employment data / (travel time to site)^{A2)}.



Appendix H. Year of Full Build-Out 2030 Without Development (No Build) Synchro Analyses

Lanes, Volumes, Timings 1: Altenheim Ave/Bethany Pike & US 40 National Road

	٠	-	*	•	—	•	4	1	~	/	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	7			414			4			ર્ન	7
Traffic Volume (vph)	341	224	3	11	320	93	195	42	50	141	2	497
Future Volume (vph)	341	224	3	11	320	93	195	42	50	141	2	497
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			2%			7%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			1.00				0.99
Frt		0.998			0.967			0.976				0.850
Flt Protected	0.950				0.999			0.967			0.953	
Satd. Flow (prot)	1693	1685	0	0	3362	0	0	1713	0	0	1793	1584
Flt Permitted	0.291				0.944			0.601			0.643	
Satd. Flow (perm)	519	1685	0	0	3176	0	0	1063	0	0	1210	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			37			10				585
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		879			1354			343			3796	
Travel Time (s)		17.1			26.4			9.4			86.3	
Confl. Peds. (#/hr)			2	2			2					2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	5%	11%	0%	0%	3%	2%	1%	0%	2%	2%	0%	3%
Adj. Flow (vph)	401	264	4	13	376	109	229	49	59	166	2	585
Shared Lane Traffic (%)												
Lane Group Flow (vph)	401	268	0	0	498	0	0	337	0	0	168	585
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16	J 1		0	J		0	J		0	J •
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.02	1.02	1.02	1.01	1.01	1.01	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	-	1	2		1	2	-	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	Cl+Ex		Cl+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel	J	J		J/.	J		J	J/.		J	J/.	J
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	0.0
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel		OFEX			OFEX			OLICEX			OLLEY	
COLORD Z ORIGINIE												

Synchro 10 Report Page 1 2030 No Build AM Peak af/ms

Lane Group	Ø3
LaneConfigurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
FIt Protected	
Satd. Flow (prot)	
FIt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	

2030 No Build AM Peak Synchro 10 Report af/ms Page 2

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	15.0	20.0		20.0	20.0		17.0	17.0		17.0	17.0	17.0
Total Split (s)	20.0	50.0		30.0	30.0		25.0	25.0		25.0	25.0	25.0
Total Split (%)	21.1%	52.6%		31.6%	31.6%		26.3%	26.3%		26.3%	26.3%	26.3%
Maximum Green (s)	15.0	45.0		25.0	25.0		20.0	20.0		20.0	20.0	20.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	46.0	46.0			26.0			20.0			20.0	20.0
Actuated g/C Ratio	0.48	0.48			0.27			0.21			0.21	0.21
v/c Ratio	0.92	0.33			0.56			1.46			0.66	0.74
Control Delay	45.2	16.1			30.0			258.9			48.5	9.4
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	45.2	16.1			30.0			258.9			48.5	9.4
LOS	D	В			С			F			D	Α
Approach Delay		33.5			30.0			258.9			18.1	
Approach LOS		С			С			F			В	
Queue Length 50th (ft)	240	148			124			~277			93	0
Queue Length 95th (ft)	#338	216			164			#417			154	63
Internal Link Dist (ft)		799			1274			263			3716	
Turn Bay Length (ft)												130
Base Capacity (vph)	436	816			896			231			254	790
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.92	0.33			0.56			1.46			0.66	0.74

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 46 (48%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.46

2030 No Build AM Peak

af/ms

Synchro 10 Report
Page 3

Lane Group	Ø3		
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3		
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0		
Minimum Split (s)	19.0		
Total Split (s)	20.0		
Total Split (%)	21%		
Maximum Green (s)	15.0		
Yellow Time (s)	4.0		
All-Red Time (s)	1.0		
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	4.0		
Recall Mode	Ped		
Walk Time (s)	5.0		
Flash Dont Walk (s)	9.0		
Pedestrian Calls (#/hr)	1		
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			
Intersection Summary			

2030 No Build AM Peak Synchro 10 Report af/ms Page 4

1: Altenheim Ave/Bethany Pike & US 40 National Road

Intersection Signal Delay: 61.3
Intersection LOS: E
Intersection Capacity Utilization 71.7%
ICU Level of Service C
Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Altenheim Ave/Bethany Pike & US 40 National Road

Ø1

Ø2 (R)

Ø3

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2030 No Build AM Peak
af/ms
Synchro 10 Report
Page 5

2030 No Build AM Peak 03/09/2020

HCM 6th Edition methodology does not support exclusive ped or hold phases.

2030 No Build AM Peak

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Synchro 10 Report
Page 6

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1			4			4			4	
Traffic Volume (vph)	138	244	2	0	314	3	0	0	0	7	0	261
Future Volume (vph)	138	244	2	0	314	3	0	0	0	7	0	261
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.999						0.869	
Flt Protected	0.950										0.999	
Satd. Flow (prot)	1466	1674	0	0	1641	0	0	1907	0	0	1400	0
Flt Permitted	0.950										0.999	
Satd. Flow (perm)	1466	1674	0	0	1641	0	0	1907	0	0	1400	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	2%	0%	0%	3%	0%	0%	0%	0%	17%	0%	2%
Adj. Flow (vph)	153	271	2	0	349	3	0	0	0	8	0	290
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	273	0	0	352	0	0	0	0	0	298	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11	Ţ.		0	Ţ.		0	, i		0	J
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
71	Other											
Control Type: Unsignalized	• / • • •					of Comileo	_					

Intersection Capacity Utilization 61.6%

ICU Level of Service B

Analysis Period (min) 15

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	¥	f)			4			4			4	
Traffic Vol, veh/h	138	244	2	0	314	3	0	0	0	7	0	261
Future Vol, veh/h	138	244	2	0	314	3	0	0	0	7	0	261
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage	, # -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	7	2	0	0	3	0	0	0	0	17	0	2
Mvmt Flow	153	271	2	0	349	3	0	0	0	8	0	290
Major/Minor I	Major1		<u> </u>	Major2			Minor1		N	Minor2		
Conflicting Flow All	353	0	0	273	0	0	1074	931	272	930	931	352
Stage 1	-	-	-	-	-	-	578	578	-	352	352	-
Stage 2	-	-	-	-	-	-	496	353	-	578	579	-
Critical Hdwy	4.17	-	-	4.1	-	-	7.5	6.9	6.4	7.07	6.3	6.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	6.07	5.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.9	-	6.07	5.3	-
Follow-up Hdwy	2.263	-	-	2.2	-	-	3.5	4	3.3	3.653	4	3.318
Pot Cap-1 Maneuver	1179	-	-	1302	-	-	177	243	760	245	283	698
Stage 1	-	-	-	-	-	-	474	473	-	647	648	-
Stage 2	-	-	-	-	-	-	529	610	-	492	520	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1178	-	-	1302	-	-	93	211	760	221	246	697
Mov Cap-2 Maneuver	-	-	-	-	-	-	93	211	-	221	246	-
Stage 1	-	-	-	-	-	-	412	412	-	562	647	-
Stage 2	-	-	-	-	-	-	309	609	-	428	452	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.1			0			0			14.9		
HCM LOS							A			В		
Minor Lane/Major Mvm	nt 1	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR :	SBLn1			
Capacity (veh/h)			1178	-	-		-	-	660			
HCM Lane V/C Ratio		_	0.13	_	_	-	_	_	0.451			
HCM Control Delay (s)		0	8.5	-	-	0	_	_	14.9			
HCM Lane LOS		A	A	_	_	A	_	-	В			
HCM 95th %tile Q(veh)		-	0.4	-	-	0	-	-	2.3			

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1→			4			4			4	
Traffic Volume (veh/h)	138	244	2	0	314	3	0	0	0	7	0	261
Future Volume (Veh/h)	138	244	2	0	314	3	0	0	0	7	0	261
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			1%			2%			-1%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	153	271	2	0	349	3	0	0	0	8	0	290
Pedestrians											1	
Lane Width (ft)											11.0	
Walking Speed (ft/s)											3.5	
Percent Blockage											0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	353			273			1218	931	272	928	930	352
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	353			273			1218	931	272	928	930	352
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.3	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.7	4.0	3.3
p0 queue free %	87			100			100	100	100	96	100	58
cM capacity (veh/h)	1177			1302			83	234	771	210	234	691
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	153	273	352	0	298							
Volume Left	153	0	0	0	8							
Volume Right	0	2	3	0	290							
cSH	1177	1700	1302	1700	651							
Volume to Capacity	0.13	0.16	0.00	0.00	0.46							
Queue Length 95th (ft)	11	0	0	0	60							
Control Delay (s)	8.5	0.0	0.0	0.0	15.1							
Lane LOS	А			Α	С							
Approach Delay (s)	3.1		0.0	0.0	15.1							
Approach LOS				Α	С							
Intersection Summary												
Average Delay			5.4									
Intersection Capacity Utiliz	ation		61.6%	IC	CU Level c	f Service			В			
Analysis Period (min)			15									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	†		*	†			4			4	7
Traffic Volume (vph)	184	850	6	0	938	48	3	0	2	36	0	198
Future Volume (vph)	184	850	6	0	938	48	3	0	2	36	0	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	16	14
Grade (%)		0%			0%			-4%			2%	
Storage Length (ft)	150		0	0		0	0		0	0		300
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00										
Frt		0.999			0.993			0.955				0.850
Flt Protected	0.950							0.968			0.950	
Satd. Flow (prot)	1787	3428	0	1900	3482	0	0	1664	0	0	1911	1689
Flt Permitted	0.119							0.844			0.754	
Satd. Flow (perm)	224	3428	0	1900	3482	0	0	1451	0	0	1516	1689
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			6			172				233
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1133			236			237			1020	
Travel Time (s)		22.1			4.6			6.5			27.8	
Confl. Peds. (#/hr)			5	5								
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	1%	5%	33%	0%	3%	2%	33%	0%	0%	6%	0%	1%
Adj. Flow (vph)	216	1000	7	0	1104	56	4	0	2	42	0	233
Shared Lane Traffic (%)												
Lane Group Flow (vph)	216	1007	0	0	1160	0	0	6	0	0	42	233
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	

Lane Group	Ø2	Ø3	Ø7	Ø11
Lane Configurations	~_	~0	21	~ 11
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Delector 2 Type				

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	16.0	42.0					15.0	15.0		15.0	15.0	15.0
Total Split (%)	16.8%	44.2%					15.8%	15.8%		15.8%	15.8%	15.8%
Maximum Green (s)	11.0	37.0					10.0	10.0		10.0	10.0	10.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	44.0	44.0			42.7			10.0			10.0	10.0
Actuated g/C Ratio	0.46	0.46			0.45			0.11			0.11	0.11
v/c Ratio	0.79	0.63			0.74			0.02			0.26	0.60
Control Delay	42.5	19.5			3.1			0.2			43.8	12.8
Queue Delay	0.0	0.0			3.9			0.0			0.0	0.0
Total Delay	42.5	19.5			7.0			0.2			43.8	12.8
LOS	D	В			Α			Α			D	В
Approach Delay		23.6			7.0			0.2			17.5	
Approach LOS		С			Α			Α			В	
Queue Length 50th (ft)	78	209			28			0			24	0
Queue Length 95th (ft)	#163	238			m10			0			54	56
Internal Link Dist (ft)		1053			156			157			940	
Turn Bay Length (ft)	150											300
Base Capacity (vph)	284	1588			1567			306			159	386
Starvation Cap Reductn	0	0			318			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.76	0.63			0.93			0.02			0.26	0.60

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 90

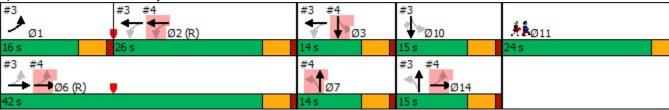
Control Type: Actuated-Coordinated

Lane Group	Ø2	Ø3	Ø7	Ø11
Detector 2 Channel	~-	~~	~.	~
Detector 2 Extend (s)				
Turn Type				
Protected Phases	2	3	7	11
Permitted Phases	<u>-</u>		,	
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	15.0	15.0	17.0
Total Split (s)	26.0	14.0	14.0	24.0
Total Split (%)	27%	15%	15%	25%
Maximum Green (s)	21.0	9.0	9.0	21.0
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	0.0
Lost Time Adjust (s)	1.0	1.0	1.0	0.0
Total Lost Time (s)				
Lead/Lag	Lag			
Lead-Lag Optimize?	Yes			
Vehicle Extension (s)	5.0	4.0	4.0	3.0
Recall Mode	C-Max	None	None	Ped
	O-IVIAX	INUITE	NULLE	5.0
Walk Time (s)				9.0
Flash Dont Walk (s)				9.0
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				
intersection summary				

Maximum v/c Ratio: 1.06
Intersection Signal Delay: 15.7
Intersection LOS: B
Intersection Capacity Utilization 56.4%
ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 3: Driveway/Park Road & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		†		*	†			4			4	
Traffic Volume (vph)	11	778	99	51	942	11	8	0	17	4	1	31
Future Volume (vph)	11	778	99	51	942	11	8	0	17	4	1	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%			0%	
Storage Length (ft)	0		0	105		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.998			0.907			0.884	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Flt Protected		0.999		0.950				0.985			0.994	
Satd. Flow (prot)	0	3388	0	1770	3498	0	0	1656	0	0	1637	0
Flt Permitted	•	0.836		0.274		•		0.898	•		0.963	
Satd. Flow (perm)	0	2835	0	510	3498	0	0	1510	0	0	1586	0
Right Turn on Red	•		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			1			172			36	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			3.5	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	13	915	116	60	1108	13	9	0	20	5	1	36
Shared Lane Traffic (%)		0.0						•			•	
Lane Group Flow (vph)	0	1044	0	60	1121	0	0	29	0	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes						. •	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	•	1	2	•	1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	Cl+Ex	
Detector 1 Channel	OI · EX	OI · EX		OI · EX	OI LX		OI · EX	OI · EX		OI LX	OI LX	
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Type Detector 2 Channel		OI. LX			OI. LX			OI. LX			OI. LX	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
- Turri Type	1 51111	INA		i Giiii	INA		ı C IIII	INA		i Giiii	INA	

2030 No Build AM Peak af/ms

Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Grade (%)					
Storage Length (ft)					
Storage Lanes Taper Length (ft)					
Lane Util. Factor					
Frt					
Flt Protected					
Satd. Flow (prot)					
Flt Permitted					
Satd. Flow (perm)					
Right Turn on Red					
Satd. Flow (RTOR)					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Peak Hour Factor					
Heavy Vehicles (%)					
Adj. Flow (vph)					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Enter Blocked Intersection					
Lane Alignment					
Median Width(ft)					
Link Offset(ft)					
Crosswalk Width(ft)					
Two way Left Turn Lane					
Headway Factor					
Turning Speed (mph)					
Number of Detectors					
Detector Template					
Leading Detector (ft)					
Trailing Detector (ft)					
Detector 1 Position(ft)					
Detector 1 Size(ft)					
Detector 1 Type					
Detector 1 Channel					
Detector 1 Extend (s)					
Detector 1 Queue (s)					
Detector 1 Delay (s)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					

Intersection Capacity Utilization 54.9%

	۶	→	*	•	←	•	4	†	~	/	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		6 14			2			7			3	
Permitted Phases	6 14			2			7			3		
Detector Phase	6 14	6 14		2	2		7	7		3	3	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)				20.0	20.0		15.0	15.0		15.0	15.0	
Total Split (s)				26.0	26.0		14.0	14.0		14.0	14.0	
Total Split (%)				27.4%	27.4%		14.7%	14.7%		14.7%	14.7%	
Maximum Green (s)				21.0	21.0		9.0	9.0		9.0	9.0	
Yellow Time (s)				4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)				0.0	0.0		1.0	0.0		1.0	0.0	
Total Lost Time (s)				5.0	5.0			5.0			5.0	
Lead/Lag				Lag	Lag			5.0			5.0	
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode				C-Max	C-Max							
				C-IVIAX	C-IVIAX		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)		540		00.7	00.7			0.0			0.0	
Act Effct Green (s)		54.0		28.7	28.7			9.0			9.0	
Actuated g/C Ratio		0.57		0.30	0.30			0.09			0.09	
v/c Ratio		0.64		0.39	1.06			0.10			0.23	
Control Delay		4.1		37.5	76.1			0.6			19.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		4.1		37.5	76.1			0.6			19.4	
LOS		Α		D	E			Α			В	
Approach Delay		4.1			74.1			0.6			19.4	
Approach LOS		Α			Е			Α			В	
Queue Length 50th (ft)		34		32	~397			0			3	
Queue Length 95th (ft)		16		m46	m#410			0			32	
Internal Link Dist (ft)		156			799			398			76	
Turn Bay Length (ft)				105								
Base Capacity (vph)		1620		154	1056			298			182	
Starvation Cap Reductn		5		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.65		0.39	1.06			0.10			0.23	
Intersection Summary												
Area Type:	Other											
Cycle Length: 95	0 (1101											
Actuated Cycle Length: 95												
Offset: 0 (0%), Referenced		MRTI and	4 6·FRTI	Start of	Green M	aster Inte	rsection					
Natural Cycle: 90	i to pridae 2.	VVD I L aiii	u v.LDTL	, otari or	Oreen, w	aster inte	5136611011					
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 1.06	borumateu											
	10.2			1.	atorocatic :	100.0						
Intersection Signal Delay:	40.3			li I	ntersection	I FO2: D						

2030 No Build AM Peak Synchro 10 Report af/ms Page 17

ICU Level of Service A

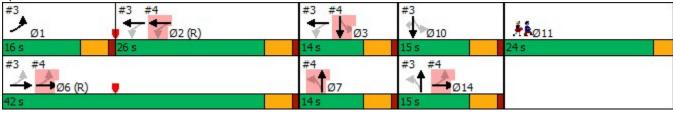
Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Protected Phases	1	6	10	11	14
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.0	20.0	12.0	17.0	12.0
Total Split (s)	16.0	42.0	15.0	24.0	15.0
Total Split (%)	17%	44%	16%	25%	16%
Maximum Green (s)	11.0	37.0	10.0	21.0	10.0
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead				
Lead-Lag Optimize?	Yes				
Vehicle Extension (s)	2.0	5.0	4.0	3.0	4.0
Recall Mode	None	C-Max	None	Ped	None
Walk Time (s)				5.0	
Flash Dont Walk (s)				9.0	
Pedestrian Calls (#/hr)				1	
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

Synchro 10 Report Page 18 2030 No Build AM Peak af/ms

Analysis Period (min) 15

- ~ Volume exceeds capacity, queue is theoretically infinite.
 - Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 - Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Leatherwood Lane/Gas Station & US 40 National Road



2030 No Build AM Peak 03/09/2020

HCM 6th Edition methodology does not support clustered intersections.

	-	*	1	←	1	-				
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Lane Configurations	† \$		7	^	ሻሻ					
Traffic Volume (vph)	160	130	297	862	245	0				
Future Volume (vph)	160	130	297	862	245	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	11	11	10	11	11	12				
Grade (%)	0%			0%	-1%					
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	1.00				
Frt	0.933	0.00	1.00	0.00	0.01	1.00				
Flt Protected	0.000		0.950		0.950					
Satd. Flow (prot)	3034	0	1652	3388	3271	0				
Flt Permitted	0001	•	0.386	0000	0.950	•				
Satd. Flow (perm)	3034	0	671	3388	3271	0				
Right Turn on Red	0001	Yes	011	0000	0211	Yes				
Satd. Flow (RTOR)	144	103				103				
Link Speed (mph)	35			35	25					
Link Distance (ft)	562			201	135					
Travel Time (s)	10.9			3.9	3.7					
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				
Heavy Vehicles (%)	10%	4%	2%	3%	4%	0%				
Adj. Flow (vph)	178	144	330	958	272	0				
Shared Lane Traffic (%)	170	177	330	330	212	U				
Lane Group Flow (vph)	322	0	330	958	272	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	10	Nigrit	LGIL	10	22	Nigit				
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	16			16	16					
Two way Left Turn Lane	Yes			10	10					
Headway Factor	1.04	1.04	1.09	1.04	1.04	0.99				
Turning Speed (mph)	1.04	9	1.09	1.04	1.04	9				
Number of Detectors	2	9	15	2	1	9				
	Thru		Left		Left					
Detector Template	100		20	Thru 100	20					
Leading Detector (ft) Trailing Detector (ft)	0									
5 ()			0	0	0					
Detector 1 Position(ft)	0			0 6	0 20					
Detector 1 Size(ft)			20							
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex					
Detector 1 Channel	0.0		0.0	0.0	0.0					
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft)	94			94						
Detector 2 Size(ft)	6			6						
Detector 2 Type	Cl+Ex			CI+Ex						
Detector 2 Channel	2.2			2.2						
Detector 2 Extend (s)	0.0			0.0	5 .					
Turn Type	NA		pm+pt	NA	Prot					
Protected Phases	2		1	16	8		3	4	6	
Permitted Phases			16							

	-	*	1	-	1					
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Detector Phase	2		1	16	8					
Switch Phase										
Minimum Initial (s)	5.0		5.0		5.0		5.0	5.0	5.0	
Minimum Split (s)	20.0		15.0		17.0		17.0	17.0	20.0	
Total Split (s)	25.0		16.0		54.0		30.0	24.0	41.0	
Total Split (%)	26.3%		16.8%		56.8%		32%	25%	43%	
Maximum Green (s)	20.0		11.0		49.0		25.0	19.0	36.0	
Yellow Time (s)	4.0		4.0		4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0		1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0		0.0					
Total Lost Time (s)	5.0		5.0		5.0					
Lead/Lag	Lag		Lead				Lead	Lag		
Lead-Lag Optimize?	Yes		Yes				Yes	Yes		
Vehicle Extension (s)	5.0		2.5		4.0		4.0	5.0	5.0	
Recall Mode	C-Max		None		None		None	None	C-Max	
Act Effct Green (s)	20.3		36.3	36.3	48.7					
Actuated g/C Ratio	0.21		0.38	0.38	0.51					
v/c Ratio	0.42		0.89	0.74	0.16					
Control Delay	19.5		48.6	30.7	4.8					
Queue Delay	0.0		0.0	0.0	1.5					
Total Delay	19.5		48.6	30.7	6.4					
LOS	В		D	С	Α					
Approach Delay	19.5			35.3	6.4					
Approach LOS	В			D	Α					
Queue Length 50th (ft)	47		207	322	16					
Queue Length 95th (ft)	88		m#346	391	m15					
Internal Link Dist (ft)	482			121	55					
Turn Bay Length (ft)										
Base Capacity (vph)	760		369	1292	1687					
Starvation Cap Reductn	0		0	0	1218					
Spillback Cap Reductn	0		0	0	0					
Storage Cap Reductn	0		0	0	0					
Reduced v/c Ratio	0.42		0.89	0.74	0.58					
Intersection Summary										

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

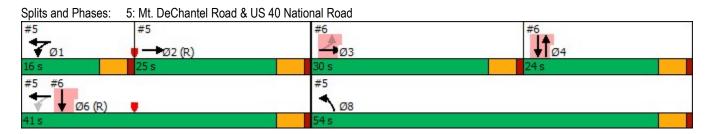
Intersection Signal Delay: 28.4 Intersection LOS: C
Intersection Capacity Utilization 44.5% ICU Level of Service A

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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



HCM 6th Edition methodology does not support clustered intersections.

Lanes, Volumes, Timings 2030 No Build AM Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 刊析2020

	۶	→	•	•	•	•	1	†	1	-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		414						†			↑	
Traffic Volume (vph)	57	630	86	0	0	0	0	188	274	0	427	0
Future Volume (vph)	57	630	86	0	0	0	0	188	274	0	427	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	12	16	12
Grade (%)		-1%			0%			0%			1%	
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.983						0.911				
Flt Protected		0.996										
Satd. Flow (prot)	0	3435	0	0	0	0	0	3237	0	0	2080	0
Flt Permitted		0.996										
Satd. Flow (perm)	0	3435	0	0	0	0	0	3237	0	0	2080	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14						315				
Link Speed (mph)		35			30			25			25	
Link Distance (ft)		482			215			270			135	
Travel Time (s)		9.4			4.9			7.4			3.7	
Confl. Peds. (#/hr)							2					2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	4%	0%	0%	0%	0%	5%	5%	5%	0%	3%	0%
Adj. Flow (vph)	66	724	99	0	0	0	0	216	315	0	491	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	889	0	0	0	0	0	531	0	0	491	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	0.96	0.96	0.96	1.01	0.85	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2			2	
Detector Template	Left	Thru						Thru			Thru	
Leading Detector (ft)	20	100						100			100	
Trailing Detector (ft)	0	0						0			0	
Detector 1 Position(ft)	0	0						0			0	
Detector 1 Size(ft)	20	6						6			6	
Detector 1 Type	Cl+Ex	CI+Ex						CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		CI+Ex						CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA			NA	

Synchro 10 Report 2030 No Build AM Peak Page 1 af/ms

Lane Group	Ø1	Ø2	Ø6	Ø8
Lane Configurations		~-	~~	
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Fit Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
1 1020 0ton :/ L:I=0/+1				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Type Detector 2 Channel				
Detector 2 Type				

Synchro 10 Report 2030 No Build AM Peak Page 2 af/ms

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings 2030 No Build AM Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 198/11/2020

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		3						4			6 4	
Permitted Phases	3											
Detector Phase	3	3						4			6 4	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0				
Minimum Split (s)	17.0	17.0						17.0				
Total Split (s)	30.0	30.0						24.0				
Total Split (%)	31.6%	31.6%						25.3%				
Maximum Green (s)	25.0	25.0						19.0				
Yellow Time (s)	4.0	4.0						4.0				
All-Red Time (s)	1.0	1.0						1.0				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag	Lead	Lead						Lag				
Lead-Lag Optimize?	Yes	Yes						Yes				
Vehicle Extension (s)	4.0	4.0						5.0				
Recall Mode	None	None						None				
Act Effct Green (s)	NOTIC	25.0						18.7			60.0	
Actuated g/C Ratio		0.26						0.20			0.63	
v/c Ratio		0.20						0.60			0.03	
Control Delay		59.0						23.6			2.9	
Queue Delay		0.0						0.0			2.8	
Total Delay		59.0						23.6			5.7	
LOS		59.0 E						23.0 C			3.7 A	
		59.0						23.6			5.7	
Approach Delay												
Approach LOS		E						C 88			A 21	
Queue Length 50th (ft)		275										
Queue Length 95th (ft)		#383			405			124			m37	
Internal Link Dist (ft)		402			135			190			55	
Turn Bay Length (ft)		044						000			4007	
Base Capacity (vph)		914						899			1297	
Starvation Cap Reductn		0						0			672	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.97						0.59			0.79	
Intersection Summary												
Area Type:	Other											
Cycle Length: 95												
Actuated Cycle Length: 95												
Offset: 70 (74%), Reference	ed to phase	2:EBT an	d 6:WBT	L, Start o	f Green							
Natural Cycle: 75												
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 0.97												
Intersection Signal Delay: 3	5.5			In	tersection	LOS: D						
Intersection Capacity Utiliza		1			CU Level		Α					
Analysis Period (min) 15												
# 95th percentile volume	exceeds ca	pacity, qu	eue may	be longer								

Synchro 10 Report 2030 No Build AM Peak Page 3 af/ms

Lanes, Volumes, Timings 2030 No Build AM Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 刊析2020

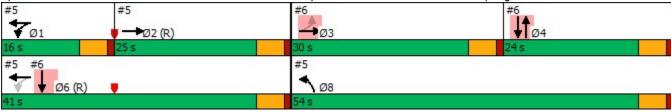
Protected Phases 1 2 6 8 Permitted Phases
Detector Phase
Switch Phase
Minimum Initial (s) 5.0 5.0 5.0 5.0
Minimum Split (s) 15.0 20.0 20.0 17.0
Total Split (s) 16.0 25.0 41.0 54.0
Total Split (%) 17% 26% 43% 57%
Maximum Green (s) 11.0 20.0 36.0 49.0
Yellow Time (s) 4.0 4.0 4.0 4.0
All-Red Time (s) 1.0 1.0 1.0 1.0
Lost Time Adjust (s)
Total Lost Time (s)
Lead/Lag Lead Lag
Lead-Lag Optimize? Yes Yes
Vehicle Extension (s) 2.5 5.0 5.0 4.0
Recall Mode None C-Max C-Max None
Act Effct Green (s)
Actuated g/C Ratio
v/c Ratio
Control Delay
Queue Delay
Total Delay
LOS
Approach Delay
Approach LOS
Queue Length 50th (ft)
Queue Length 95th (ft)
Internal Link Dist (ft)
Turn Bay Length (ft)
Base Capacity (vph)
Starvation Cap Reductn
Spillback Cap Reductn
Storage Cap Reductn
Reduced v/c Ratio
Intersection Summary

Synchro 10 Report 2030 No Build AM Peak Page 4 af/ms

6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Tថ/fr//2020

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

Splits and Phases: 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Turn



HCM 6th Edition methodology does not support clustered intersections.

Synchro 10 Report 2030 No Build AM Peak af/ms Page 6

Analysis Period (min) 15

	-	7	F	←	•	/	
Lane Group	EBT	EBR	WBL	WBT	NEL	NER	
Lane Configurations	^			ተተተ		77	
Traffic Volume (vph)	160	0	0	1159	0	905	
Future Volume (vph)	160	0	0	1159	0	905	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	
Lane Width (ft)	12	12	12	11	12	12	
Grade (%)	0%			0%	-2%		
Storage Length (ft)		0	590		0	0	
Storage Lanes		0	1		0	2	
Taper Length (ft)			25		25		
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	0.88	
Frt						0.850	
Flt Protected							
Satd. Flow (prot)	2963	0	0	4398	0	2470	
FIt Permitted							
Satd. Flow (perm)	2963	0	0	4398	0	2470	
Link Speed (mph)	35			35	35		
Link Distance (ft)	201			1133	215		
Travel Time (s)	3.9			22.1	4.2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	
Heavy Vehicles (%)	9%	0%	0%	2%	0%	4%	
Adj. Flow (vph)	188	0	0	1364	0	1065	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	188	0	0	1364	0	1065	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	1			1	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane				Yes			
Headway Factor	1.15	1.15	1.15	1.20	1.14	1.14	
Turning Speed (mph)		9	15		15	9	
Sign Control	Free			Free	Yield		
Intersection Summary							
Area Type:	Other						
Control Type: Unsignalized							
Intersection Capacity Utilizat	tion 47.0%			IC	U Level	of Service A	Α

Synchro 10 Report 2030 No Build AM Peak Page 1 af/ms

HCM Unsignalized Intersection Capacity Analysis 2037: Mt. DeChantal Road/I-70 Off-Ramp Right Turn & US 40 National Road

	-	7	F	•	•	/		
Movement	EBT	EBR	WBL	WBT	NEL	NER		
Lane Configurations	^			^		77		
Traffic Volume (veh/h)	160	0	0	1159	0	905		
Future Volume (Veh/h)	160	0	0	1159	0	905		
Sign Control	Free			Free	Yield			
Grade	0%			0%	-2%			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85		
Hourly flow rate (vph)	188	0	0	1364	0	1065		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			TWLTL				
Median storage veh)				2				
Upstream signal (ft)	201			1133				
pX, platoon unblocked					0.87			
vC, conflicting volume			188		643	94		
vC1, stage 1 conf vol					188			
vC2, stage 2 conf vol					455			
vCu, unblocked vol			188		70	94		
tC, single (s)			4.1		6.8	7.0		
tC, 2 stage (s)					5.8			
tF (s)			2.2		3.5	3.3		
p0 queue free %			100		100	0		
cM capacity (veh/h)			1398		811	938		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1	NE 2	
Volume Total	94	94	455	455	455	532	532	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	532	532	
cSH	1700	1700	1700	1700	1700	938	938	
Volume to Capacity	0.06	0.06	0.27	0.27	0.27	0.57	0.57	
Queue Length 95th (ft)	0	0	0	0	0	92	92	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.8	13.8	
Lane LOS						В	В	
Approach Delay (s)	0.0		0.0			13.8		
Approach LOS						В		
Intersection Summary								
Average Delay			5.6					
Intersection Capacity Utiliza	ation		47.0%	IC	U Level c	of Service		
Analysis Period (min)			15					
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Synchro 10 Report 2030 No Build AM Peak Page 1 af/ms

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				1		7	7	↑			1	
Traffic Volume (vph)	0	0	0	4	0	83	52	368	0	0	252	262
Future Volume (vph)	0	0	0	4	0	83	52	368	0	0	252	262
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.931	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1519	1576	1627	0	0	1528	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1519	1576	1627	0	0	1528	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	3%	5%	0%	0%	1%	5%
Adj. Flow (vph)	0	0	0	4	0	92	58	409	0	0	280	291
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	4	0	92	58	409	0	0	571	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
71	Other											
Control Type: Unsignalized												
Intercontion Consoity Hillingti	10 10/			10	1111	of Comico	. ^					

Intersection Capacity Utilization 49.4%

ICU Level of Service A

Analysis Period (min) 15

Synchro 10 Report Page 32 2030 No Build AM Peak af/ms

Intersection												
Int Delay, s/veh	1.5											
		CDT	EDD	MOL	WDT	WDD	NDI	NDT	NDD	ODI	ODT	000
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			_	7		7	7	†			ĵ.	
Traffic Vol, veh/h	0	0	0	4	0	83	52	368	0	0	252	262
Future Vol, veh/h	0	0	0	4	0	83	52	368	0	0	252	262
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	170	-	-	-	-	-
Veh in Median Storage,	# -	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-1	-	-	-1	-	-	1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	2	3	5	0	0	1	5
Mvmt Flow	0	0	0	4	0	92	58	409	0	0	280	291
Major/Minor			N	Minor1			Major1		N	Major2		
Conflicting Flow All				951	_	409	571	0	<u>'</u>	- -	_	0
Stage 1				525	-	409	37 I -	-	_		_	-
Stage 2				426		_	_		_	_		_
Critical Hdwy				6.2	-	6.12	4.13	-	-		_	
				5.2	-	0.12	4.13	-			-	
Critical Hdwy Stg 1				5.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2				3.5	-	3.318	2 227	-	-			-
Follow-up Hdwy					-	650	997	-	_	_	-	-
Pot Cap-1 Maneuver				306	0			-	0	0	-	-
Stage 1				615	0	-	-	-	0	0	-	-
Stage 2				679	0	-	-	-	0	0	-	-
Platoon blocked, %				000		050	007	-			-	-
Mov Cap-1 Maneuver				288	0	650	997	-	-	-	-	-
Mov Cap-2 Maneuver				288	0	-	-	-	-	-	-	-
Stage 1				579	0	-	-	-	-	-	-	-
Stage 2				679	0	-	-	-	-	-	-	-
Approach				WB			NB			SB		
HCM Control Delay, s				11.8			1.1			0		
HCM LOS				В								
Minor Lane/Major Mvmt		NBL	NBTV	VBLn1\	VBLn2	SBT	SBR					
Capacity (veh/h)		997		288	650							
HCM Lane V/C Ratio		0.058	_	0.015		_	<u>-</u>					
HCM Control Delay (s)		8.8		17.7	11.5	_	_					
HCM Lane LOS		Α	_	C	11.5 B		_					
HCM 95th %tile Q(veh)		0.2		0	0.5	-	-					
HOW Sour Wille Q(Ven)		0.2	-	U	0.5	-	_					

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				*		7	ň	^			1	
Traffic Volume (veh/h)	0	0	0	4	0	83	52	368	0	0	252	262
Future Volume (Veh/h)	0	0	0	4	0	83	52	368	0	0	252	262
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-1%			-1%			1%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	4	0	92	58	409	0	0	280	291
Pedestrians					2							
Lane Width (ft)					15.0							
Walking Speed (ft/s)					3.5							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								477			270	
pX, platoon unblocked	0.90	0.90	0.88	0.90	0.90	0.95	0.88			0.95		
vC, conflicting volume	950	952	426	952	1098	411	571			411		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	758	760	274	760	921	349	440			349		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	99	100	86	94			100		
cM capacity (veh/h)	241	286	675	279	231	655	977			1153		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1							
Volume Total	4	92	58	409	571							
Volume Left	4	0	58	0	0							
Volume Right	0	92	0	0	291							
cSH	279	655	977	1700	1700							
Volume to Capacity	0.01	0.14	0.06	0.24	0.34							
Queue Length 95th (ft)	1	12	5	0	0							
Control Delay (s)	18.1	11.4	8.9	0.0	0.0							
Lane LOS	С	В	Α									
Approach Delay (s)	11.7		1.1		0.0							
Approach LOS	В											
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utiliz	ation		49.4%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

	•	•	†	~	-	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	*	7	↑	7	*	^
Traffic Volume (vph)	6	72	339	70	139	99
Future Volume (vph)	6	72	339	70	139	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	1300	12	14	1300	14
Grade (%)	2%	10	1%	17	10	1%
Storage Length (ft)	0	80	1 /0	120	210	1 /0
5 5 ()	1					
Storage Lanes	•	1		1	1	
Taper Length (ft)	25	4.00	4.00	4.00	25	4.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	1.00	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1652	1783	1714	1856	1997
Flt Permitted	0.950				0.478	
Satd. Flow (perm)	1787	1652	1783	1676	933	1997
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		81		79		
Link Speed (mph)	25	31	25	10		25
Link Distance (ft)	249		332			477
Travel Time (s)	6.8		9.1			13.0
. ,	0.0		9.1	2	2	13.0
Confl. Peds. (#/hr)	0.00	0.00	0.00			0.00
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	6%	0%	0%	1%
Adj. Flow (vph)	7	81	381	79	156	111
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	81	381	79	156	111
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		13			13
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	10		10			- 10
•	1.01	0.97	1.01	0.92	0.96	0.92
Headway Factor			1.01			0.92
Turning Speed (mph)	15	9	0	9	15	0
Number of Detectors	1	1 Dialet	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	0.0	0.0	94	0.0	0.0	94
. ,						
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex

	1		T		-	+
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase	·	•	_	_		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	50.0	50.0	20.0	70.0
Total Split (%)	26.3%	26.3%	52.6%	52.6%	21.1%	73.7%
Maximum Green (s)	20.0	20.0	45.0	45.0	15.0	65.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
. ,	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	5.0		5.0	5.0	5.0	
Total Lost Time (s)	5.0	5.0				5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?	۲.0	г 0	Yes	Yes	Yes	г 0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	2.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	8.7	8.7	67.6	67.6	78.8	79.8
Actuated g/C Ratio	0.09	0.09	0.71	0.71	0.83	0.84
v/c Ratio	0.04	0.36	0.30	0.07	0.19	0.07
Control Delay	38.7	14.0	6.8	1.6	1.8	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	14.0	6.8	1.6	1.8	1.4
LOS	D	В	Α	Α	Α	Α
Approach Delay	16.0		5.9			1.7
Approach LOS	В		Α			Α
Queue Length 50th (ft)	4	0	77	0	7	5
Queue Length 95th (ft)	16	41	143	15	m19	m14
Internal Link Dist (ft)	169		252			397
Turn Bay Length (ft)		80		120	210	
Base Capacity (vph)	376	411	1267	1214	919	1678
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.20	0.30	0.07	0.17	0.07
Intersection Summary						
Area Type:	Other					
Cycle Length: 05	Outel					

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 60 (63%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

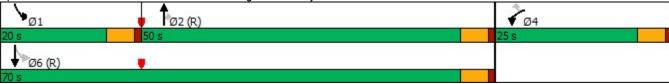
Maximum v/c Ratio: 0.36

Intersection Signal Delay: 5.6 Intersection LOS: A Intersection Capacity Utilization 42.2% ICU Level of Service A

Analysis Period (min) 15

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





	→	7	F	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	†	•		414	_	
Traffic Volume (vph)	285	42	738	359	0	0
Future Volume (vph)	285	42	738	359	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.981					
Flt Protected				0.967		
Satd. Flow (prot)	2986	0	0	3023	0	0
FIt Permitted				0.967		
Satd. Flow (perm)	2986	0	0	3023	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	0%	3%	4%	0%	0%
Adj. Flow (vph)	328	48	848	413	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	376	0	0	1261	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	tion 62 9%			IC	ULevelo	of Service E
Analysis Period (min) 15	11011 02.0 /0			10	CLOVOIC	7. OO! VIOC L
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Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	†			414		
Traffic Volume (veh/h)	285	42	738	359	0	0
Future Volume (Veh/h)	285	42	738	359	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	3%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	328	48	848	413	0	0
Pedestrians					2	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)				562		
pX, platoon unblocked					0.76	
vC, conflicting volume			330		2256	190
vC1, stage 1 conf vol					354	
vC2, stage 2 conf vol					1902	
vCu, unblocked vol			330		2019	190
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			30		100	100
cM capacity (veh/h)			1219		37	826
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	219	157	986	275		
Volume Left	0	0	848	0		
Volume Right	0	48	0	0		
cSH	1700	1700	1219	1700		
Volume to Capacity	0.13	0.09	0.70	0.16		
Queue Length 95th (ft)	0	0	152	0		
Control Delay (s)	0.0	0.0	13.9	0.0		
Lane LOS			В			
Approach Delay (s)	0.0		10.9			
Approach LOS						
Intersection Summary						
Average Delay			8.4			
Intersection Capacity Utiliza	ation		62.9%	IC	U Level c	f Service
Analysis Period (min)			15			
Analysis Penou (min)			10			

	F	€.	*	/	6	×
Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	14		1			ર્ન
Traffic Volume (vph)	58	2	183	60	3	247
Future Volume (vph)	58	2	183	60	3	247
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	11	11
Grade (%)	3%		-2%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996		0.967			
Flt Protected	0.954					0.999
Satd. Flow (prot)	1591	0	1608	0	0	1563
Flt Permitted	0.954					0.999
Satd. Flow (perm)	1591	0	1608	0	0	1563
Link Speed (mph)	30		30			30
Link Distance (ft)	1796		396			959
Travel Time (s)	40.8		9.0			21.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	3%	4%	0%	3%
Adj. Flow (vph)	63	2	199	65	3	268
Shared Lane Traffic (%)						
Lane Group Flow (vph)	65	0	264	0	0	271
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12	<u> </u>	0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.18	1.18	1.14	1.14	1.23	1.23
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary	241					
	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	ion 27.6%			IC	U Level	of Service
Analysis Period (min) 15						

Synchro 10 Report Page 39 2030 No Build AM Peak af/ms

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	₩.	אטול	1	TILIT	OVVE	<u> </u>
Traffic Vol, veh/h	58	2	183	60	3	247
Future Vol, veh/h	58	2	183	60	3	247
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- -	None	-		-	None
Storage Length	0	-	_	-	_	-
Veh in Median Storage,	-	_	0		_	0
Grade, %	3	_	-2			4
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	4	0	3
Mvmt Flow	63	2	199	65	3	268
Major/Minor N	/linor1	N	Major1	N	Major2	
Conflicting Flow All	506	232	0	0	264	0
Stage 1	232	-	-	-	-	-
Stage 2	274	_	_	_	_	_
Critical Hdwy	7	6.5	_	_	4.1	_
Critical Hdwy Stg 1	6	-	_	_	T. I	_
Critical Hdwy Stg 2	6	_			_	
Follow-up Hdwy	3.5	3.3	_	_	2.2	
Pot Cap-1 Maneuver	487	797	_	-	1312	
•	780	191	-	-	1312	-
Stage 1	742		-	-	-	-
Stage 2	142	-	-	-	-	-
Platoon blocked, %	400	707	-	-	4040	-
Mov Cap-1 Maneuver	486	797	-	-	1312	-
Mov Cap-2 Maneuver	486	-	-	-	-	-
Stage 1	780	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Approach	WB		NE		SW	
	13.4		0		0.1	
HCM Control Delay, s HCM LOS			U		U. I	
UCINI FOS	В					
Minor Lane/Major Mvmt	l	NET	NERV	VBLn1	SWL	SWT
Capacity (veh/h)		-	-		1312	-
HCM Lane V/C Ratio		-	-	0.133		_
HCM Control Delay (s)		_	_		7.8	0
HCM Lane LOS		-	-	В	Α	A
HCM 95th %tile Q(veh)		-	-	0.5	0	-

	•	•	†	-	-	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	M		1>			र्स
Traffic Volume (veh/h)	58	2	183	60	3	247
Future Volume (Veh/h)	58	2	183	60	3	247
Sign Control	Stop		Free			Free
Grade	3%		-2%			4%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	63	2	199	65	3	268
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	506	232			264	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	506	232			264	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	100			100	
cM capacity (veh/h)	528	812			1312	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	65	264	271			
Volume Left	63	0	3			
Volume Right	2	65	0			
cSH	534	1700	1312			
Volume to Capacity	0.12	0.16	0.00			
Queue Length 95th (ft)	10	0.10	0.00			
Control Delay (s)	12.7	0.0	0.1			
Lane LOS	В	0.0	A			
Approach Delay (s)	12.7	0.0	0.1			
Approach LOS	В	0.0	0.1			
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utiliz	ation		27.6%	IC	CU Level o	f Service
Analysis Period (min)			15			

	1	•	†	-	-	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		1>			ર્ન
Traffic Volume (vph)	0	0	384	0	0	575
Future Volume (vph)	0	0	384	0	0	575
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%		-1%			-2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1667	0	1675	0	0	1683
Flt Permitted						
Satd. Flow (perm)	1667	0	1675	0	0	1683
Link Speed (mph)	30		30			30
Link Distance (ft)	660		3796			747
Travel Time (s)	15.0		86.3			17.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	427	0	0	639
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	427	0	0	639
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.15	1.15	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	tion 37.2%			IC	U Level c	f Service
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0					
		14/55	Not	NES	051	007
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	A		7			र्स
Traffic Vol, veh/h	0	0	384	0	0	575
Future Vol, veh/h	0	0	384	0	0	575
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storag	e, # 0	-	0	-	-	0
Grade, %	0	-	-1	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	427	0	0	639
	Minor1		//ajor1		Major2	
Conflicting Flow All	1066	427	0	0	427	0
Stage 1	427	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	_	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	246	628	-	-	1132	-
Stage 1	658	-	-	-	-	-
Stage 2	526	-	_	-	-	-
Platoon blocked, %			_	-		-
Mov Cap-1 Maneuver	246	628	_	-	1132	_
Mov Cap 1 Maneuver		-	_	_	-	_
Stage 1	658	_	_	_	_	_
Stage 2	526	_		_	_	_
Olaye Z	320	_	_	-	-	<u>-</u>
Approach	WB		NB		SB	
HCM Control Delay, s	0		0		0	
HCM LOS	Α					
Minor Long/Major M.	~4	NDT	NDD	MDI 1	CDI	CDT
Minor Lane/Major Mvr	IIL	NBT	NRK	VBLn1	SBL	SBT
Capacity (veh/h)		-	-		1132	-
HCM Lane V/C Ratio		-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS		-	-	Α	Α	-
HCM 95th %tile Q(veh	1)	-	-	-	0	-

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	f.			र्स	W	
Traffic Volume (vph)	63	0	0	60	0	0
Future Volume (vph)	63	0	0	60	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%			3%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1667	0	0	1642	1667	0
Flt Permitted						
Satd. Flow (perm)	1667	0	0	1642	1667	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	1796			721	825	
Travel Time (s)	49.0			19.7	22.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	70	0	0	67	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	0	0	67	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	tion 7.0%			IC	U Level o	of Service A
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4	¥	
Traffic Vol, veh/h	63	0	0	60	0	0
Future Vol, veh/h	63	0	0	60	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	_		-		-	None
Storage Length	_	-	_	-	0	-
Veh in Median Storage	e, # 0	-	_	0	0	-
Grade, %	0	_	-	3	0	_
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	70	0	0	67	0	0
WWITETIOW	10	U	U	01	U	U
Major/Minor	Major1	N	Major2	N	Minor1	
Conflicting Flow All	0	0	70	0	137	70
Stage 1	-	-	-	-	70	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	_	-	-	_	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1531	-	856	993
Stage 1	_	_	_	_	953	-
Stage 2	_	_	_	_	956	_
Platoon blocked, %	_	_		_		
Mov Cap-1 Maneuver	_	_	1531	_	856	993
Mov Cap-2 Maneuver	_	_	-	_	856	-
Stage 1	_	_	_	_	953	_
Stage 2	_	_	<u>-</u>	_	956	<u>-</u>
Stage 2	_	_			330	
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					Α	
Minor Long /Main M		UDL 4	EDT	EDD	WDI	WDT
Minor Lane/Major Mvm	it P	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		-	-	-	1531	-
HCM Lane V/C Ratio		-	-	-	-	-
HCM Control Delay (s)		0	-	-	0	-
					٨	_
HCM Lane LOS HCM 95th %tile Q(veh		Α	-	-	A 0	

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	1			414			4			ર્ન	7
Traffic Volume (vph)	418	382	9	5	467	178	185	48	59	121	5	448
Future Volume (vph)	418	382	9	5	467	178	185	48	59	121	5	448
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			2%			7%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99				0.98
Frt		0.996			0.959			0.973				0.850
Flt Protected	0.950							0.969			0.954	
Satd. Flow (prot)	1760	1810	0	0	3370	0	0	1718	0	0	1813	1553
FIt Permitted	0.244				0.952			0.662			0.608	
Satd. Flow (perm)	452	1810	0	0	3208	0	0	1166	0	0	1156	1525
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			47			10				416
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		879			1354			343			3796	
Travel Time (s)		17.1			26.4			9.4			86.3	
Confl. Peds. (#/hr)			1	1			9					9
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	3%	0%	0%	2%	1%	1%	0%	0%	1%	0%	5%
Adj. Flow (vph)	449	411	10	5	502	191	199	52	63	130	5	482
Shared Lane Traffic (%)												
Lane Group Flow (vph)	449	421	0	0	698	0	0	314	0	0	135	482
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16	J		0	J		0	J -		0	J -
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.02	1.02	1.02	1.01	1.01	1.01	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	Cl+Ex		CI+Ex	Cl+Ex		CI+Ex	CI+Ex		CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94		0.0	94			94		0.0	94	3.0
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			CI+Ex	
Detector 2 Channel												

Lane Group	Ø3
Laneconfigurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
FIt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft) Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6			2			4			4	1
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	15.0	20.0		20.0	20.0		17.0	17.0		17.0	17.0	15.0
Total Split (s)	28.0	65.0		37.0	37.0		30.0	30.0		30.0	30.0	28.0
Total Split (%)	24.3%	56.5%		32.2%	32.2%		26.1%	26.1%		26.1%	26.1%	24.3%
Maximum Green (s)	23.0	60.0		32.0	32.0		25.0	25.0		25.0	25.0	23.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lag	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	76.2	76.2			48.2			25.0			25.0	48.0
Actuated g/C Ratio	0.66	0.66			0.42			0.22			0.22	0.42
v/c Ratio	0.80	0.35			0.51			1.20			0.54	0.55
Control Delay	40.1	9.6			25.8			160.5			49.0	5.9
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	40.1	9.6			25.8			160.5			49.0	5.9
LOS	D	Α			С			F			D	Α
Approach Delay		25.3			25.8			160.5			15.3	
Approach LOS		С			С			F			В	
Queue Length 50th (ft)	197	104			172			~278			89	27
Queue Length 95th (ft)	#394	182			300			#459			157	100
Internal Link Dist (ft)		799			1274			263			3716	
Turn Bay Length (ft)												130
Base Capacity (vph)	561	1199			1372			261			251	884
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.80	0.35			0.51			1.20			0.54	0.55

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 100 (87%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.20

2030 No Build PM Peak

af/ms

Synchro 10 Report
Page 3

Lane Group	Ø3		
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3		
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0		
Minimum Split (s)	19.0		
Total Split (s)	20.0		
Total Split (%)	17%		
Maximum Green (s)	15.0		
Yellow Time (s)	4.0		
All-Red Time (s)	1.0		
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	4.0		
Recall Mode	None		
Walk Time (s)	5.0		
Flash Dont Walk (s)	9.0		
Pedestrian Calls (#/hr)	1		
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			
Intersection Summary			

Synchro 10 Report 2030 No Build PM Peak Page 4 af/ms

Ø6 (R)

HCM 6th Edition methodology does not support exclusive ped or hold phases.

2030 No Build PM Peak

af/ms

Synchro 10 Report
Page 6

2: Church Driveway/GC&P Road & Bethany Pike

	۶	→	•	•	←	•	1	†	1	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1			4			4			4	
Traffic Volume (vph)	223	334	0	0	316	10	1	0	0	6	0	175
Future Volume (vph)	223	334	0	0	316	10	1	0	0	6	0	175
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.996						0.870	
Flt Protected	0.950							0.950			0.998	
Satd. Flow (prot)	1569	1708	0	0	1637	0	0	1812	0	0	1407	0
Flt Permitted	0.950							0.950			0.998	
Satd. Flow (perm)	1569	1708	0	0	1637	0	0	1812	0	0	1407	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	2%
Adj. Flow (vph)	253	380	0	0	359	11	1	0	0	7	0	199
Shared Lane Traffic (%)												
Lane Group Flow (vph)	253	380	0	0	370	0	0	1	0	0	206	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 61.2%

ICU Level of Service B

Analysis Period (min) 15

2030 No Build PM Peak
af/ms
Synchro 10 Report
Page 7

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ĭ	f)			4			4			4	
Traffic Vol, veh/h	223	334	0	0	316	10	1	0	0	6	0	175
Future Vol, veh/h	223	334	0	0	316	10	1	0	0	6	0	175
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,	# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0	0	0	2
Mvmt Flow	253	380	0	0	359	11	1	0	0	7	0	199
Major/Minor N	/lajor1		ı	Major2			Minor1		N	/linor2		
Conflicting Flow All	370	0	0	380	0	0	1350	1256	380	1251	1251	365
Stage 1	-	-		-	-	-	886	886	-	365	365	-
Stage 2	_	_	_	_	_	_	464	370	_	886	886	<u>-</u>
Critical Hdwy	4.1	_	_	4.1	_	_	7.5	6.9	6.4	6.9	6.3	6.12
Critical Hdwy Stg 1	7.1	_	_	7.1		_	6.5	5.9	- 0.4	5.9	5.3	0.12
Critical Hdwy Stg 2		_	_	_	_	_	6.5	5.9	_	5.9	5.3	_
Follow-up Hdwy	2.2	_	_	2.2	_	_	3.5	4	3.3	3.5	4	3.318
Pot Cap-1 Maneuver	1200	-	_	1190		_	111	150	657	162	187	687
Stage 1	1200	_		1130	_	_	310	331	-	672	640	- 007
Stage 2	<u>-</u> -	_	-	<u>-</u>	-	-	553	599	_	359	384	
Platoon blocked, %	_	_	_	_	_	-	333	333		000	J04	
Mov Cap-1 Maneuver	1200	-	_	1190	-	_	66	118	657	136	148	687
Mov Cap-1 Maneuver	1200	_		1130		_	66	118	-	136	148	-
Stage 1	<u>-</u>	_	<u>-</u>	<u>-</u>	-	_	245	261	_	530	640	
•			_	_		-	393	599	-	283	303	-
Stage 2	<u>-</u>	-	-		-	<u> </u>	J33	299	<u>-</u>	203	503	-
A				WD			ND			OD		
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.5			0			60.5			14		
HCM LOS							F			В		
Minor Lane/Major Mvmt		NBLn1	EBL	EBT	EBR	WBL	WBT	WBR S				
Capacity (veh/h)		66	1200	-	-	1190	-	-	606			
HCM Lane V/C Ratio		0.017		-	-	-	-	-	0.339			
HCM Control Delay (s)		60.5	8.8	-	-	0	-	-	14			
HCM Lane LOS		F	Α	-	-	Α	-	-	В			
HCM 95th %tile Q(veh)		0.1	8.0	-	-	0	-	-	1.5			

	٦	→	•	•	←	•	1	†	/	/	↓	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	₽			4			4			4	
Traffic Volume (veh/h)	223	334	0	0	316	10	1	0	0	6	0	175
Future Volume (Veh/h)	223	334	0	0	316	10	1	0	0	6	0	175
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			1%			2%			-1%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	253	380	0	0	359	11	1	0	0	7	0	199
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	370			380			1450	1256	380	1250	1250	364
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	370			380			1450	1256	380	1250	1250	364
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	79			100			98	100	100	94	100	71
cM capacity (veh/h)	1200			1190			65	136	671	126	138	681
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	253	380	370	1	206							
Volume Left	253	0	0	1	7							
Volume Right	0	0	11	0	199							
cSH	1200	1700	1190	65	592							
Volume to Capacity	0.21	0.22	0.00	0.02	0.35							
Queue Length 95th (ft)	20	0	0	1	39							
Control Delay (s)	8.8	0.0	0.0	61.2	14.3							
Lane LOS	Α			F	В							
Approach Delay (s)	3.5		0.0	61.2	14.3							
Approach LOS				F	В							
Intersection Summary												
Average Delay			4.3									
Intersection Capacity Utiliz	zation		61.2%	IC	CU Level c	of Service			В			
Analysis Period (min)			15									

	٠	-	•	•	•	•	1	†	~	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	^		*	†			4			4	7
Traffic Volume (vph)	136	959	12	5	1101	48	5	0	6	62	0	175
Future Volume (vph)	136	959	12	5	1101	48	5	0	6	62	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	16	14
Grade (%)		0%			0%			-4%			2%	
Storage Length (ft)	150		0	0		0	0		0	0		300
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00			1.00				0.99
Frt		0.998			0.994			0.921				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1752	3531	0	1805	3515	0	0	1982	0	0	2025	1705
Flt Permitted	0.132			0.265				0.914			0.750	
Satd. Flow (perm)	243	3531	0	501	3515	0	0	1848	0	0	1599	1682
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			4			142				192
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1133			236			237			1020	
Travel Time (s)		22.1			4.6			6.5			27.8	
Confl. Peds. (#/hr)	1		16	16		1	1					1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	2%	0%	0%	2%	2%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	149	1054	13	5	1210	53	5	0	7	68	0	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	1067	0	5	1263	0	0	12	0	0	68	192
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	Cl+Ex		CI+Ex	Cl+Ex		CI+Ex	CI+Ex		CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	

2030 No Build PM Peak af/ms

Synchro 10 Report Page 9

Lane Group Ø2 Ø3 Ø7 Ø11 Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl)
Traffic Volume (vph) Future Volume (vph)
Future Volume (vph)
Lane Width (ft)
Grade (%)
Storage Length (ft)
Storage Lanes
Taper Length (ft)
Lane Util. Factor
Ped Bike Factor
Frt
Fit Protected
Satd. Flow (prot)
Fit Permitted
Satd. Flow (perm)
Right Turn on Red
Satd. Flow (RTOR)
Link Speed (mph)
Link Distance (ft)
Travel Time (s)
Confl. Peds. (#/hr)
Peak Hour Factor
Heavy Vehicles (%)
Adj. Flow (vph) Shared Lane Traffic (%)
Lane Group Flow (vph) Enter Blocked Intersection
Lane Alignment
Median Width(ft)
Link Offset(ft)
Crosswalk Width(ft)
Two way Left Turn Lane
Headway Factor Turning Speed (mph)
Turning Speed (mph) Number of Detectors
Detector Template
Leading Detector (ft) Trailing Detector (ft)
Trailing Detector (ft)
Detector 1 Position(ft)
Detector 1 Size(ft)
Detector 1 Type
Detector 1 Channel
Detector 1 Extend (s)
Detector 1 Queue (s)
Detector 1 Delay (s)
Detector 2 Position(ft)
Detector 2 Size(ft)
Detector 2 Type

	,	,		
3:	Driveway	y/Park Roa	ad & US 4	0 National Road

	٠	-	7	1	•	*	1	†	1	1	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	20.0	52.0					23.0	23.0		23.0	23.0	23.0
Total Split (%)	17.4%	45.2%					20.0%	20.0%		20.0%	20.0%	20.0%
Maximum Green (s)	15.0	47.0					18.0	18.0		18.0	18.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	71.0	71.0		72.8	72.8			18.0			18.0	18.0
Actuated g/C Ratio	0.62	0.62		0.63	0.63			0.16			0.16	0.16
v/c Ratio	0.55	0.49		0.02	0.57			0.03			0.27	0.45
Control Delay	20.0	11.3		0.4	1.4			0.1			46.1	9.8
Queue Delay	0.0	0.0		0.0	0.2			0.0			0.0	0.0
Total Delay	20.0	11.3		0.4	1.6			0.1			46.1	9.8
LOS	В	В		Α	Α			Α			D	Α
Approach Delay		12.3			1.6			0.1			19.3	
Approach LOS		В			Α			Α			В	
Queue Length 50th (ft)	41	177		0	10			0			45	0
Queue Length 95th (ft)	87	214		m0	11			0			89	64
Internal Link Dist (ft)		1053			156			157			940	
Turn Bay Length (ft)	150											300
Base Capacity (vph)	346	2180		317	2227			409			250	425
Starvation Cap Reductn	0	0		0	292			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.43	0.49		0.02	0.65			0.03			0.27	0.45

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 90

Control Type: Actuated-Coordinated

2030 No Build PM Peak

af/ms

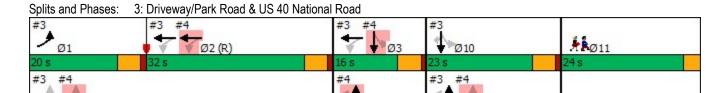
Synchro 10 Report
Page 11

Lana Craun	(2)	a)	07	011
Lane Group	Ø2	Ø3	Ø7	Ø11
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type			_	
Protected Phases	2	3	7	11
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	15.0	15.0	17.0
Total Split (s)	32.0	16.0	16.0	24.0
Total Split (%)	28%	14%	14%	21%
Maximum Green (s)	27.0	11.0	11.0	21.0
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lag			
Lead-Lag Optimize?	Yes			
Vehicle Extension (s)	5.0	4.0	4.0	3.0
Recall Mode	C-Max	None	None	None
Walk Time (s)	O IVIUX	110110	140110	5.0
Flash Dont Walk (s)				9.0
Pedestrian Calls (#/hr)				0
Act Effct Green (s)				U
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

→Ø6 (R)

Maximum v/c Ratio: 0.68
Intersection Signal Delay: 8.0
Intersection Capacity Utilization 59.6%
Analysis Period (min) 15
Intersection LOS: A
ICU Level of Service B

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



HCM 6th Edition methodology does not support clustered intersections.

	۶	-	•	•	←	•	1	†	-	-	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		†		7	†			4			4	
Traffic Volume (vph)	3	961	63	39	1075	13	45	0	35	7	1	30
Future Volume (vph)	3	961	63	39	1075	13	45	0	35	7	1	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%			0%	
Storage Length (ft)	0		0	105		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.998			0.941			0.894	
Flt Protected				0.950				0.973			0.991	
Satd. Flow (prot)	0	3507	0	1770	3532	0	0	1697	0	0	1650	0
Flt Permitted		0.953		0.070				0.845			0.949	
Satd. Flow (perm)	0	3343	0	130	3532	0	0	1474	0	0	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			1			142			33	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			3.5	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	3	1056	69	43	1181	14	49	0	38	8	1	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1128	0	43	1195	0	0	87	0	0	42	0
Enter Blocked Intersection	No	No	No									
Lane Alignment	Left	Left	Right									
Median Width(ft)		12	Ŭ		12			0	J		0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru										
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex										
Detector 1 Channel										· ·		
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			Cl+Ex			CI+Ex	
Detector 2 Channel		O, EX			O, LA			OI LA			OI LA	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA										
Protected Phases	1 01111	6 14		1 01111	2		1 01111	7		1 Gilli	3	
i rotected i ridaea		0 14			۷			ı			J	

Synchro 10 Report Page 15 2030 No Build PM Peak af/ms

Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Grade (%)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Lane Util. Factor					
Frt					
Flt Protected					
Satd. Flow (prot)					
Flt Permitted					
Satd. Flow (perm)					
Right Turn on Red					
Satd. Flow (RTOR)					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Peak Hour Factor					
Adj. Flow (vph)					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Enter Blocked Intersection					
Lane Alignment					
Median Width(ft)					
Link Offset(ft)					
Crosswalk Width(ft)					
Two way Left Turn Lane					
Headway Factor					
Turning Speed (mph)					
Number of Detectors					
Detector Template					
Leading Detector (ft)					
Trailing Detector (ft)					
Detector 1 Position(ft)					
Detector 1 Size(ft)					
Detector 1 Type					
Detector 1 Channel					
Detector 1 Extend (s)					
Detector 1 Queue (s)					
Detector 1 Delay (s)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					
Protected Phases	1	6	10	11	14
					•

	۶	→	*	•	←	•	4	1	~	/	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6 14			2			7			3		
Detector Phase	6 14	6 14		2	2		7	7		3	3	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)				20.0	20.0		15.0	15.0		15.0	15.0	
Total Split (s)				32.0	32.0		16.0	16.0		16.0	16.0	
Total Split (%)				27.8%	27.8%		13.9%	13.9%		13.9%	13.9%	
Maximum Green (s)				27.0	27.0		11.0	11.0		11.0	11.0	
Yellow Time (s)				4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				5.0	5.0			5.0			5.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode				C-Max	C-Max		None	None		None	None	
Walk Time (s)				o max	O Max		110110	110110		110110	110110	
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		94.0		56.8	56.8			11.0			11.0	
Actuated g/C Ratio		0.82		0.49	0.49			0.10			0.10	
v/c Ratio		0.41		0.67	0.68			0.32			0.23	
Control Delay		1.5		65.8	21.4			4.5			23.8	
Queue Delay		0.1		0.0	0.0			0.0			0.0	
Total Delay		1.6		65.8	21.4			4.5			23.8	
LOS		A		E	C			A			C	
Approach Delay		1.6		_	23.0			4.5			23.8	
Approach LOS		A			C			A			C	
Queue Length 50th (ft)		5		16	253			0			6	
Queue Length 95th (ft)		37		m#68	m314			10			42	
Internal Link Dist (ft)		156		111//00	799			398			76	
Turn Bay Length (ft)		100		105	7 0 0			000			10	
Base Capacity (vph)		2734		64	1745			269			180	
Starvation Cap Reductn		361		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.48		0.67	0.68			0.32			0.23	
Intersection Summary		0.40		0.07	0.00			0.02			0.20	
Area Type:	Other											
Cycle Length: 115	Othor											
Actuated Cycle Length: 115												
Offset: 0 (0%), Referenced		NRTI an∉	4 6-ERTI	Start of	Green M	aster Inte	rsection					
Natural Cycle: 90	to pridoc Z.V	TO LE GIII	. U.LUIL	., Glait Oi	Orogri, IVI	asior inte	,, 30001011					
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 0.68	orumateu											
Intersection Signal Delay: 1	2 7			l.	ntersection	I OC. D						
					CU Level o		۸					
Intersection Capacity Utiliza	1UUII 3Z.U%			10	JU Level (or Service	; A					
Analysis Period (min) 15												

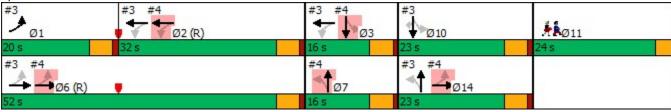
Synchro 10 Report Page 17 2030 No Build PM Peak af/ms

Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
•	וש	טע	טוע	ווש	W14
Permitted Phases Detector Phase					
Switch Phase					
	5.0	5.0	5.0	5.0	5.0
Minimum Initial (s)			12.0		12.0
Minimum Split (s)	13.0	20.0		17.0	
Total Split (s)	20.0	52.0	23.0	24.0	23.0
Total Split (%)	17%	45%	20%	21%	20%
Maximum Green (s)	15.0	47.0	18.0	21.0	18.0
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead				
Lead-Lag Optimize?	Yes				
Vehicle Extension (s)	2.0	5.0	4.0	3.0	4.0
Recall Mode	None	C-Max	None	None	None
Walk Time (s)				5.0	
Flash Dont Walk (s)				9.0	
Pedestrian Calls (#/hr)				0	
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

Synchro 10 Report Page 18 2030 No Build PM Peak af/ms

- # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Leatherwood Lane/Gas Station & US 40 National Road



2030 No Build PM Peak 03/09/2020

HCM 6th Edition methodology does not support clustered intersections.

2030 No Build PM Peak

af/ms

Synchro 10 Report
Page 20

Lane Group		-	•	1	←	1	-				
Lane Configurations	Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Traffic Volume (vph)		ት ቤ		*	44	16.56					
Future Volume (vph)			152	321			0				
Ideal Flow (vphpt)											
Lane Width (ft)	\ 1 /										
Grade (%) 0% 0% -1% Lane Uil. Factor 0.95 0.95 1.00 0.95 0.97 1.00 Fit 0.941 0.941 1 1.00											
Lane Util. Factor											
Fit Protected Fit Protected Fit Protected Fit Protected Fit Protected Fit Permitted Fi			0.95	1.00			1.00				
Fit Protected 0.950 0.950 Satd. Flow (prot) 3140 0 1636 3455 3240 0 Satd. Flow (perm) 3140 0 494 3455 3240 0 Satd. Flow (perm) 3140 0 494 3455 3240 0 Satd. Flow (perm) 3140 0 494 3455 3240 0 Satd. Flow (perm) 318 Satd. Flow (RTOR) 118 Satd. Flow (RTOR) 109 109 Satd. Flow (RTOR)	Frt										
Satd. Flow (prot) 3140 0 1636 3455 3240 0 Fit Permitted 0.287 0.950 0.950 0.950 0.950 Satd. Flow (perm) 3140 0 494 3455 3240 0 Right Turn on Red Yes Yes Yes Satd. Flow (RTOR) 118 118 118 118 118 118 118 118 118 118 118 119 118 118 118 118 118 118 118 118 118 118 118 118 118 118 118				0.950		0.950					
Fit Permitted		3140	0		3455		0				
Satd. Flow (perm) 3140 0 494 3455 3240 0 Right Turn on Red Yes Yes Yes Satd. Flow (RTOR) 118 Flow (RTOR) 118 Link Speed (mph) 35 35 25 Link Distance (ft) 562 201 135 Travel Time (s) 10.9 3.9 3.7 Peak Hour Factor 0.89 0.89 0.89 0.89 0.89 Heavy Vehicles (%) 3% 7% 3% 1% 5% 0% Adj. Flow (vph) 264 171 361 1098 445 0 Shared Lane Traffic (%) Flow (vph) 435 0 361 1098 445 0 Lane Group Flow (vph) 435 0 361 1098 445 0 Enter Blocked Intersection No No </td <td></td>											
Right Turn on Red Yes Yes Satd. Flow (RTOR) 118 Link Speed (mph) 35 35 25 Link Distance (ft) 562 201 135 Travel Time (s) 10.9 3.9 3.7 Peak Hour Factor 0.89 0.89 0.89 0.89 0.89 Heavy Vehicles (%) 3% 7% 3% 1% 5% 0% Adj. Flow (vph) 264 171 361 1098 445 0 Shared Lane Traffic (%) Lane Group Flow (vph) 435 0 361 1098 445 0 Enter Blocked Intersection No No </td <td></td> <td>3140</td> <td>0</td> <td></td> <td>3455</td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td>		3140	0		3455		0				
Satd. Flow (RTOR) 118 Link Speed (mph) 35 35 25 Link Distance (ft) 562 201 135 Travel Time (s) 10.9 3.9 3.7 Peak Hour Factor 0.89 0.89 0.89 0.89 0.89 Heavy Vehicles (%) 3% 7% 3% 1% 5% 0% Adj. Flow (vph) 264 171 361 1098 445 0 Shared Lane Traffic (%) Lane Group Flow (vph) 435 0 361 1098 445 0 Enter Blocked Intersection No	,										
Link Speed (mph) 35 35 25 Link Distance (ft) 562 201 135 Travel Time (s) 10.9 3.9 3.7 Peak Hour Factor 0.89 0.89 0.89 0.89 0.89 0.89 Heavy Vehicles (%) 3% 7% 3% 1% 5% 0% Adj. Flow (vph) 264 171 361 1098 445 0 Shared Lane Traffic (%) Lane Group Flow (vph) 435 0 361 1098 445 0 Enter Blocked Intersection No No No No No No Lane Alignment Left Right Left Left Left Right Median Width(ft) 10 10 22 Link Offset(ft) 0 0 0 0 0 Crosswalk Width(ft) 16 16 16 Two way Left Turn Lane Yes Headway Factor 1.04 1.04 1.09 1.04 1.04 0.99 Turning Speed (mph) 9 15 15 9 Number of Detectors 2 1 2 1 Detector Template Thru Left Thru Left Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Size(ft) 6 0 0 0 0 0 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Cueue (s) 0.0 0.0 0.0 0.0 Detector 1 Cueue (s) 0.0 0.0 0.0 0.0		118									
Link Distance (ft) 562 201 135 Travel Time (s) 10.9 3.9 3.7 Peak Hour Factor 0.89 0.89 0.89 0.89 Heavy Vehicles (%) 3% 7% 3% 1% 5% 0% Adj. Flow (yph) 264 171 361 1098 445 0 Shared Lane Traffic (%) Lane Group Flow (yph) 435 0 361 1098 445 0 Enter Blocked Intersection No					35	25					
Travel Time (s) 10.9 3.9 3.7 Peak Hour Factor 0.89 0.89 0.89 0.89 0.89 0.89 Heavy Vehicles (%) 3% 7% 3% 1% 5% 0% Adj. Flow (vph) 264 171 361 1098 445 0 Shared Lane Traffic (%) Lane Group Flow (vph) 435 0 361 1098 445 0 Enter Blocked Intersection No No No No No No Lane Alignment Left Right Left Left Left Right Median Width(ft) 10 10 22 Link Offset(ft) 0 0 0 Crosswalk Width(ft) 16 16 16 Two way Left Turn Lane Yes Headway Factor 1.04 1.04 1.09 1.04 1.04 0.99 Turning Speed (mph) 9 15 15 9 Number of Detectors 2 1 2 1 Detector Template Thru Left Thru Left Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Size(ft) 6 20 6 20 Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Channel	,										
Peak Hour Factor 0.89 0.											
Heavy Vehicles (%)			0.89	0.89			0.89				
Adj. Flow (vph) 264 171 361 1098 445 0 Shared Lane Traffic (%) Lane Group Flow (vph) 435 0 361 1098 445 0 Enter Blocked Intersection No No No No No No Lane Alignment Left Right Left Left Left Right Median Width(ft) 10 10 22 Link Offset(ft) 0 0 0 Crosswalk Width(ft) 16 16 16 16 16 16 Two way Left Turn Lane Yes Headway Factor 1.04 1.09 1.04 1.04 0.99 Turning Speed (mph) 9 15 15 9 Number of Detectors 2 1 2 1 Detector Template Thru Left Thru Left Leading Detector (ft) 100 20 100 20 Trailing Detector (Tg) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20											
Shared Lane Traffic (%)											
Lane Group Flow (vph) 435 0 361 1098 445 0 Enter Blocked Intersection No No No No No No Lane Alignment Left Right Left Left Left Right Median Width(ft) 10 10 22 10 22 10											
Enter Blocked Intersection No No <th< td=""><td></td><td>435</td><td>0</td><td>361</td><td>1098</td><td>445</td><td>0</td><td></td><td></td><td></td><td></td></th<>		435	0	361	1098	445	0				
Lane Alignment Left Right Left Left Left Left Right Median Width(ft) 10 22 Link Offset(ft) 0 0 Crosswalk Width(ft) 16 16 Two way Left Turn Lane Yes Headway Factor 1.04 1.09 1.04 1.04 0.99 Turning Speed (mph) 9 15 15 9 Number of Detectors 2 1 2 1 Detector Template Thru Left Thru Left Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0											
Median Width(ft) 10 10 22 Link Offset(ft) 0 0 0 Crosswalk Width(ft) 16 16 16 Two way Left Turn Lane Yes 1.04 1.09 1.04 1.04 0.99 Turning Speed (mph) 9 15 15 9 Number of Detectors 2 1 2 1 Detector Template Thru Left Thru Left Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Detector 1 Queue (s) 0.0 0.0 0.0 0.0											
Link Offset(ft) 0 0 0 Crosswalk Width(ft) 16 16 16 Two way Left Turn Lane Yes Headway Factor 1.04 1.04 1.09 1.04 0.99 Turning Speed (mph) 9 15 15 9 Number of Detectors 2 1 2 1 Detector Template Thru Left Thru Left Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0							<u> </u>				
Crosswalk Width(ft) 16 16 16 Two way Left Turn Lane Yes Headway Factor 1.04 1.09 1.04 0.99 Turning Speed (mph) 9 15 15 9 Number of Detectors 2 1 2 1 Detector Template Thru Left Thru Left Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0											
Two way Left Turn Lane Yes Headway Factor 1.04 1.04 1.09 1.04 0.99 Turning Speed (mph) 9 15 15 9 Number of Detectors 2 1 2 1 Detector Template Thru Left Thru Left Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0		16				16					
Headway Factor 1.04 1.04 1.09 1.04 0.99 Turning Speed (mph) 9 15 15 9 Number of Detectors 2 1 2 1 Detector Template Thru Left Thru Left Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0											
Turning Speed (mph) 9 15 15 9 Number of Detectors 2 1 2 1 Detector Template Thru Left Thru Left Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0 0.0			1.04	1.09	1.04	1.04	0.99				
Number of Detectors 2 1 2 1 Detector Template Thru Left Thru Left Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0			9	15		15	9				
Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0		2		1	2	1					
Leading Detector (ft) 100 20 100 20 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0	Detector Template	Thru		Left	Thru	Left					
Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 6 20 6 20 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0		100		20	100	20					
Detector 1 Size(ft) 6 20 6 20 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0		0		0	0	0					
Detector 1 Size(ft) 6 20 6 20 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0	Detector 1 Position(ft)	0		0	0	0					
Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0		6		20	6	20					
Detector 1 Channel 0.0 0.0 0.0 0.0 Detector 1 Extend (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0		CI+Ex		CI+Ex	Cl+Ex	CI+Ex					
Detector 1 Queue (s) 0.0 0.0 0.0											
	Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
	. ,	0.0		0.0	0.0						
Detector i Detay (S) U.U U.U U.U U.U	Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft) 94 94		94			94						
Detector 2 Size(ft) 6 6	` '	6			6						
Detector 2 Type CI+Ex CI+Ex		CI+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s) 0.0 0.0		0.0			0.0						
Turn Type NA pm+pt NA Prot	` '			pm+pt		Prot					
Protected Phases 2 1 1 6 8 3 4 6								3	4	6	
Permitted Phases 1 6				16							

	-	*	1		1					
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Detector Phase	2		1	16	8					
Switch Phase										
Minimum Initial (s)	5.0		5.0		5.0		5.0	5.0	5.0	
Minimum Split (s)	20.0		15.0		17.0		17.0	17.0	20.0	
Total Split (s)	30.0		20.0		65.0		33.0	32.0	50.0	
Total Split (%)	26.1%		17.4%		56.5%		29%	28%	43%	
Maximum Green (s)	25.0		15.0		60.0		28.0	27.0	45.0	
Yellow Time (s)	4.0		4.0		4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0		1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0		0.0					
Total Lost Time (s)	5.0		5.0		5.0					
Lead/Lag	Lag		Lead				Lead	Lag		
Lead-Lag Optimize?	Yes		Yes				Yes	Yes		
Vehicle Extension (s)	5.0		2.5		4.0		4.0	5.0	5.0	
Recall Mode	C-Max		None		None		None	None	C-Max	
Act Effct Green (s)	25.6		45.6	45.6	59.4					
Actuated g/C Ratio	0.22		0.40	0.40	0.52					
v/c Ratio	0.55		1.05	0.80	0.27					
Control Delay	31.6		106.0	50.1	5.5					
Queue Delay	0.0		0.0	0.0	2.7					
Total Delay	31.6		106.0	50.1	8.2					
LOS	С		F	D	Α					
Approach Delay	31.6			63.9	8.2					
Approach LOS	С			Е	Α					
Queue Length 50th (ft)	110		~247	344	27					
Queue Length 95th (ft)	161		#382	465	m31					
Internal Link Dist (ft)	482			121	55					
Turn Bay Length (ft)										
Base Capacity (vph)	790		345	1369	1690					
Starvation Cap Reductn	0		0	0	1104					
Spillback Cap Reductn	0		0	0	0					
Storage Cap Reductn	0		0	0	0					
Reduced v/c Ratio	0.55		1.05	0.80	0.76					

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 100 (87%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 47.3 Intersection LOS: D
Intersection Capacity Utilization 52.9% ICU Level of Service A

Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 5: Mt. DeChantel Road & US 40 National Road



2030 No Build PM Peak

af/ms

Synchro 10 Report
Page 23

HCM 6th Edition methodology does not support clustered intersections.

Lanes, Volumes, Timings 2030 No Build PM Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 刊析2020

Lane Configurations		۶	→	•	•	•	•	1	†	1	-	Ţ	1
Traffic Volume (vph)	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	Lane Configurations		474						†			†	
Idea Flow (ryphpi)		70		133	0	0	0	0		320	0	473	0
Lane Width (ft)	Future Volume (vph)	70	628	133	0	0	0	0	325	320	0	473	0
Cirate (%)	Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Unil, Factor	Lane Width (ft)	12	12	12	12	12	12	13	13	13	12	16	12
Ped Bike Factor	Grade (%)		-1%			0%			0%			1%	
Fith	Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Filt Producted	Ped Bike Factor		1.00						0.99				
Satd Flow (prot)	Frt		0.976						0.926				
Fit Permitted	Flt Protected		0.996										
Satd. Flow (perm)	Satd. Flow (prot)	0	3476	0	0	0	0	0	3323	0	0	2101	0
Right Turn on Red Yes	Flt Permitted		0.996										
Satd. Flow (RTOR)	Satd. Flow (perm)	0	3474	0	0	0	0	0	3323	0	0	2101	0
Link Speed (mph) 35 30 25 25 Link Distance (ft) 482 215 270 135 Travel Time (s) 9.4 4.9 7.4 3.7 Confl. Peds. (#hr) 4 4 4 7 5 5 7 Peak Hour Factor 0.95 <td>Right Turn on Red</td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td> <td>Yes</td>	Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph) 35 30 25 25 Link Distance (ft) 482 215 270 135 Travel Time (s) 9.4 4.9 7.4 3.7 Confl. Peds. (#hr) 4 4 4 7 5 5 7 Peak Hour Factor 0.95 <td>Satd. Flow (RTOR)</td> <td></td> <td>18</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>203</td> <td></td> <td></td> <td></td> <td></td>	Satd. Flow (RTOR)		18						203				
Travel Time (s)			35			30			25			25	
Confil Peds. (#/hr)	Link Distance (ft)		482			215			270			135	
Peak Hour Factor	Travel Time (s)		9.4			4.9			7.4			3.7	
Heavy Vehicles (%)	Confl. Peds. (#/hr)	4		4	4		4	7		5	5		7
Adj. Flow (vph) 74 661 140 0 0 0 342 337 0 498 0 Shared Lane Traffic (%) Lane Group Flow (vph) 0 875 0 0 0 0 679 0 0 498 0 Enter Blocked Intersection No	Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%) Lane Group Flow (vph) 0 875 0 0 0 0 0 0 0 679 0 0 498 0	Heavy Vehicles (%)	3%	1%	0%	0%	0%	0%	0%	5%	1%	0%	2%	0%
Shared Lane Traffic (%) Lane Group Flow (yph) 0 875 0 0 0 0 0 0 0 0 679 0 0 0 498 0	Adj. Flow (vph)	74	661	140	0	0	0	0	342	337	0	498	0
Enter Blocked Intersection No No No No No No No	Shared Lane Traffic (%)												
Left Left Right Right Median Width(ft) 0	Lane Group Flow (vph)	0	875	0	0	0	0	0	679	0	0	498	0
Median Width(ft) 0 0 0 0 0 Link Offset(ft) 0 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 Toway Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.91 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 10 10 10 10 10 10 10 10 <td< td=""><td>Enter Blocked Intersection</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td></td<>	Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Link Offset(ft) 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane 16 16 16 16 Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 0 15 10 15 10 </td <td>Lane Alignment</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td>	Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 0 10 10 10 10 10 10	Median Width(ft)		0			0			0			0	
Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01	Link Offset(ft)		0			0			0			0	
Headway Factor 0.99 0.99 0.99 1.00 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01	Crosswalk Width(ft)		16			16			16			16	
Turning Speed (mph) 15 9 15 9 15 9 15 9 Number of Detectors 1 2 2 2 Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 100 Trailing Detector (ft) 0 0 0 0 Detector 1 Position(ft) 0 0 0 0 Detector 1 Size(ft) 20 6 6 6 6 Detector 1 Size(ft) 20 6 6 6 6 6 0 <td>Two way Left Turn Lane</td> <td></td>	Two way Left Turn Lane												
Number of Detectors 1 2 2 2 Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Extend (s) 0.0	Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	0.96	0.96	0.96		0.85	1.01
Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type Cl+Ex Cl+Ex Cl+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Turning Speed (mph)	15		9	15		9	15		9	15		9
Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel 0.0 0.0 0.0 Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type Cl+Ex Cl+Ex Cl+Ex Detector 2 Channel 0.0 0.0 0.0 Detector 2 Extend (s) 0.0 0.0 0.0	Number of Detectors	1	2						2			2	
Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0 Detector 2 Extend (s) 0.0 0.0 0.0	Detector Template	Left	Thru						Thru			Thru	
Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type Cl+Ex Cl+Ex Cl+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Leading Detector (ft)	20	100						100			100	
Detector 1 Size(ft) 20 6 6 6 Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Trailing Detector (ft)	0	0						0			0	
Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel 0.0 0.0 0.0 Detector 1 Extend (s) 0.0 0.0 0.0 Detector 1 Queue (s) 0.0 0.0 0.0 Detector 1 Delay (s) 0.0 0.0 0.0 Detector 2 Position(ft) 94 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 1 Position(ft)		0						0			0	
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Detector 2 Position(ft) 94 94 Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 2 Size(ft) 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel Detector 2 Extend (s) 0.0 0.0	Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Type CI+Ex CI+Ex CI+Ex Detector 2 Channel 0.0 0.0 0.0	Detector 2 Position(ft)		94						94			94	
Detector 2 Channel Detector 2 Extend (s) 0.0 0.0 0.0	Detector 2 Size(ft)		6						6			6	
Detector 2 Extend (s) 0.0 0.0	Detector 2 Type		CI+Ex						CI+Ex			CI+Ex	
\sqrt{I}	Detector 2 Channel												
Turn Type Perm NA NA NA	Detector 2 Extend (s)		0.0						0.0			0.0	
	Turn Type	Perm	NA						NA			NA	

Synchro 10 Report 2030 No Build PM Peak Page 1 af/ms

Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft) Grade (%) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Extend (s) Detector 2 Position(ft) Detector 2 Position(ft) Detector 2 Type Detector 2 Type Detector 2 Type Detector 2 Type Detector 2 Channel	Lane Group	Ø1	Ø2	Ø6	Ø8
Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft) Grade (%) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ff) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Size(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Delay (s) Detector 2 Position(ft) Detector 2 Position(ft) Detector 2 Type Detector 2 Type Detector 2 Type Detector 2 Channel				- 20	
Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft) Grade (%) Lane Util. Factor Ped Bike Factor Frt Fit Protected Satd. Flow (prot) Fit Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Detector 1 Position(ft) Detector 1 Position(ft) Detector 1 Type Detector 1 Queue (s) Detector 2 Type Detector 2 Type Detector 2 Type Detector 2 Type Detector 2 Channel					
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Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Travel Time (s) Confl. Peds. (#/hr) Peak Hour Factor Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Type Detector 1 Channel Detector 1 Queue (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type					
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Heavy Vehicles (%) Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Queue (s) Detector 2 Position(ft) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Type Detector 2 Type Detector 2 Channel					
Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Queue (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Channel					
Shared Lane Traffic (%) Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Type Detector 1 Channel Detector 1 Extend (s) Detector 1 Delay (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Channel					
Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Queue (s) Detector 1 Delay (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Type Detector 2 Channel					
Lane Group Flow (vph) Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Delay (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Type Detector 2 Type Detector 2 Channel					
Enter Blocked Intersection Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Queue (s) Detector 1 Delay (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Type Detector 2 Channel					
Lane Alignment Median Width(ft) Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Queue (s) Detector 1 Delay (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Type Detector 2 Channel					
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Link Offset(ft) Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Extend (s) Detector 1 Queue (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Channel					
Crosswalk Width(ft) Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Extend (s) Detector 1 Queue (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Channel					
Two way Left Turn Lane Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Extend (s) Detector 1 Queue (s) Detector 1 Delay (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Channel					
Headway Factor Turning Speed (mph) Number of Detectors Detector Template Leading Detector (ft) Trailing Detector (ft) Detector 1 Position(ft) Detector 1 Size(ft) Detector 1 Type Detector 1 Channel Detector 1 Extend (s) Detector 1 Queue (s) Detector 1 Delay (s) Detector 2 Position(ft) Detector 2 Size(ft) Detector 2 Type Detector 2 Channel					
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Detector 2 Size(ft) Detector 2 Type Detector 2 Channel					
Detector 2 Type Detector 2 Channel	, ,				
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type	Turn Type				

Synchro 10 Report 2030 No Build PM Peak Page 2 af/ms

Lanes, Volumes, Timings 2030 No Build PM Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 198/11/2020

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		3						4			6 4	
Permitted Phases	3											
Detector Phase	3	3						4			64	
Switch Phase	•							•				
Minimum Initial (s)	5.0	5.0						5.0				
Minimum Split (s)	17.0	17.0						17.0				
Total Split (s)	33.0	33.0						32.0				
Total Split (%)	28.7%	28.7%						27.8%				
Maximum Green (s)	28.0	28.0						27.0				
Yellow Time (s)	4.0	4.0						4.0				
All-Red Time (s)	1.0	1.0						1.0				
	1.0	0.0						0.0				
Lost Time Adjust (s)												
Total Lost Time (s)	ll	5.0						5.0				
Lead/Lag	Lead	Lead						Lag				
Lead-Lag Optimize?	Yes	Yes						Yes				
Vehicle Extension (s)	4.0	4.0						5.0				
Recall Mode	None	None						None			_	
Act Effct Green (s)		28.0						26.4			77.0	
Actuated g/C Ratio		0.24						0.23			0.67	
v/c Ratio		1.02						0.74			0.35	
Control Delay		77.9						30.6			2.5	
Queue Delay		0.0						0.0			4.5	
Total Delay		77.9						30.6			7.0	
LOS		Е						С			Α	
Approach Delay		77.9						30.6			7.0	
Approach LOS		Е						С			Α	
Queue Length 50th (ft)		~347						174			26	
Queue Length 95th (ft)		#485						210			m25	
Internal Link Dist (ft)		402			135			190			55	
Turn Bay Length (ft)								, , ,				
Base Capacity (vph)		859						935			1399	
Starvation Cap Reductn		0						0			811	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		1.02						0.73			0.85	
Intersection Summary		1.02						0.10			0.00	
Area Type:	Other											
• •	Olliel											
Cycle Length: 115	-											
Actuated Cycle Length: 115		- 0.FDT -	I C-\\/D	TI 044	- (0							
Offset: 100 (87%), Referen	ced to phas	se z:EBT a	na 6:VVB	il, Start	or Green							
Natural Cycle: 90	l											
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 1.05				_								
Intersection Signal Delay: 4					tersection							
Intersection Capacity Utiliza	ation 60.3%			IC	CU Level of	of Service	B					
Analysis Period (min) 15												
 Volume exceeds capac 			ally infinit	te.								
Queue shown is maximu	um after two	cycles.										

Synchro 10 Report 2030 No Build PM Peak Page 3 af/ms

Lanes, Volumes, Timings 2030 No Build PM Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 刊析2020

Lane Group	Ø1	Ø2	Ø6	Ø8
Protected Phases	1	2	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	20.0	20.0	17.0
Total Split (s)	20.0	30.0	50.0	65.0
Total Split (%)	17%	26%	43%	57%
Maximum Green (s)	15.0	25.0	45.0	60.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.5	5.0	5.0	4.0
Recall Mode	None	C-Max	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

2030 No Build PM Peak Synchro 10 Report Page 4 af/ms

6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T%/fr/2020

- # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Turn



2030 No Build PM Peak
af/ms
Synchro 10 Report
Page 5

HCM 6th Edition methodology does not support clustered intersections.

Synchro 10 Report 2030 No Build PM Peak af/ms Page 6

Lane Group EBT EBR WBL WBT NEL NER Lane Configurations ***
Traffic Volume (vph) 235 0 0 1298 0 948 Future Volume (vph) 235 0 0 1298 0 948 Ideal Flow (vphpl) 1700 1700 1700 1700 1700 Lane Width (ft) 12 12 12 11 12 12 Grade (%) 0% 0% -2% 0
Traffic Volume (vph) 235 0 0 1298 0 948 Future Volume (vph) 235 0 0 1298 0 948 Ideal Flow (vphpl) 1700 1700 1700 1700 1700 Lane Width (ft) 12 12 12 11 12 12 Grade (%) 0% 0% -2% 0
Ideal Flow (vphpl) 1700
Lane Width (ft) 12 12 12 11 12 12 Grade (%) 0% 0% -2% Storage Length (ft) 0 590 0 0 Storage Lanes 0 1 0 2 Taper Length (ft) 25 25 Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0.850 Fit Protected Satd. Flow (prot) 3106 0 0 4398 0 2543
Grade (%) 0% 0% -2% Storage Length (ft) 0 590 0 0 Storage Lanes 0 1 0 2 Taper Length (ft) 25 25 25 Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0.850 0 0.850 0 0 4398 0 2543
Storage Length (ft) 0 590 0 0 Storage Lanes 0 1 0 2 Taper Length (ft) 25 25 Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0.850 Flt Protected Satd. Flow (prot) 3106 0 0 4398 0 2543
Storage Lanes 0 1 0 2 Taper Length (ft) 25 25 Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0.850 Fit Protected Satd. Flow (prot) 3106 0 0 4398 0 2543
Storage Lanes 0 1 0 2 Taper Length (ft) 25 25 Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0.850 Fit Protected Satd. Flow (prot) 3106 0 0 4398 0 2543
Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0.850 Fit Protected Satd. Flow (prot) 3106 0 0 4398 0 2543
Frt 0.850 Flt Protected Satd. Flow (prot) 3106 0 0 4398 0 2543
Fit Protected Satd. Flow (prot) 3106 0 0 4398 0 2543
Satd. Flow (prot) 3106 0 0 4398 0 2543
rit remilled
Satd. Flow (perm) 3106 0 0 4398 0 2543
Link Speed (mph) 35 35 35
Link Distance (ft) 201 1133 215
Travel Time (s) 3.9 22.1 4.2
Peak Hour Factor 0.93 0.93 0.93 0.93 0.93
Heavy Vehicles (%) 4% 0% 0% 2% 0% 1%
Adj. Flow (vph) 253 0 0 1396 0 1019
Shared Lane Traffic (%)
Lane Group Flow (vph) 253 0 0 1396 0 1019
Enter Blocked Intersection No No No No No No
Lane Alignment Left Right Left Left Right
Median Width(ft) 1 1 0
Link Offset(ft) 0 0 0
Crosswalk Width(ft) 16 16
Two way Left Turn Lane Yes
Headway Factor 1.15 1.15 1.20 1.14 1.14
Turning Speed (mph) 9 15 15 9
Sign Control Free Free Yield
Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 51.0% ICU Level of Service A

Analysis Period (min) 15

Synchro 10 Report 2030 No Build PM Peak Page 1 af/ms

HCM Unsignalized Intersection Capacity Analysis 2037: Mt. DeChantal Road/I-70 Off-Ramp Right Turn & US 40 National Road

	-	7	*	•	7	/		
Movement	EBT	EBR	WBL	WBT	NEL	NER		
Lane Configurations	^			^ ^		77		
Traffic Volume (veh/h)	235	0	0	1298	0	948		
Future Volume (Veh/h)	235	0	0	1298	0	948		
Sign Control	Free			Free	Yield			
Grade	0%			0%	-2%			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Hourly flow rate (vph)	253	0	0	1396	0	1019		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			TWLTL				
Median storage veh)				2				
Upstream signal (ft)	201			1133				
pX, platoon unblocked					0.91			
vC, conflicting volume			253		718	126		
vC1, stage 1 conf vol					253			
vC2, stage 2 conf vol					465			
vCu, unblocked vol			253		345	126		
tC, single (s)			4.1		6.8	6.9		
tC, 2 stage (s)					5.8			
tF (s)			2.2		3.5	3.3		
p0 queue free %			100		100	0		
cM capacity (veh/h)			1324		713	903		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1	NE 2	
Volume Total	126	126	465	465	465	510	510	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	510	510	
cSH	1700	1700	1700	1700	1700	903	903	
Volume to Capacity	0.07	0.07	0.27	0.27	0.27	0.56	0.56	
Queue Length 95th (ft)	0	0	0	0	0	90	90	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.0	14.0	
Lane LOS						В	В	
Approach Delay (s)	0.0		0.0			14.0		
Approach LOS						В		
Intersection Summary								
Average Delay			5.4					
Intersection Capacity Utiliza	ation		51.0%	IC	U Level c	f Service		
Analysis Period (min)			15					

Synchro 10 Report 2030 No Build PM Peak Page 1 af/ms

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				*		7	7	^			1	
Traffic Volume (vph)	0	0	0	2	0	179	95	442	0	0	331	274
Future Volume (vph)	0	0	0	2	0	179	95	442	0	0	331	274
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.939	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1519	1623	1643	0	0	1527	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1519	1623	1643	0	0	1527	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)	6					6			2	2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	4%	0%	0%	4%	4%
Adj. Flow (vph)	0	0	0	2	0	188	100	465	0	0	348	288
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	2	0	188	100	465	0	0	636	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15	_	9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
7 1	Other											
Control Type: Unsignalized												

Control Type: Unsignalized

Intersection Capacity Utilization 57.4%

ICU Level of Service B

Analysis Period (min) 15

Synchro 10 Report 2030 No Build PM Peak Page 32 af/ms

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				*		7	*	†			1>	
Traffic Vol, veh/h	0	0	0	2	0	179	95	442	0	0	331	274
Future Vol, veh/h	0	0	0	2	0	179	95	442	0	0	331	274
Conflicting Peds, #/hr	6	0	0	0	0	6	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	170	-	-	-	-	-
Veh in Median Storage	e, # -	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-1	-	-	-1	-	-	1	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	2	0	4	0	0	4	4
Mvmt Flow	0	0	0	2	0	188	100	465	0	0	348	288
Major/Minor			ľ	Minor1		ľ	Major1		N	//ajor2		
Conflicting Flow All				1157	-	471	636	0	-	-	-	0
Stage 1				665	-	-	-	-	-	-	-	-
Stage 2				492	-	-	-	-	-	-	-	_
Critical Hdwy				6.2	-	6.12	4.1	-	-	-	-	-
Critical Hdwy Stg 1				5.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.2	-	-	-	-	-	-	-	-
Follow-up Hdwy				3.5	-	3.318	2.2	-	-	-	-	-
Pot Cap-1 Maneuver				234	0	601	957	-	0	0	-	-
Stage 1				534	0	-	-	-	0	0	-	-
Stage 2				636	0	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				210	0	598	957	-	-	-	-	_
Mov Cap-2 Maneuver				210	0	-	-	-	-	-	-	-
Stage 1				478	0	-	-	-	-	-	-	-
Stage 2				636	0	-	-	-	-	-	-	-
Approach				WB			NB			SB		
HCM Control Delay, s				13.9			1.6			0		
HCM LOS				В								
Minor Lane/Major Mvm	nt	NBL	NBTV	VBLn1V	VBLn2	SBT	SBR					
Capacity (veh/h)		957	-	210	598	-	-					
HCM Lane V/C Ratio		0.104	-		0.315	-	-					
HCM Control Delay (s)		9.2	-	22.3	13.8	_	-					
HCM Lane LOS		A	-	С	В	-	-					
HCM 95th %tile Q(veh)		0.3	-	0	1.3	-	-					

O. Mt. Decrianter	toda a i	, 0) OII-IN	ampin	ti ogoi c	סוועס	way					
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				×		7	*	^			ĵ.	
Traffic Volume (veh/h)	0	0	0	2	0	179	95	442	0	0	331	274
Future Volume (Veh/h)	0	0	0	2	0	179	95	442	0	0	331	274
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-1%			-1%			1%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	2	0	188	100	465	0	0	348	288
Pedestrians					2						6	
Lane Width (ft)					15.0						12.0	
Walking Speed (ft/s)					3.5						3.5	
Percent Blockage					0						1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								477			270	
pX, platoon unblocked	0.91	0.91	0.89	0.91	0.91	0.95	0.89			0.95		
vC, conflicting volume	1163	1159	492	1159	1303	473	636			467		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	999	995	363	995	1153	415	525			409		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	99	100	69	89			100		
cM capacity (veh/h)	128	200	608	188	162	599	932			1096		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1							
Volume Total	2	188	100	465	636							
Volume Left	2	0	100	0	0							
Volume Right	0	188	0	0	288							
cSH	188	599	932	1700	1700							
Volume to Capacity	0.01	0.31	0.11	0.27	0.37							
Queue Length 95th (ft)	1	33	9	0	0							
Control Delay (s)	24.3	13.7	9.3	0.0	0.0							
Lane LOS	С	В	Α									
Approach Delay (s)	13.9		1.7		0.0							
Approach LOS	В											
Intersection Summary												
Average Delay			2.6									
Intersection Capacity Utiliza	ation		57.4%	IC	U Level o	of Service			В			
Analysis Period (min)			15									

	•	•	†	~	-	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	*	7	↑	7	*	↑
Traffic Volume (vph)	10	152	365	135	232	70
Future Volume (vph)	10	152	365	135	232	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	14	13	14
. ,	2%	10	1%	14	13	1%
Grade (%)		00	1 70	100	240	1 70
Storage Length (ft)	0	80		120	210	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25			4.00	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1620	1818	1697	1856	1977
FIt Permitted	0.950				0.470	
Satd. Flow (perm)	1787	1620	1818	1697	918	1977
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		167		148		
Link Speed (mph)	25	101	25	113		25
Link Distance (ft)	249		332			477
Travel Time (s)	6.8		9.1			13.0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	2%	4%	1%	0%	2%
Adj. Flow (vph)	11	167	401	148	255	77
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	167	401	148	255	77
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		13			13
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	0.97	1.01	0.92	0.96	0.92
Turning Speed (mph)	1.01	9	1.01	9	15	0.02
Number of Detectors	1	1	2	1	1	2
		•	_	•		
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			CI+Ex
			OITEX			OITEX
Detector 2 Channel			0.0			0.0
Detector 2 Extend (s)			0.0			0.0

	•	•	†	/	-	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	70.0	70.0	20.0	90.0
Total Split (%)	21.7%	21.7%	60.9%	60.9%	17.4%	78.3%
Maximum Green (s)	20.0	20.0	65.0	65.0	15.0	85.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	2.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.6	9.6	82.6	82.6	95.4	95.4
Actuated g/C Ratio	0.08	0.08	0.72	0.72	0.83	0.83
v/c Ratio	0.07	0.58	0.31	0.12	0.31	0.05
Control Delay	47.7	15.8	7.2	1.3	7.8	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	15.8	7.2	1.3	7.8	5.3
LOS	D	В	Α	A	A	A
Approach Delay	17.7		5.6	, ,	, ,	7.3
Approach LOS	В		A			Α.
Queue Length 50th (ft)	8	0	87	0	70	19
Queue Length 95th (ft)	26	63	176	22	m151	m40
Internal Link Dist (ft)	169	00	252	LL	111101	397
Turn Bay Length (ft)	103	80	232	120	210	331
Base Capacity (vph)	310	419	1306	1261	883	1640
Starvation Cap Reductn	0	0	0	0	003	0
Spillback Cap Reductn	0	0	0	0	0	0
			0			
Storage Cap Reductn	0	0 40		0 12	0 20	0.05
Reduced v/c Ratio	0.04	0.40	0.31	0.12	0.29	0.05
Intersection Summary						
Area Type:	Other					
Cycle Length: 115						
Actuated Cycle Length: 17	15					
Offset: 40 (35%), Referen	ced to phase	2:NBT a	nd 6:SBT	L, Start o	f Green	

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 8.1 Intersection LOS: A Intersection Capacity Utilization 48.7% ICU Level of Service A

Analysis Period (min) 15

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

Synchro 10 Report 2030 No Build PM Peak af/ms Page 35



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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ħ	7	↑	7	*	^
Traffic Volume (veh/h)	10	152	365	135	232	70
Future Volume (veh/h)	10	152	365	135	232	70
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1876	1921	1835	1954	1970	1939
Adj Flow Rate, veh/h	11	167	401	148	255	77
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	2	4	1	0	2
Cap, veh/h	219	199	1262	1140	717	1533
Arrive On Green	0.12	0.12	0.69	0.69	0.10	1.00
Sat Flow, veh/h	1787	1628	1835	1656	1876	1939
Grp Volume(v), veh/h	11	167	401	148	255	77
Grp Sat Flow(s),veh/h/ln	1787	1628	1835	1656	1876	1939
Q Serve(g_s), s	0.6	11.5	10.0	3.5	4.6	0.0
Cycle Q Clear(g_c), s	0.6	11.5	10.0	3.5	4.6	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	219	199	1262	1140	717	1533
V/C Ratio(X)	0.05	0.84	0.32	0.13	0.36	0.05
Avail Cap(c_a), veh/h	311	283	1262	1140	850	1533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	49.4	7.2	6.1	4.4	0.0
Incr Delay (d2), s/veh	0.2	20.5	0.7	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.9	4.0	1.3	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.8	69.9	7.8	6.4	4.5	0.1
LnGrp LOS	D	Е	Α	Α	Α	Α
Approach Vol, veh/h	178		549			332
Approach Delay, s/veh	68.3		7.4			3.5
Approach LOS	Е		А			Α
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.8	84.1		19.1		95.9
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0		20.0		85.0
Max Q Clear Time (g_c+l1), s	6.6	12.0		13.5		2.0
Green Ext Time (p_c), s	0.3	7.6		0.6		1.0
`` '	3.0	7.0		3.0		
Intersection Summary			46.4			
HCM 6th Ctrl Delay			16.4			
HCM 6th LOS			В			

	→	7	F	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	†			414		
Traffic Volume (vph)	366	79	755	544	0	0
Future Volume (vph)	366	79	755	544	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.973					
Flt Protected				0.972		
Satd. Flow (prot)	2998	0	0	3065	0	0
Flt Permitted				0.972		
Satd. Flow (perm)	2998	0	0	3065	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	4%	2%	3%	0%	0%
Adj. Flow (vph)	402	87	830	598	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	489	0	0	1428	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization	tion 67.6%			IC	U Level o	of Service
Analysis Period (min) 15				,,		22.1.00
, 0.0 1 0.100 (11111) 10						

	-	P	*	•	•	/	
Movement	EBT	EBR	WBL	WBT	NEL	NER	
Lane Configurations	† }			414			
Traffic Volume (veh/h)	366	79	755	544	0	0	
Future Volume (Veh/h)	366	79	755	544	0	0	
Sign Control	Free			Free	Stop		
Grade	0%			0%	3%		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	
Hourly flow rate (vph)	402	87	830	598	0	0	
Pedestrians					3		
Lane Width (ft)					0.0		
Walking Speed (ft/s)					3.5		
Percent Blockage					0		
Right turn flare (veh)							
Median type	None			TWLTL			
Median storage veh)				2			
Upstream signal (ft)				562			
pX, platoon unblocked					0.72		
vC, conflicting volume			405		2408	248	
vC1, stage 1 conf vol					448		
vC2, stage 2 conf vol					1959		
vCu, unblocked vol			405		2182	248	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			28		100	100	
cM capacity (veh/h)			1150		32	759	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2			
Volume Total	268	221	1029	399			
Volume Left	0	0	830	0			
Volume Right	0	87	0	0			
cSH	1700	1700	1150	1700			
Volume to Capacity	0.16	0.13	0.72	0.23			
Queue Length 95th (ft)	0	0	167	0			
Control Delay (s)	0.0	0.0	15.2	0.0			
Lane LOS			С				
Approach Delay (s)	0.0		11.0				
Approach LOS							
Intersection Summary							
Average Delay			8.2				
Intersection Capacity Utiliz	zation		67.6%	IC	U Level c	of Service	С
Analysis Period (min)			15				

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Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	M		ĵ.			र्स
Traffic Volume (vph)	87	2	252	73	2	235
Future Volume (vph)	87	2	252	73	2	235
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	11	11
Grade (%)	3%		-2%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997		0.970			
Flt Protected	0.953					
Satd. Flow (prot)	1576	0	1665	0	0	1549
Flt Permitted	0.953					
Satd. Flow (perm)	1576	0	1665	0	0	1549
Link Speed (mph)	30		30			30
Link Distance (ft)	1796		396			959
Travel Time (s)	40.8		9.0			21.8
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	1%	0%	0%	0%	0%	4%
Adj. Flow (vph)	99	2	286	83	2	267
Shared Lane Traffic (%)						
Lane Group Flow (vph)	101	0	369	0	0	269
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.18	1.18	1.14	1.14	1.23	1.23
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizati	on 32.0%			IC	U Level c	of Service A
Analysis Period (min) 15						

Synchro 10 Report Page 39 2030 No Build PM Peak af/ms

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	¥		1			4
Traffic Vol. veh/h	87	2	252	73	2	235
Future Vol, veh/h	87	2	252	73	2	235
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	_	None	-	None
Storage Length	0	-	_	-	-	-
Veh in Median Storage		-	0	_	_	0
Grade, %	3	_	-2	_	-	4
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	0	0	0	0	4
Mvmt Flow	99	2	286	83	2	267
		=			<u>=</u>	
		_				
	Minor1		/lajor1		Major2	
Conflicting Flow All	599	328	0	0	369	0
Stage 1	328	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Critical Hdwy	7.01	6.5	-	-	4.1	-
Critical Hdwy Stg 1	6.01	-	-	-	-	-
Critical Hdwy Stg 2	6.01	-	-	-	-	-
Follow-up Hdwy	3.509	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	422	699	-	-	1201	-
Stage 1	693	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	421	699	-	-	1201	-
Mov Cap-2 Maneuver	421	-	-	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	742	-	-	-	-	-
A	\A/D		NE		OVA	
Approach	WB		NE		SW	
HCM Control Delay, s	16.1		0		0.1	
HCM LOS	С					
Minor Lane/Major Mvm	nt	NET	NERV	VBLn1	SWL	SWT
Capacity (veh/h)			-		1201	-
HCM Lane V/C Ratio		_		0.238		_
HCM Control Delay (s)		_	_		8	0
HCM Lane LOS		_	_	С	A	A
HCM 95th %tile Q(veh)		_	_	0.9	0	-
				3.0		

	•	•	†	-	-	ļ	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		₽			र्स	
Traffic Volume (veh/h)	87	2	252	73	2	235	
Future Volume (Veh/h)	87	2	252	73	2	235	
Sign Control	Stop		Free			Free	
Grade	3%		-2%			4%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	
Hourly flow rate (vph)	99	2	286	83	2	267	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	598	328			369		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	598	328			369		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)							
tF(s)	3.5	3.3			2.2		
p0 queue free %	79	100			100		
cM capacity (veh/h)	465	718			1201		
Direction, Lane #	WB 1	NB 1	SB 1				
Volume Total	101	369	269				
Volume Left	99	0	2				
Volume Right	2	83	0				
cSH	469	1700	1201				
Volume to Capacity	0.22	0.22	0.00				
Queue Length 95th (ft)	20	0	0				
Control Delay (s)	14.8	0.0	0.1				
Lane LOS	В		Α				
Approach Delay (s)	14.8	0.0	0.1				
Approach LOS	В						
Intersection Summary							
Average Delay			2.0				
Intersection Capacity Utiliza	ation		32.0%	IC	U Level of	Service	
Analysis Period (min)			15				

	•	•	†	~	1	ţ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		1₃			र्स
Traffic Volume (vph)	0	0	558	0	0	492
Future Volume (vph)	0	0	558	0	0	492
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%		-1%			-2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1667	0	1675	0	0	1683
Flt Permitted						
Satd. Flow (perm)	1667	0	1675	0	0	1683
Link Speed (mph)	30		30			30
Link Distance (ft)	660		3796			747
Travel Time (s)	15.0		86.3			17.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	620	0	0	547
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	620	0	0	547
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.15	1.15	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	ion 36.2%			IC	U Level c	of Service
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0					
		WED	NOT	NDD	051	ODT
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		ĵ.			ન
Traffic Vol, veh/h	0	0	558	0	0	492
Future Vol, veh/h	0	0	558	0	0	492
Conflicting Peds, #/hr	0	0	0	0	0	_ 0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage,		-	0	-	-	0
Grade, %	0	-	-1	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	620	0	0	547
Major/Minor N	/linor1		Anior1	,	Major	
			Major1		Major2	
Conflicting Flow All	1167	620	0	0	620	0
Stage 1	620	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
	3.518	3.318	-	-		-
Pot Cap-1 Maneuver	214	488	-	-	960	-
Stage 1	536	-	-	-	-	-
Stage 2	580	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	214	488	-	-	960	-
Mov Cap-2 Maneuver	214	-	-	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	580	-	-	-	-	-
J. J.						
	1645		, LID		0.0	
Approach	WB		NB		SB	
HCM Control Delay, s	0		0		0	
HCM LOS	Α					
Minor Lane/Major Mvm	t	NBT	NRRV	VBLn1	SBL	SBT
Capacity (veh/h)		-	-	-	960	-
HCM Lane V/C Ratio			_	_	900	_
HCM Control Delay (s)		_	_	0	0	
HCM Lane LOS			_	A	A	_
HCM 95th %tile Q(veh)				_	0	_

	→	*	1	•	1	1		
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	13			4	W			
Traffic Volume (vph)	75	0	0	90	0	0		
Future Volume (vph)	75	0	0	90	0	0		
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700		
Grade (%)	0%			3%	0%			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Frt								
Flt Protected								
Satd. Flow (prot)	1667	0	0	1642	1667	0		
Flt Permitted								
Satd. Flow (perm)	1667	0	0	1642	1667	0		
Link Speed (mph)	25			25	25			
Link Distance (ft)	1796			721	825			
Travel Time (s)	49.0			19.7	22.5			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Adj. Flow (vph)	83	0	0	100	0	0		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	83	0	0	100	0	0		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			0	12			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15		
Turning Speed (mph)		9	15		15	9		
Sign Control	Free			Free	Stop			
Intersection Summary								
Area Type:	Other							
Control Type: Unsignalized								
,	ntersection Capacity Utilization 8.6%							
Analysis Period (min) 15								

Intersection						
Int Delay, s/veh	0					
	EBT	EDD	///DI	WDT	NDI	NBR
		EBR	WBL	WBT	NBL	NBK
Lane Configurations	1	^	0	4	¥	^
Traffic Vol, veh/h	75	0	0	90	0	0
Future Vol, veh/h	75	0	0	90	0	0
Conflicting Peds, #/hr	0	0	0	_ 0	0	0
	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage,	# 0	-	-	0	0	-
Grade, %	0	-	-	3	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	0	0	100	0	0
Major/Minor NA	oio-1		Mais -0		line 1	
	ajor1		Major2		Minor1	20
Conflicting Flow All	0	0	83	0	183	83
Stage 1	-	-	-	-	83	-
Stage 2	-	-	-	-	100	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1514	-	806	976
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	_	924	-
Platoon blocked, %	_	-		_		
Mov Cap-1 Maneuver	_	_	1514	_	806	976
Mov Cap-2 Maneuver	_	_	-	_	806	-
Stage 1	_	_	_	_	940	_
Stage 2	_	_	_	-	924	_
Stage 2	-	-	-	-	924	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS			•		A	
					, ,	
Minor Lane/Major Mvmt	1	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		-	-	-	1514	-
HCM Lane V/C Ratio		-	-	-	-	-
HCM Control Delay (s)		0	-	-	0	-
HCM Lane LOS		Α	-	-	Α	-
HCM 95th %tile Q(veh)		-	-	-	0	-

Lanes, Volumes, Timings 1: Altenheim Ave/Bethany Pike & US 40 National Road

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	1			414			4			ર્ન	7
Traffic Volume (vph)	315	323	5	9	378	113	51	23	35	121	5	328
Future Volume (vph)	315	323	5	9	378	113	51	23	35	121	5	328
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			2%			7%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt		0.998			0.966			0.957				0.850
Flt Protected	0.950				0.999			0.977			0.954	
Satd. Flow (prot)	1778	1849	0	0	3408	0	0	1714	0	0	1831	1615
FIt Permitted	0.385				0.947			0.711			0.624	
Satd. Flow (perm)	721	1849	0	0	3230	0	0	1248	0	0	1197	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			33			19				349
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		879			1354			343			3796	
Travel Time (s)		17.1			26.4			9.4			86.3	
Confl. Peds. (#/hr)			6	6								
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	335	344	5	10	402	120	54	24	37	129	5	349
Shared Lane Traffic (%)			-									
Lane Group Flow (vph)	335	349	0	0	532	0	0	115	0	0	134	349
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0	9		0			0	9
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.02	1.02	1.02	1.01	1.01	1.01	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	-	1	2	•	1	2	_	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		Cl+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel	J/.	J		J/.	J		J	J/.		<u> </u>	J/.	U
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		3.0	94	3.0
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel		OITEX			OFFER			OFFEX			OITEX	
Detector 2 Orianniel												

2030 No Build SAT Peak Synchro 10 Report Page 1 af/ms

Lane Group	Ø3
LaneConfigurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
FIt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	

2030 No Build SAT Peak

af/ms

Synchro 10 Report

Page 2

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Reserved	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6			2			4			4	1
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	20.0		20.0	20.0		17.0	17.0		17.0	17.0	9.5
Total Split (s)	28.0	65.0		37.0	37.0		30.0	30.0		30.0	30.0	28.0
Total Split (%)	24.3%	56.5%		32.2%	32.2%		26.1%	26.1%		26.1%	26.1%	24.3%
Maximum Green (s)	23.5	60.0		32.0	32.0		25.0	25.0		25.0	25.0	23.5
Yellow Time (s)	3.5	4.0		4.0	4.0		4.0	4.0		4.0	4.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	4.5	5.0			5.0			5.0			5.0	4.5
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lag	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	82.5	82.0			63.6			19.2			19.2	38.1
Actuated g/C Ratio	0.72	0.71			0.55			0.17			0.17	0.33
v/c Ratio	0.52	0.26			0.30			0.52			0.67	0.45
Control Delay	14.9	6.1			16.9			43.4			60.9	4.1
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	14.9	6.1			16.9			43.4			60.9	4.1
LOS	В	A			В			D			Е	Α
Approach Delay		10.4			16.9			43.4			19.9	
Approach LOS		В			В			D			В	
Queue Length 50th (ft)	55	59			86			65			94	0
Queue Length 95th (ft)	153	109			222			119			155	50
Internal Link Dist (ft)		799			1274			263			3716	400
Turn Bay Length (ft)	700	1010			1001			200			000	130
Base Capacity (vph)	733	1319			1801			286			260	873
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0 46	0			0			0 10			0	0 10
Reduced v/c Ratio	0.46	0.26			0.30			0.40			0.52	0.40

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 100 (87%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 70

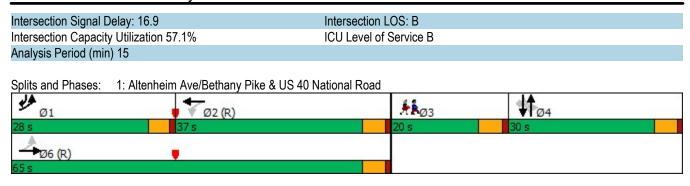
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Lane Group	Ø3	
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	
Minimum Split (s)	19.0	
Total Split (s)	20.0	
Total Split (%)	17%	
Maximum Green (s)	15.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	
Recall Mode	None	
Walk Time (s)	5.0	
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	1	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

2030 No Build SAT Peak Synchro 10 Report Page 4 af/ms

1: Altenheim Ave/Bethany Pike & US 40 National Road



2030 No Build SAT Peak 03/09/2020

HCM 6th Edition methodology does not support exclusive ped or hold phases.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĵ.			4			4			4	
Traffic Volume (vph)	124	244	1	0	239	7	0	0	0	7	0	150
Future Volume (vph)	124	244	1	0	239	7	0	0	0	7	0	150
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.996						0.871	
Flt Protected	0.950										0.998	
Satd. Flow (prot)	1569	1690	0	0	1669	0	0	1907	0	0	1436	0
FIt Permitted	0.950										0.998	
Satd. Flow (perm)	1569	1690	0	0	1669	0	0	1907	0	0	1436	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	135	265	1	0	260	8	0	0	0	8	0	163
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	266	0	0	268	0	0	0	0	0	171	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	1→			4			4			4	
Traffic Vol, veh/h	124	244	1	0	239	7	0	0	0	7	0	150
Future Vol, veh/h	124	244	1	0	239	7	0	0	0	7	0	150
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	135	265	1	0	260	8	0	0	0	8	0	163
Major/Minor N	/lajor1		<u> </u>	Major2		<u> </u>	Minor1		<u> </u>	Minor2		
Conflicting Flow All	268	0	0	266	0	0	882	804	266	800	800	264
Stage 1	-	-	-	-	-	-	536	536	-	264	264	-
Stage 2	-	-	-	-	-	-	346	268	-	536	536	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.9	6.4	6.9	6.3	6.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1307	-	-	1310	-	-	244	291	766	319	335	785
Stage 1	-	-	-	-	-	-	501	496	-	757	704	-
Stage 2	-	-	-	-	-	-	649	671	-	548	543	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1307	-	-	1310	-	-	178	261	766	294	300	785
Mov Cap-2 Maneuver	-	-	-	-	-	-	178	261	-	294	300	-
Stage 1	-	-	-	-	-	-	449	445	-	679	704	-
Stage 2	-	-	-	-	-	-	514	671	-	491	487	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.7			0			0			11.4		
HCM LOS							Α			В		
Minor Lane/Major Mvm	t N	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR :	SBLn1			
Capacity (veh/h)			1307	-		1310	-	-				
HCM Lane V/C Ratio			0.103	-	-	-	-	-	0.233			
HCM Control Delay (s)		0	8.1	-	-	0	-	-	11.4			
HCM Lane LOS		A	Α	-	-	A	-	-	В			
HCM 95th %tile Q(veh)		-	0.3	-	-	0	-	-	0.9			

2030 No Build SAT Peak

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Synchro 10 Report

Page 8

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ĵ.			4			4			4	
Traffic Volume (veh/h)	124	244	1	0	239	7	0	0	0	7	0	150
Future Volume (Veh/h)	124	244	1	0	239	7	0	0	0	7	0	150
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			1%			2%			-1%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	135	265	1	0	260	8	0	0	0	8	0	163
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	268			266			962	804	266	799	800	264
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	268			266			962	804	266	799	800	264
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			100			100	100	100	97	100	79
cM capacity (veh/h)	1307			1310			173	286	778	282	287	780
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	135	266	268	0	171							
Volume Left	135	0	0	0	8							
Volume Right	0	1	8	0	163							
cSH	1307	1700	1310	1700	720							
Volume to Capacity	0.10	0.16	0.00	0.00	0.24							
Queue Length 95th (ft)	9	0.10	0.00	0.00	23							
Control Delay (s)	8.1	0.0	0.0	0.0	11.5							
Lane LOS	Α	0.0	0.0	Α	В							
Approach Delay (s)	2.7		0.0	0.0	11.5							
Approach LOS	2.1		0.0	0.0 A	В							
••					D							
Intersection Summary			2.6									
Average Delay			3.6	10	NII awali	of Comiles			٨			
Intersection Capacity Utilization	ON		49.8%	IC	U Level (of Service			A			
Analysis Period (min)			15									

2030 No Build SAT Peak

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Synchro 10 Report
Page 1

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	†		*	†			4			र्स	7
Traffic Volume (vph)	50	795	27	13	748	15	4	0	3	16	2	50
Future Volume (vph)	50	795	27	13	748	15	4	0	3	16	2	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	16	14
Grade (%)		0%			0%			-4%			2%	
Storage Length (ft)	150		0	0		0	0		0	0		300
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00							
Frt		0.995			0.997			0.942				0.850
Flt Protected	0.950			0.950				0.972			0.957	
Satd. Flow (prot)	1805	3550	0	1805	3563	0	0	2011	0	0	2040	1705
Flt Permitted	0.279		-	0.317		•		0.907			0.812	
Satd. Flow (perm)	530	3550	0	601	3563	0	0	1877	0	0	1731	1705
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			2			142				142
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1133			236			237			1020	
Travel Time (s)		22.1			4.6			6.5			27.8	
Confl. Peds. (#/hr)	1		6	6	1.0	1		0.0			21.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	4%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	54	864	29	14	813	16	4	0	3	17	2	54
Shared Lane Traffic (%)	<u> </u>				0.0		•	•			_	
Lane Group Flow (vph)	54	893	0	14	829	0	0	7	0	0	19	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	2010	12	, agaic	2010	12	rugiit	2010	0	, agaic	2010	0	ı uğılı
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			10				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Turning Speed (mph)	15	1.00	9	15	1.00	9	15	0.02	9	15	0.00	9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OIILX	OITEX		OITEX	OITEX		OITEX	OIILX		OIILX	OIILX	OIILX
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
• ()	0.0	94		0.0	94		0.0	94		0.0	94	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)												
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	

2030 No Build SAT Peak

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Synchro 10 Report

Lane Group	Ø2	Ø3	Ø7	Ø11
Lane Configurations	~=	~~		~ 11
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				

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Synchro 10 Report

Page 10

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ე.	Driv (0) 4 (0)	U/Dark Daa	שווס ו	10 Nlational	$D \sim \sim 4$
.5	THVEWA	WPark Road	0 & 05 4	40 National	ROAG
٠.	Diivoma	<i>y</i>	4 4 5	10 Hational	

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	20.0	52.0					23.0	23.0		23.0	23.0	23.0
Total Split (%)	17.4%	45.2%					20.0%	20.0%		20.0%	20.0%	20.0%
Maximum Green (s)	15.0	47.0					18.0	18.0		18.0	18.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	71.8	71.8		78.8	78.8			17.3			17.3	17.3
Actuated g/C Ratio	0.62	0.62		0.69	0.69			0.15			0.15	0.15
v/c Ratio	0.14	0.40		0.03	0.34			0.02			0.07	0.14
Control Delay	8.5	10.1		1.1	1.0			0.0			42.3	0.8
Queue Delay	0.0	0.0		0.0	0.1			0.0			0.0	0.0
Total Delay	8.5	10.1		1.1	1.1			0.0			42.3	0.8
LOS	Α	В		Α	Α			Α			D	Α
Approach Delay		10.0			1.1						11.6	
Approach LOS		В			Α						В	
Queue Length 50th (ft)	13	143		0	3			0			12	0
Queue Length 95th (ft)	27	171		m1	14			0			35	0
Internal Link Dist (ft)		1053			156			157			940	
Turn Bay Length (ft)	150											300
Base Capacity (vph)	497	2217		412	2445			413			270	386
Starvation Cap Reductn	0	0		0	595			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.11	0.40		0.03	0.45			0.02			0.07	0.14

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 80

Control Type: Actuated-Coordinated

Lana Craun	<i>α</i> 0	(X2)	O.T.	044
Lane Group	Ø2	Ø3	Ø7	Ø11
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type	•	_	_	4.4
Protected Phases	2	3	7	11
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	15.0	15.0	17.0
Total Split (s)	32.0	16.0	16.0	24.0
Total Split (%)	28%	14%	14%	21%
Maximum Green (s)	27.0	11.0	11.0	21.0
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lag			
Lead-Lag Optimize?	Yes			
Vehicle Extension (s)	5.0	4.0	4.0	3.0
Recall Mode	C-Max	None	None	None
Walk Time (s)				5.0
Flash Dont Walk (s)				9.0
Pedestrian Calls (#/hr)				0
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn Reduced v/c Ratio				
Neduced V/C RallO				
Intersection Summary				

Intersection Capacity Utilization 43.7%

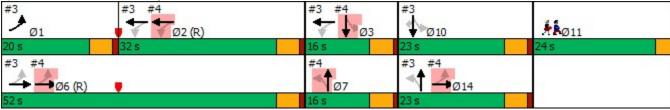
Intersection LOS: A
ICU Level of Service A

Analysis Period (min) 15

Maximum v/c Ratio: 0.66 Intersection Signal Delay: 6.0

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





HCM 6th Edition methodology does not support clustered intersections.

2030 No Build SAT Peak

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Synchro 10 Report
Page 14

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		†		*	†			4			4	
Traffic Volume (vph)	5	763	45	27	704	2	60	1	29	7	0	12
Future Volume (vph)	5	763	45	27	704	2	60	1	29	7	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%			0%	
Storage Length (ft)	0		0	105		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992						0.956			0.916	
Flt Protected				0.950				0.968			0.981	
Satd. Flow (prot)	0	3546	0	1787	3574	0	0	1732	0	0	1690	0
Flt Permitted		0.952		0.065				0.788	•		0.897	
Satd. Flow (perm)	0	3375	0	122	3574	0	0	1410	0	0	1546	0
Right Turn on Red	•	00.0	Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8						17			142	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			4.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	5	829	49	29	765	2	65	1	32	8	0	13
Shared Lane Traffic (%)		020	10		100	_		•	02			
Lane Group Flow (vph)	0	883	0	29	767	0	0	98	0	0	21	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	Zon	12	rugiit	Lon	12	rugiit	2011	0	rugiit	2011	0	i ugin
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			10				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Turning Speed (mph)	15	1.00	9	15	1.00	9	15	1.01	9	15	1.00	9
Number of Detectors	1	2	· ·	1	2	· ·	1	2	J	1	2	Ū
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel	OI · LX	OI · LX		OI · LX	OI · LX		OI LX	OI · LX		OI · LX	OI · LX	
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Type Detector 2 Channel		CITEX			CITEX			CITEX			CITEX	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
` '	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Turn Type	reilli	INA		reilli	INA		r eiiii	NA		reiiii	INA	

2030 No Build SAT Peak af/ms

Synchro 10 Report Page 15

4: Leath	erwood	Lane/Gas	Station &	US 40	National Road

Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Lane Configurations	~ 1	20	210	211	217
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Grade (%)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Lane Util. Factor					
Frt					
Flt Protected					
Satd. Flow (prot)					
Flt Permitted					
Satd. Flow (perm)					
Right Turn on Red					
Satd. Flow (RTOR)					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Peak Hour Factor					
Heavy Vehicles (%)					
Adj. Flow (vph)					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Enter Blocked Intersection					
Lane Alignment					
Median Width(ft)					
Link Offset(ft)					
Crosswalk Width(ft)					
Two way Left Turn Lane					
Headway Factor					
Turning Speed (mph)					
Number of Detectors					
Detector Template					
Leading Detector (ft)					
Trailing Detector (ft)					
Detector 1 Position(ft)					
Detector 1 Size(ft)					
Detector 1 Type					
Detector 1 Channel					
Detector 1 Extend (s)					
Detector 1 Queue (s)					
Detector 1 Delay (s)					
Detector 2 Position(ft)					
. ,					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					

EBI		۶	→	*	•	+	•	1	1	~	/	↓	4
Permitted Phases 6 14 2 7 7 3	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Delector Phase 6 14 6 14 2 2 7 7 3 3 3	Protected Phases		6 14			2			7			3	
Switch Phase Minimum Initial (s)	Permitted Phases	6 14			2			7			3		
Minimum Initial (s)	Detector Phase	6 14	6 14		2	2		7	7		3	3	
Minimum Split (s)	Switch Phase												
Minimum Split (s)	Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Total Split (%) 70.8 27.8 27.8 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9	. ,				20.0	20.0		15.0	15.0		15.0		
Total Spilit (%)					32.0	32.0		16.0	16.0		16.0	16.0	
Maximum Green (s)					27.8%	27.8%		13.9%	13.9%		13.9%	13.9%	
Yellow Time (s)													
All-Red Time (s)					4.0	4.0		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)					1.0	1.0		1.0	1.0		1.0	1.0	
Total Lost Time (s)					0.0	0.0			0.0				
Lead/Lag Lag Lag Lead-Lag Optimize? Yes Yes Vehicle Extension (s) 5.0 5.0 4.0 4.0 4.0 Recall Mode C-Max C-Max None None None Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#hr) Actuated g/C Ratio 0.82 0.55 0.50 0.09 0.09 Vel Ratio 0.32 0.44 0.39 0.66 0.08 Control Delay 1.0 38.9 12.5 62.9 0.5 Queue Belay 0.1 0.0 0.0 0.0 0.0 Total Delay 1.1 38.9 12.5 62.9 0.5 LOS A D B E A Approach Delay 1.1 38.9 12.5 62.9 0.5 LOS A B E A Approach Delay 1.1 13.5 62.9 0.5													
Lead-Lag Optimize? Yes Yes Ves Ves Ves Vehicle Extension (s) 5.0 5.0 4					Lag	Lag							
Vehicle Extension (s) 5.0 5.0 4.0 4.0 4.0 4.0 Recall Mode C-Max C-Max None None None None Walk Time (s) Flash Dont Walk (s) Pedestrian Calls (#hr) Act Effet Green (s) 94.1 62.9 62.9 10.9 10.9 Act Effet Green (s) 94.1 62.9 62.9 10.9 0.09 vic Ratio 0.32 0.44 0.39 0.66 0.08 Control Delay 1.0 38.9 12.5 62.9 0.5 Queue Delay 0.1 0.0 0.0 0.0 0.0 Total Delay 1.1 38.9 12.5 62.9 0.5 LOS A D B E A Approach Delay 1.1 13.5 62.9 0.5 LOS A B E A Approach LOS A B E A Queue Length 95th (ft) <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>													
Recall Mode								4.0	4.0		4.0	4.0	
Walk Time (s) Flash Dort Walk (s) Pedestrian Calls (#/hr) Act Effet Green (s) 94.1 62.9 62.9 10.9 10.9 Actuated g/C Ratio 0.82 0.55 0.55 0.09 0.09 v/c Ratio 0.32 0.44 0.39 0.66 0.08 Control Delay 1.0 38.9 12.5 62.9 0.5 Queue Delay 0.1 0.0 0.0 0.0 0.0 Total Delay 1.1 38.9 12.5 62.9 0.5 LOS A D B E A Approach Delay 1.1 33.5 62.9 0.5 Approach LOS A B E A Approach LOS A B E A Approach LOS A B E A Queue Length 50th (ft) 1 14 184 59 0 Queue Length 95th (ft) 0<													
Flash Dont Walk (s)													
Pedestrian Calls (#/hr) Act Effet Green (s) 94.1 62.9 62.9 10.9 10.9 Act Lated g/C Ratio 0.82 0.55 0.55 0.09 0.09 w/c Ratio 0.32 0.44 0.39 0.66 0.08 Control Delay 1.0 38.9 12.5 62.9 0.5 Queue Delay 0.1 0.0 0.0 0.0 0.0 Total Delay 1.1 38.9 12.5 62.9 0.5 LOS A D B E A A Approach Delay 1.1 13.5 62.9 0.5 Approach LOS A B E A Queue Length 50th (ft) 1 14 184 59 0.5 Internal Link Dist (ft) 156 799 398 76 Turn Bay Length (ft) 156 799 398 76 Turn Bay Length (ft) 155 Base Capacity (vph) 2725 66 1954 150 276 Starvation Cap Reducth 751 0 0 0 0 0 Spillback Cap Reducth 0 0 0 0 0 0 0 Storage Cap Reducth 0 0 0 0 0 0 0 Reduced v/c Ratio 0.45 0.44 0.39 0.65 0.08 Intersection Summary Area Type: Other Cycle Length: 115 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection Natural Cycle: 80 Control Type: Actuated Coordinated Maximum v/c Ratio: 0.66													
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v/c Ratio 0.32 0.44 0.39 0.66 0.08 Control Delay 1.0 38.9 12.5 62.9 0.5 Queue Delay 0.1 0.0 0.0 0.0 0.0 Total Delay 1.1 38.9 12.5 62.9 0.5 LOS A D B E A Approach Delay 1.1 13.5 62.9 0.5 Approach LOS A B E A Approach LOS A B E A Queue Length 50th (ft) 1 14 184 59 0 Queue Length 95th (ft) 0 #62 142 #135 0 0 Internal Link Dist (ft) 156 799 398 76 76 Turn Bay Length (ft) 105 39 398 76 Starvation Cap Reductn 751 0 0 0 0 Storage Cap Reductn 0 0 0													
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Queue Length 95th (ft) 0 #62 142 #135 0 Internal Link Dist (ft) 156 799 398 76 Turn Bay Length (ft) 105 5 5 Base Capacity (vph) 2725 66 1954 150 276 Starvation Cap Reductn 751 0 0 0 0 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 Reduced v/c Ratio 0.45 0.44 0.39 0.65 0.08 Intersection Summary Area Type: Other Cycle Length: 115 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection Natural Cycle: 80 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.66					14								
Internal Link Dist (ft) 156 799 398 76 Turn Bay Length (ft) 105 Base Capacity (vph) 2725 66 1954 150 276 Starvation Cap Reductn 751 0 0 0 0 0 Spillback Cap Reductn 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 Reduced v/c Ratio 0.45 0.44 0.39 0.65 0.08 Intersection Summary Area Type: Other Cycle Length: 115 Actuated Cycle Length: 115 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection Natural Cycle: 80 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.66													
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Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0 Reduced v/c Ratio 0.45 0.44 0.39 0.65 0.08 Intersection Summary Area Type: Other Cycle Length: 115 Cycle Length: 115 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection Natural Cycle: 80 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.66													
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Reduced v/c Ratio 0.45 0.44 0.39 0.65 0.08 Intersection Summary Area Type: Other Cycle Length: 115 Actuated Cycle Length: 115 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection Natural Cycle: 80 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.66												•	
Area Type: Other Cycle Length: 115 Actuated Cycle Length: 115 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection Natural Cycle: 80 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.66													
Cycle Length: 115 Actuated Cycle Length: 115 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection Natural Cycle: 80 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.66	Intersection Summary												
Actuated Cycle Length: 115 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection Natural Cycle: 80 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.66	Area Type:	Other											
Actuated Cycle Length: 115 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection Natural Cycle: 80 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.66													
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection Natural Cycle: 80 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.66													
Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.66		o phase 2:\	NBTL and	d 6:EBTL	, Start of	Green, M	aster Inte	ersection					
Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.66	Natural Cycle: 80	•											
Maximum v/c Ratio: 0.66		rdinated											
intersection dignar boldy. 10.0 Intersection LOS. A	Intersection Signal Delay: 10	0.0			lr	ntersection	LOS: A						
Intersection Capacity Utilization 43.4% ICU Level of Service A								Α					

Synchro 10 Report 2030 No Build SAT Peak Page 17 af/ms

Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Protected Phases	1	6	10	11	14
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.0	20.0	12.0	17.0	12.0
Total Split (s)	20.0	52.0	23.0	24.0	23.0
Total Split (%)	17%	45%	20%	21%	20%
Maximum Green (s)	15.0	47.0	18.0	21.0	18.0
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead				
Lead-Lag Optimize?	Yes				
Vehicle Extension (s)	2.0	5.0	4.0	3.0	4.0
Recall Mode	None	C-Max	None	None	None
Walk Time (s)				5.0	
Flash Dont Walk (s)				9.0	
Pedestrian Calls (#/hr)				0	
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

Synchro 10 Report Page 18 2030 No Build SAT Peak af/ms

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

4: Leatherwood Lane/Gas Station & US 40 National Road Splits and Phases:



2030 No Build SAT Peak 03/09/2020

HCM 6th Edition methodology does not support clustered intersections.

	→	•	•	←	4	1				
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Lane Configurations	↑ ↑		*	^	77					
Traffic Volume (vph)	168	135	249	602	297	0				
Future Volume (vph)	168	135	249	602	297	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	11	11	10	11	11	12				
Grade (%)	0%			0%	-1%					
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	1.00				
Frt	0.933	0.00	1.00	0.00	0.01	1.00				
Flt Protected	0.000		0.950		0.950					
Satd. Flow (prot)	3195	0	1668	3455	3368	0				
Flt Permitted	0100		0.413	0 100	0.950	•				
Satd. Flow (perm)	3195	0	725	3455	3368	0				
Right Turn on Red	0100	Yes	120	0 100	0000	Yes				
Satd. Flow (RTOR)	144	100				100				
Link Speed (mph)	35			35	25					
Link Opeca (mpn) Link Distance (ft)	562			201	135					
Travel Time (s)	10.9			3.9	3.7					
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				
Heavy Vehicles (%)	1%	3%	1%	1%	1%	0%				
Adj. Flow (vph)	179	144	265	640	316	0				
Shared Lane Traffic (%)	173	177	200	0+0	310	U				
Lane Group Flow (vph)	323	0	265	640	316	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	10	rtigitt	LOIL	10	22	rtigrit				
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	16			16	16					
Two way Left Turn Lane	Yes			10	10					
Headway Factor	1.04	1.04	1.09	1.04	1.04	0.99				
Turning Speed (mph)	1.04	9	1.03	1.04	15	9				
Number of Detectors	2	3	1	2	1	J				
Detector Template	Thru		Left	Thru	Left					
Leading Detector (ft)	100		20	100	20					
Trailing Detector (ft)	0		0	0	0					
Detector 1 Position(ft)	0		0	0	0					
Detector 1 Size(ft)	6		20	6	20					
Detector 1 Type	CI+Ex		CI+Ex	Cl+Ex	CI+Ex					
Detector 1 Channel	OITEX		OITEX	OITEX	OIILX					
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft)	94		0.0	94	0.0					
Detector 2 Size(ft)	6			6						
Detector 2 Type	CI+Ex			CI+Ex						
Detector 2 Type Detector 2 Channel	OITEX			OITEX						
Detector 2 Extend (s)	0.0			0.0						
Turn Type	NA		pm+pt	NA	Prot					
Protected Phases	2		ριτι+ρι 1	16	8		3	4	6	
Permitted Phases	Z		16	1 0	0		J	4	U	
remilled Phases			ıσ							

Synchro 10 Report Page 21 2030 No Build SAT Peak af/ms

	-	*	1	•	1	-				
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Detector Phase	2		1	16	8					
Switch Phase										
Minimum Initial (s)	5.0		5.0		5.0		5.0	5.0	5.0	
Minimum Split (s)	20.0		15.0		17.0		17.0	17.0	20.0	
Total Split (s)	30.0		20.0		65.0		33.0	32.0	50.0	
Total Split (%)	26.1%		17.4%		56.5%		29%	28%	43%	
Maximum Green (s)	25.0		15.0		60.0		28.0	27.0	45.0	
Yellow Time (s)	4.0		4.0		4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0		1.0		1.0	1.0	1.0	
_ost Time Adjust (s)	0.0		0.0		0.0					
Total Lost Time (s)	5.0		5.0		5.0					
_ead/Lag	Lag		Lead				Lead	Lag		
Lead-Lag Optimize?	Yes		Yes				Yes	Yes		
Vehicle Extension (s)	5.0		2.5		4.0		4.0	5.0	5.0	
Recall Mode	C-Max		None		None		None	None	C-Max	
Act Effct Green (s)	29.6		49.4	49.4	55.6		110110	110110	O Max	
Actuated g/C Ratio	0.26		0.43	0.43	0.48					
//c Ratio	0.35		0.40	0.43	0.19					
Control Delay	21.3		43.1	37.5	6.0					
Queue Delay	0.0		0.0	0.0	1.1					
Total Delay	21.3		43.1	37.5	7.1					
LOS	C		D	D	A					
Approach Delay	21.3			39.1	7.1					
Approach LOS	C C			D	Α.					
Queue Length 50th (ft)	58		193	248	21					
Queue Length 95th (ft)	101		291	321	m22					
nternal Link Dist (ft)	482		231	121	55					
Turn Bay Length (ft)	702			121	55					
Base Capacity (vph)	928		434	1483	1757					
Starvation Cap Reductn	0		0	0	1193					
Spillback Cap Reductin	0		0	0	0					
Storage Cap Reductn	0		0	0	0					
Reduced v/c Ratio	0.35		0.61	0.43	0.56					
Intersection Summary	0.00		0.01	0.70	0.00					
Area Type:	Other									
Cycle Length: 115	Other									
	<u> </u>									
Actuated Cycle Length: 115		OLEDT co	4 6 WDT	I Ctort -	f Croon					
Offset: 70 (61%), Reference	eu to priase	∠.⊏B⊺ an	u o:wBT	L, Start C	or Green					
Natural Cycle: 70										

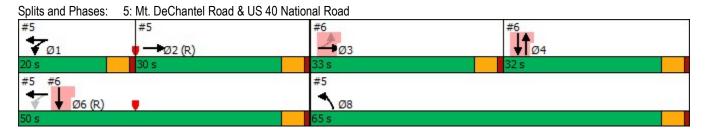
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 28.9 Intersection LOS: C
Intersection Capacity Utilization 43.7% ICU Level of Service A

Analysis Period (min) 15

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



HCM 6th Edition methodology does not support clustered intersections.

Lanes, Volumes, Timings 2030 No Build SAT Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 198/11/2020

Lane Configurations		۶	-	•	•	•	•	4	†	1	-	Ţ	4
Traffic Volume (vph) 79 446 109 0 0 0 0 218 280 0 384 0 logard (vphpt) 79 446 109 0 0 0 0 218 280 0 384 0 logar (vphpt) 1900 1900 1900 1900 1900 1900 1900 190	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph) 79 446 109 0 0 0 0 218 280 0 384 0 logard (vphpt) 79 446 109 0 0 0 0 218 280 0 384 0 logar (vphpt) 1900 1900 1900 1900 1900 1900 1900 190	Lane Configurations		473						1			^	
Ideal Flow (vphpt)		79		109	0	0	0	0		280	0	384	0
Lane Width (ft)	Future Volume (vph)	79	446	109	0	0	0	0	218	280	0	384	0
Carable (%)	Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	Lane Width (ft)	12	12	12	12	12	12	13	13	13	12	16	12
Ped Bike Factor	Grade (%)		-1%			0%			0%			1%	
Fit Protected 0.994 0.995 0.99	Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Fit Protected 10.994	Ped Bike Factor								0.99				
Satid. Flow (prot)	Frt		0.974						0.916				
Fit Permitted	Flt Protected		0.994										
Satid. Flow (perm)	Satd. Flow (prot)	0	3513	0	0	0	0	0	3358	0	0	2121	0
Right Turn on Red	Flt Permitted		0.994										
Said. Flow (RTOR) 20 265 25 Link Speed (mph) 35 30 25 25 Link Distance (ft) 482 215 270 135 Travel Time (s) 9.4 4.9 7.7 1 1 Confl. Peds. (#hr)	Satd. Flow (perm)	0	3513	0	0	0	0	0	3358	0	0	2121	0
Link Speed (mph)	Right Turn on Red			Yes			Yes			Yes			Yes
Link Distance (ft)	Satd. Flow (RTOR)		20						265				
Travel Time (s)	Link Speed (mph)		35			30			25			25	
Confl. Peds. (#/hr) Peak Hour Factor 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.9	Link Distance (ft)		482			215			270			135	
Peak Hour Factor 0.92 0.93 0.90 0.90 0.90 0.90 0.90 0.93 0.90 0.90 0.90 0.90 0.90 0.91 0.90	Travel Time (s)		9.4			4.9			7.4			3.7	
Heavy Vehicles (%)	Confl. Peds. (#/hr)									1	1		
Adj. Flow (vph) 86 485 118 0 0 0 237 304 0 417 0 Shared Lane Traffic (%) Lane Group Flow (vph) 0 689 0 0 0 0 541 0 0 417 0 Enter Blocked Intersection No 10 No	Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%) Lane Group Flow (vph) 0 689 0 0 0 0 0 0 541 0 0 417 0	Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%	0%
Lane Group Flow (vph) 0 689 0 0 0 0 541 0 0 417 0 Enter Blocked Intersection No No <td>Adj. Flow (vph)</td> <td>86</td> <td>485</td> <td>118</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>237</td> <td>304</td> <td>0</td> <td>417</td> <td>0</td>	Adj. Flow (vph)	86	485	118	0	0	0	0	237	304	0	417	0
Enter Blocked Intersection No No <th< td=""><td>Shared Lane Traffic (%)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	Shared Lane Traffic (%)												
Lane Alignment	Lane Group Flow (vph)	0	689	0	0	0	0	0	541	0	0	417	0
Median Width(ft) 0 0 0 0 Link Offset(ft) 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane 16 16 16 16 Headway Factor 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 10 10 10 10 10 10 10	Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Link Offset(ft) 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 10 10 10 10	Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Crosswalk Width(ft) 16 16 16 16 16 Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 10 15 10 15 10 10 10 10 10 10 10 10 10 10	Median Width(ft)		0			0			0			0	
Two way Left Turn Lane Headway Factor 0.99 0.99 0.99 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01 Turning Speed (mph) 15 9 15 9 15 9 15 9 Number of Detectors 1 2 2 2 2 2 Detector Template Left Thru Thru Thru Thru Thru Thru Leading Detector (ft) 20 100	Link Offset(ft)												
Headway Factor 0.99 0.99 0.99 1.00 1.00 1.00 0.96 0.96 0.96 1.01 0.85 1.01	Crosswalk Width(ft)		16			16			16			16	
Turning Speed (mph) 15 9 15 2 2 2 2 2 2 2 2 2 2 2 2 2 2 10 100 100 100 10 10 0	Two way Left Turn Lane												
Number of Detectors 1 2 2 2 Detector Template Left Thru Thru Thru Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type Cl+Ex Cl+Ex Cl+Ex Cl+Ex Detector 1 Channel Cl+Ex Cl+Ex Cl+Ex			0.99	0.99		1.00			0.96	0.96		0.85	
Detector Template Left Thru Thru Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel CI+Ex CI+Ex CI+Ex	0 1 (1)	15		9	15		9	15		9	15		9
Leading Detector (ft) 20 100 100 Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel CI+Ex CI+Ex CI+Ex	Number of Detectors		2										
Trailing Detector (ft) 0 0 0 Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel CI+Ex CI+Ex CI+Ex		Left	Thru									Thru	
Detector 1 Position(ft) 0 0 0 Detector 1 Size(ft) 20 6 6 6 Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel CI+Ex CI+Ex CI+Ex												100	
Detector 1 Size(ft) 20 6 6 6 Detector 1 Type CI+Ex CI+Ex CI+Ex Detector 1 Channel CI+Ex CI+Ex CI+Ex		0	0									0	
Detector 1 Type CI+Ex CI+Ex CI+Ex CI+Ex Detector 1 Channel												0	
Detector 1 Channel	Detector 1 Size(ft)												
		CI+Ex	Cl+Ex						CI+Ex			CI+Ex	
Detector 1 Extend (s) 0.0 0.0 0.0 0.0	Detector 1 Channel												
()	Detector 1 Extend (s)												
Detector 1 Queue (s) 0.0 0.0 0.0													
Detector 1 Delay (s) 0.0 0.0 0.0	• ,	0.0											
Detector 2 Position(ft) 94 94	Detector 2 Position(ft)		94									94	
Detector 2 Size(ft) 6 6	Detector 2 Size(ft)											6	
Detector 2 Type CI+Ex CI+Ex			CI+Ex						CI+Ex			CI+Ex	
Detector 2 Channel													
Detector 2 Extend (s) 0.0 0.0	Detector 2 Extend (s)												
Turn Type Perm NA NA NA	Turn Type	Perm	NA						NA			NA	

Synchro 10 Report 2030 No Build SAT Peak Page 1 af/ms

Lane Group	Ø1	Ø2	Ø6	Ø8
Lane Configurations		~-	~ 0	
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Fit Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
1 1020 0ton :/ L:I=0/+1				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Type Detector 2 Channel				
Detector 2 Type				

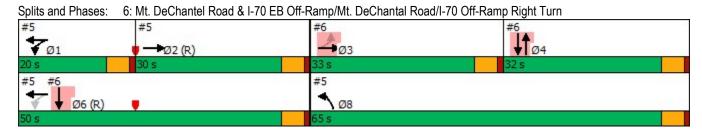
Synchro 10 Report 2030 No Build SAT Peak Page 2 af/ms

Lanes, Volumes, Timings 2030 No Build SAT Peak 6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right 198/11/2020

	۶	→	•	•	•	•	1	†	-	-	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		3						4			64	
Permitted Phases	3											
Detector Phase	3	3						4			6 4	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0				
Minimum Split (s)	17.0	17.0						17.0				
Total Split (s)	33.0	33.0						32.0				
Total Split (%)	28.7%	28.7%						27.8%				
Maximum Green (s)	28.0	28.0						27.0				
Yellow Time (s)	4.0	4.0						4.0				
All-Red Time (s)	1.0	1.0						1.0				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag	Lead	Lead						Lag				
Lead-Lag Optimize?	Yes	Yes						Yes				
Vehicle Extension (s)	4.0	4.0						5.0				
Recall Mode	None	None						None				
Act Effct Green (s)		26.8						23.8			78.2	
Actuated g/C Ratio		0.23						0.21			0.68	
v/c Ratio		0.83						0.60			0.29	
Control Delay		50.0						29.7			1.8	
Queue Delay		0.0						0.0			1.0	
Total Delay		50.0						29.7			2.8	
LOS		D						С			Α	
Approach Delay		50.0						29.7			2.8	
Approach LOS		D						С			A	
Queue Length 50th (ft)		245						113			20	
Queue Length 95th (ft)		317						174			21	
Internal Link Dist (ft)		402			135			190			55	
Turn Bay Length (ft)												
Base Capacity (vph)		870						991			1443	
Starvation Cap Reductn		0						0			745	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.79						0.55			0.60	
Intersection Summary												
Area Type:	Other											
Cycle Length: 115	Outor											
Actuated Cycle Length: 115	5											
Offset: 70 (61%), Reference		2·FRT ar	d 6·WRT	T Start o	f Green							
Natural Cycle: 70	ou to pridoc	D i ai	0.7701	_, ರಾವಾ 0	. 0.0011							
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 0.83	o. an iatou											
Intersection Signal Delay: 3	1 4			In	tersection	108:0						
Intersection Capacity Utiliza						of Service	Α					
Analysis Period (min) 15	audii - 1 0.0 /0			- IC	JO LOVOI (J. OUI VIOL	, (
,a., 510 i 5110a (11111) 10												

Synchro 10 Report 2030 No Build SAT Peak Page 3 af/ms

6: Mt. DeChantel Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Tชิศ์ที/2020



Lane Group	Ø1	Ø2	Ø6	Ø8
Protected Phases	1	2	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	20.0	20.0	17.0
Total Split (s)	20.0	30.0	50.0	65.0
Total Split (%)	17%	26%	43%	57%
Maximum Green (s)	15.0	25.0	45.0	60.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.5	5.0	5.0	4.0
Recall Mode	None	C-Max	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Cummer:				
Intersection Summary				

Synchro 10 Report Page 5 2030 No Build SAT Peak af/ms

HCM 6th Edition methodology does not support clustered intersections.

Synchro 10 Report 2030 No Build SAT Peak af/ms Page 6

	→	7	_	←	7	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	^			ተተተ		77
Traffic Volume (vph)	168	0	0	851	0	726
Future Volume (vph)	168	0	0	851	0	726
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	11	12	12
Grade (%)	0%			0%	-2%	
Storage Length (ft)		0	590		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	0.88
Ped Bike Factor						
Frt						0.850
Flt Protected						
Satd. Flow (prot)	3198	0	0	4442	0	2543
Flt Permitted						
Satd. Flow (perm)	3198	0	0	4442	0	2543
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			1133	215	
Travel Time (s)	3.9			22.1	4.2	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	0%	1%	0%	1%
Adj. Flow (vph)	181	0	0	915	0	781
Shared Lane Traffic (%)						
Lane Group Flow (vph)	181	0	0	915	0	781
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	1			1	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	1.15	1.15	1.20	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	
Intersection Summary						
	Other					
J 1	Other					
Control Type: Unsignalized	lion 10 00/				المدماا	of Comiles
Intersection Capacity Utilizat	110H 4U.8%			IC	U Level (of Service A
Analysis Period (min) 15						

Synchro 10 Report 2030 No Build SAT Peak Page 1 af/ms

HCM Unsignalized Intersection Capacity Analysis 2030 7: Mt. DeChantal Road/I-70 Off-Ramp Right Turn & US 40 National Road

	→	7	*	-	7	/		
Movement	EBT	EBR	WBL	WBT	NEL	NER		
Lane Configurations	^			^		77		
Traffic Volume (veh/h)	168	0	0	851	0	726		
Future Volume (Veh/h)	168	0	0	851	0	726		
Sign Control	Free			Free	Yield			
Grade	0%			0%	-2%			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Hourly flow rate (vph)	181	0	0	915	0	781		
Pedestrians					2			
Lane Width (ft)					12.0			
Walking Speed (ft/s)					3.5			
Percent Blockage					0			
Right turn flare (veh)								
Median type	None			TWLTL				
Median storage veh)				2				
Upstream signal (ft)	201			1133				
pX, platoon unblocked								
vC, conflicting volume			183		488	92		
vC1, stage 1 conf vol					183			
vC2, stage 2 conf vol					305			
vCu, unblocked vol			183		488	92		
tC, single (s)			4.1		6.8	6.9		
tC, 2 stage (s)					5.8			
tF (s)			2.2		3.5	3.3		
p0 queue free %			100		100	18		
cM capacity (veh/h)			1402		666	948		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1	NE 2	
Volume Total	90	90	305	305	305	390	390	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	390	390	
cSH	1700	1700	1700	1700	1700	948	948	
Volume to Capacity	0.05	0.05	0.18	0.18	0.18	0.41	0.41	
Queue Length 95th (ft)	0	0	0	0	0	51	51	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.4	11.4	
Lane LOS						В	В	
Approach Delay (s)	0.0		0.0			11.4		
Approach LOS						В		
Intersection Summary								
Average Delay			4.8					
Intersection Capacity Utilizat	tion		40.8%	IC	U Level c	f Service		
Analysis Period (min)			15					

2030 No Build SAT Peak Synchro 10 Report Page 1 af/ms

	۶	→	•	•	•	*	1	†	-	/	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				7		7	7	†			1	
Traffic Volume (vph)	0	0	0	2	0	166	74	310	0	0	288	205
Future Volume (vph)	0	0	0	2	0	166	74	310	0	0	288	205
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.944	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1549	1546	1675	0	0	1581	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1549	1546	1675	0	0	1581	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	2%	0%	0%	1%	1%
Adj. Flow (vph)	0	0	0	2	0	175	78	326	0	0	303	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	2	0	175	78	326	0	0	519	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type: C	Other											
Control Type: Unsignalized												
Intersection Canacity Litilizati	on 48 9%			IC	العرمالا	of Service	Δ					

Intersection Capacity Utilization 48.9%

ICU Level of Service A

Analysis Period (min) 15

Synchro 10 Report Page 32 2030 No Build SAT Peak af/ms

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	EDL	EDI	EDK		WDI				NDK	ODL		SDK
Lane Configurations	^	^	0	ኘ	0	100	ኝ	240	0	^	\$	005
Traffic Vol, veh/h	0	0	0	2	0	166	74	310	0	0	288	205
Future Vol, veh/h	0	0	0	2	0	166	74	310	0	0	288	205
Conflicting Peds, #/hr	0	0	1	1	0	0	_ 1	0	3	_ 3	0	_ 1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	170	-	-	-	-	-
Veh in Median Storage,	# -	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-1	-	-	-1	-	-	1	-
Peak Hour Factor	92	92	92	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	5	2	0	0	1	1
Mvmt Flow	0	0	0	2	0	175	78	326	0	0	303	216
Major/Minor			_	Minor1			Major1		N	//ajor2		
Conflicting Flow All				894	_	326	520	0	_	-	_	0
Stage 1				482	_	-	-	-	_	_	_	-
Stage 2				412	_	_	_	_	<u>-</u>	<u>-</u>	_	_
Critical Hdwy				6.2	_	6.1	4.15	_	_	_	_	_
Critical Hdwy Stg 1				5.2	_	0.1	4.10	_	<u>-</u>	_	_	_
Critical Hdwy Stg 2				5.2		_			-		_	
Follow-up Hdwy				3.5	_		2.245		<u>-</u>	_	_	_
Pot Cap-1 Maneuver				330	0	726	1031	_	0	0	_	
Stage 1				642	0	120	1001	_	0	0		_
Stage 1				688	0	-	<u>-</u>	_	0	0	_	
Platoon blocked, %				000	U	-	-	-	U	U		
-				305	0	726	1031	-	_	_	-	-
Mov Cap-1 Maneuver				305				-				
Mov Cap-2 Maneuver					0	-	-	-	-	-	-	-
Stage 1				593	0	-	-	-	-	-	-	-
Stage 2				687	0	-	-	-	-	-	-	-
Approach				WB			NB			SB		
HCM Control Delay, s				11.6			1.7			0		
HCM LOS				В								
Minor Lane/Major Mvmt		NBL	NRTV	VBLn1V	VBI n2	SBT	SBR					
Capacity (veh/h)		1031		305	726	<u> </u>						
HCM Lane V/C Ratio		0.076		0.007		-	-					
HCM Control Delay (s)		8.8	<u>-</u>	16.9	11.5		<u>-</u>					
HCM Lane LOS			=			-	-					
		A	-	С	В	-	-					
HCM 95th %tile Q(veh)		0.2	-	0	0.9	-	-					

	۶	-	*	•	+	•	1	1	<i>></i>	1	↓	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				7		7	1	↑			1→	
Traffic Volume (veh/h)	0	0	0	2	0	166	74	310	0	0	288	205
Future Volume (Veh/h)	0	0	0	2	0	166	74	310	0	0	288	205
Sign Control		Stop			Stop			Free			Free	
Grade		1%			-1%			-1%			1%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	2	0	175	78	326	0	0	303	216
Pedestrians		1			3			1				
Lane Width (ft)		0.0			15.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								477			270	
pX, platoon unblocked	0.92	0.92	0.91	0.92	0.92	0.99	0.91			0.99		
vC, conflicting volume	894	897	413	897	1005	329	520			329		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	816	819	311	819	936	317	428			317		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	100	99	100	76	92			100		
cM capacity (veh/h)	195	264	670	255	226	718	1020			1237		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1							
Volume Total	2	175	78	326	519							
Volume Left	2	0	78	0	0							
Volume Right	0	175	0	0	216							
cSH	255	718	1020	1700	1700							
Volume to Capacity	0.01	0.24	0.08	0.19	0.31							
Queue Length 95th (ft)	1	24	6	0	0							
Control Delay (s)	19.2	11.6	8.8	0.0	0.0							
Lane LOS	C	В	A	0.0	0.0							
Approach Delay (s)	11.7		1.7		0.0							
Approach LOS	В				V.V							
Intersection Summary												
Average Delay			2.5									
Intersection Capacity Utiliza	ation		48.9%	IC	U Level	of Service			Α			
Analysis Period (min)	-		15		3.37							

	•	*	†	1	1	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	*	7	↑	7	*	†
Traffic Volume (vph)	7	120	247	98	224	36
Future Volume (vph)	7	120	247	98	224	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	14	13	14
Grade (%)	2%	10	1%	17	10	1%
Storage Length (ft)	0	80	170	120	210	170
Storage Lanes	1	1		1 1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.850	1.00	0.850	1.00	1.00
FIt Protected	0.950	0.000		0.000	0.950	
	1787	1620	1853	1697	1837	2017
Satd. Flow (prot)		1020	1000	1097		2017
Flt Permitted	0.950	1600	1052	1607	0.559	2017
Satd. Flow (perm)	1787	1620	1853	1697	1081	2017
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	0.5	128	0.5	104		
Link Speed (mph)	25		25			25
Link Distance (ft)	249		332			477
Travel Time (s)	6.8		9.1			13.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	2%	1%	1%	0%
Adj. Flow (vph)	7	128	263	104	238	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	128	263	104	238	38
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12	Ţ,	13			13
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	0.97	1.01	0.92	0.96	0.92
Turning Speed (mph)	15	9	1.01	9	15	0.02
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	Cl+Ex	CI+Ex	Cl+Ex	Cl+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0

	•				-	+
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	70.0	70.0	20.0	90.0
Total Split (%)	21.7%	21.7%	60.9%	60.9%	17.4%	78.3%
Maximum Green (s)	20.0	20.0	65.0	65.0	15.0	85.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	3.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.2	9.2	82.3	82.3	95.8	95.8
Actuated g/C Ratio	0.08	0.08	0.72	0.72	0.83	0.83
v/c Ratio	0.05	0.52	0.20	0.08	0.25	0.02
Control Delay	47.7	16.1	6.3	1.4	1.7	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	16.1	6.3	1.4	1.7	1.2
LOS	D	В	Α	Α	Α	Α
Approach Delay	17.7		4.9			1.6
Approach LOS	В		Α			A
Queue Length 50th (ft)	5	0	53	0	7	1
Queue Length 95th (ft)	19	57	107	18	m35	m7
Internal Link Dist (ft)	169		252			397
Turn Bay Length (ft)	. 3 0	80		120	210	
Base Capacity (vph)	310	387	1326	1244	998	1679
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.33	0.20	0.08	0.24	0.02
Intersection Cummary						

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 45 (39%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 6.0 Intersection LOS: A Intersection Capacity Utilization 42.1% ICU Level of Service A

Analysis Period (min) 15

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



	1	4	†	-	-	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	*	7	^	7	7	^
Traffic Volume (veh/h)	7	120	247	98	224	36
Future Volume (veh/h)	7	120	247	98	224	36
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1876	1921	1864	1954	1954	1970
Adj Flow Rate, veh/h	7	128	263	104	238	38
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	1	1	0
Cap, veh/h	174	159	1342	1192	875	1606
Arrive On Green	0.10	0.10	0.72	0.72	0.05	0.82
Sat Flow, veh/h	1787	1628	1864	1656	1861	1970
Grp Volume(v), veh/h	7	128	263	104	238	38
Grp Sat Flow(s), veh/h/ln	1787	1628	1864	1656	1861	1970
Q Serve(g_s), s	0.4	8.9	5.3	2.2	3.6	0.4
Cycle Q Clear(g_c), s	0.4	8.9	5.3	2.2	3.6	0.4
Prop In Lane	1.00	1.00	0.0	1.00	1.00	0.4
Lane Grp Cap(c), veh/h	174	159	1342	1192	875	1606
V/C Ratio(X)	0.04	0.81	0.20	0.09	0.27	0.02
Avail Cap(c_a), veh/h	311	283	1342	1192	1020	1606
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)						
Uniform Delay (d), s/veh	47.0	50.8	5.3	4.8	3.2	2.0
Incr Delay (d2), s/veh	0.2	18.1	0.3	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.4	2.1	0.7	1.1	0.1
Unsig. Movement Delay, s/veh		00.0	г.	F 0	0.4	0.0
LnGrp Delay(d),s/veh	47.2	68.9	5.6	5.0	3.4	2.0
LnGrp LOS	D	E	Α	A	A	A
Approach Vol, veh/h	135		367			276
Approach Delay, s/veh	67.8		5.4			3.2
Approach LOS	Е		Α			Α
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.0	87.8		16.2		98.8
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0		20.0		85.0
Max Q Clear Time (g_c+l1), s	5.6	7.3		10.9		2.4
Green Ext Time (p_c), s	0.5	4.6		0.5		0.4
Intersection Summary						
			15.4			
HCM 6th Ctrl Delay			15.4			
HCM 6th LOS			В			

	→	7	F	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	†			414		
Traffic Volume (vph)	248	69	540	368	0	0
Future Volume (vph)	248	69	540	368	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.967					
Flt Protected				0.971		
Satd. Flow (prot)	3086	0	0	3093	0	0
FIt Permitted				0.971		
Satd. Flow (perm)	3086	0	0	3093	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		4	4			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	1%	2%	0%	0%
Adj. Flow (vph)	261	73	568	387	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	334	0	0	955	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0	•		0	0	· ·
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
•	Other					
Area Type: Control Type: Unsignalized	Other					
,,	tion 50 70/			10	III ovol s	of Service
Intersection Capacity Utiliza	uUII 5U./%			IC	U Level C	o service
Analysis Period (min) 15						

	-	7	*	•	•	/	
Movement	EBT	EBR	WBL	WBT	NEL	NER	
Lane Configurations	† 1>			414			
Traffic Volume (veh/h)	248	69	540	368	0	0	
Future Volume (Veh/h)	248	69	540	368	0	0	
Sign Control	Free			Free	Stop		
Grade	0%			0%	3%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly flow rate (vph)	261	73	568	387	0	0	
Pedestrians					4		
Lane Width (ft)					0.0		
Walking Speed (ft/s)					3.5		
Percent Blockage					0		
Right turn flare (veh)							
Median type	None			TWLTL			
Median storage veh)				2			
Upstream signal (ft)				562			
pX, platoon unblocked					0.87		
vC, conflicting volume			265		1631	171	
vC1, stage 1 conf vol					302		
vC2, stage 2 conf vol					1330		
vCu, unblocked vol			265		1435	171	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			56		100	100	
cM capacity (veh/h)			1303		138	849	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2			
Volume Total	174	160	697	258			
Volume Left	0	0	568	0			
Volume Right	0	73	0	0			
cSH	1700	1700	1303	1700			
Volume to Capacity	0.10	0.09	0.44	0.15			
Queue Length 95th (ft)	0	0	57	0			
Control Delay (s)	0.0	0.0	8.9	0.0			
Lane LOS			Α				
Approach Delay (s)	0.0		6.5				
Approach LOS							
Intersection Summary							
Average Delay			4.8				
Intersection Capacity Utiliz	ation		50.7%	IC	U Level c	f Service	Α
Analysis Period (min)			15				

	*	€.	×	/	6	K
Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations	W		1			र्स
Traffic Volume (vph)	61	1	194	61	2	177
Future Volume (vph)	61	1	194	61	2	177
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	11	11
Grade (%)	3%		-2%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998		0.968			
Flt Protected	0.953					0.999
Satd. Flow (prot)	1593	0	1662	0	0	1562
Flt Permitted	0.953					0.999
Satd. Flow (perm)	1593	0	1662	0	0	1562
Link Speed (mph)	30		30			30
Link Distance (ft)	1796		396			959
Travel Time (s)	40.8		9.0			21.8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%
Adj. Flow (vph)	67	1	213	67	2	195
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	280	0	0	197
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.18	1.18	1.14	1.14	1.23	1.23
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	ion 26.1%			IC	U Level	of Service
Analysis Period (min) 15						

Synchro 10 Report Page 39 2030 No Build SAT Peak af/ms

Intersection						
Int Delay, s/veh	1.6					
	WBL	WBR	NET	NER	SWL	SWT
		WBK		NEK	SVVL	
Lane Configurations	61	1	104	64	0	477
Traffic Vol, veh/h	61	1	194	61	2	177
Future Vol, veh/h	61	1	194	61	2	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage,		-	0	-	-	0
Grade, %	3	-	-2	-	-	4
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	67	1	213	67	2	195
Major/Minor M	1inor1		Major1	N	Major2	
Conflicting Flow All	446	247	0	0	280	0
Stage 1	247	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	7	6.5	-	-	4.1	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	533	780	-	-	1294	-
Stage 1	767	-	-	-	-	-
Stage 2	812	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	532	780	-	-	1294	-
Mov Cap-2 Maneuver	532	-	_	_	-	_
Stage 1	767	_	_	-	-	-
Stage 2	810	_	_	_	_	_
Clayo Z	010					
Approach	WB		NE		SW	
HCM Control Delay, s	12.7		0		0.1	
HCM LOS	В					
TICIVI LOS						
HOW LOS						
		NET	NEDV	MDI ∽1	CIVII	CMT
Minor Lane/Major Mvmt		NET		VBLn1	SWL	SWT
Minor Lane/Major Mvmt Capacity (veh/h)		-	-	535	1294	-
Minor Lane/Major Mvmt Capacity (veh/h) HCM Lane V/C Ratio		NET -	-	535 0.127	1294 0.002	-
Minor Lane/Major Mvmt Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)		- - -	- - -	535 0.127 12.7	1294 0.002 7.8	- - 0
Minor Lane/Major Mvmt Capacity (veh/h) HCM Lane V/C Ratio		-	-	535 0.127	1294 0.002	-

	1	•	1	/	/	Ţ
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	N/		1>			4
Traffic Volume (veh/h)	61	1	194	61	2	177
Future Volume (Veh/h)	61	1	194	61	2	177
Sign Control	Stop		Free	<u> </u>	_	Free
Grade	3%		-2%			4%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	67	1	213	67	2	195
Pedestrians	O,	'	210	01		100
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)			INOLIC			INONE
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	446	246			280	
vC1, stage 1 conf vol	440	240			200	
vC2, stage 2 conf vol	446	246			280	
vCu, unblocked vol						
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	2.5	2.0			0.0	
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	100			100	
cM capacity (veh/h)	573	797			1294	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	68	280	197			
Volume Left	67	0	2			
Volume Right	1	67	0			
cSH	575	1700	1294			
Volume to Capacity	0.12	0.16	0.00			
Queue Length 95th (ft)	10	0	0			
Control Delay (s)	12.1	0.0	0.1			
Lane LOS	В		Α			
Approach Delay (s)	12.1	0.0	0.1			
Approach LOS	В					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization	ation		26.1%	IC	III evel d	of Service
Analysis Period (min)	auon		15	10	O LOVGI (JI OCI VICE
-marysis Femou (mim)			10			

	•	•	†	-	1	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		1>			र्स
Traffic Volume (vph)	0	0	368	0	0	389
Future Volume (vph)	0	0	368	0	0	389
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%		-1%			-2%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1667	0	1675	0	0	1683
FIt Permitted						
Satd. Flow (perm)	1667	0	1675	0	0	1683
Link Speed (mph)	30		30			30
Link Distance (ft)	660		3796			747
Travel Time (s)	15.0		86.3			17.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	409	0	0	432
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	409	0	0	432
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.15	1.15	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizati	on 26.2%			IC	U Level c	of Service A
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0					
		WED	NET	NDD	ODI	OPT
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		\$	^	^	4
Traffic Vol, veh/h	0	0	368	0	0	389
Future Vol, veh/h	0	0	368	0	0	389
Conflicting Peds, #/hr	0	0	_ 0	0	_ 0	_ 0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-		-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	0	-	-	0
Grade, %	0	-	-1	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	409	0	0	432
Major/Minor	Minor1	N	Major1	ı	Major2	
		409				0
Conflicting Flow All	841		0	0	409	
Stage 1	409	-	-	-	-	-
Stage 2	432	- 00	-	-	4 40	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518		-	-	2.218	-
Pot Cap-1 Maneuver	335	642	-	-	1150	-
Stage 1	671	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	335	642	-	-	1150	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	671	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	0		0		0	
HCM LOS	Α					
Minor Lane/Major Mvn	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)		_	_	_	1150	_
HCM Lane V/C Ratio		-	-	-	-	-
HCM Control Delay (s)		_	_	0	0	-
HCM Lane LOS		-	-	A	A	-
HCM 95th %tile Q(veh)	_	_	-	0	-
	,				- 0	

	→	*	1	•	1	1	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	1>			4	W		
Traffic Volume (vph)	63	0	0	62	0	0	
Future Volume (vph)	63	0	0	62	0	0	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	
Grade (%)	0%			3%	0%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frt							
Flt Protected							
Satd. Flow (prot)	1667	0	0	1642	1667	0	
Flt Permitted							
Satd. Flow (perm)	1667	0	0	1642	1667	0	
Link Speed (mph)	25			25	25		
Link Distance (ft)	1796			721	825		
Travel Time (s)	49.0			19.7	22.5		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	70	0	0	69	0	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	70	0	0	69	0	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	0			0	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15	
Turning Speed (mph)		9	15		15	9	
Sign Control	Free			Free	Stop		
Intersection Summary							
Area Type:	Other						
Control Type: Unsignalized							
Intersection Capacity Utilization 7.0% ICU Level						of Service A	
Analysis Period (min) 15							

Intersection						
Int Delay, s/veh	0					
		EDD	MPI	WOT	ND	NDD
	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	}	_	_	4	M	_
Traffic Vol, veh/h	63	0	0	62	0	0
Future Vol, veh/h	63	0	0	62	0	0
Conflicting Peds, #/hr	0	_ 0	0	0	0	0
•	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	4 0	-	-	0	0	-
Grade, %	0	-	-	3	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	70	0	0	69	0	0
NA . ' /NA'			4 . 0		M'	
	ajor1		Major2		Minor1	
Conflicting Flow All	0	0	70	0	139	70
Stage 1	-	-	-	-	70	-
Stage 2	-	-	-	-	69	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1531	-	854	993
Stage 1	-	_	-	-	953	-
Stage 2	-	-	-	-	954	-
Platoon blocked, %	-	_		_		
Mov Cap-1 Maneuver	_	_	1531	_	854	993
Mov Cap-2 Maneuver	_	_	-	_	854	-
Stage 1		_	_		953	_
_	-	-	•	-	953	-
Stage 2	_	-	-	-	904	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
					, ,	
Minor Lane/Major Mvmt	1	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		-	-	-	1531	-
HCM Lane V/C Ratio		-	-	-	-	-
HCM Control Delay (s)		0	-	-	0	-
HCM Lane LOS		Α	-	-	Α	-
HCM 95th %tile Q(veh)		-	-	-	0	-
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2						



Appendix I. Year of Full Build-Out 2030 With Development (Build) Synchro Analyses

Lanes, Volumes, Timings 1: Altenheim Ave/Bethany Pike & US 40 National Road

	•	-	•	•	←	•	•	†	/	/	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	f.			414			4			4	7
Traffic Volume (vph)	446	224	3	11	320	218	195	42	50	193	2	541
Future Volume (vph)	446	224	3	11	320	218	195	42	50	193	2	541
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			2%			7%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			1.00				0.99
Frt		0.998			0.940			0.976				0.850
Flt Protected	0.950				0.999			0.967			0.953	
Satd. Flow (prot)	1693	1685	0	0	3273	0	0	1713	0	0	1793	1584
Flt Permitted	0.196				0.946			0.466			0.642	
Satd. Flow (perm)	349	1685	0	0	3099	0	0	824	0	0	1208	1562
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			159			10				513
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		879			1354			343			3796	
Travel Time (s)		17.1			26.4			9.4			86.3	
Confl. Peds. (#/hr)			2	2			2	• • • • • • • • • • • • • • • • • • • •			00.0	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	5%	11%	0%	0%	3%	2%	1%	0%	2%	2%	0%	3%
Adj. Flow (vph)	525	264	4	13	376	256	229	49	59	227	2	636
Shared Lane Traffic (%)	0_0		•		0.0						-	
Lane Group Flow (vph)	525	268	0	0	645	0	0	337	0	0	229	636
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0	9		0			0	9
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.02	1.02	1.02	1.01	1.01	1.01	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	•	1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		Cl+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OI · EX	OI · EX		OI LX	OI · Ex		OI LX	OI · EX		OI LX	OI LX	OI LX
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	0.0
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel		OITEX			OITEX			OITEX			OITEX	
DEIECIOI Z CHAIHIEI												

Synchro 10 Report Page 1 2030 Build AM Peak af/ms

Lane Group	Ø3
LaneConfigurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
FIt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%) Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
_	

2030 Build AM Peak Synchro 10 Report af/ms Page 2

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6			2			4			4	1
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	15.0	20.0		20.0	20.0		17.0	17.0		17.0	17.0	15.0
Total Split (s)	20.0	50.0		30.0	30.0		25.0	25.0		25.0	25.0	20.0
Total Split (%)	21.1%	52.6%		31.6%	31.6%		26.3%	26.3%		26.3%	26.3%	21.1%
Maximum Green (s)	15.0	45.0		25.0	25.0		20.0	20.0		20.0	20.0	15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lag	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	2.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	46.0	46.0			26.0			20.0			20.0	35.0
Actuated g/C Ratio	0.48	0.48			0.27			0.21			0.21	0.37
v/c Ratio	1.38	0.33			0.67			1.86			0.90	0.71
Control Delay	203.5	14.3			26.7			433.4			74.6	9.2
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	203.5	14.3			26.7			433.4			74.6	9.2
LOS	F	В			С			F			Е	Α
Approach Delay		139.5			26.7			433.4			26.5	
Approach LOS		F			С			F			С	_
Queue Length 50th (ft)	~358	145			136			~311			135	45
Queue Length 95th (ft)	#504	m176			181			#450			#250	119
Internal Link Dist (ft)		799			1274			263			3716	
Turn Bay Length (ft)								101				130
Base Capacity (vph)	381	816			963			181			254	902
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	1.38	0.33			0.67			1.86			0.90	0.71
Intersection Summary												

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 46 (48%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.86

Lane Group	Ø3
Detector 2 Extend (s)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	19.0
Total Split (s)	20.0
Total Split (%)	21%
Maximum Green (s)	15.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	4.0
Recall Mode	Ped
Walk Time (s)	5.0
Flash Dont Walk (s)	9.0
Pedestrian Calls (#/hr)	1
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	
intersection Summary	

Intersection Capacity Utilization 78.4%

Intersection Signal Delay: 112.5

Analysis Period (min) 15

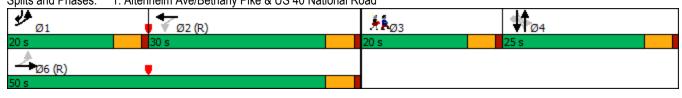
Intersection LOS: F ICU Level of Service D 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles. m Volume for 95th percentile queue is metered by upstream signal.

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Altenheim Ave/Bethany Pike & US 40 National Road



2030 Build AM Peak Synchro 10 Report Page 5 af/ms

2030 Build AM Peak 05/07/2020

HCM 6th Edition methodology does not support exclusive ped or hold phases.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĵ.			4			4			4	
Traffic Volume (vph)	141	246	2	0	319	3	0	0	0	7	0	269
Future Volume (vph)	141	246	2	0	319	3	0	0	0	7	0	269
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.999						0.869	
Flt Protected	0.950										0.999	
Satd. Flow (prot)	1466	1674	0	0	1641	0	0	1907	0	0	1400	0
FIt Permitted	0.950										0.999	
Satd. Flow (perm)	1466	1674	0	0	1641	0	0	1907	0	0	1400	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	2%	0%	0%	3%	0%	0%	0%	0%	17%	0%	2%
Adj. Flow (vph)	157	273	2	0	354	3	0	0	0	8	0	299
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	275	0	0	357	0	0	0	0	0	307	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12	, ,		0	, ,		0	, ,		0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Jr -	Other											
Control Type: Unsignalized												
Interposition Consoity Litilizati	ion 60 60/			10	III aval	of Conside	D					

Intersection Capacity Utilization 62.6%

ICU Level of Service B

Analysis Period (min) 15

2030 Build AM Peak Synchro 10 Report af/ms Page 7

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ķ	f)			4			4			4	
Traffic Vol, veh/h	141	246	2	0	319	3	0	0	0	7	0	269
Future Vol, veh/h	141	246	2	0	319	3	0	0	0	7	0	269
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage	e, # -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	7	2	0	0	3	0	0	0	0	17	0	2
Mvmt Flow	157	273	2	0	354	3	0	0	0	8	0	299
Major/Minor	Major1		ľ	Major2		1	Minor1		N	/linor2		
Conflicting Flow All	358	0	0	275	0	0	1093	946	274	945	946	357
Stage 1	-	-	-	-	-	-	588	588		357	357	-
Stage 2	-	-	-	-	-	-	505	358	-	588	589	-
Critical Hdwy	4.17	-	-	4.1	-	-	7.5	6.9	6.4	7.07	6.3	6.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	6.07	5.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.9	-	6.07	5.3	-
Follow-up Hdwy	2.263	-	-	2.2	-	-	3.5	4	3.3	3.653	4	3.318
Pot Cap-1 Maneuver	1173	_	_	1300	_	_	171	237	758	240	278	694
Stage 1	-	-	-		-	-	467	468	-	643	645	-
Stage 2	-	-	-	-	-	_	523	607	-	486	515	-
Platoon blocked, %		_	_		_	_						
Mov Cap-1 Maneuver	1172	_	_	1300	_	_	87	205	758	215	240	693
Mov Cap-2 Maneuver	-	-	-		-	-	87	205	-	215	240	-
Stage 1	_	-	-	-	-	_	404	405	-	556	644	_
Stage 2	_	_	_	_	_	_	297	606	-	421	446	_
U- =												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.1			0			0			15.2		
HCM LOS	J. 1						A			C		
TOW LOO							Α.					
Minor Lane/Major Mvm	nt N	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	CDI 51			
Capacity (veh/h)	it I	<u> </u>		<u> </u>	EDK -	1300	-	WDK (656			
HCM Lane V/C Ratio			0.134			1300			0.467			
				-	-	- 0	-					
HCM Long LOS		0	8.5	-	-	0	-	-	15.2			
HCM Lane LOS	\	Α	A	-	-	A	-	-	C			
HCM 95th %tile Q(veh))	-	0.5	-	-	0	-	-	2.5			

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	∱ 1≽		ሻ	∱ }			4			र्स	7
Traffic Volume (vph)	184	955	6	0	982	48	3	0	2	36	0	198
Future Volume (vph)	184	955	6	0	982	48	3	0	2	36	0	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	16	14
Grade (%)		0%			0%			-4%			2%	
Storage Length (ft)	150		0	0		0	0		0	0		300
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00										
Frt		0.999			0.993			0.955				0.850
Flt Protected	0.950							0.968			0.950	
Satd. Flow (prot)	1787	3428	0	1900	3482	0	0	1664	0	0	1911	1689
Flt Permitted	0.119	0.120	-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	• • • •	-	•	0.844	-		0.754	
Satd. Flow (perm)	224	3428	0	1900	3482	0	0	1451	0	0	1516	1689
Right Turn on Red		0.120	Yes	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	• • • •	Yes	•		Yes			Yes
Satd. Flow (RTOR)		1			6			172				233
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1133			236			237			1020	
Travel Time (s)		22.1			4.6			6.5			27.8	
Confl. Peds. (#/hr)			5	5	1.0			0.0			21.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	1%	5%	33%	0%	3%	2%	33%	0%	0%	6%	0%	1%
Adj. Flow (vph)	216	1124	7	0	1155	56	4	0	2	42	0	233
Shared Lane Traffic (%)							•		_			
Lane Group Flow (vph)	216	1131	0	0	1211	0	0	6	0	0	42	233
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	20.0	12	, agaic	2010	12	rugiic	2010	0	. ug.ic	LOIL	0	. ugiit
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			10				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Turning Speed (mph)	15	1.00	9	15	1.00	9	15	0.02	9	15	0.00	9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OIILX	OIILX		OITEX	OITEX		OITEX	OITEX		OITEX	OITEX	OIILX
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
. ,	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s) Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
	0.0	94		0.0	94		0.0	94		0.0	94	0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)											CL Ev	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			Cl+Ex	

Lane Group	Ø2	Ø3	Ø7	Ø11
Lane Configurations	~-		~.	
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				

2030 Build AM Peak Synchro 10 Report af/ms Page 10

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	16.0	42.0					15.0	15.0		15.0	15.0	15.0
Total Split (%)	16.8%	44.2%					15.8%	15.8%		15.8%	15.8%	15.8%
Maximum Green (s)	11.0	37.0					10.0	10.0		10.0	10.0	10.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	44.0	44.0			42.7			10.0			10.0	10.0
Actuated g/C Ratio	0.46	0.46			0.45			0.11			0.11	0.11
v/c Ratio	0.79	0.71			0.77			0.02			0.26	0.60
Control Delay	42.6	21.0			4.2			0.2			43.8	12.8
Queue Delay	0.0	0.0			7.3			0.0			0.0	0.0
Total Delay	42.6	21.0			11.5			0.2			43.8	12.8
LOS	D	С			В			Α			D	В
Approach Delay		24.4			11.5			0.2			17.5	
Approach LOS		С			В			Α			В	
Queue Length 50th (ft)	78	242			46			0			24	0
Queue Length 95th (ft)	#162	273			m10			0			54	56
Internal Link Dist (ft)		1053			156			157			940	
Turn Bay Length (ft)	150											300
Base Capacity (vph)	284	1588			1567			306			159	386
Starvation Cap Reductn	0	0			318			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.76	0.71			0.97			0.02			0.26	0.60

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

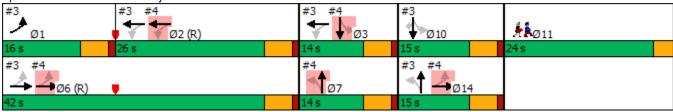
Natural Cycle: 90

Control Type: Actuated-Coordinated

Lane Group	Ø2	Ø3	Ø7	Ø11
Detector 2 Channel	W.L	20	, DI	DII
Detector 2 Extend (s)				
Turn Type				
Protected Phases	2	3	7	11
Permitted Phases		J	ı	11
Detector Phase				
Switch Phase				
	E 0	5.0	5.0	5.0
Minimum Initial (s)	5.0 20.0	15.0	15.0	5.0 17.0
Minimum Split (s)				
Total Split (s)	26.0	14.0	14.0	24.0
Total Split (%)	27%	15%	15%	25%
Maximum Green (s)	21.0	9.0	9.0	21.0
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lag			
Lead-Lag Optimize?	Yes			
Vehicle Extension (s)	5.0	4.0	4.0	3.0
Recall Mode	C-Max	None	None	Ped
Walk Time (s)				5.0
Flash Dont Walk (s)				9.0
Pedestrian Calls (#/hr)				1
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Maximum v/c Ratio: 1.11
Intersection Signal Delay: 18.2
Intersection Capacity Utilization 57.6%
ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Driveway/Park Road & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

2030 Build AM Peak Synchro 10 Report af/ms Page 14

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		∱ }		ሻ	ተ ኈ			4			4	
Traffic Volume (vph)	11	883	99	51	986	11	8	0	17	4	1	31
Future Volume (vph)	11	883	99	51	986	11	8	0	17	4	1	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%			0%	.000
Storage Length (ft)	0	• , ,	0	105	• • • • • • • • • • • • • • • • • • • •	0	0	.,,	0	0	• 70	0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.00	0.985	0.00	1.00	0.998	0.00	1.00	0.907	1.00	1.00	0.884	1.00
Flt Protected		0.999		0.950	0.000			0.985			0.994	
Satd. Flow (prot)	0	3394	0	1770	3498	0	0	1656	0	0	1637	0
Flt Permitted	•	0.825	•	0.234	0100	•	•	0.898	J	•	0.963	J
Satd. Flow (perm)	0	2803	0	436	3498	0	0	1510	0	0	1586	0
Right Turn on Red	U	2000	Yes	700	0430	Yes	U	1010	Yes	U	1500	Yes
Satd. Flow (RTOR)		17	103		1	103		172	103		36	103
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			3.5	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
	13	1039	116	60	1160	13	2%	2%	2%		270 1	36
Adj. Flow (vph)	13	1039	110	00	1100	13	9	U	20	5	l I	30
Shared Lane Traffic (%)	0	1100	0	60	1170	۸	0	20	٨	0	42	0
Lane Group Flow (vph)	0	1168	0	60	1173	0	0	29	0			0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane	4.00	Yes	4.00	4.00	Yes	4.00	4.04	4.04	4.04	4.00	4.00	4.00
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Turning Speed (mph)	15	0	9	15	0	9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		Cl+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	

2030 Build AM Peak af/ms

Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Grade (%)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Lane Util. Factor					
Frt					
Flt Protected					
Satd. Flow (prot)					
Flt Permitted					
Satd. Flow (perm)					
Right Turn on Red					
Satd. Flow (RTOR)					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Peak Hour Factor					
Heavy Vehicles (%)					
Adj. Flow (vph)					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Enter Blocked Intersection					
Lane Alignment					
Median Width(ft)					
Link Offset(ft)					
Crosswalk Width(ft)					
Two way Left Turn Lane					
Headway Factor					
Turning Speed (mph)					
Number of Detectors					
Detector Template					
Leading Detector (ft)					
Trailing Detector (ft)					
Detector 1 Position(ft)					
Detector 1 Size(ft)					
Detector 1 Type					
Detector 1 Channel					
Detector 1 Extend (s)					
Detector 1 Queue (s)					
Detector 1 Delay (s)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		6 14			2			7			3	
Permitted Phases	6 14			2			7			3		
Detector Phase	6 14	6 14		2	2		7	7		3	3	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)				20.0	20.0		15.0	15.0		15.0	15.0	
Total Split (s)				26.0	26.0		14.0	14.0		14.0	14.0	
Total Split (%)				27.4%	27.4%		14.7%	14.7%		14.7%	14.7%	
Maximum Green (s)				21.0	21.0		9.0	9.0		9.0	9.0	
Yellow Time (s)				4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				5.0	5.0			5.0			5.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode				C-Max	C-Max		None	None		None	None	
Walk Time (s)					•							
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		54.0		28.7	28.7			9.0			9.0	
Actuated g/C Ratio		0.57		0.30	0.30			0.09			0.09	
v/c Ratio		0.73		0.46	1.11			0.10			0.23	
Control Delay		6.0		40.5	92.6			0.6			19.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		6.0		40.5	92.6			0.6			19.4	
LOS		Α		T0.0	52.0 F			Α			В	
Approach Delay		6.0			90.0			0.6			19.4	
Approach LOS		Α			50.0 F			Α			В	
Queue Length 50th (ft)		45		32	~421			0			3	
Queue Length 95th (ft)		27		m44	m#423			0			32	
Internal Link Dist (ft)		156		111-1-1	799			398			76	
Turn Bay Length (ft)		100		105	7 0 0			000			10	
Base Capacity (vph)		1600		131	1056			298			182	
Starvation Cap Reductn		5		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.73		0.46	1.11			0.10			0.23	
Intersection Summary												
Area Type:)ther											
Cycle Length: 95												
Actuated Cycle Length: 95												
Offset: 0 (0%), Referenced to	phase 2:V	VBTL and	6:EBTL	, Start of	Green, Ma	aster Inte	rsection					
Natural Cycle: 90												
Control Type: Actuated-Coord	dinated											
Maximum v/c Ratio: 1.11												
Intersection Signal Delay: 48.	.1			li	ntersection	LOS: D						
Intersection Capacity Utilizati				10	CU Level o	of Sarvice	Δ					

Synchro 10 Report Page 17 2030 Build AM Peak af/ms

Lana Craun	Ø1	Ø6	Ø10	Ø11	Ø14
Lane Group Protected Phases	<u>الع</u> 1	6	10	11	14
Protected Phases Permitted Phases		Ö	10	11	14
Detector Phase					
Switch Phase					
	F 0	F 0	<i>E</i> 0	<i>E</i> 0	<i>E</i> 0
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.0	20.0	12.0	17.0	12.0
Total Split (s)	16.0	42.0	15.0	24.0	15.0
Total Split (%)	17%	44%	16%	25%	16%
Maximum Green (s)	11.0	37.0	10.0	21.0	10.0
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead				
Lead-Lag Optimize?	Yes				
Vehicle Extension (s)	2.0	5.0	4.0	3.0	4.0
Recall Mode	None	C-Max	None	Ped	None
Walk Time (s)				5.0	
Flash Dont Walk (s)				9.0	
Pedestrian Calls (#/hr)				1	
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Internaction Comment					
Intersection Summary					

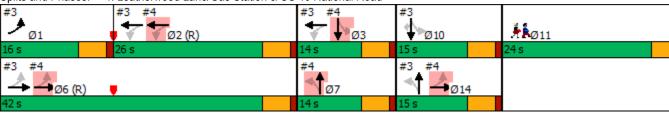
Synchro 10 Report Page 18 2030 Build AM Peak af/ms

4: Leatherwood Lane/Gas Station & US 40 National Road

Analysis Period (min) 15

- ~ Volume exceeds capacity, queue is theoretically infinite.
 - Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 - Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Leatherwood Lane/Gas Station & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

	-	\rightarrow	•	←		~				
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Lane Configurations	↑ ↑		ች	^	ሻሻ					
Traffic Volume (vph)	184	130	309	894	245	0				
Future Volume (vph)	184	130	309	894	245	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	11	11	10	11	11	12				
Grade (%)	0%			0%	-1%					
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	1.00				
Frt	0.938									
Flt Protected			0.950		0.950					
Satd. Flow (prot)	3044	0	1652	3388	3271	0				
Flt Permitted			0.358		0.950					
Satd. Flow (perm)	3044	0	622	3388	3271	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)	144									
Link Speed (mph)	35			35	25					
Link Distance (ft)	562			201	135					
Travel Time (s)	10.9			3.9	3.7					
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				
Heavy Vehicles (%)	10%	4%	2%	3%	4%	0%				
Adj. Flow (vph)	204	144	343	993	272	0				
Shared Lane Traffic (%)			0.10	000	_,_					
Lane Group Flow (vph)	348	0	343	993	272	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	10	ragne	Lon	10	22	rugiit				
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	16			16	16					
Two way Left Turn Lane	Yes			10	10					
Headway Factor	1.04	1.04	1.09	1.04	1.04	0.99				
Turning Speed (mph)	1.01	9	15	1.01	15	9				
Number of Detectors	2	J	1	2	1	J				
Detector Template	Thru		Left	Thru	Left					
Leading Detector (ft)	100		20	100	20					
Trailing Detector (ft)	0		0	0	0					
Detector 1 Position(ft)	0		0	0	0					
Detector 1 Size(ft)	6		20	6	20					
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	Cl+Ex					
Detector 1 Channel	OIILX		OIILX	OITEX	OIILX					
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft)	94		0.0	94	0.0					
Detector 2 Size(ft)	6			6						
Detector 2 Type	CI+Ex			CI+Ex						
Detector 2 Channel	CITEX			CITEX						
Detector 2 Extend (s)	0.0			0.0						
` ,	NA		nmint	NA	Prot					
Turn Type Protected Phases	NA 2		pm+pt 1	1 6	Prot 8		3	4	6	
Protected Phases Permitted Phases	Z		16	10	ō		3	4	0	
remilled Fliases			10							

	-	*	•	•	1	~				
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Detector Phase	2		1	16	8					
Switch Phase										
Minimum Initial (s)	5.0		5.0		5.0		5.0	5.0	5.0	
Minimum Split (s)	20.0		15.0		17.0		17.0	17.0	20.0	
Total Split (s)	25.0		16.0		54.0		30.0	24.0	41.0	
Total Split (%)	26.3%		16.8%		56.8%		32%	25%	43%	
Maximum Green (s)	20.0		11.0		49.0		25.0	19.0	36.0	
Yellow Time (s)	4.0		4.0		4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0		1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0		0.0					
Total Lost Time (s)	5.0		5.0		5.0					
Lead/Lag	Lag		Lead				Lead	Lag		
Lead-Lag Optimize?	Yes		Yes				Yes	Yes		
Vehicle Extension (s)	5.0		2.5		4.0		4.0	5.0	5.0	
Recall Mode	C-Max		None		None		None	None	C-Max	
Act Effct Green (s)	20.0		36.0	36.0	49.0					
Actuated g/C Ratio	0.21		0.38	0.38	0.52					
v/c Ratio	0.46		0.97	0.77	0.16					
Control Delay	21.1		61.6	31.6	4.9					
Queue Delay	0.0		0.0	0.0	1.7					
Total Delay	21.1		61.6	31.6	6.6					
LOS	С		Е	С	Α					
Approach Delay	21.1			39.3	6.6					
Approach LOS	С			D	Α					
Queue Length 50th (ft)	55		216	334	16					
Queue Length 95th (ft)	97		m#356	405	m15					
Internal Link Dist (ft)	482			121	55					
Turn Bay Length (ft)										
Base Capacity (vph)	754		354	1283	1687					
Starvation Cap Reductn	0		0	0	1233					
Spillback Cap Reductn	0		0	0	0					
Storage Cap Reductn	0		0	0	0					
Reduced v/c Ratio	0.46		0.97	0.77	0.60					
Internation Comment										

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

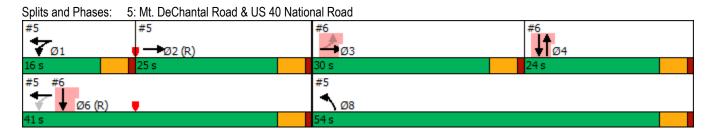
Intersection Signal Delay: 31.5 Intersection LOS: C
Intersection Capacity Utilization 45.9% ICU Level of Service A

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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



2030 Build AM Peak Synchro 10 Report af/ms Page 23

HCM 6th Edition methodology does not support clustered intersections.

2030 Build AM Peak Synchro 10 Report af/ms Page 24

Lanes, Volumes, Timings 2030 Build AM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4îb						∱ }			+	
Traffic Volume (vph)	57	682	86	0	0	0	0	188	303	0	439	0
Future Volume (vph)	57	682	86	0	0	0	0	188	303	0	439	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	12	16	12
Grade (%)		-1%			0%			0%			1%	
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.984						0.907				
Flt Protected		0.997										
Satd. Flow (prot)	0	3441	0	0	0	0	0	3222	0	0	2080	0
Flt Permitted		0.997										
Satd. Flow (perm)	0	3441	0	0	0	0	0	3222	0	0	2080	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13						348				
Link Speed (mph)		35			30			25			25	
Link Distance (ft)		482			215			270			135	
Travel Time (s)		9.4			4.9			7.4			3.7	
Confl. Peds. (#/hr)							2					2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	4%	0%	0%	0%	0%	5%	5%	5%	0%	3%	0%
Adj. Flow (vph)	66	784	99	0	0	0	0	216	348	0	505	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	949	0	0	0	0	0	564	0	0	505	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	0.96	0.96	0.96	1.01	0.85	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2			2	
Detector Template	Left	Thru						Thru			Thru	
Leading Detector (ft)	20	100						100			100	
Trailing Detector (ft)	0	0						0			0	
Detector 1 Position(ft)	0	0						0			0	
Detector 1 Size(ft)	20	6						6			6	
Detector 1 Type	CI+Ex	CI+Ex						Cl+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		CI+Ex						Cl+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA			NA	

Synchro 10 Report Page 25 2030 Build AM Peak af/ms

Lanes, Volumes, Timings 2030 Build AM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

Lane Group	Ø1	Ø2	Ø6	Ø8
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type				

Synchro 10 Report Page 26 2030 Build AM Peak af/ms

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings 2030 Build AM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

Rane Group		۶	→	•	•	+	4	•	†	<i>></i>	/	+	√
Permitted Phases 3	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase 3 3 3 4 64	Protected Phases		3						4			6 4	
Switch Phase Minimum Initial (s) 5.0 5.0 5.0 Minimum Spit (s) 17.0 17.0 17.0 Total Spit (s) 30.0 30.0 24.0 Total Spit (s) 31.6% 31.6% 25.3% Maximum Green (s) 25.0 25.0 19.0 Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) 0.0 0.0 Total Lost Time (s) 5.0 5.0 Lead/Lag Lead Lead Lag Lead-Lag Lead Lead Lag Lead-Lag Optimize? Yes Yes Yes Yes Vehicle Extension (s) 4.0 4.0 5.0 Recall Mode None None Act Effect Green (s) 25.0 25.0 19.0 60.0 Actuated g/C Ratio 0.26 0.20 0.63 Control Delay 74.8 23.4 2.8 Course Delay 0.0 0.0 0.0 3.0 Control Delay 74.8 23.4 5.9 LOS E C A Approach Delay 74.8 23.4 5.9 LOS E C C A Approach Delay 74.8 23.4 5.9 LOS E C C A Approach Delay 74.8 23.4 5.9 LOS E C C A Approach Delay 74.8 23.4 5.9 LOS E C C A Approach Delay 74.8 23.4 5.9 LOS E C C A Sproach Delay 74.8 23.4 5.9 LOS E C C A Sproach Delay 74.8 23.4 5.9 LOS E C C A Sproach Delay 74.8 23.4 5.9 LOS E C C A Sproach Delay 74.8 23.4 5.9 LOS E C C A Sproach Delay 74.8 23.4 5.9 LOS E C C A Sproach Delay 74.8 23.4 5.9 LOS E C C A Sproach Delay 74.8 23.4 5.9 LOS E C C A Sproach Delay 74.8 23.4 5.9 LOS E C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C A Sproach Delay 74.8 23.4 5.9 LOS B C C B	Permitted Phases	3											
Minimum Initial (s) 5.0 5.0 5.0 17	Detector Phase	3	3						4			6 4	
Minimum Split (s) 17.0 1	Switch Phase												
Total Split (s) 30.0 30.0 30.0 24.0 Total Split (%) 31.6% 31.6% 25.3% Maximum Green (s) 25.0 25.0 19.0 Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) 0.0 0.0 Total Lost Time (s) 5.0 5.0 Lead-Lag Lead Lead Lag Lead-Lag Optimize? Yes Yes Vehicle Extension (s) 4.0 4.0 5.0 Recall Mode None None None Act Effct Green (s) 25.0 19.0 60.0 Actuated g/C Ratio 0.26 0.20 0.63 Vc Ratio 1.04 0.61 0.38 Control Delay 74.8 23.4 2.8 Queue Delay 0.0 0.0 3.0 Total Delay 74.8 23.4 5.9 LOS E C A Approach LoS E C A Approach LoS E C A Queue Length 50th (ft) 402 135 190 55 Turn Bay Length (ft) 402 135 190 55 Turn Bay Length (ft) 915 922 1313 Starvation Cap Reductn 0 0 0 0 Reduced Vic Ratio 1.04 0.61 0.80 Intersection Summary Area Type: Other Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated Coordinated	Minimum Initial (s)	5.0	5.0						5.0				
Total Split (%) 31.6% 31.6% 31.6% 25.3% Maximum Green (s) 25.0 25.0 19.0 Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) 0.0 0.0 Total Lost Time (s) 5.0 5.0 Lead/Lag	Minimum Split (s)	17.0	17.0										
Maximum Green (s) 25.0 25.0 4.0 4.0 Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 Lost Time Adjust (s) 0.0 0.0 Total Lost Time (s) 5.0 5.0 Lead/Lag Lead Lag Lead/Lag Optimize? Yes Yes Vehicle Extension (s) 4.0 4.0 5.0 Recall Mode None None Act Effet Green (s) 25.0 19.0 60.0 Actuated g/C Ratio 0.26 0.20 0.63 v/c Ratio 1.04 0.61 0.38 Control Delay 74.8 23.4 2.8 Queue Delay 7.0 0.0 3.0 Total Delay 74.8 23.4 5.9 LOS E C A Approach LOS E C A Cueue Length 95th (ft) -324 23.4 5.9 Approach LOS E C	Total Split (s)	30.0	30.0						24.0				
Yellow Time (s) 4.0 4.0 0.0 0.0 All-Red Time (s) 1.0	Total Split (%)	31.6%	31.6%						25.3%				
All-Red Time (s) 1.0 1.0 1.0 1.0 Lost Time Adjust (s) 0.0 0.0 5.0 Lead/Lag (s) 5.0 5.0 Lead/Lag (s) 5.0 5.0 Lead/Lag (s) 6.0 Lead (s) 6.0 Lead (s) 6.0 Lead (s) 6.0 Lead (s) 6.0 Lead/Lag (s) 6.0	Maximum Green (s)	25.0	25.0						19.0				
Lost Time Adjust (s)	Yellow Time (s)	4.0	4.0						4.0				
Total Lost Time (s)	All-Red Time (s)	1.0	1.0						1.0				
Lead Lag Lead Lead Lag Lead Lag Lead Lag Lead Lag Ves Yes	Lost Time Adjust (s)		0.0						0.0				
Lead-Lag Optimize? Yes Yes Vehicle Extension (s) 4.0 4.0 Recall Mode None None Act Effct Green (s) 25.0 19.0 60.0 Actuated g/C Ratio 0.26 0.20 0.63 v/c Ratio 1.04 0.61 0.38 Control Delay 74.8 23.4 2.8 Queue Delay 0.0 0.0 3.0 Total Delay 74.8 23.4 5.9 LOS E C A Approach Delay 74.8 23.4 5.9 LOS E C A Approach LOS E C A Queue Length 50th (ft) ~324 92 27 Queue Length 95th (ft) #424 130 m34 Internal Link Dist (ft) 402 135 190 55 Turn Bay Length (ft) 82 1313 Starvation Cap Reductn 0 681 Spillback Cap Reductn 0	Total Lost Time (s)		5.0						5.0				
Vehicle Extension (s) 4.0 4.0 5.0 Recall Mode None None Act Effet Green (s) 25.0 19.0 60.0 Actuated g/C Ratio 0.26 0.20 0.63 v/c Ratio 1.04 0.61 0.38 Control Delay 74.8 23.4 2.8 Queue Delay 0.0 0.0 3.0 Total Delay 74.8 23.4 5.9 LOS E C A Approach Delay 74.8 23.4 5.9 LOS E C A Approach Delay 74.8 23.4 5.9 Approach LOS E C A Queue Length 50th (ft) ~324 92 27 Queue Length 95th (ft) #424 130 m34 Intermal Link Dist (ft) 402 135 190 55 Turn Bay Length (ft) Base Capacity (vph) 915 92 1313 Starvation Cap Reductn	Lead/Lag	Lead	Lead						Lag				
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Act Effct Green (s) 25.0 19.0 60.0 Actuated g/C Ratio 0.26 0.26 0.20 0.63 v/c Ratio 1.04 0.61 0.38 0.61 0.38 0.61 0.61 0.38 0.61 0.61 0.38 0.61 0.61 0.38 0.61 0.61 0.61 0.38 0.61 0.61 0.61 0.38 0.61 0.61 0.61 0.61 0.61 0.61 0.61 0.61		4.0	4.0						5.0				
Actuated g/C Ratio 0.26 0.20 0.63 v/c Ratio 1.04 0.61 0.38 Control Delay 74.8 23.4 2.8 Queue Delay 0.0 3.0 Total Delay 74.8 23.4 5.9 LOS E C A Approach Delay 74.8 23.4 5.9 Approach LOS E C A Queue Length 50th (ft) ~324 92 27 Queue Length 95th (ft) #424 130 m34 Internal Link Dist (ft) 402 135 190 55 Tum Bay Length (ft) 8es Capacity (vph) 915 92 1313 Starvation Cap Reductn 0 681 Spillback Cap Reductn 0 681 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0 Reduced v/c Ratio 1.04 0.61 0.80 0 Intersection Summary Area Type: Other Cycle Length: 95 Other Other <td>Recall Mode</td> <td>None</td> <td>None</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>None</td> <td></td> <td></td> <td></td> <td></td>	Recall Mode	None	None						None				
v/c Ratio 1.04 0.61 0.38 Control Delay 74.8 23.4 2.8 Queue Delay 0.0 0.0 3.0 Total Delay 74.8 23.4 5.9 LOS E C A Approach Delay 74.8 23.4 5.9 Approach LOS E C A Queue Length 50th (ft) ~324 92 27 Queue Length 95th (ft) #424 130 m34 Internal Link Dist (ft) 402 135 190 55 Turn Bay Length (ft) 8ase Capacity (vph) 915 922 1313 Starvation Cap Reductn 0 681 681 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0 Reduced v/c Ratio 1.04 0.61 0.80 Intersection Summary Area Type: Other Cycle Length: 95 Other Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90	Act Effct Green (s)											60.0	
v/c Ratio 1.04 0.61 0.38 Control Delay 74.8 23.4 2.8 Queue Delay 0.0 0.0 3.0 Total Delay 74.8 23.4 5.9 LOS E C A Approach Delay 74.8 23.4 5.9 Approach LOS E C A Queue Length 50th (ft) ~324 92 27 Queue Length 95th (ft) #424 130 m34 Internal Link Dist (ft) 402 135 190 55 Turn Bay Length (ft) 88e Capacity (vph) 915 922 1313 Starvation Cap Reductn 0 681 681 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0 Reduced v/c Ratio 1.04 0.61 0.80 Intersection Summary Area Type: Other Other Other 0 0 Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90	Actuated g/C Ratio		0.26						0.20			0.63	
Queue Delay 0.0 3.0 Total Delay 74.8 23.4 5.9 LOS E C A Approach Delay 74.8 23.4 5.9 Approach LOS E C A Queue Length 50th (ft) ~324 92 27 Queue Length 95th (ft) #424 130 m34 Internal Link Dist (ft) 402 135 190 55 Turn Bay Length (ft) 8ase Capacity (vph) 915 922 1313 Starvation Cap Reductn 0 0 681 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0 Reduced v/c Ratio 1.04 0.61 0.80 Intersection Summary Area Type: Other Cycle Length: 95 Other Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated			1.04						0.61			0.38	
Queue Delay 0.0 3.0 Total Delay 74.8 23.4 5.9 LOS E C A Approach Delay 74.8 23.4 5.9 Approach LOS E C A Queue Length 50th (ft) ~324 92 27 Queue Length 95th (ft) #424 130 m34 Internal Link Dist (ft) 402 135 190 55 Turn Bay Length (ft) 8ase Capacity (vph) 915 922 1313 Starvation Cap Reductn 0 0 681 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0 Reduced v/c Ratio 1.04 0.61 0.80 Intersection Summary Area Type: Other Cycle Length: 95 Other Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated													
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LOS			74.8						23.4				
Approach Delay 74.8 23.4 5.9 Approach LOS E C A Queue Length 50th (ft) ~324 92 27 Queue Length 95th (ft) #424 130 m34 Internal Link Dist (ft) 402 135 190 55 Turn Bay Length (ft) 55 55 55 Base Capacity (vph) 915 922 1313 Starvation Cap Reductn 0 681 681 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0 Reduced v/c Ratio 1.04 0.61 0.80 Intersection Summary Area Type: Other Cycle Length: 95 Actuated Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated													
Approach LOS									23.4				
Queue Length 50th (ft) ~324 92 27 Queue Length 95th (ft) #424 130 m34 Internal Link Dist (ft) 402 135 190 55 Turn Bay Length (ft) Starvation Cap Reductn 0 681 Spillback Cap Reductn 0 0 681 Spillback Cap Reductn 0 0 0 Spillback Cap Reductn 0 0 0 Reduced v/c Ratio 1.04 0.61 0.80 Intersection Summary Area Type: Other Cycle Length: 95 Actuated Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated													
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Internal Link Dist (ft) 402 135 190 55 Turn Bay Length (ft) 8ase Capacity (vph) 915 922 1313 Starvation Cap Reductn 0 0 681 Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0 Reduced v/c Ratio 1.04 0.61 0.80 Intersection Summary Area Type: Other Cycle Length: 95 Actuated Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated													
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Base Capacity (vph) 915 922 1313 Starvation Cap Reductn 0 681 Spillback Cap Reductn 0 0 Storage Cap Reductn 0 0 Reduced v/c Ratio 1.04 0.61 0.80 Intersection Summary Area Type: Other Cycle Length: 95 Actuated Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated	\ ,												
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Spillback Cap Reductn 0 0 0 Storage Cap Reductn 0 0 0 Reduced v/c Ratio 1.04 0.61 0.80 Intersection Summary Area Type: Other Cycle Length: 95 Actuated Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated													
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Reduced v/c Ratio 1.04 0.61 0.80 Intersection Summary Area Type: Other Cycle Length: 95 Actuated Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated													
Area Type: Other Cycle Length: 95 Actuated Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated	<u> </u>												
Cycle Length: 95 Actuated Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated	Intersection Summary												
Actuated Cycle Length: 95 Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated	Area Type:	Other											
Offset: 70 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated	Cycle Length: 95												
Natural Cycle: 90 Control Type: Actuated-Coordinated	Actuated Cycle Length: 95												
Control Type: Actuated-Coordinated	Offset: 70 (74%), Reference	ed to phase	2:EBT an	d 6:WBT	L, Start o	f Green							
Control Type: Actuated-Coordinated		·											
	•	ordinated											
Intersection Signal Delay: 43.2 Intersection LOS: D		3.2			In	tersection	LOS: D						
Intersection Capacity Utilization 54.7% ICU Level of Service A								: A					
Analysis Period (min) 15													
~ Volume exceeds capacity, queue is theoretically infinite.		ity, queue i	s theoretic	ally infinit	e.								

Synchro 10 Report Page 27 2030 Build AM Peak af/ms

Lanes, Volumes, Timings 2030 Build AM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

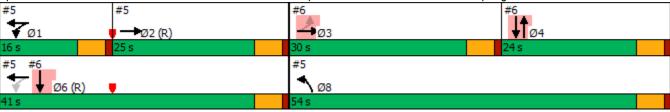
Lane Group	Ø1	Ø2	Ø6	Ø8
Protected Phases	1	2	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	20.0	20.0	17.0
Total Split (s)	16.0	25.0	41.0	54.0
Total Split (%)	17%	26%	43%	57%
Maximum Green (s)	11.0	20.0	36.0	49.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.5	5.0	5.0	4.0
Recall Mode	None	C-Max	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Synchro 10 Report Page 28 2030 Build AM Peak af/ms

6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

- # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Turn



HCM 6th Edition methodology does not support clustered intersections.

Synchro 10 Report 2030 Build AM Peak Page 30 af/ms

Lane Group EBT EBR WBL WBT NEL NER Lane Configurations ↑↑ ↑↑↑
Traffic Volume (vph) 184 0 0 1203 0 986 Future Volume (vph) 184 0 0 1203 0 986 Ideal Flow (vphpl) 1700 1700 1700 1700 1700 1700 Lane Width (ft) 12 12 12 11 12 12 Grade (%) 0% 0 0 0 0 0 Storage Length (ft) 0 590 0 0 0 Storage Lanes 0 1 0 2 Taper Length (ft) 25 25 25 Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0 0.95 0 0 4398 0 2470 Eit P
Traffic Volume (vph) 184 0 0 1203 0 986 Future Volume (vph) 184 0 0 1203 0 986 Ideal Flow (vphpl) 1700 1700 1700 1700 1700 1700 Lane Width (ft) 12 12 12 11 12 12 Grade (%) 0% 0 0% -2% -2% Storage Length (ft) 0 590 0 0 0 Storage Length (ft) 25 25
Ideal Flow (vphpl) 1700
Ideal Flow (vphpl) 1700
Lane Width (ft) 12 12 12 12 11 12 12 Grade (%) 0% 0% -2% 0
Grade (%) 0% 0% -2% Storage Length (ft) 0 590 0 0 Storage Lanes 0 1 0 2 Taper Length (ft) 25 25 25 Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0.850 0
Storage Length (ft) 0 590 0 0 Storage Lanes 0 1 0 2 Taper Length (ft) 25 25 Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0.850 0.851 0.850 0.851 0.851 0.851 0.851 0.851 0.851 0.851 0.851 0.851 0.852 0.852 0.853
Storage Lanes 0 1 0 2 Taper Length (ft) 25 25 Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0.850 0.851 0.851 0.851 0.851 0.851 0.851 0.851 0.852 0.852 0.853
Taper Length (ft) 25 25 Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0.850 0.851 0.850 0.851 0.850 0.851 0.852 0.852 0.853 <
Lane Util. Factor 0.95 1.00 1.00 0.91 1.00 0.88 Frt 0.850 <td< td=""></td<>
Frt 0.850 Flt Protected Satd. Flow (prot) 2963 0 0 4398 0 2470 Flt Permitted Satd. Flow (perm) 2963 0 0 4398 0 2470 Link Speed (mph) 35 35 35 35 Link Distance (ft) 201 1133 215 215 215 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 2.8 0.85
Flt Protected Satd. Flow (prot) 2963 0 0 4398 0 2470 Flt Permitted Satd. Flow (perm) 2963 0 0 4398 0 2470 Link Speed (mph) 35 35 35 35 35 Link Distance (ft) 201 1133 215 215 215 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 2.8 0.85 <
Satd. Flow (prot) 2963 0 0 4398 0 2470 Flt Permitted Satd. Flow (perm) 2963 0 0 4398 0 2470 Link Speed (mph) 35 35 35 35 35 Link Distance (ft) 201 1133 215 1133 215 Travel Time (s) 3.9 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 22.1 4.2 2.2 1.2 4.2 2.2 1.2 4.2 2.2 1.2 4.2 2.2 1.2 4.2 2.2 1.2 4.2 2.2 1.2 4.2 2.2 1.2 4.2 2.2 1.2 4.2 2.2 1.2 4.2 2.2 1.2 4.2 2.2 1.2 1.2 1.2 </td
Fit Permitted Satd. Flow (perm) 2963 0 0 4398 0 2470 Link Speed (mph) 35 36 38 36 38 36 38 36 38 36 38 36 38 38 36 38 3
Link Speed (mph) 35 35 35 Link Distance (ft) 201 1133 215 Travel Time (s) 3.9 22.1 4.2 Peak Hour Factor 0.85 0.85 0.85 0.85 0.85 Heavy Vehicles (%) 9% 0% 0% 2% 0% 4% Adj. Flow (vph) 216 0 0 1415 0 1160 Shared Lane Traffic (%) Lane Group Flow (vph) 216 0 0 1415 0 1160 Enter Blocked Intersection No No No No No No No Lane Alignment Left Right Left Left Left Right Median Width(ft) 1 1 0 0 0 0 0 Link Offset(ft) 0 0 0 0 0 0 0
Link Speed (mph) 35 35 35 Link Distance (ft) 201 1133 215 Travel Time (s) 3.9 22.1 4.2 Peak Hour Factor 0.85 0.85 0.85 0.85 0.85 Heavy Vehicles (%) 9% 0% 0% 2% 0% 4% Adj. Flow (vph) 216 0 0 1415 0 1160 Shared Lane Traffic (%) Lane Group Flow (vph) 216 0 0 1415 0 1160 Enter Blocked Intersection No No No No No No No Lane Alignment Left Right Left Left Left Right Median Width(ft) 1 1 0 0 0 0 0 Link Offset(ft) 0 0 0 0 0 0 0
Link Distance (ft) 201 1133 215 Travel Time (s) 3.9 22.1 4.2 Peak Hour Factor 0.85 0.85 0.85 0.85 0.85 Heavy Vehicles (%) 9% 0% 0% 2% 0% 4% Adj. Flow (vph) 216 0 0 1415 0 1160 Shared Lane Traffic (%) Lane Group Flow (vph) 216 0 0 1415 0 1160 Enter Blocked Intersection No No No No No No No Lane Alignment Left Right Left Left Left Right Median Width(ft) 1 1 0 0 0 0 Link Offset(ft) 0 0 0 0 0 0 0
Travel Time (s) 3.9 22.1 4.2 Peak Hour Factor 0.85 0.85 0.85 0.85 0.85 Heavy Vehicles (%) 9% 0% 0% 2% 0% 4% Adj. Flow (vph) 216 0 0 1415 0 1160 Shared Lane Traffic (%) Lane Group Flow (vph) 216 0 0 1415 0 1160 Enter Blocked Intersection No No No No No No No Lane Alignment Left Right Left Left Left Right Median Width(ft) 1 1 0 Link Offset(ft) 0 0 0
Peak Hour Factor 0.85 0.85 0.85 0.85 0.85 0.85 Heavy Vehicles (%) 9% 0% 0% 2% 0% 4% Adj. Flow (vph) 216 0 0 1415 0 1160 Shared Lane Traffic (%) Lane Group Flow (vph) 216 0 0 1415 0 1160 Enter Blocked Intersection No No No No No No No Lane Alignment Left Right Left Left Left Right Median Width(ft) 1 1 0 0 0 0 Link Offset(ft) 0 0 0 0 0 0 0 0
Adj. Flow (vph) 216 0 0 1415 0 1160 Shared Lane Traffic (%) Lane Group Flow (vph) 216 0 0 1415 0 1160 Enter Blocked Intersection No
Adj. Flow (vph) 216 0 0 1415 0 1160 Shared Lane Traffic (%) Lane Group Flow (vph) 216 0 0 1415 0 1160 Enter Blocked Intersection No
Shared Lane Traffic (%) Lane Group Flow (vph) 216 0 0 1415 0 1160 Enter Blocked Intersection No
Lane Group Flow (vph) 216 0 0 1415 0 1160 Enter Blocked Intersection No No <td< td=""></td<>
Enter Blocked Intersection No No No No No No Lane Alignment Left Right Left Left Right Median Width(ft) 1 1 0 Link Offset(ft) 0 0 0
Median Width(ft) 1 1 0 Link Offset(ft) 0 0 0
Median Width(ft) 1 1 0 Link Offset(ft) 0 0 0
Link Offset(ft) 0 0 0
V /
Two way Left Turn Lane Yes
Headway Factor 1.15 1.15 1.20 1.14 1.14
Turning Speed (mph) 9 15 15 9
Sign Control Free Free Yield
Intersection Summary
Area Type: Other
Control Type: Unsignalized

Intersection Capacity Utilization 50.9%

ICU Level of Service A

Analysis Period (min) 15

Synchro 10 Report Page 31 2030 Build AM Peak af/ms

7: Mt. DeChantal Road/I-70 Off-Ramp Right Turn & US 40 National Road

	-	7	*	←	•	/		
Movement	EBT	EBR	WBL	WBT	NEL	NER		
Lane Configurations	^			^		77		
Traffic Volume (veh/h)	184	0	0	1203	0	986		
Future Volume (Veh/h)	184	0	0	1203	0	986		
Sign Control	Free			Free	Yield			
Grade	0%			0%	-2%			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85		
Hourly flow rate (vph)	216	0	0	1415	0	1160		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			TWLTL				
Median storage veh)				2				
Upstream signal (ft)	201			1133				
pX, platoon unblocked					0.85			
vC, conflicting volume			216		688	108		
vC1, stage 1 conf vol					216			
vC2, stage 2 conf vol					472			
vCu, unblocked vol			216		15	108		
tC, single (s)			4.1		6.8	7.0		
tC, 2 stage (s)					5.8			
tF (s)			2.2		3.5	3.3		
p0 queue free %			100		100	0		
cM capacity (veh/h)			1366		851	919		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1	NE 2	
Volume Total	108	108	472	472	472	580	580	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	580	580	
cSH	1700	1700	1700	1700	1700	919	919	
Volume to Capacity	0.06	0.06	0.28	0.28	0.28	0.63	0.63	
Queue Length 95th (ft)	0	0	0	0	0	116	116	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	15.4	15.4	
Lane LOS						С	С	
Approach Delay (s)	0.0		0.0			15.4		
Approach LOS						С		
Intersection Summary								
Average Delay			6.4					
Intersection Capacity Utiliza	ation		50.9%	IC	CU Level o	of Service		Α
Analysis Period (min)			15					

2030 Build AM Peak Synchro 10 Report af/ms Page 1

8: Mt. DeChantal Road & I-70 EB On-Ramp/Krogers Driveway

	۶	→	•	•	←	•	4	†	/	-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				ň		7	ሻ				₽	
Traffic Volume (vph)	0	0	0	4	0	83	52	397	0	0	259	267
Future Volume (vph)	0	0	0	4	0	83	52	397	0	0	259	267
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.931	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1519	1576	1627	0	0	1528	0
FIt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1519	1576	1627	0	0	1528	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	3%	5%	0%	0%	1%	5%
Adj. Flow (vph)	0	0	0	4	0	92	58	441	0	0	288	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	4	0	92	58	441	0	0	585	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Aron Type:)thor											

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 50.2%

ICU Level of Service A

Analysis Period (min) 15

Synchro 10 Report 2030 Build AM Peak Page 32 af/ms

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				ሻ		7	ች				\$	
Traffic Vol, veh/h	0	0	0	4	0	83	52	397	0	0	259	267
Future Vol, veh/h	0	0	0	4	0	83	52	397	0	0	259	267
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	_	-	None	-	-	None
Storage Length	-	-	-	0	-	0	170	-	-	-	-	-
Veh in Median Storage,	# -	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-1	-	-	-1	-	-	1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	2	3	5	0	0	1	5
Mvmt Flow	0	0	0	4	0	92	58	441	0	0	288	297
Major/Minor			I	Minor1			Major1		N	//ajor2		
Conflicting Flow All				994	-	441	585	0	-	_	-	0
Stage 1				557	-	-	-	-	-	-	-	-
Stage 2				437	-	-	-	-	-	-	-	-
Critical Hdwy				6.2	-	6.12	4.13	-	-	-	-	-
Critical Hdwy Stg 1				5.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.2	-	-	-	-	-	-	-	-
Follow-up Hdwy				3.5	-	3.318	2.227	-	-	-	-	-
Pot Cap-1 Maneuver				290	0	624	985	-	0	0	-	-
Stage 1				596	0	-	-	-	0	0	-	-
Stage 2				672	0	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				273	0	624	985	-	-	-	-	-
Mov Cap-2 Maneuver				273	0	-	-	-	-	-	-	-
Stage 1				561	0	-	-	-	-	-	-	-
Stage 2				672	0	-	-	-	-	-	-	-
Approach				WB			NB			SB		
HCM Control Delay, s				12.1			1			0		
HCM LOS				В								
Minor Lane/Major Mvmt		NBL	NBTV	VBLn1V	VBLn2	SBT	SBR					
Capacity (veh/h)		985	-		624	-	_					
HCM Lane V/C Ratio		0.059		0.016		_	_					
HCM Control Delay (s)		8.9	_		11.8	_	-					
HCM Lane LOS		A	-	С	В	-	-					
HCM 95th %tile Q(veh)		0.2	-	0.1	0.5	-	-					
		- ,-		-								

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	*	7	†	7	*	†
Traffic Volume (vph)	6	72	368	70	139	106
Future Volume (vph)	6	72	368	70	139	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
	1900	1300	1900	1900	1300	1900
Lane Width (ft)		13		14	13	
Grade (%)	2%	00	1%	400	040	1%
Storage Length (ft)	0	80		120	210	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	1.00	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1652	1783	1714	1856	1997
Flt Permitted	0.950				0.458	
Satd. Flow (perm)	1787	1652	1783	1676	894	1997
Right Turn on Red	1101	Yes	1700	Yes	007	1991
Satd. Flow (RTOR)		81		79		
	O.F.	01	25	19		25
Link Speed (mph)	25		25			25
Link Distance (ft)	249		332			477
Travel Time (s)	6.8		9.1		_	13.0
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	6%	0%	0%	1%
Adj. Flow (vph)	7	81	413	79	156	119
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	81	413	79	156	119
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12	rugiit	13	ragni	LGIL	13
Link Offset(ft)	0		0			0
. ,						
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	4.04	0.07	101	2.02	0.00	0.00
Headway Factor	1.01	0.97	1.01	0.92	0.96	0.92
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	CI+Ex	Cl+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OI. LX	O/- LX	OI. LX	OI. LX	OI. LX	OI. LX
	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Extend (s)						
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			CI+Ex			CI+Ex

	•	•	ı		_	*
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	50.0	50.0	20.0	70.0
Total Split (%)	26.3%	26.3%	52.6%	52.6%	21.1%	73.7%
Maximum Green (s)	20.0	20.0	45.0	45.0	15.0	65.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	2.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	8.7	8.7	67.6	67.6	78.8	79.8
Actuated g/C Ratio	0.09	0.09	0.71	0.71	0.83	0.84
v/c Ratio	0.04	0.36	0.33	0.07	0.19	0.07
Control Delay	38.7	14.0	7.0	1.6	1.8	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	14.0	7.0	1.6	1.8	1.5
LOS	D	В	Α	Α	Α	A
Approach Delay	16.0		6.1			1.7
Approach LOS	В		Α			Α
Queue Length 50th (ft)	4	0	86	0	9	7
Queue Length 95th (ft)	16	41	157	15	m18	m14
Internal Link Dist (ft)	169		252			397
Turn Bay Length (ft)		80		120	210	
Base Capacity (vph)	376	411	1267	1214	893	1678
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.20	0.33	0.07	0.17	0.07
Intersection Summary						
Aroa Typo:	Othor					

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 60 (63%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 5.7

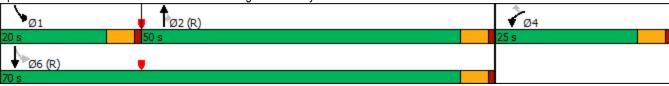
Intersection Capacity Utilization 43.7%

Intersection LOS: A ICU Level of Service A

Analysis Period (min) 15

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

Splits and Phases: 9: Mt. DeChantal Road & Krogers Driveway



	•	4	†	<i>></i>	-	ţ
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		7	1	7	ሻ	^
Traffic Volume (veh/h)	6	72	368	70	139	106
Future Volume (veh/h)	6	72	368	70	139	106
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1876	1952	1805	1970	1970	1954
Adj Flow Rate, veh/h	7	81	413	79	156	119
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	6	0	0	1
Cap, veh/h	118	109	1308	1208	785	1620
Arrive On Green	0.07	0.07	0.72	0.72	0.09	1.00
Sat Flow, veh/h	1787	1654	1805	1667	1876	1954
Grp Volume(v), veh/h	7	81	413	79	156	119
Grp Sat Flow(s), veh/h/ln	1787	1654	1805	1667	1876	1954
Q Serve(g_s), s	0.3	4.6	7.8	1.3	1.8	0.0
Cycle Q Clear(g_c), s	0.3	4.6	7.8	1.3	1.8	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	118	109	1308	1208	785	1620
V/C Ratio(X)	0.06	0.74	0.32	0.07	0.20	0.07
Avail Cap(c_a), veh/h	376	348	1308	1208	984	1620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	43.6	4.7	3.8	2.6	0.0
Incr Delay (d2), s/veh	0.4	19.0	0.6	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.4	2.7	0.4	0.4	0.0
Unsig. Movement Delay, s/veh		∠.⊤	۷.۱	J. T	J. T	3.0
LnGrp Delay(d),s/veh	42.1	62.6	5.3	3.9	2.7	0.1
LnGrp LOS	D	02.0 E	Α	A	Α	A
Approach Vol, veh/h	88		492			275
Approach Delay, s/veh	61.0		5.1			1.6
Approach LOS	61.0 E		3.1 A			
Appluatificos	E		A			А
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.9	73.8		11.3		83.7
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	45.0		20.0		65.0
Max Q Clear Time (g_c+I1), s	3.8	9.8		6.6		2.0
Green Ext Time (p_c), s	0.2	6.6		0.4		1.5
Intersection Summary						
			0.7			
HCM 6th Ctrl Delay			9.7			
HCM 6th LOS			Α			

2030 Build AM Peak Synchro 10 Report af/ms Page 37

	→	7	*	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑ ↑			414		
Traffic Volume (vph)	309	42	760	369	0	0
Future Volume (vph)	309	42	760	369	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.982					
Flt Protected				0.967		
Satd. Flow (prot)	2988	0	0	3023	0	0
Flt Permitted				0.967		
Satd. Flow (perm)	2988	0	0	3023	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	0%	3%	4%	0%	0%
Adj. Flow (vph)	355	48	874	424	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	403	0	0	1298	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
	Other					
Control Type: Unsignalized	v.					
Intersection Capacity Utilizat	ion 64.9%			IC	U Level o	of Service C
Analysis Period (min) 15	10.17 0 1.0 /0			10	5 201010	501 1100 €
Analysis i Gilou (IIIII) 13						

	-	7	*	←	•	/
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	∱ ∱			414		
Traffic Volume (veh/h)	309	42	760	369	0	0
Future Volume (Veh/h)	309	42	760	369	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	3%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	355	48	874	424	0	0
Pedestrians					2	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)				562		
pX, platoon unblocked					0.74	
vC, conflicting volume			357		2341	204
vC1, stage 1 conf vol					381	
vC2, stage 2 conf vol					1960	
vCu, unblocked vol			357		2114	204
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			27		100	100
cM capacity (veh/h)			1191		30	809
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	237	166	1015	283		
Volume Left	0	0	874	0		
Volume Right	0	48	0	0		
cSH	1700	1700	1191	1700		
Volume to Capacity	0.14	0.10	0.73	0.17		
Queue Length 95th (ft)	0	0	176	0		
Control Delay (s)	0.0	0.0	15.4	0.0		
Lane LOS			С			
Approach Delay (s)	0.0		12.0			
Approach LOS						
Intersection Summary						
Average Delay			9.2			
Intersection Capacity Utiliza	ation		64.9%	IC	U Level c	f Service
Analysis Period (min)			15			

Lanes, Volumes, Timings 11: Bethany Pike/Oglebay Drive & Warden Run Road

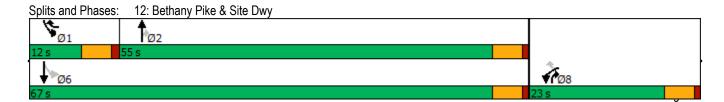
	•	•	†	/	>	ļ	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	¥		1>			ર્ન	
Traffic Volume (vph)	58	4	185	60	8	252	
Future Volume (vph)	58	4	185	60	8	252	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	
Lane Width (ft)	12	12	12	12	11	11	
Grade (%)	3%		-2%			4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.992		0.967				
Flt Protected	0.955					0.998	
Satd. Flow (prot)	1586	0	1608	0	0	1562	
Flt Permitted	0.955					0.998	
Satd. Flow (perm)	1586	0	1608	0	0	1562	
Link Speed (mph)	30		30			30	
Link Distance (ft)	1796		396			959	
Travel Time (s)	40.8		9.0			21.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	0%	0%	3%	4%	0%	3%	
Adj. Flow (vph)	63	4	201	65	9	274	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	67	0	266	0	0	283	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	12		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.18	1.18	1.14	1.14	1.23	1.23	
Turning Speed (mph)	15	9		9	15		
Sign Control	Stop		Free			Free	
Intersection Summary							
Area Type:	Other						
Control Type: Unsignalized							
Intersection Capacity Utilizat	ion 32.6%			IC	U Level	of Service	A e
Analysis Period (min) 15							

Synchro 10 Report Page 39 2030 Build AM Peak af/ms

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		\$			ન
Traffic Vol, veh/h	58	4	185	60	8	252
Future Vol, veh/h	58	4	185	60	8	252
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	_	None	-	None
Storage Length	0	-	_	-	-	-
Veh in Median Storage,		_	0	-	-	0
Grade, %	3	_	-2	-	_	4
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	4	0	3
Mymt Flow	63	4	201	65	9	274
WWW.CT IOW		•		00		
		_		_		
	1inor1		Major1		Major2	
Conflicting Flow All	526	234	0	0	266	0
Stage 1	234	-	-	-	-	-
Stage 2	292	-	-	-	-	-
Critical Hdwy	7	6.5	-	-	4.1	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	472	794	-	-	1310	-
Stage 1	779	-	-	-	-	-
Stage 2	726	-	-	-	_	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	468	794	-	-	1310	-
Mov Cap-2 Maneuver	468	-	-	-	-	-
Stage 1	779	-	-	_	_	-
Stage 2	720	_	_	_	_	_
Olago Z	. 20					
Approach	WB		NB		SB	
HCM Control Delay, s	13.7		0		0.2	
HCM LOS	В					
Minor Lane/Major Mvmt		NBT	NRPV	VBLn1	SBL	SBT
					1310	
Capacity (veh/h) HCM Lane V/C Ratio		-	-	481	0.007	-
		-	-	13.7		-
HCM Control Delay (s) HCM Lane LOS		-	-		7.8	0 A
TICHVITABLE LUS		-	-	В	Α	А
HCM 95th %tile Q(veh)			_	0.5	0	_

	•	4	†	/	/	ţ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	7	<u>↑</u>	7	<u> </u>	<u> </u>
Traffic Volume (vph)	96	5	384	230	13	575
Future Volume (vph)	96	5	384	230	13	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%	1900	-1%	1900	1900	-2%
. ,		٥	-170	175	200	-Z 70
Storage Length (ft)	0	0		475	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	4.00	4.00	4.00	75	4.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
FIt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1872	1591	1787	1881
Flt Permitted	0.950				0.359	
Satd. Flow (perm)	1770	1583	1872	1591	675	1881
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		6		256		
Link Speed (mph)	30		30			30
Link Distance (ft)	660		3796			747
Travel Time (s)	15.0		86.3			17.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	107	0.90	427	256	14	639
	107	U	421	250	14	039
Shared Lane Traffic (%)	107	c	407	056	14	639
Lane Group Flow (vph)	107	6	427	256		
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
	CI+Ex	CI+Ex	Cl+Ex	CI+Ex	Cl+Ex	Cl+Ex
Detector 1 Type	OI+EX	UI+EX	UI+EX	UI+EX	UI+EX	UI+EX
Detector 1 Channel	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	pm+ov	NA	pm+ov	pm+pt	NA
Protected Phases	8	1	2	8	1	6
		ı		<u> </u>	'	<u> </u>

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8		2	6	
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	12.0	22.5	22.5	12.0	22.5
Total Split (s)	23.0	12.0	55.0	23.0	12.0	67.0
Total Split (%)	25.6%	13.3%	61.1%	25.6%	13.3%	74.4%
Maximum Green (s)	18.0	7.0	50.0	18.0	7.0	62.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	8.2	19.4	19.9	37.9	21.5	21.5
Actuated g/C Ratio	0.20	0.48	0.50	0.94	0.53	0.53
v/c Ratio	0.30	0.01	0.46	0.17	0.03	0.64
Control Delay	17.9	6.0	9.8	0.6	4.4	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	6.0	9.8	0.6	4.4	9.9
LOS	В	Α	Α	Α	Α	Α
Approach Delay	17.3		6.4			9.8
Approach LOS	В		Α			Α
Queue Length 50th (ft)	18	0	45	0	1	79
Queue Length 95th (ft)	68	6	175	13	6	176
Internal Link Dist (ft)	580		3716			667
Turn Bay Length (ft)				475	300	
Base Capacity (vph)	827	820	1827	1546	563	1881
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.01	0.23	0.17	0.02	0.34
Intersection Summary	0.11					
Area Type:	Other					
Cycle Length: 90						
Actuated Cycle Length: 4	0.2					
Natural Cycle: 60						
Control Type: Actuated-U						
Maximum v/c Ratio: 0.64						
Intersection Signal Delay					ntersectio	
Intersection Capacity Util	ization 43.9%			10	CU Level	of Service
Analysis Period (min) 15						



	•	•	†	/	>	ļ		
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations	ሻ	7	†	7	ሻ	↑		
Traffic Volume (veh/h)	96	5	384	230	13	575		
Future Volume (veh/h)	96	5	384	230	13	575		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No		No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1909	1909	1949	1949		
Adj Flow Rate, veh/h	107	6	427	256	14	639		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	181	190	723	777	432	1099		
Arrive On Green	0.10	0.10	0.38	0.38	0.02	0.56		
Sat Flow, veh/h	1781	1585	1909	1618	1856	1949		
Grp Volume(v), veh/h	107	6	427	256	14	639		
Grp Sat Flow(s),veh/h/ln	1781	1585	1909	1618	1856	1949		
Q Serve(g_s), s	1.7	0.1	5.4	2.9	0.1	6.4		
Cycle Q Clear(g_c), s	1.7	0.1	5.4	2.9	0.1	6.4		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	181	190	723	777	432	1099		
V/C Ratio(X)	0.59	0.03	0.59	0.33	0.03	0.58		
Avail Cap(c_a), veh/h	1072	983	3191	2869	832	4039		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.8	11.6	7.4	4.8	5.3	4.2		
Incr Delay (d2), s/veh	3.0	0.1	0.8	0.2	0.0	0.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.4	0.7	0.0	0.9		
Unsig. Movement Delay, s/veh	45.0	44=	0.0	F 0	F 0			
LnGrp Delay(d),s/veh	15.9	11.7	8.2	5.0	5.3	4.7		
LnGrp LOS	В	В	A	A	A	A		
Approach Vol, veh/h	113		683			653		
Approach Delay, s/veh	15.7		7.0			4.7		
Approach LOS	В		Α			Α		
Timer - Assigned Phs	1	2				6	8	
Phs Duration (G+Y+Rc), s	5.5	16.3				21.9	8.0	
Change Period (Y+Rc), s	5.0	5.0				5.0	5.0	
Max Green Setting (Gmax), s	7.0	50.0				62.0	18.0	
Max Q Clear Time (g_c+I1), s	2.1	7.4				8.4	3.7	
Green Ext Time (p_c), s	0.0	4.0				5.2	0.2	
_								
Intersection Summary								
Intersection Summary HCM 6th Ctrl Delay			6.7					

	-	•	•	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1>			ર્ન	W	
Traffic Volume (vph)	63	5	13	60	2	6
Future Volume (vph)	63	5	13	60	2	6
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%			3%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989				0.895	
Flt Protected				0.991	0.989	
Satd. Flow (prot)	1648	0	0	1627	1475	0
Flt Permitted				0.991	0.989	
Satd. Flow (perm)	1648	0	0	1627	1475	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	1796			721	825	
Travel Time (s)	49.0			19.7	22.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	70	6	14	67	2	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	0	81	9	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
71	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	tion 21.0%			IC	CU Level of	of Service
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	\$	LDIX	VVDL	₩ <u>₩</u>	₩.	NOIL
Traffic Vol, veh/h	63	5	13	60	T	6
Future Vol, veh/h	63	5	13	60	2	6
<u> </u>	03	0	0	0	0	0
Conflicting Peds, #/hr	Free	Free		Free		
Sign Control			Free		Stop	Stop
RT Channelized	-	None	-		- 0	None
Storage Length	<u> </u>	-	-	-		-
Veh in Median Storage,		-	-	0	0	-
Grade, %	0	-	-	3	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	70	6	14	67	2	7
Major/Minor N	1ajor1	N	Major2	N	Minor1	
Conflicting Flow All	0	0	76	0	168	73
Stage 1	-	-	-	-	73	-
Stage 2	_	_	_	_	95	_
Critical Hdwy	_		4.12	_	6.42	6.22
Critical Hdwy Stg 1	<u> </u>	-	4.12	_	5.42	0.22
		-			5.42	-
Critical Hdwy Stg 2	-	-	2.218	-	3.518	
Follow-up Hdwy	-	-				
Pot Cap-1 Maneuver	-	-	1523	-	822	989
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1523	-	814	989
Mov Cap-2 Maneuver	-	-	-	-	814	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	920	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.3		8.9	
HCM LOS	U		1.0		0.9 A	
TION LOS					Α	
Minor Lane/Major Mvmt	. 1	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		939	-	-	1523	-
HCM Lane V/C Ratio		0.009	-	-	0.009	-
HCM Control Delay (s)		8.9	-	-	7.4	0
HCM Lane LOS		Α	-	-	Α	Α
HCM 95th %tile Q(veh)		0	-	-	0	-

Lanes, Volumes, Timings 1: Altenheim Ave/Bethany Pike & US 40 National Road

Lane Group EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SB Lane Configurations 1 1 4 4 4 4 4 5 336 5 62 5 62 1 1 4 5 336 5 62 62 1 6 6 62 1 6 62 1 6 62 1 6 62 1 6 62 1 6 62 1 6 62 1 6 62 1 6 6 62 1 6 6 62 1 6 6 62 1 6 7 8 2 2 2 5 <
Traffic Volume (vph) 552 382 9 5 467 340 185 48 59 336 5 62 Future Volume (vph) 552 382 9 5 467 340 185 48 59 336 5 62 Ideal Flow (vphpl) 1900 19
Traffic Volume (vph) 552 382 9 5 467 340 185 48 59 336 5 62 Future Volume (vph) 552 382 9 5 467 340 185 48 59 336 5 62 Ideal Flow (vphpl) 1900 19
Ideal Flow (vphpl) 1900
Grade (%) 3% 2% 7% -2% Storage Length (ft) 0 0 0 0 0 0 0 0 13 Storage Lanes 1 0 </td
Storage Length (ft) 0 0 0 0 0 0 0 0 13 Storage Lanes 1 0 <
Storage Lanes 1 0 0 0 0 0 0 Taper Length (ft) 25 25 25 25 25 25 Lane Util. Factor 1.00 1.00 0.95 0.95 1.00 1.0
Taper Length (ft) 25 25 25 25 Lane Util. Factor 1.00 1.00 1.00 0.95 0.95 1.00 </td
Lane Util. Factor 1.00 1.00 1.00 0.95 0.95 0.95 1.00 0.95 Fit 0.996 0.953 0.953 0.969 0.953 0.953 0.171 0.602
Ped Bike Factor 1.00 1.00 1.00 0.95 Frt 0.996 0.937 0.973 0.85 Flt Protected 0.950 0.969 0.953 Satd. Flow (prot) 1760 1810 0 0 3297 0 0 1718 0 0 1811 155 Flt Permitted 0.165 0.953 0.171 0.602 0.602 Satd. Flow (perm) 306 1810 0 0 3142 0 0 302 0 0 1144 152 Right Turn on Red Yes Yes Yes Yes Yes Satd. Flow (RTOR) 2 157 10 41 Link Speed (mph) 35 35 25 30 Link Distance (ft) 879 1354 343 3796
Frt 0.996 0.937 0.973 0.85 Flt Protected 0.950 0.969 0.953 Satd. Flow (prot) 1760 1810 0 0 3297 0 0 1718 0 0 1811 155 Flt Permitted 0.165 0.953 0.171 0.602 0 1144 152 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <
Fit Protected 0.950 0.969 0.953 Satd. Flow (prot) 1760 1810 0 0 3297 0 0 1718 0 0 1811 155 Flt Permitted 0.165 0.953 0.171 0.602 Satd. Flow (perm) 306 1810 0 0 3142 0 0 302 0 0 1144 152 Right Turn on Red Yes Satd. Flow (RTOR) 2 157 10 41 41 41 41 42 41 41 42 41 42 43 43 43 43 43 43 43 43 43 43 43 43 43 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44
Satd. Flow (prot) 1760 1810 0 0 3297 0 0 1718 0 0 1811 155 Flt Permitted 0.165 0.953 0.171 0.602 Satd. Flow (perm) 306 1810 0 0 3142 0 0 302 0 0 1144 152 Right Turn on Red Yes
Fit Permitted 0.165 0.953 0.171 0.602 Satd. Flow (perm) 306 1810 0 0 3142 0 0 302 0 0 1144 152 Right Turn on Red Yes
Satd. Flow (perm) 306 1810 0 0 3142 0 0 302 0 0 1144 152 Right Turn on Red Yes
Right Turn on Red Yes Yes Yes Yes Satd. Flow (RTOR) 2 157 10 41 Link Speed (mph) 35 35 25 30 Link Distance (ft) 879 1354 343 3796
Satd. Flow (RTOR) 2 157 10 41 Link Speed (mph) 35 35 25 30 Link Distance (ft) 879 1354 343 3796
Link Speed (mph) 35 35 25 30 Link Distance (ft) 879 1354 343 3796
Link Distance (ft) 879 1354 343 3796
Traval Time (a) 17.1 96.4 0.4
Travel Time (s) 17.1 26.4 9.4 86.3
Confl. Peds. (#/hr) 1 1 9
Peak Hour Factor 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
Heavy Vehicles (%) 1% 3% 0% 0% 2% 1% 1% 0% 0% 1% 0% 5
Adj. Flow (vph) 594 411 10 5 502 366 199 52 63 361 5 67
Shared Lane Traffic (%)
Lane Group Flow (vph) 594 421 0 0 873 0 0 314 0 0 366 67
Enter Blocked Intersection No
Lane Alignment Left Left Right Left Right Left Right Left Rig
Median Width(ft) 16 0 0
Link Offset(ft) 0 0 0
Crosswalk Width(ft) 16 16 16
Two way Left Turn Lane Yes
Headway Factor 1.02 1.02 1.02 1.01 1.01 1.01 1.05 1.05 0.99 0.99 0.9
Turning Speed (mph) 15 9 15 9 15
Number of Detectors 1 2 1 2 1 2
Detector Template Left Thru Left Thru Left Thru Rig
Leading Detector (ft) 20 100 20 100 20 100 20 100 20 100 20
Trailing Detector (ft) 0 0 0 0 0 0
Detector 1 Position(ft) 0 0 0 0 0 0 0
Detector 1 Size(ft) 20 6 20 6 20 6 20
Detector 1 Type CI+Ex CI
Detector 1 Channel
Detector 1 Extend (s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Detector 1 Delay (s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Detector 2 Position(ft) 94 94 94
Detector 2 Size(ft) 6 6 6
Detector 2 Type CI+Ex CI+Ex CI+Ex CI+Ex
Detector 2 Channel

Synchro 10 Report 2030 Build PM Peak Page 1 af/ms

Lane Group Ø3
LaneConfigurations
Traffic Volume (vph)
Future Volume (vph)
Ideal Flow (vphpl)
Grade (%)
Storage Length (ft)
Storage Lanes
Taper Length (ft)
Lane Util. Factor
Ped Bike Factor
Frt
Fit Protected
Satd. Flow (prot)
Fit Permitted
Satd. Flow (perm)
Right Turn on Red
Satd. Flow (RTOR)
Link Speed (mph)
Link Distance (ft)
Travel Time (s)
Confl. Peds. (#/hr)
Peak Hour Factor
Heavy Vehicles (%)
Adj. Flow (vph)
Shared Lane Traffic (%)
Lane Group Flow (vph)
Enter Blocked Intersection
Lane Alignment
Median Width(ft)
Link Offset(ft)
Crosswalk Width(ft)
Two way Left Turn Lane
Headway Factor
Turning Speed (mph)
Number of Detectors
Detector Template
Leading Detector (ft)
Trailing Detector (it)
Detector 1 Position(ft)
Detector 1 Size(ft)
Detector 1 Type
Detector 1 Channel
Detector 1 Extend (s)
Detector 1 Queue (s)
Detector 1 Delay (s)
Detector 2 Position(ft)
Detector 2 Size(ft)
Detector 2 Type
Detector 2 Channel
25.05.0. 2 0.10.1101

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6			2			4			4	1
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	15.0	20.0		20.0	20.0		17.0	17.0		17.0	17.0	15.0
Total Split (s)	28.0	65.0		37.0	37.0		30.0	30.0		30.0	30.0	28.0
Total Split (%)	24.3%	56.5%		32.2%	32.2%		26.1%	26.1%		26.1%	26.1%	24.3%
Maximum Green (s)	23.0	60.0		32.0	32.0		25.0	25.0		25.0	25.0	23.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lag	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	76.2	76.2			48.2			25.0			25.0	48.0
Actuated g/C Ratio	0.66	0.66			0.42			0.22			0.22	0.42
v/c Ratio	1.20	0.35			0.62			4.30			1.48	0.76
Control Delay	144.2	9.5			24.7			1529.9			268.4	15.7
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	144.2	9.5			24.7			1529.9			268.4	15.7
LOS	F	Α			С			F			F	В
Approach Delay		88.3			24.7			1529.9			104.6	
Approach LOS		F			С			F			F	
Queue Length 50th (ft)	~410	105			201			~384			~373	147
Queue Length 95th (ft)	#719	177			#367			#564			#561	300
Internal Link Dist (ft)		799			1274			263			3716	
Turn Bay Length (ft)												130
Base Capacity (vph)	493	1199			1407			73			248	884
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	1.20	0.35			0.62			4.30			1.48	0.76

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 100 (87%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 4.30

Lane Group	Ø3
Detector 2 Extend (s)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	19.0
Total Split (s)	20.0
Total Split (%)	17%
Maximum Green (s)	15.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	4.0
Recall Mode	None
Walk Time (s)	5.0
Flash Dont Walk (s)	9.0
Pedestrian Calls (#/hr)	1
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Intersection Signal Delay: 216.0 Intersection LOS: F Intersection Capacity Utilization 92.6% ICU Level of Service F Analysis Period (min) 15 Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles. 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles. Splits and Phases: 1: Altenheim Ave/Bethany Pike & US 40 National Road A kos Ø2 (R)

2030 Build PM Peak 05/07/2020

HCM 6th Edition methodology does not support exclusive ped or hold phases.

	۶	→	*	•	←	4	1	†	/	/	 	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	î»			4			4			4	
Traffic Volume (vph)	236	343	0	0	323	10	1	0	0	6	0	185
Future Volume (vph)	236	343	0	0	323	10	1	0	0	6	0	185
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.996						0.869	
Flt Protected	0.950							0.950			0.998	
Satd. Flow (prot)	1569	1708	0	0	1637	0	0	1812	0	0	1405	0
FIt Permitted	0.950							0.950			0.998	
Satd. Flow (perm)	1569	1708	0	0	1637	0	0	1812	0	0	1405	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	2%
Adj. Flow (vph)	268	390	0	0	367	11	1	0	0	7	0	210
Shared Lane Traffic (%)												
Lane Group Flow (vph)	268	390	0	0	378	0	0	1	0	0	217	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												

Intersection Summary

Area Type: Other

Control Type: Unsignalized Intersection Capacity Utilization 62.8%

ICU Level of Service B

Analysis Period (min) 15

Synchro 10 Report 2030 Build PM Peak Page 7 af/ms

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ች	ĵ.			4			4			4	
Traffic Vol, veh/h	236	343	0	0	323	10	1	0	0	6	0	185
Future Vol, veh/h	236	343	0	0	323	10	1	0	0	6	0	185
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	_	_	None	-	-	None
Storage Length	130	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0	0	0	2
Mvmt Flow	268	390	0	0	367	11	1	0	0	7	0	210
Major/Minor N	/lajor1			Major2		N	Minor1		<u> </u>	/linor2		
Conflicting Flow All	378	0	0	390	0	0	1404	1304	390	1299	1299	373
Stage 1	-	-	-	-	-	-	926	926	-	373	373	-
Stage 2	-	-	-	-	-	-	478	378	-	926	926	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.9	6.4	6.9	6.3	6.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.318
Pot Cap-1 Maneuver	1192	-	-	1180	-	-	101	140	649	150	175	680
Stage 1	-	-	-	-	-	-	293	316	-	665	635	-
Stage 2	-	-	-	-	-	-	543	593	-	342	369	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1192	-	-	1180	-	-	58	109	649	124	136	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	58	109	-	124	136	-
Stage 1	-	-	-	-	-	-	227	245	-	515	635	-
Stage 2	-	-	-	-	-	-	375	593	-	265	286	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.6			0			68.3			14.5		
HCM LOS							F			В		
Minor Lane/Major Mvm	t N	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		58	1192	-		1180	-	_	596			
HCM Lane V/C Ratio			0.225	-	-	-	_	-	0.364			
HCM Control Delay (s)		68.3	8.9	-	-	0	_	-	14.5			
HCM Lane LOS		F	Α	_	-	A	-	-	В			
HCM 95th %tile Q(veh)		0.1	0.9	-	-	0	-	-	1.7			

Lane Group		۶	→	•	€	+	•	•	†	<i>></i>	/	+	-√
Traffic Volume (yph)	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	Lane Configurations	ň	^		7	↑ Ъ			44			4	7
Future Volume (volh)	Traffic Volume (vph)	136	1093	12			48	5		6	62		175
Lane Width (ft)		136	1093	12	5	1280	48	5	0	6	62	0	175
Lane Width (ff)	(, ,	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft) 150		12	12	12	12	12	12	12	16	12	12	16	14
Storage Length (ft) 150			0%			0%			-4%			2%	
Storage Lanes		150		0	0		0	0		0	0		300
Taper Length (ft)		1		0	1		0	0		0	0		1
Lane Util. Factor		25			25			25			25		
Fit Protected		1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fit Protected	Ped Bike Factor	1.00	1.00		1.00	1.00			1.00				0.99
Satd. Flow (prot) 1752 3531 0 1805 3519 0 0 1982 0 0 2025 1705	Frt		0.998			0.995			0.921				0.850
Fit Permitted	Flt Protected	0.950			0.950				0.980			0.950	
Satid. Flow (perm) 164 3531 0 407 3519 0 0 1848 0 0 1599 1682	Satd. Flow (prot)	1752	3531	0	1805	3519	0	0	1982	0	0	2025	1705
Processor Proc	FIt Permitted	0.089			0.215				0.914			0.750	
Satid Flow (RTOR)	Satd. Flow (perm)	164	3531	0	407	3519	0	0	1848	0	0	1599	1682
Link Speed (mph)				Yes			Yes			Yes			Yes
Link Speed (mph)			1			4			142				192
Link Distance (ft)			35			35			25			25	
Travel Time (s)			1133			236			237			1020	
Confi. Peds. (#/hr)			22.1			4.6			6.5			27.8	
Peak Hour Factor 0.91 0.		1		16	16		1	1					1
Heavy Vehicles (%) 3% 2% 0% 0% 2% 2% 0% 0% 0		0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph) 149 1201 13 5 1407 53 5 0 7 68 0 192 Shared Lane Traffic (%) Lane Group Flow (vph) 149 1214 0 5 1460 0 0 12 0 0 68 192 Enter Blocked Intersection No	Heavy Vehicles (%)	3%	2%	0%	0%	2%	2%	0%	0%	0%	0%	0%	
Shared Lane Traffic (%) Lane Group Flow (vph) 149 1214 0 5 1460 0 0 12 0 0 68 192		149		13		1407		5				0	
Lane Group Flow (vph) 149 1214 0 5 1460 0 0 12 0 0 68 192													
Enter Blocked Intersection No No No No No No No		149	1214	0	5	1460	0	0	12	0	0	68	192
Median Width(ff) 12 12 12 0 0 Link Offset(ft) 0 0 0 0 0 Crosswalk Width(ff) 16 16 16 16 16 Two way Left Turn Lane Yes		No	No	No	No	No	No	No	No	No	No	No	No
Median Width(ff) 12 12 12 0 0 Link Offset(ft) 0 0 0 0 0 Crosswalk Width(ff) 16 16 16 16 16 Two way Left Turn Lane Yes	Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Link Offset(ft) 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 Two way Left Turn Lane Yes Yes Headway Factor 1.00 1.00 1.00 1.00 0.97 0.82 0.97 1.01 0.86 0.93 Turning Speed (mph) 15 9 15 10 9 15 10 10 10 10 15 10 10 10 10 10 10 <t< td=""><td></td><td></td><td>12</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0</td><td></td></t<>			12									0	
Crosswalk Width(ft) 16 16 16 16 16 16 16 16 Two way Left Turn Lane Yes Path Yes 9 15 9 15 9 15 9 15 9 15 9 15 9 15 9 15 9 15 9 15 9 15 P 15			0			0			0			0	
Two way Left Turn Lane Yes Yes Headway Factor 1.00 1.00 1.00 1.00 1.00 0.97 0.82 0.97 1.01 0.86 0.93 Turning Speed (mph) 15 9 15 15 9 15 15 10 10 10			16			16			16			16	
Turning Speed (mph) 15 9 15 9 15 9 15 9 Number of Detectors 1 2 1 2 1 2 1 2 1 Detector Template Left Thru Left 100 20 00 0 0 0 0			Yes			Yes							
Turning Speed (mph) 15 9 15 9 15 9 15 9 Number of Detectors 1 2 1 2 1 2 1 2 1 Detector Template Left Thru Left 100 20 00 0 0 0 0	Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Number of Detectors 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				9	15		9	15			15		
Detector Template Left Thru Left Thru Left Thru Left Thru Right Leading Detector (ft) 20 100 20 100 20 100 20 Trailing Detector (ft) 0		1	2		1	2		1	2		1	2	1
Leading Detector (ft) 20 100 20 100 20 100 20 100 20 100 20 100 20 100 20 100 20 100 20 0 <th< td=""><td></td><td>Left</td><td>Thru</td><td></td><td>Left</td><td>Thru</td><td></td><td>Left</td><td>Thru</td><td></td><td>Left</td><td>Thru</td><td>Right</td></th<>		Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Trailing Detector (ft) 0			100		20	100			100				
Detector 1 Position(ft) 0													
Detector 1 Size(ft) 20 6 20 6 20 6 20 6 20 Detector 1 Type CI+Ex					0			0			0	0	0
Detector 1 Type CI+Ex					20								
Detector 1 Channel Detector 1 Extend (s) 0.0	. ,												
Detector 1 Extend (s) 0.0													
Detector 1 Queue (s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Detay (5) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft) 94 94 94													- 0.0
Detector 2 Size(ft) 6 6 6													
Detector 2 Type CI+Ex CI+Ex CI+Ex CI+Ex	. ,												

2030 Build PM Peak af/ms

Synchro 10 Report Page 9

Lane Group	Ø2	Ø3	Ø7	Ø11
Lane Configurations	~-		~.	
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	20.0	52.0					23.0	23.0		23.0	23.0	23.0
Total Split (%)	17.4%	45.2%					20.0%	20.0%		20.0%	20.0%	20.0%
Maximum Green (s)	15.0	47.0					18.0	18.0		18.0	18.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	71.0	71.0		72.8	72.8			18.0			18.0	18.0
Actuated g/C Ratio	0.62	0.62		0.63	0.63			0.16			0.16	0.16
v/c Ratio	0.65	0.56		0.02	0.66			0.03			0.27	0.45
Control Delay	30.7	12.1		0.4	1.7			0.1			46.1	9.8
Queue Delay	0.0	0.0		0.0	0.4			0.0			0.0	0.0
Total Delay	30.7	12.1		0.4	2.1			0.1			46.1	9.8
LOS	С	В		Α	Α			Α			D	Α
Approach Delay		14.1			2.1			0.1			19.3	
Approach LOS	=0	В		•	A			A			B	•
Queue Length 50th (ft)	52	207		0	10			0			45	0
Queue Length 95th (ft)	108	264		m0	10			0			89	64
Internal Link Dist (ft)	450	1053			156			157			940	222
Turn Bay Length (ft)	150	0.400		0.55	2222			400			050	300
Base Capacity (vph)	308	2180		257	2229			409			250	425
Starvation Cap Reductn	0	0		0	292			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0 40	0		0	0			0			0 07	0 45
Reduced v/c Ratio	0.48	0.56		0.02	0.75			0.03			0.27	0.45

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 100

Control Type: Actuated-Coordinated

Lane Group	Ø2	Ø3	Ø7	Ø11
Detector 2 Channel	~-	~~	~-	
Detector 2 Extend (s)				
Turn Type				
Protected Phases	2	3	7	11
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	15.0	15.0	17.0
Total Split (s)	32.0	16.0	16.0	24.0
Total Split (%)	28%	14%	14%	21%
Maximum Green (s)	27.0	11.0	11.0	21.0
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	0.0
Lost Time Adjust (s)	1.0	1.0	1.0	0.0
Total Lost Time (s)				
Lead/Lag	Lag			
Lead-Lag Optimize?	Yes			
Vehicle Extension (s)	5.0	4.0	4.0	3.0
Recall Mode	C-Max	None	None	None
Walk Time (s)	- max		110110	5.0
Flash Dont Walk (s)				9.0
Pedestrian Calls (#/hr)				0.0
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

3: Driveway/Park Road & US 40 National Road

Maximum v/c Ratio: 0.80
Intersection Signal Delay: 8.8
Intersection Capacity Utilization 64.5%
ICU Level of Service C
Analysis Period (min) 15

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

Splits and Phases: 3: Driveway/Park Road & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

Lanes, Volumes, Timings 4: Leatherwood Lane/Gas Station & US 40 National Road

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		∱ î≽		7	∱ ∱			4			4	
Traffic Volume (vph)	3	1095	63	39	1254	13	45	0	35	7	1	30
Future Volume (vph)	3	1095	63	39	1254	13	45	0	35	7	1	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%			0%	
Storage Length (ft)	0		0	105		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.998			0.941			0.894	
Flt Protected				0.950				0.973			0.991	
Satd. Flow (prot)	0	3511	0	1770	3532	0	0	1697	0	0	1650	0
FIt Permitted		0.953		0.070				0.845			0.949	
Satd. Flow (perm)	0	3346	0	130	3532	0	0	1474	0	0	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			1			142			33	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			3.5	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	3	1203	69	43	1378	14	49	0	38	8	1	33
Shared Lane Traffic (%)								-				
Lane Group Flow (vph)	0	1275	0	43	1392	0	0	87	0	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12	1		12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel		J. ZA			J. Z.			J. 2A			J. L.	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	· Offili	6 14		1 01111	2		1 01111	7		1 01111	3	
- 10100104 F 114303		0 17						,			J	

Synchro 10 Report Page 15 2030 Build PM Peak af/ms

Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14		
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Grade (%)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft) Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Enter Blocked Intersection							
Lane Alignment							
Median Width(ft)							
Link Offset(ft)							
Crosswalk Width(ft)							
Two way Left Turn Lane							
Headway Factor							
Turning Speed (mph)							
Number of Detectors							
Detector Template							
Leading Detector (ft)							
Trailing Detector (ft)							
Detector 1 Position(ft)							
Detector 1 Size(ft)							
Detector 1 Type							
Detector 1 Channel							
Detector 1 Extend (s)							
Detector 1 Queue (s)							
Detector 1 Delay (s)							
Detector 2 Position(ft)							
Detector 2 Size(ft)							
Detector 2 Type							
Detector 2 Channel							
Detector 2 Extend (s)							
Turn Type							
Protected Phases	1	6	10	11	14		
TOUGUEUT HASES	I	U	10	1.1	14		

Analysis Period (min) 15

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6 14			2			7			3		
Detector Phase	6 14	6 14		2	2		7	7		3	3	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)				20.0	20.0		15.0	15.0		15.0	15.0	
Total Split (s)				32.0	32.0		16.0	16.0		16.0	16.0	
Total Split (%)				27.8%	27.8%		13.9%	13.9%		13.9%	13.9%	
Maximum Green (s)				27.0	27.0		11.0	11.0		11.0	11.0	
Yellow Time (s)				4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				5.0	5.0			5.0			5.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode				C-Max	C-Max		None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		94.0		56.8	56.8			11.0			11.0	
Actuated g/C Ratio		0.82		0.49	0.49			0.10			0.10	
v/c Ratio		0.47		0.67	0.80			0.32			0.23	
Control Delay		1.8		36.5	25.7			4.5			23.8	
Queue Delay		0.1		0.0	0.0			0.0			0.0	
Total Delay		1.9		36.5	25.7			4.5			23.8	
LOS		Α		D	С			А			С	
Approach Delay		1.9			26.0			4.5			23.8	
Approach LOS		А			С			Α			С	
Queue Length 50th (ft)		26		24	496			0			6	
Queue Length 95th (ft)		41		m32	m402			10			42	
Internal Link Dist (ft)		156			799			398			76	
Turn Bay Length (ft)				105								
Base Capacity (vph)		2736		64	1745			269			180	
Starvation Cap Reductn		362		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.54		0.67	0.80			0.32			0.23	
Intersection Summary												
* • • • • • • • • • • • • • • • • • • •	Other											
Cycle Length: 115												
Actuated Cycle Length: 115												
Offset: 0 (0%), Referenced to	phase 2:\	VBTL and	d 6:EBTL	, Start of	Green, M	aster Inte	rsection					
Natural Cycle: 100												
Control Type: Actuated-Coor	dinated											
Maximum v/c Ratio: 0.80												
Intersection Signal Delay: 14					ntersection							
Intersection Capacity Utilizati	on 54.7%			10	CU Level of	of Service						

Synchro 10 Report Page 17 2030 Build PM Peak af/ms

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Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.0	20.0	12.0	17.0	12.0
Total Split (s)	20.0	52.0	23.0	24.0	23.0
Total Split (%)	17%	45%	20%	21%	20%
Maximum Green (s)	15.0	47.0	18.0	21.0	18.0
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead				
Lead-Lag Optimize?	Yes				
Vehicle Extension (s)	2.0	5.0	4.0	3.0	4.0
Recall Mode	None	C-Max	None	None	None
Walk Time (s)		,		5.0	
Flash Dont Walk (s)				9.0	
Pedestrian Calls (#/hr)				0	
Act Effct Green (s)				•	
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductin					
Reduced v/c Ratio					
Neudoed We Natio					
Intersection Summary					

Synchro 10 Report Page 18 2030 Build PM Peak af/ms

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

Splits and Phases: 4: Leatherwood Lane/Gas Station & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Lane Configurations	↑ Ъ		*	^	ሻሻ					
Traffic Volume (vph)	265	152	370	1107	396	0				
Future Volume (vph)	265	152	370	1107	396	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	11	11	10	11	11	12				
Grade (%)	0%			0%	-1%					
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	1.00				
Frt	0.945									
Flt Protected			0.950		0.950					
Satd. Flow (prot)	3157	0	1636	3455	3240	0				
Flt Permitted			0.254		0.950	•				
Satd. Flow (perm)	3157	0	437	3455	3240	0				
Right Turn on Red	0.101	Yes			00	Yes				
Satd. Flow (RTOR)	90									
Link Speed (mph)	35			35	25					
Link Distance (ft)	562			201	135					
Travel Time (s)	10.9			3.9	3.7					
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89				
Heavy Vehicles (%)	3%	7%	3%	1%	5%	0%				
Adj. Flow (vph)	298	171	416	1244	445	0				
Shared Lane Traffic (%)	200	17.1	710	1277	770	U				
Lane Group Flow (vph)	469	0	416	1244	445	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	10	rtigit	LOIL	10	22	rugiit				
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	16			16	16					
Two way Left Turn Lane	Yes			10	10					
Headway Factor	1.04	1.04	1.09	1.04	1.04	0.99				
Turning Speed (mph)	1.04	9	15	1.04	15	9				
Number of Detectors	2	•	1	2	1	· ·				
Detector Template	Thru		Left	Thru	Left					
Leading Detector (ft)	100		20	100	20					
Trailing Detector (ft)	0		0	0	0					
Detector 1 Position(ft)	0		0	0	0					
Detector 1 Size(ft)	6		20	6	20					
Detector 1 Type	CI+Ex		Cl+Ex	CI+Ex	CI+Ex					
Detector 1 Channel	OI · LX		OI · LX	OI · LX	OI · LX					
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft)	94		0.0	94	0.0					
Detector 2 Size(ft)	6			6						
Detector 2 Type	CI+Ex			CI+Ex						
Detector 2 Channel	OITEX			OITEX						
Detector 2 Extend (s)	0.0			0.0						
Turn Type	NA		pm+pt	NA	Prot					
Protected Phases	2		ріп+рі 1	16	8		3	4	6	
Permitted Phases			16	10	0		J	4	U	
r cillilleu Flidses			10							

	-	* *		7					
Lane Group	EBT	EBR WE	L WBT	NBL	NBR	Ø3	Ø4	Ø6	
Detector Phase	2		1 16	8					
Switch Phase									
Minimum Initial (s)	5.0	5	.0	5.0		5.0	5.0	5.0	
Minimum Split (s)	20.0	15	.0	17.0		17.0	17.0	20.0	
Total Split (s)	30.0	20	.0	65.0		33.0	32.0	50.0	
Total Split (%)	26.1%	17.4	%	56.5%		29%	28%	43%	
Maximum Green (s)	25.0	15	.0	60.0		28.0	27.0	45.0	
Yellow Time (s)	4.0	4	.0	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0	1	.0	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0	.0	0.0					
Total Lost Time (s)	5.0	5	.0	5.0					
Lead/Lag	Lag	Lea	ıd			Lead	Lag		
Lead-Lag Optimize?	Yes	Ye	es			Yes	Yes		
Vehicle Extension (s)	5.0	2	.5	4.0		4.0	5.0	5.0	
Recall Mode	C-Max	Nor	ie	None		None	None	C-Max	
Act Effct Green (s)	25.1	45	.1 45.1	59.9					
Actuated g/C Ratio	0.22	0.3	0.39	0.52					
v/c Ratio	0.62	1.2		0.26					
Control Delay	36.5	180		5.9					
Queue Delay	0.0	0		3.4					
Total Delay	36.5	180	.8 58.2	9.3					
LOS	D		F E	Α					
Approach Delay	36.5		88.9	9.3					
Approach LOS	D		F	Α					
Queue Length 50th (ft)	134	~31		28					
Queue Length 95th (ft)	188	#50		m37					
Internal Link Dist (ft)	482		121	55					
Turn Bay Length (ft)									
Base Capacity (vph)	760	32		1690					
Starvation Cap Reductn	0		0 0	1128					
Spillback Cap Reductn	0		4 0	0					
Storage Cap Reductn	0		0 0	0					
Reduced v/c Ratio	0.62	1.2	.8 0.92	0.79					

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 100 (87%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.27

Intersection Signal Delay: 65.6 Intersection LOS: E
Intersection Capacity Utilization 56.5% ICU Level of Service B

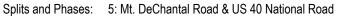
Analysis Period (min) 15

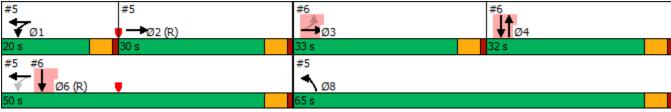
Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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





HCM 6th Edition methodology does not support clustered intersections.

Lanes, Volumes, Timings 2030 Build PM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		413-						∱ }			<u></u>	
Traffic Volume (vph)	70	695	133	0	0	0	0	325	357	0	522	0
Future Volume (vph)	70	695	133	0	0	0	0	325	357	0	522	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	12	16	12
Grade (%)		-1%			0%			0%			1%	
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00						0.99				
Frt		0.978						0.921				
Flt Protected		0.996										
Satd. Flow (prot)	0	3484	0	0	0	0	0	3307	0	0	2101	0
Flt Permitted		0.996										
Satd. Flow (perm)	0	3483	0	0	0	0	0	3307	0	0	2101	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16						226				
Link Speed (mph)		35			30			25			25	
Link Distance (ft)		482			215			270			135	
Travel Time (s)		9.4			4.9			7.4			3.7	
Confl. Peds. (#/hr)	4		4	4		4	7		5	5		7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	1%	0%	0%	0%	0%	0%	5%	1%	0%	2%	0%
Adj. Flow (vph)	74	732	140	0	0	0	0	342	376	0	549	0
Shared Lane Traffic (%)				•		•	•			•		•
Lane Group Flow (vph)	0	946	0	0	0	0	0	718	0	0	549	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0	J		0	J		0	J		0	J
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	0.96	0.96	0.96	1.01	0.85	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2			2	
Detector Template	Left	Thru						Thru			Thru	
Leading Detector (ft)	20	100						100			100	
Trailing Detector (ft)	0	0						0			0	
Detector 1 Position(ft)	0	0						0			0	
Detector 1 Size(ft)	20	6						6			6	
Detector 1 Type	CI+Ex	CI+Ex						Cl+Ex			CI+Ex	
Detector 1 Channel	<u> </u>	<u> </u>									<u> </u>	
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Position(ft)	0.0	94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		CI+Ex						CI+Ex			CI+Ex	
Detector 2 Channel		OF EX						OI LX			O/ LX	
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA			NA	
тапт турс	i Giiii	INA						INA			INA	

2030 Build PM Peak Synchro 10 Report Page 25 af/ms

Lane Group	Ø1	Ø2	Ø6	Ø8
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Opeed (mpn) Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type				

Synchro 10 Report Page 26 2030 Build PM Peak af/ms

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings 2030 Build PM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		3						4			6 4	
Permitted Phases	3											
Detector Phase	3	3						4			6 4	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0				
Minimum Split (s)	17.0	17.0						17.0				
Total Split (s)	33.0	33.0						32.0				
Total Split (%)	28.7%	28.7%						27.8%				
Maximum Green (s)	28.0	28.0						27.0				
Yellow Time (s)	4.0	4.0						4.0				
All-Red Time (s)	1.0	1.0						1.0				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag	Lead	Lead						Lag				
Lead-Lag Optimize?	Yes	Yes						Yes				
Vehicle Extension (s)	4.0	4.0						5.0				
Recall Mode	None	None						None				
Act Effct Green (s)		28.0						26.9			77.0	
Actuated g/C Ratio		0.24						0.23			0.67	
v/c Ratio		1.10						0.76			0.39	
Control Delay		102.1						30.2			2.2	
Queue Delay		0.0						0.0			21.2	
Total Delay		102.1						30.2			23.4	
LOS		F						С			С	
Approach Delay		102.1						30.2			23.4	
Approach LOS		F						С			С	
Queue Length 50th (ft)		~414						182			24	
Queue Length 95th (ft)		#547						213			m21	
Internal Link Dist (ft)		402			135			190			55	
Turn Bay Length (ft)												
Base Capacity (vph)		860						949			1390	
Starvation Cap Reductn		0						0			842	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		1.10						0.76			1.00	
Intersection Summary												
Area Type:	Other											
Cycle Length: 115												
Actuated Cycle Length: 115	5											
Offset: 100 (87%), Reference	ced to phas	e 2:EBT a	nd 6:WB	TL, Start	of Green							
Natural Cycle: 90												
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 1.27												
Intersection Signal Delay: 5	59.3			In	tersection	LOS: E						
Intersection Capacity Utiliza				IC	CU Level	of Service	C					
Analysis Period (min) 15												
 Volume exceeds capaci 	ity, queue is	s theoretic	ally infinit	e.								

Synchro 10 Report Page 27 2030 Build PM Peak af/ms

Lanes, Volumes, Timings 2030 Build PM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

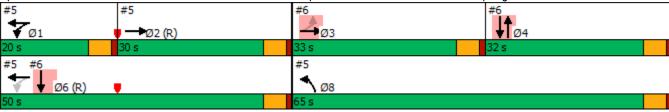
Lane Group	Ø1	Ø2	Ø6	Ø8
Protected Phases	1	2	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	20.0	20.0	17.0
Total Split (s)	20.0	30.0	50.0	65.0
Total Split (%)	17%	26%	43%	57%
Maximum Green (s)	15.0	25.0	45.0	60.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.5	5.0	5.0	4.0
Recall Mode	None	C-Max		None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

2030 Build PM Peak Synchro 10 Report Page 28 af/ms

6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

- # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Turn



HCM 6th Edition methodology does not support clustered intersections.

Synchro 10 Report 2030 Build PM Peak Page 30 af/ms

	→	7	_	•	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	^			ተተተ		77
Traffic Volume (vph)	265	0	0	1477	0	1052
Future Volume (vph)	265	0	0	1477	0	1052
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	11	12	12
Grade (%)	0%			0%	-2%	
Storage Length (ft)		0	590		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	0.88
Frt						0.850
Flt Protected						
Satd. Flow (prot)	3106	0	0	4398	0	2543
Flt Permitted						
Satd. Flow (perm)	3106	0	0	4398	0	2543
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			1133	215	
Travel Time (s)	3.9			22.1	4.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	0%	0%	2%	0%	1%
Adj. Flow (vph)	285	0	0	1588	0	1131
Shared Lane Traffic (%)						
Lane Group Flow (vph)	285	0	0	1588	0	1131
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	1	, i		1	0	Ĭ
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	1.15	1.15	1.20	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	
Intersection Summary						
7 I	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	ion 56.0%			IC	U Level	of Service
A I D I / \ 45						

Analysis Period (min) 15

Synchro 10 Report Page 31 2030 Build PM Peak af/ms

HCM Unsignalized Intersection Capacity Analysis 7: Mt. DeChantal Road/I-70 Off-Ramp Right Turn & US 40 National Road

	-	7	*	←	•	/		
Movement	EBT	EBR	WBL	WBT	NEL	NER		
Lane Configurations	^			ተተተ		77		
Traffic Volume (veh/h)	265	0	0	1477	0	1052		
Future Volume (Veh/h)	265	0	0	1477	0	1052		
Sign Control	Free			Free	Yield	.002		
Grade	0%			0%	-2%			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Hourly flow rate (vph)	285	0.00	0.00	1588	0.00	1131		
Pedestrians	200			1000				
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			TWLTL				
Median storage veh)	140110			2				
Upstream signal (ft)	201			1133				
pX, platoon unblocked	201			1100	0.85			
vC, conflicting volume			285		814	142		
vC1, stage 1 conf vol			200		285	ITZ		
vC2, stage 2 conf vol					529			
vCu, unblocked vol			285		168	142		
tC, single (s)			4.1		6.8	6.9		
tC, 2 stage (s)			7.1		5.8	0.5		
tF (s)			2.2		3.5	3.3		
p0 queue free %			100		100	0.0		
cM capacity (veh/h)			1289		723	882		
	ED 4	ED 0		WD 0			NE O	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1	NE 2	
Volume Total	142	142	529	529	529	566	566	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	566	566	
cSH	1700	1700	1700	1700	1700	882	882	
Volume to Capacity	0.08	0.08	0.31	0.31	0.31	0.64	0.64	
Queue Length 95th (ft)	0	0	0	0	0	119	119	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	16.1	16.1	
Lane LOS						C	С	
Approach Delay (s)	0.0		0.0			16.1		
Approach LOS						С		
Intersection Summary								
Average Delay			6.0					
Intersection Capacity Utiliz	zation		56.0%	IC	CU Level o	of Service		В
Analysis Period (min)			15					

Synchro 10 Report 2030 Build PM Peak Page 1 af/ms

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				7		7	7	†			f)	
Traffic Volume (vph)	0	0	0	2	0	179	95	479	0	0	358	296
Future Volume (vph)	0	0	0	2	0	179	95	479	0	0	358	296
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.939	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1519	1623	1643	0	0	1527	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1519	1623	1643	0	0	1527	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)	6					6			2	2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	4%	0%	0%	4%	4%
Adj. Flow (vph)	0	0	0	2	0	188	100	504	0	0	377	312
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	2	0	188	100	504	0	0	689	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
<i>3</i> 1	Other											
Control Type: Unsignalized												
Intersection Capacity Utilization	on 60.5%			IC	U Level	of Service	В					
intersection capacity utilization	011 00.0 /0			IC	O LEVEL	JI OCI VICE	ָ ע					

Analysis Period (min) 15

Synchro 10 Report Page 32 2030 Build PM Peak af/ms

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				ሻ		7	ሻ	<u></u>			4	
Traffic Vol, veh/h	0	0	0	2	0	179	95	479	0	0	358	296
Future Vol, veh/h	0	0	0	2	0	179	95	479	0	0	358	296
Conflicting Peds, #/hr	6	0	0	0	0	6	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized		-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	170	-	-	-	-	-
Veh in Median Storage,	,# -	2	-	-	0	_	-	0	-	-	0	-
Grade, %	-	1	-	-	-1	-	-	-1	_	-	1	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	2	0	4	0	0	4	4
Mvmt Flow	0	0	0	2	0	188	100	504	0	0	377	312
Major/Minor			N	Minor1		N	Major1		N	/lajor2		
Conflicting Flow All				1237	-	510	689	0	-		-	0
Stage 1				704	-	-	-	-	-	-	-	-
Stage 2				533	_	_	_	_	_	_	_	_
Critical Hdwy				6.2	_	6.12	4.1	_	_	_	_	_
Critical Hdwy Stg 1				5.2	_	-	-	_	_	_	_	_
Critical Hdwy Stg 2				5.2	_	_	_	_	_	_	_	_
Follow-up Hdwy				3.5	_		2.2	_	_	_	_	_
Pot Cap-1 Maneuver				210	0	571	915	_	0	0	_	_
Stage 1				514	0	-	-	_	0	0	_	_
Stage 2				610	0	_	_	_	0	0	_	_
Platoon blocked, %				010				_		U	_	_
Mov Cap-1 Maneuver				187	0	568	915		_	_	_	_
Mov Cap-1 Maneuver				187	0	-	-	_	<u>-</u>	<u>-</u>	_	_
Stage 1				458	0	_			_	_	_	_
Stage 2				610	0	_	_	_	_	_		_
Olago Z				010	J							
Approach				WB			NB			SB		
HCM Control Delay, s				14.6			1.6			0		
HCM LOS				В			1.0			U		
TOW LOO												
Minor Lane/Major Mvm	t	NBL	NBTV	VBLn1V	VBLn2	SBT	SBR					
Capacity (veh/h)		915	_	187	568	_	_					
HCM Lane V/C Ratio		0.109	_	0.011		_	_					
HCM Control Delay (s)		9.4	_	24.5	14.5	_	_					
HCM Lane LOS		Α.4	_	24.5 C	В	_	_					
HCM 95th %tile Q(veh)		0.4	_	0	1.4	_						
110W 30W 70W Q(VCII)		0.7			1.7							

	•	•	†	/	-	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ች	7	<u> </u>	7	ኘ	<u> </u>
Traffic Volume (vph)	10	152	402	135	232	97
Future Volume (vph)	10	152	402	135	232	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	14	13	14
Grade (%)	2%	10	1%			1%
Storage Length (ft)	0	80	170	120	210	170
Storage Lanes	1	1		120	1	
Taper Length (ft)	25	-			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.850	1.00	0.850	1.00	1.00
Flt Protected	0.950	0.000		0.000	0.950	
Satd. Flow (prot)	1787	1620	1818	1697	1856	1977
Fit Permitted	0.950	1020	1010	1097	0.446	1977
		1600	1010	1607		1077
Satd. Flow (perm)	1787	1620	1818	1697	871	1977
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	^=	167	^-	140		^=
Link Speed (mph)	25		25			25
Link Distance (ft)	249		332			477
Travel Time (s)	6.8		9.1			13.0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	2%	4%	1%	0%	2%
Adj. Flow (vph)	11	167	442	148	255	107
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	167	442	148	255	107
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12	J ,	13	J .		13
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	- 10		-10			10
Headway Factor	1.01	0.97	1.01	0.92	0.96	0.92
Turning Speed (mph)	1.01	9	1.01	9	15	0.32
			2			2
Number of Detectors	1	1 Diaht	2 Thru	1 Diabt	1	2 Thru
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	CI+Ex	Cl+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel			J. 1 L/C			J. L.
Detector 2 Extend (s)			0.0			0.0
Exterior 2 Exterior (3)			0.0			0.0

	- €	_	ı		*	+
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	70.0	70.0	20.0	90.0
Total Split (%)	21.7%	21.7%	60.9%	60.9%	17.4%	78.3%
Maximum Green (s)	20.0	20.0	65.0	65.0	15.0	85.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	2.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.6	9.6	82.6	82.6	95.4	95.4
Actuated g/C Ratio	0.08	0.08	0.72	0.72	0.83	0.83
v/c Ratio	0.07	0.58	0.34	0.12	0.32	0.07
Control Delay	47.7	15.8	7.5	1.5	8.5	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	15.8	7.5	1.5	8.5	5.8
LOS	D	В	Α	Α	Α	Α
Approach Delay	17.7		6.0			7.7
Approach LOS	В		Α			Α
Queue Length 50th (ft)	8	0	99	1	77	30
Queue Length 95th (ft)	26	63	198	24	m157	m60
Internal Link Dist (ft)	169		252			397
Turn Bay Length (ft)		80		120	210	
Base Capacity (vph)	310	419	1306	1258	850	1640
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.40	0.34	0.12	0.30	0.07

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 40 (35%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 8.4 Intersection Capacity Utilization 50.7% ICU Level of Service A

Analysis Period (min) 15

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



	•	•	†	<i>></i>	\	†
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	7	↑	7	ሻ	†
Traffic Volume (veh/h)	10	152	402	135	232	97
Future Volume (veh/h)	10	152	402	135	232	97
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1876	1921	1835	1954	1970	1939
Adj Flow Rate, veh/h	11	167	442	148	255	107
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0.01	2	4	1	0.01	2
Cap, veh/h	219	199	1262	1140	686	1533
Arrive On Green	0.12	0.12	0.69	0.69	0.10	1.00
Sat Flow, veh/h	1787	1628	1835	1656	1876	1939
Grp Volume(v), veh/h	11	167	442	148	255	107
Grp Sat Flow(s),veh/h/ln	1787	1628	1835	1656	1876	1939
Q Serve(g_s), s	0.6	11.5	11.4	3.5	4.6	0.0
Cycle Q Clear(g_c), s	0.6	11.5	11.4	3.5	4.6	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	219	199	1262	1140	686	1533
V/C Ratio(X)	0.05	0.84	0.35	0.13	0.37	0.07
Avail Cap(c_a), veh/h	311	283	1262	1140	820	1533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	49.4	7.4	6.1	4.6	0.0
Incr Delay (d2), s/veh	0.2	20.5	0.8	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.9	4.5	1.3	1.4	0.0
Unsig. Movement Delay, s/veh	3.0	3.0	1.0	1.0	1.1	3.0
LnGrp Delay(d),s/veh	44.8	69.9	8.1	6.4	4.7	0.1
LnGrp LOS	D	03.3 E	Α	Α	Α.	Α
	178	<u> </u>	590			362
Approach Vol, veh/h						
Approach Delay, s/veh	68.3		7.7			3.4
Approach LOS	E		Α			Α
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.8	84.1		19.1		95.9
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0		20.0		85.0
Max Q Clear Time (g_c+I1), s	6.6	13.4		13.5		2.0
Green Ext Time (p_c), s	0.3	8.4		0.6		1.4
"	0.0	U. T		0.0		1.7
Intersection Summary						
HCM 6th Ctrl Delay			15.9			
HCM 6th LOS			В			

	→	7	/	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	∱ }			414		
Traffic Volume (vph)	396	79	845	584	0	0
Future Volume (vph)	396	79	845	584	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.975					
Flt Protected				0.971		
Satd. Flow (prot)	3004	0	0	3063	0	0
FIt Permitted				0.971		
Satd. Flow (perm)	3004	0	0	3063	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	4%	2%	3%	0%	0%
Adj. Flow (vph)	435	87	929	642	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	522	0	0	1571	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
	Other					
Control Type: Unsignalized	CUICI					
Intersection Capacity Utilizat	tion 74 1%			IC	illevel d	of Service
Analysis Period (min) 15	uoii / 4. i /0			10	O LEVEL	JI OCIVICE
Alialysis Fellou (IIIIII) 15						

	→	7	*	•	•	/
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	† 1>			414		
Traffic Volume (veh/h)	396	79	845	584	0	0
Future Volume (Veh/h)	396	79	845	584	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	3%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	435	87	929	642	0	0
Pedestrians					3	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)				562		
pX, platoon unblocked					0.66	
vC, conflicting volume			438		2660	264
vC1, stage 1 conf vol					482	
vC2, stage 2 conf vol					2179	
vCu, unblocked vol			438		2486	264
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			17		100	100
cM capacity (veh/h)			1118		14	740
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	290	232	1143	428		
Volume Left	0	0	929	0		
Volume Right	0	87	0	0		
cSH	1700	1700	1118	1700		
Volume to Capacity	0.17	0.14	0.83	0.25		
Queue Length 95th (ft)	0	0	257	0		
Control Delay (s)	0.0	0.0	21.5	0.0		
Lane LOS			С			
Approach Delay (s)	0.0		15.6			
Approach LOS						
Intersection Summary						
Average Delay			11.7			
Intersection Capacity Utiliza	tion		74.1%	IC	U Level c	f Service
Analysis Period (min)			15			

Lanes, Volumes, Timings 11: Bethany Pike/Oglebay Drive & Warden Run Road

Synchro 10 Report Page 39 2030 Build PM Peak af/ms

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		1			ન
Traffic Vol, veh/h	87	11	261	73	9	242
Future Vol, veh/h	87	11	261	73	9	242
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-		-	None
Storage Length	0	-	_	-	_	-
Veh in Median Storage,		_	0	-	_	0
Grade, %	3	_	-2	_	_	4
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	0	0	0	0	4
Mymt Flow	99	13	297	83	10	275
MALL IN	99	13	231	03	10	215
Major/Minor N	Minor1	N	Major1	1	Major2	
Conflicting Flow All	634	339	0	0	380	0
Stage 1	339	-	-	-	-	-
Stage 2	295	-	-	-	-	-
Critical Hdwy	7.01	6.5	-	-	4.1	-
Critical Hdwy Stg 1	6.01	-	-	-	-	-
Critical Hdwy Stg 2	6.01	-	-	-	_	-
	3.509	3.3	_	-	2.2	-
Pot Cap-1 Maneuver	400	688	-	-	1190	-
Stage 1	684	-	_	-	-	-
Stage 2	721	-	_	_	_	_
Platoon blocked, %			_	_		_
Mov Cap-1 Maneuver	396	688	_	_	1190	_
Mov Cap-2 Maneuver	396	-	_	_	-	_
Stage 1	684	_				
Stage 2	714	_	_	_		_
Slaye Z	/ 14	<u>-</u>	-	-	-	<u>-</u>
Approach	WB		NB		SB	
HCM Control Delay, s	16.8		0		0.3	
HCM LOS	С					
Minor Lane/Major Mvmt	+	NDT	NIDDI	MDI 51	CDI	CDT
	l	NBT	- NRK/	<u>VBLn1</u> 416	SBL	SBT
				410	1190	-
Capacity (veh/h)		-				
Capacity (veh/h) HCM Lane V/C Ratio		-	-	0.268	0.009	-
Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)		-	-	0.268 16.8	0.009 8.1	0
Capacity (veh/h) HCM Lane V/C Ratio			-	0.268	0.009	

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	7		7	ሻ	<u></u>
Traffic Volume (vph)	394	22	558	296	17	492
Future Volume (vph)	394	22	558	296	17	492
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
,	0%	1900	-1%	1900	1900	-2%
Grade (%)		^	-1%	400	200	-2%
Storage Length (ft)	0	0		400	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1872	1591	1787	1881
Flt Permitted	0.950				0.158	
Satd. Flow (perm)	1770	1583	1872	1591	297	1881
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		24		329		
Link Speed (mph)	30	27	30	ULU		30
	660		3796			747
Link Distance (ft)						
Travel Time (s)	15.0	0.00	86.3	0.00	0.00	17.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	438	24	620	329	19	547
Shared Lane Traffic (%)						
Lane Group Flow (vph)	438	24	620	329	19	547
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12	J -	0	J ·		12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	10		10			10
	1.00	1.00	0.99	0.99	0.99	0.99
Headway Factor			0.99			0.99
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0		0.0	0.0	94
Detector 2 Position(ft)			94			
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	pm+ov	NA	pm+ov	pm+pt	NA
Protected Phases	8	1	2	8	1	6
	<u> </u>	'		<u> </u>	'	<u> </u>

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8		2	6	
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	12.0	23.0	23.0	12.0	23.0
Total Split (s)	34.0	12.0	44.0	34.0	12.0	56.0
Total Split (%)	37.8%	13.3%	48.9%	37.8%	13.3%	62.2%
Maximum Green (s)	29.0	7.0	39.0	29.0	7.0	51.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	22.7	35.0	28.8	60.5	34.2	34.2
Actuated g/C Ratio	0.33	0.51	0.42	0.89	0.50	0.50
v/c Ratio	0.75	0.03	0.79	0.23	0.06	0.58
Control Delay	32.5	6.0	27.1	0.6	9.1	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	6.0	27.1	0.6	9.1	14.4
LOS	С	Α	С	Α	Α	В
Approach Delay	31.2		17.9			14.2
Approach LOS	С		В			В
Queue Length 50th (ft)	190	0	262	0	4	159
Queue Length 95th (ft)	#362	14	425	11	14	263
Internal Link Dist (ft)	580		3716	• •	• • •	667
Turn Bay Length (ft)	000		01 10	400	300	001
Base Capacity (vph)	859	854	1193	1457	323	1425
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.03	0.52	0.23	0.06	0.38
reduced we realio	0.01	0.00	0.02	0.20	0.00	0.00

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 68.3

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 20.0 Intersection LOS: B
Intersection Capacity Utilization 59.5% ICU Level of Service B

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.



	•	•	†	/	/	ļ	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations		7	^	7	ሻ	^	
Traffic Volume (veh/h)	394	22	558	296	17	492	
Future Volume (veh/h)	394	22	558	296	17	492	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1909	1909	1949	1949	
Adj Flow Rate, veh/h	438	24	620	329	19	547	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	517	497	796	1144	256	1032	
Arrive On Green	0.29	0.29	0.42	0.42	0.02	0.53	
Sat Flow, veh/h	1781	1585	1909	1618	1856	1949	
Grp Volume(v), veh/h	438	24	620	329	19	547	
Grp Sat Flow(s),veh/h/ln	1781	1585	1909	1618	1856	1949	
Q Serve(g_s), s	12.9	0.6	15.6	4.2	0.3	10.2	
Cycle Q Clear(g_c), s	12.9	0.6	15.6	4.2	0.3	10.2	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	517	497	796	1144	256	1032	
V/C Ratio(X)	0.85	0.05	0.78	0.29	0.07	0.53	
Avail Cap(c_a), veh/h	929	863	1340	1605	447	1788	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	18.6	13.3	14.0	3.0	10.6	8.5	
Incr Delay (d2), s/veh	3.9	0.0	1.7	0.1	0.1	0.4	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	5.2	0.2	6.0	2.6	0.1	3.4	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	22.5	13.3	15.7	3.1	10.7	9.0	
LnGrp LOS	С	В	В	Α	В	Α	
Approach Vol, veh/h	462		949			566	
Approach Delay, s/veh	22.0		11.3			9.0	
Approach LOS	С		В			Α	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	6.3	28.2				34.4	21.1
Change Period (Y+Rc), s	5.0	5.0				5.0	5.0
Max Green Setting (Gmax), s	7.0	39.0				51.0	29.0
Max Q Clear Time (g_c+l1), s	2.3	17.6				12.2	14.9
Green Ext Time (p_c), s	0.0	5.6				4.1	1.3
Intersection Summary							
HCM 6th Ctrl Delay			13.2				
HCM 6th LOS							

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	f)			ર્ન	W	
Traffic Volume (vph)	75	7	17	90	9	22
Future Volume (vph)	75	7	17	90	9	22
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%			3%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988				0.905	
Flt Protected				0.992	0.986	
Satd. Flow (prot)	1647	0	0	1629	1487	0
FIt Permitted				0.992	0.986	
Satd. Flow (perm)	1647	0	0	1629	1487	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	1796			721	825	
Travel Time (s)	49.0			19.7	22.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	83	8	19	100	10	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	0	0	119	34	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
<i>,</i> ,	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	tion 23.0%			IC	CU Level o	of Service A
Analysis Period (min) 15						

Intersection Int Delay, s/veh						
1116 2 3 1 4 7 1 5 1 1	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
		EDK	VVDL			NDK
Lane Configurations	}	7	17	4	Y	22
Traffic Vol. veh/h	75 75	7	17	90	9	22
Future Vol, veh/h	/5 0	7	17	90	9	22
Conflicting Peds, #/hr	-	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-		-	None
Storage Length	- 4 0	-	-	-	0	-
Veh in Median Storage,		-	-	0	0	-
Grade, %	0	-	-	3	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	8	19	100	10	24
Major/Minor N	/lajor1	ı	Major2	ı	Minor1	
Conflicting Flow All	0	0	91	0	225	87
Stage 1	-	-	_	_	87	_
Stage 2	_	_	_	_	138	_
Critical Hdwy	_	_	4.12	-	6.42	6.22
Critical Hdwy Stg 1	_	_		_	5.42	-
Critical Hdwy Stg 2	_	_	_	_	5.42	_
Follow-up Hdwy	_	_	2.218		3.518	3 318
Pot Cap-1 Maneuver	_	_	1504	_	763	971
Stage 1	_	_	-	_	936	-
Stage 2	_	_	_	_	889	_
Platoon blocked, %	_	_		_	003	
Mov Cap-1 Maneuver	_		1504	_	753	971
Mov Cap-1 Maneuver		-	1504		753	9/1
		-	-		936	
Stage 1	-	-	-	-		-
Stage 2	-	-	-	-	877	-
			WB		NB	
Approach	EB		VVD			
	EB 0		1.2		9.2	
HCM Control Delay, s					9.2	
HCM Control Delay, s HCM LOS	0	JDI =4	1.2	FDD	9.2 A	WDT
HCM Control Delay, s HCM LOS Minor Lane/Major Mvmt	0	NBLn1	1.2 EBT	EBR	9.2 A WBL	WBT
HCM Control Delay, s HCM LOS Minor Lane/Major Mvmt Capacity (veh/h)	0	896	1.2 EBT	-	9.2 A WBL 1504	-
HCM Control Delay, s HCM LOS Minor Lane/Major Mvmt Capacity (veh/h) HCM Lane V/C Ratio	0	896 0.038	1.2 EBT -	-	9.2 A WBL 1504 0.013	-
HCM Control Delay, s HCM LOS Minor Lane/Major Mvmt Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)	0	896 0.038 9.2	1.2 EBT - -	- - -	9.2 A WBL 1504 0.013 7.4	- - 0
HCM Control Delay, s HCM LOS Minor Lane/Major Mvmt Capacity (veh/h) HCM Lane V/C Ratio	0	896 0.038	1.2 EBT -	-	9.2 A WBL 1504 0.013	-

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	(Î			4î.			4			ર્ન	7
Traffic Volume (vph)	477	323	5	9	378	307	51	23	35	289	5	468
Future Volume (vph)	477	323	5	9	378	307	51	23	35	289	5	468
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			2%			7%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt		0.998			0.934			0.957				0.850
Flt Protected	0.950				0.999			0.977			0.953	
Satd. Flow (prot)	1778	1849	0	0	3288	0	0	1714	0	0	1829	1615
FIt Permitted	0.226				0.949			0.410			0.633	
Satd. Flow (perm)	423	1849	0	0	3123	0	0	719	0	0	1215	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			173			19				459
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		879			1354			343			3796	
Travel Time (s)		17.1			26.4			9.4			86.3	
Confl. Peds. (#/hr)			6	6								
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	507	344	5	10	402	327	54	24	37	307	5	498
Shared Lane Traffic (%)												
Lane Group Flow (vph)	507	349	0	0	739	0	0	115	0	0	312	498
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.02	1.02	1.02	1.01	1.01	1.01	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		Cl+Ex	CI+Ex		CI+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	0.0
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel		OI LX			OI LX			OI LX			OI LX	

Lane Group Ø3
LaneConfigurations
Traffic Volume (vph)
Future Volume (vph)
Ideal Flow (vphpl)
Grade (%)
Storage Length (ft)
Storage Lanes
Taper Length (ft)
Lane Util. Factor
Ped Bike Factor
Frt
Fit Protected
Satd. Flow (prot)
Fit Permitted
Satd. Flow (perm)
Right Turn on Red
Satd. Flow (RTOR)
Link Speed (mph)
Link Distance (ft)
Travel Time (s)
Confl. Peds. (#/hr)
Peak Hour Factor
Heavy Vehicles (%)
Adj. Flow (vph)
Shared Lane Traffic (%)
Lane Group Flow (vph)
Enter Blocked Intersection
Lane Alignment
Median Width(ft)
Link Offset(ft)
Crosswalk Width(ft)
Two way Left Turn Lane
Headway Factor
Turning Speed (mph)
Number of Detectors
Detector Template
Leading Detector (ft)
Trailing Detector (it)
Detector 1 Position(ft)
Detector 1 Size(ft)
Detector 1 Type
Detector 1 Channel
Detector 1 Extend (s)
Detector 1 Queue (s)
Detector 1 Delay (s)
Detector 2 Position(ft)
Detector 2 Size(ft)
Detector 2 Type
Detector 2 Channel
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Reserved	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6			2			4			4	1
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	20.0		20.0	20.0		17.0	17.0		17.0	17.0	9.5
Total Split (s)	28.0	65.0		37.0	37.0		30.0	30.0		30.0	30.0	28.0
Total Split (%)	24.3%	56.5%		32.2%	32.2%		26.1%	26.1%		26.1%	26.1%	24.3%
Maximum Green (s)	23.5	60.0		32.0	32.0		25.0	25.0		25.0	25.0	23.5
Yellow Time (s)	3.5	4.0		4.0	4.0		4.0	4.0		4.0	4.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	4.5	5.0			5.0			5.0			5.0	4.5
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lag	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	76.7	76.2			48.2			25.0			25.0	53.5
Actuated g/C Ratio	0.67	0.66			0.42			0.22			0.22	0.47
v/c Ratio	0.91	0.28			0.52			0.67			1.18	0.50
Control Delay	60.2	7.2			21.3			55.1			154.0	4.4
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	60.2	7.2			21.3			55.1			154.0	4.4
LOS	Е	Α			С			Е			F	Α
Approach Delay		38.6			21.3			55.1			62.0	
Approach LOS		D			С			Е			Е	
Queue Length 50th (ft)	280	60			149			66			~278	15
Queue Length 95th (ft)	#493	106			273			#154			#456	79
Internal Link Dist (ft)		799			1274			263			3716	
Turn Bay Length (ft)												130
Base Capacity (vph)	558	1225			1409			171			264	996
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.91	0.28			0.52			0.67			1.18	0.50
Intersection Summary												

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 100 (87%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.18

Lane Group	Ø3	
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	
Minimum Split (s)	19.0	
Total Split (s)	20.0	
Total Split (%)	17%	
Maximum Green (s)	15.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Vehicle Extension (s)	4.0	
Recall Mode	None	
Walk Time (s)	5.0	
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	1	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

1: Altenheim Ave/Bethany Pike & US 40 National Road

Intersection Signal Delay: 41.8
Intersection LOS: D
Intersection Capacity Utilization 82.4%
ICU Level of Service E
Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Altenheim Ave/Bethany Pike & US 40 National Road

Ø1

Ø2 (R)

Ø6 (R)

Ø5 intersection LOS: D
ICU Level of Service E

Analysis Period (min) 15

* CU Level of Service E

* ICU Level of Service E

* Analysis Period (min) 15

* Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

Ø5 intersection LOS: D
ICU Level of Service E

* Analysis Period (min) 15

* Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

2030 Build SAT Peak 05/07/2020

HCM 6th Edition methodology does not support exclusive ped or hold phases.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ň	f)			4			4			4	
Traffic Volume (vph)	135	251	1	0	247	7	0	0	0	7	0	162
Future Volume (vph)	135	251	1	0	247	7	0	0	0	7	0	162
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.996						0.871	
Flt Protected	0.950										0.998	
Satd. Flow (prot)	1569	1690	0	0	1669	0	0	1907	0	0	1436	0
Flt Permitted	0.950										0.998	
Satd. Flow (perm)	1569	1690	0	0	1669	0	0	1907	0	0	1436	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	147	273	1	0	268	8	0	0	0	8	0	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	274	0	0	276	0	0	0	0	0	184	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0	_		0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
	Othor											
Area Type:	Other											

Area Type: Othe

Control Type: Unsignalized

Intersection Capacity Utilization 51.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ĵ.			4			4			4	
Traffic Vol, veh/h	135	251	1	0	247	7	0	0	0	7	0	162
Future Vol, veh/h	135	251	1	0	247	7	0	0	0	7	0	162
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,	# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	147	273	1	0	268	8	0	0	0	8	0	176
Major/Minor N	1ajor1		I	Major2		ı	Minor1		N	/linor2		
Conflicting Flow All	276	0	0	274	0	0	928	844	274	840	840	272
Stage 1	-	-	-		-	-	568	568		272	272	
Stage 2	_	_	_	_	_	_	360	276	_	568	568	_
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.9	6.4	6.9	6.3	6.1
Critical Hdwy Stg 1	-	_	_		_	-	6.5	5.9	-	5.9	5.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Follow-up Hdwy	2.2	_	_	2.2	_	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1299	_	-	1301	_	_	226	275	758	301	318	777
Stage 1	-	_	_	_	_	-	480	478	-	750	699	-
Stage 2	-	-	_	_	_	_	636	665	-	528	526	-
Platoon blocked, %		_	_		_	_						
Mov Cap-1 Maneuver	1299	_	-	1301	_	_	160	244	758	275	282	777
Mov Cap-2 Maneuver	-	-	-	-	-	-	160	244	-	275	282	-
Stage 1	-	_	_	_	_	_	426	424	-	665	699	-
Stage 2	_	_	_	_	_	_	492	665	-	468	467	-
5												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.8			0			0			11.7		
HCM LOS							A			В		
							, ,					
Minor Lane/Major Mvmt	N	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR :	SRI n1			
Capacity (veh/h)	T T	NDLIII -	1299	<u> </u>	EDR -	1301	VVDI	WDR -	722			
HCM Lane V/C Ratio			0.113			1301			0.254			
				-	-	-	-					
HCM Long LOS		0	8.1	-	-	0	-	-	11.7			
HCM Lane LOS HCM 95th %tile Q(veh)		A -	A 0.4	-	-	A 0	-	-	B 1			
How som while Q(ven)		-	0.4	-	-	U	-	-	I			

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	∱ ∱		ሻ	∱ ∱			4			ર્ન	7
Traffic Volume (vph)	50	957	27	13	888	15	4	0	3	16	2	50
Future Volume (vph)	50	957	27	13	888	15	4	0	3	16	2	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	16	14
Grade (%)		0%			0%			-4%			2%	
Storage Length (ft)	150		0	0		0	0		0	0		300
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00							
Frt		0.996			0.998			0.942				0.850
FIt Protected	0.950			0.950				0.972			0.957	
Satd. Flow (prot)	1805	3554	0	1805	3566	0	0	2011	0	0	2040	1705
FIt Permitted	0.225			0.250				0.909			0.815	
Satd. Flow (perm)	427	3554	0	474	3566	0	0	1881	0	0	1737	1705
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			2			142				142
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1133			236			237			1020	
Travel Time (s)		22.1			4.6			6.5			27.8	
Confl. Peds. (#/hr)	1		6	6		1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	4%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	54	1040	29	14	965	16	4	0	3	17	2	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	1069	0	14	981	0	0	7	0	0	19	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	Cl+Ex		CI+Ex	Cl+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	

Lane Group	Ø2	Ø3	Ø7	Ø11		
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Lane Width (ft)						
Grade (%)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Confl. Peds. (#/hr)						
Peak Hour Factor						
Heavy Vehicles (%)						
Adj. Flow (vph)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	20.0	52.0					23.0	23.0		23.0	23.0	23.0
Total Split (%)	17.4%	45.2%					20.0%	20.0%		20.0%	20.0%	20.0%
Maximum Green (s)	15.0	47.0					18.0	18.0		18.0	18.0	18.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	71.0	71.0		78.1	78.1			18.0			18.0	18.0
Actuated g/C Ratio	0.62	0.62		0.68	0.68			0.16			0.16	0.16
v/c Ratio	0.16	0.49		0.04	0.41			0.02			0.07	0.14
Control Delay	8.7	10.8		1.0	1.0			0.0			42.2	0.8
Queue Delay	0.0	0.0		0.0	0.1			0.0			0.0	0.0
Total Delay	8.7	10.8		1.0	1.1			0.0			42.2	0.8
LOS	А	В		Α	Α			Α			D	Α
Approach Delay		10.7			1.1						11.6	
Approach LOS	40	В		•	A			•			В	
Queue Length 50th (ft)	13	175		0	3			0			12	0
Queue Length 95th (ft)	26	208		m1	14			0			35	0
Internal Link Dist (ft)	450	1053			156			157			940	000
Turn Bay Length (ft)	150	0405		004	0.40.4			444			074	300
Base Capacity (vph)	443	2195		321	2421			414			271	386
Starvation Cap Reductn	0	0		0	334			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0 10	0		0	0 47			0			0 07	0
Reduced v/c Ratio	0.12	0.49		0.04	0.47			0.02			0.07	0.14

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 80

Control Type: Actuated-Coordinated

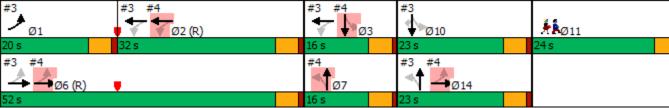
Lana Craun	- CO	a)	O.T.	011
Lane Group	Ø2	Ø3	Ø7	Ø11
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type	•		_	
Protected Phases	2	3	7	11
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	15.0	15.0	17.0
Total Split (s)	32.0	16.0	16.0	24.0
Total Split (%)	28%	14%	14%	21%
Maximum Green (s)	27.0	11.0	11.0	21.0
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lag			
Lead-Lag Optimize?	Yes			
Vehicle Extension (s)	5.0	4.0	4.0	3.0
Recall Mode	C-Max	None	None	None
Walk Time (s)	O-IVIAX	NONC	TAOTIC	5.0
Flash Dont Walk (s)				9.0
Pedestrian Calls (#/hr)				0
				U
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

3: Driveway/Park Road & US 40 National Road

Maximum v/c Ratio: 0.65
Intersection Signal Delay: 6.4
Intersection Capacity Utilization 48.2%
ICU Level of Service A
Analysis Period (min) 15

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





HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		∱ }		ħ	∱ }			4			4	
Traffic Volume (vph)	5	925	45	27	844	2	60	1	29	7	0	12
Future Volume (vph)	5	925	45	27	844	2	60	1	29	7	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%			0%	
Storage Length (ft)	0		0	105		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993						0.956			0.916	
Flt Protected		0.000		0.950				0.968			0.981	
Satd. Flow (prot)	0	3549	0	1787	3574	0	0	1732	0	0	1690	0
Flt Permitted		0.952	•	0.065	0011	· ·	· ·	0.788	Ū		0.898	•
Satd. Flow (perm)	0	3379	0	122	3574	0	0	1410	0	0	1547	0
Right Turn on Red	•	0010	Yes	122	007 1	Yes	J	1110	Yes	•	1017	Yes
Satd. Flow (RTOR)		7	100			100		17	100		142	100
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			4.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	5	1005	49	29	917	2	65	1 /0	32	8	0	13
Shared Lane Traffic (%)	5	1005	43	29	917	2	05		32	0	U	13
Lane Group Flow (vph)	0	1059	0	29	919	0	0	98	0	0	21	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left			Left	Left		Left	Left		Left	Left	
•	Leit	Left 12	Right	Leit	12	Right	Leit		Right	Leit		Right
Median Width(ft) Link Offset(ft)		0			0			0			0	
. ,		16			16			16			16	
Crosswalk Width(ft) Two way Left Turn Lane					Yes			10			10	
•	1.00	Yes 1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Headway Factor	1.00	1.00	1.00	1.00	1.00	9	1.01	1.01	1.01	1.00	1.00	1.00
Turning Speed (mph)	15	2	9		2	9	15	2	9	15	2	9
Number of Detectors	•			1			•			•		
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	Cl+Ex		Cl+Ex	CI+Ex	
Detector 1 Channel	0.0	2.0		0.0			2.0	2.2		0.0	2.0	
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			Cl+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)												
Turn Type	Perm	0.0 NA		Perm	0.0 NA		Perm	0.0 NA		Perm	0.0 NA	

2030 Build SAT Peak af/ms

Synchro 10 Report Page 15

Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Lane Configurations			~		
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Grade (%)					
Storage Length (ft)					
Storage Lanes Taper Length (ft)					
Lane Util. Factor					
Frt					
Flt Protected					
Satd. Flow (prot)					
Flt Permitted					
Satd. Flow (perm)					
Right Turn on Red					
Satd. Flow (RTOR)					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Peak Hour Factor					
Heavy Vehicles (%)					
Adj. Flow (vph)					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Enter Blocked Intersection					
Lane Alignment					
Median Width(ft)					
Link Offset(ft)					
Crosswalk Width(ft)					
Two way Left Turn Lane					
Headway Factor					
Turning Speed (mph)					
Number of Detectors					
Detector Template					
Leading Detector (ft)					
Trailing Detector (ft)					
Detector 1 Position(ft)					
Detector 1 Size(ft)					
Detector 1 Type					
Detector 1 Channel					
Detector 1 Extend (s)					
Detector 1 Queue (s)					
Detector 1 Delay (s)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					
~					

Intersection Capacity Utilization 47.8%

	۶	→	•	•	←	•	•	†	<i>></i>	/	↓	√
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		6 14			2			7			3	
Permitted Phases	6 14			2			7			3		
Detector Phase	6 14	6 14		2	2		7	7		3	3	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)				20.0	20.0		15.0	15.0		15.0	15.0	
Total Split (s)				32.0	32.0		16.0	16.0		16.0	16.0	
Total Split (%)				27.8%	27.8%		13.9%	13.9%		13.9%	13.9%	
Maximum Green (s)				27.0	27.0		11.0	11.0		11.0	11.0	
Yellow Time (s)				4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				5.0	5.0			5.0			5.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode				C-Max	C-Max		None	None		None	None	
Walk Time (s)				O Max	O Max		110110	140110		110110	140110	
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		94.0		62.1	62.1			11.0			11.0	
Actuated g/C Ratio		0.82		0.54	0.54			0.10			0.10	
v/c Ratio		0.38		0.45	0.48			0.10			0.10	
Control Delay		1.1		36.9	14.5			62.3			0.00	
Queue Delay		0.1		0.0	0.0			0.0			0.0	
•		1.2		36.9	14.5			62.3			0.0	
Total Delay LOS		1.2 A		36.9 D				02.3 E				
				U	15 O						A	
Approach Delay		1.2			15.2			62.3			0.5	
Approach LOS		A		40	B			E			A	
Queue Length 50th (ft)		3		10	162			59			0	
Queue Length 95th (ft)		0		m24	222			#135			0	
Internal Link Dist (ft)		156		105	799			398			76	
Turn Bay Length (ft)				105	4000							
Base Capacity (vph)		2763		65	1929			150			276	
Starvation Cap Reductn		425		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.45		0.45	0.48			0.65			0.08	
Intersection Summary												
Area Type:	Other											
Cycle Length: 115												
Actuated Cycle Length: 11	5											
Offset: 0 (0%), Referenced	d to phase 2:\	WBTL and	d 6:EBTL	, Start of	Green, M	aster Inte	rsection					
Natural Cycle: 80												
Control Type: Actuated-Co	oordinated											
Maximum v/c Ratio: 0.65												
Intersection Signal Delay:	10.2			lı	ntersection	LOS: B						
Intersection Conscity Litilia												

Synchro 10 Report 2030 Build SAT Peak Page 17 af/ms

ICU Level of Service A

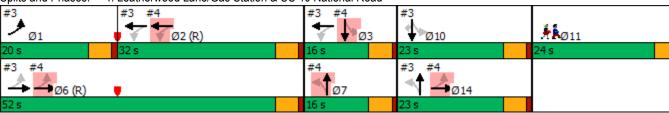
Lana Oraun	C/A	.cxc	Ø40	C(11	C 1 1
Lane Group	Ø1	Ø6	Ø10	Ø11	Ø14
Protected Phases	1	6	10	11	14
Permitted Phases					
Detector Phase					
Switch Phase		- ^		- ^	- ^
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.0	20.0	12.0	17.0	12.0
Total Split (s)	20.0	52.0	23.0	24.0	23.0
Total Split (%)	17%	45%	20%	21%	20%
Maximum Green (s)	15.0	47.0	18.0	21.0	18.0
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead				
Lead-Lag Optimize?	Yes				
Vehicle Extension (s)	2.0	5.0	4.0	3.0	4.0
Recall Mode	None	C-Max	None	None	None
Walk Time (s)				5.0	
Flash Dont Walk (s)				9.0	
Pedestrian Calls (#/hr)				0	
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

Synchro 10 Report Page 18 2030 Build SAT Peak af/ms

Analysis Period (min) 15

- # 95th percentile volume exceeds capacity, queue may be longer.
 - Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Leatherwood Lane/Gas Station & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

	→	\rightarrow	•	←	1	/				
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Lane Configurations	∱ ∱		ች	^	ሻሻ					
Traffic Volume (vph)	204	135	287	704	297	0				
Future Volume (vph)	204	135	287	704	297	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	11	11	10	11	11	12				
Grade (%)	0%			0%	-1%					
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	1.00				
Frt	0.940	0.00	1.00	0.00	0.01	1.00				
Flt Protected	0.0.0		0.950		0.950					
Satd. Flow (prot)	3222	0	1668	3455	3368	0				
Flt Permitted	VLLL		0.364	0.100	0.950					
Satd. Flow (perm)	3222	0	639	3455	3368	0				
Right Turn on Red	VLLL	Yes	000	0.100	0000	Yes				
Satd. Flow (RTOR)	125	100				100				
Link Speed (mph)	35			35	25					
Link Distance (ft)	562			201	135					
Travel Time (s)	10.9			3.9	3.7					
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				
Heavy Vehicles (%)	1%	3%	1%	1%	1%	0%				
Adj. Flow (vph)	217	144	305	749	316	0				
Shared Lane Traffic (%)	211	177	303	143	310	U				
Lane Group Flow (vph)	361	0	305	749	316	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	10	Nigit	Leit	10	22	Right				
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	16			16	16					
. ,	Yes			10	10					
Two way Left Turn Lane	1.04	1.04	1.09	1.04	1.04	0.99				
Headway Factor	1.04	9	1.09	1.04	1.04	9				
Turning Speed (mph)	2	9	15	2	15	9				
Number of Detectors			•							
Detector Template	Thru		Left	Thru	Left					
Leading Detector (ft)	100		20	100	20					
Trailing Detector (ft)	0		0	0	0					
Detector 1 Position(ft)	0		0	0	0					
Detector 1 Size(ft)	6		20	6	20					
Detector 1 Type	CI+Ex		Cl+Ex	CI+Ex	CI+Ex					
Detector 1 Channel	0.0		0.0	0.0	0.0					
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft)	94			94						
Detector 2 Size(ft)	6			6						
Detector 2 Type	CI+Ex			CI+Ex						
Detector 2 Channel	•									
Detector 2 Extend (s)	0.0			0.0						
Turn Type	NA		pm+pt	NA	Prot		_		-	
Protected Phases	2		1	16	8		3	4	6	
Permitted Phases			16							

	-	*	•	•	1					
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Detector Phase	2		1	16	8					
Switch Phase										
Minimum Initial (s)	5.0		5.0		5.0		5.0	5.0	5.0	
Minimum Split (s)	20.0		15.0		17.0		17.0	17.0	20.0	
Total Split (s)	30.0		20.0		65.0		33.0	32.0	50.0	
Total Split (%)	26.1%	,	17.4%		56.5%		29%	28%	43%	
Maximum Green (s)	25.0		15.0		60.0		28.0	27.0	45.0	
Yellow Time (s)	4.0		4.0		4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0		1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0		0.0					
Total Lost Time (s)	5.0		5.0		5.0					
Lead/Lag	Lag		Lead				Lead	Lag		
Lead-Lag Optimize?	Yes		Yes				Yes	Yes		
Vehicle Extension (s)	5.0		2.5		4.0		4.0	5.0	5.0	
Recall Mode	C-Max		None		None		None	None	C-Max	
Act Effct Green (s)	27.2		47.2	47.2	57.8					
Actuated g/C Ratio	0.24		0.41	0.41	0.50					
v/c Ratio	0.42		0.77	0.53	0.19					
Control Delay	26.2		52.9	40.6	5.7					
Queue Delay	0.0		0.0	0.0	1.4					
Total Delay	26.2		52.9	40.6	7.2					
LOS	С		D	D	Α					
Approach Delay	26.2			44.2	7.2					
Approach LOS	С			D	Α					
Queue Length 50th (ft)	78		227	306	22					
Queue Length 95th (ft)	125		#354	372	m22					
Internal Link Dist (ft)	482			121	55					
Turn Bay Length (ft)										
Base Capacity (vph)	858		396	1418	1757					
Starvation Cap Reductn	0		0	0	1228					
Spillback Cap Reductn	0		0	0	0					
Storage Cap Reductn	0		0	0	0					
Reduced v/c Ratio	0.42		0.77	0.53	0.60					

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 70 (61%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 33.7 Intersection LOS: C
Intersection Capacity Utilization 46.8% ICU Level of Service A

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

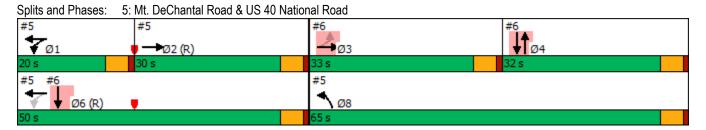
2030 Build SAT Peak

synchro 10 Report

af/ms

Page 22

5: Mt. DeChantal Road & US 40 National Road



2030 Build SAT Peak Synchro 10 Report af/ms Page 23

HCM 6th Edition methodology does not support clustered intersections.

2030 Build SAT Peak Synchro 10 Report af/ms Page 24

Lanes, Volumes, Timings 2030 Build SAT Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T\[\frac{1}{2020} \]

	۶	-	\rightarrow	•	←	•	4	†	/	>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4ÎÞ						∱ }			†	
Traffic Volume (vph)	79	527	109	0	0	0	0	218	325	0	422	0
Future Volume (vph)	79	527	109	0	0	0	0	218	325	0	422	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	12	16	12
Grade (%)		-1%			0%			0%			1%	
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor								0.99				
Frt		0.977						0.910				
Flt Protected		0.994										
Satd. Flow (prot)	0	3523	0	0	0	0	0	3334	0	0	2121	0
Flt Permitted		0.994										
Satd. Flow (perm)	0	3523	0	0	0	0	0	3334	0	0	2121	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17						307				
Link Speed (mph)		35			30			25			25	
Link Distance (ft)		482			215			270			135	
Travel Time (s)		9.4			4.9			7.4			3.7	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	86	573	118	0	0	0	0	237	353	0	459	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	777	0	0	0	0	0	590	0	0	459	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	0.96	0.96	0.96	1.01	0.85	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2			2	
Detector Template	Left	Thru						Thru			Thru	
Leading Detector (ft)	20	100						100			100	
Trailing Detector (ft)	0	0						0			0	
Detector 1 Position(ft)	0	0						0			0	
Detector 1 Size(ft)	20	6						6			6	
Detector 1 Type	Cl+Ex	CI+Ex						Cl+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		CI+Ex						Cl+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	_	0.0						0.0			0.0	
Turn Type	Perm	NA						NA			NA	

Synchro 10 Report Page 25 2030 Build SAT Peak af/ms

Lanes, Volumes, Timings 2030 Build SAT Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T\[\frac{1}{2020} \]

Lane Group	Ø1	Ø2	Ø6	Ø8
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type				

Synchro 10 Report Page 26 2030 Build SAT Peak af/ms

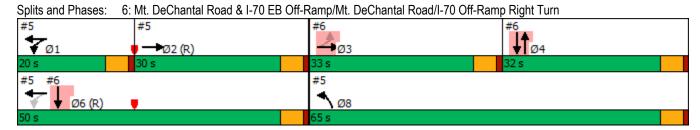
Queue shown is maximum after two cycles.

Lanes, Volumes, Timings 2030 Build SAT Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T\[\frac{1}{2020} \]

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		3						4			6 4	
Permitted Phases	3											
Detector Phase	3	3						4			6 4	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0				
Minimum Split (s)	17.0	17.0						17.0				
Total Split (s)	33.0	33.0						32.0				
Total Split (%)	28.7%	28.7%						27.8%				
Maximum Green (s)	28.0	28.0						27.0				
Yellow Time (s)	4.0	4.0						4.0				
All-Red Time (s)	1.0	1.0						1.0				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag	Lead	Lead						Lag				
Lead-Lag Optimize?	Yes	Yes						Yes				
Vehicle Extension (s)	4.0	4.0						5.0				
Recall Mode	None	None						None				
Act Effct Green (s)		27.8						25.0			77.2	
Actuated g/C Ratio		0.24						0.22			0.67	
v/c Ratio		0.90						0.61			0.32	
Control Delay		55.9						29.8			2.0	
Queue Delay		0.0						0.0			1.8	
Total Delay		55.9						29.8			3.7	
LOS		E						C			A	
Approach Delay		55.9						29.8			3.7	
Approach LOS		E						C			A	
Queue Length 50th (ft)		287						121			17	
Queue Length 95th (ft)		#397						185			34	
Internal Link Dist (ft)		402			135			190			55	
Turn Bay Length (ft)		102			100			100			00	
Base Capacity (vph)		870						1017			1412	
Starvation Cap Reductn		0						0			760	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.89						0.58			0.70	
Intersection Summary		0.00						0.00			0.10	
Area Type:	Other											
Cycle Length: 115	C U.O.											
Actuated Cycle Length: 115	5											
Offset: 70 (61%), Reference		2·FRT an	d 6·WRT	Start o	f Green							
Natural Cycle: 70	ou to pridoc	un		_, ວເຜາເ 0	. 0.0011							
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 0.90	o. an iatou											
Intersection Signal Delay: 3	34.3			In	tersection	108:0						
Intersection Capacity Utiliza					CU Level		Δ					
Analysis Period (min) 15	audii 30.3 /0			- IC	JO LGVGI (JI OUI VICE	- 71					
# 95th percentile volume	exceeds ca	nacity qu	eue may	he longer								
" Jour bergerune volume	CAUCUUS U	paoity, qui	out may	oo longel	•							

Synchro 10 Report Page 27 2030 Build SAT Peak af/ms

6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020



2030 Build SAT Peak

synchro 10 Report

af/ms

Page 28

Lanes, Volumes, Timings 2030 Build SAT Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T\[\frac{1}{2020} \]

I O	~~	~~	~~	~~
Lane Group	Ø1	Ø2	Ø6	Ø8
Protected Phases	1	2	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	20.0	20.0	17.0
Total Split (s)	20.0	30.0	50.0	65.0
Total Split (%)	17%	26%	43%	57%
Maximum Green (s)	15.0	25.0	45.0	60.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.5	5.0	5.0	4.0
Recall Mode	None	C-Max	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

2030 Build SAT Peak Synchro 10 Report Page 29 af/ms

HCM 6th Edition methodology does not support clustered intersections.

2030 Build SAT Peak Synchro 10 Report Page 30 af/ms

Analysis Period (min) 15

	-	7	*	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	^			^ ^		77
Traffic Volume (vph)	204	0	0	991	0	852
Future Volume (vph)	204	0	0	991	0	852
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	11	12	12
Grade (%)	0%			0%	-2%	
Storage Length (ft)		0	590		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	0.88
Ped Bike Factor						
Frt						0.850
Flt Protected						
Satd. Flow (prot)	3198	0	0	4442	0	2543
Flt Permitted						
Satd. Flow (perm)	3198	0	0	4442	0	2543
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			1133	215	
Travel Time (s)	3.9			22.1	4.2	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	0%	1%	0%	1%
Adj. Flow (vph)	219	0	0	1066	0	916
Shared Lane Traffic (%)						
Lane Group Flow (vph)	219	0	0	1066	0	916
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	1			1	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	1.15	1.15	1.20	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizati	ion 46.7%			IC	U Level	of Service A

Synchro 10 Report Page 31 2030 Build SAT Peak af/ms

HCM Unsignalized Intersection Capacity Analysis 7: Mt. DeChantal Road/I-70 Off-Ramp Right Turn & US 40 National Road

Movement		-	7	F	•	•	/		
Lane Configurations	Movement	EBT	EBR	WBL	WBT	NEL	NER		
Trasffic Volume (Veh/h)									
Future Volume (Veh/h) 204 0 0 991 0 852			0	0		0			
Sign Control Free Grade 7ree Owner Free Owner Yield Owner C-2% Peak Hour Factor 0.93 0									
Grade 0% -2% Peak Hour Factor 0.93 0.94									
Peak Hour Factor 0.93 0.									
Hourly flow rate (vph) 219 0 0 1066 0 916 Pedestrians 2 2 Lane Width (ft) 12.0 Walking Speed (ft/s) 3.5 Percent Blockage 0 Right turn flare (veh) Median type None TWLTL Median storage veh 2 Upstream signal (ft) 201 1133 DX, platoon unblocked 221 576 112 VC1, stage 1 conf vol 221 477 112 VC2, stage 2 conf vol 335 VCu, unblocked vol 221 477 112 C, single (s) 4.1 6.8 6.9 tC, 2 stage (s) 5.8 tF (s) 2.2 3.5 3.3 p0 queue free % 100 100 1 cM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 355 458 458 Volume Left 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0.93	0.93			0.93		
Pedestrians									
Walking Speed (ft/s) 3.5 Percent Blockage 0 Right turn flare (veh) TWLTL Median type None TWLTL Median storage veh) 2 Upstream signal (ft) 201 1133 pX, platoon unblocked 0.98 vC, conflicting volume 221 576 112 vC1, stage 1 conf vol 221 477 112 vC2, stage 2 conf vol 355 55 vCu, unblocked vol 221 477 112 tC, single (s) 4.1 6.8 6.9 tC, 2 stage (s) 5.8 5.8 tF (s) 2.2 3.5 3.3 p0 queue free % 100 100 1 cM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 458 458 Volume Left 0 0 0 0 0 0 0 Volume Rig									
Walking Speed (ft/s) 3.5 Percent Blockage 0 Right turn flare (veh) TWLTL Median type None TWLTL Median storage veh) 2 Upstream signal (ft) 201 1133 pX, platoon unblocked 0.98 vC, conflicting volume 221 576 112 vC1, stage 1 conf vol 221 477 112 vC2, stage 2 conf vol 355 5 vCu, unblocked vol 221 477 112 tC, 2 stage (s) 4.1 6.8 6.9 tC, 2 stage (s) 5.8 5.8 tF (s) 2.2 3.5 3.3 p0 queue free % 100 100 1 cM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 458 458 Volume Left 0 0 <td>Lane Width (ft)</td> <td></td> <td></td> <td></td> <td></td> <td>12.0</td> <td></td> <td></td> <td></td>	Lane Width (ft)					12.0			
Percent Blockage Right turn flare (veh)	. ,					3.5			
Right turn flare (veh) Median type None TWLTL	• ,					0			
Median type None TWLTL Median storage veh) 2 Upstream signal (ft) 201 1133 pX, platoon unblocked 0.98 vC, conflicting volume 221 576 112 vC1, stage 1 conf vol 221 477 112 vC2, stage 2 conf vol 355 5 vCu, unblocked vol 221 477 112 tC, single (s) 4.1 6.8 6.9 tC, 2 stage (s) 5.8 5.8 5.8 tF (s) 2.2 3.5 3.3 p0 queue free % 100 100 1 cM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 355 458 458 Volume Left 0 0 0 0 0 0 0 0 0 0 0 0									
Median storage veh 2	. ,	None			TWLTL				
Upstream signal (ft)					2				
vC, conflicting volume 221 576 112 vC1, stage 1 conf vol 221 221 vC2, stage 2 conf vol 355 vCu, unblocked vol 221 477 112 tC, single (s) 4.1 6.8 6.9 tC, 2 stage (s) 5.8 5.8 tF (s) 2.2 3.5 3.3 p0 queue free % 100 100 1 cM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 355 458 458 Volume Left 0 <td< td=""><td></td><td>201</td><td></td><td></td><td>1133</td><td></td><td></td><td></td><td></td></td<>		201			1133				
vC1, stage 1 conf vol 221 vC2, stage 2 conf vol 355 vCu, unblocked vol 221 477 112 tC, single (s) 4.1 6.8 6.9 tC, 2 stage (s) 5.8 5.8 tF (s) 2.2 3.5 3.3 p0 queue free % 100 100 1 cM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 355 458 458 Volume Left 0	pX, platoon unblocked					0.98			
vC2, stage 2 conf vol 355 vCu, unblocked vol 221 477 112 tC, single (s) 4.1 6.8 6.9 tC, 2 stage (s) 5.8 5.8 tF (s) 2.2 3.5 3.3 p0 queue free % 100 100 1 cM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 355 458 458 Volume Left 0<				221		576	112		
vCu, unblocked vol 221 477 112 tC, single (s) 4.1 6.8 6.9 tC, 2 stage (s) 5.8 5.8 tF (s) 2.2 3.5 3.3 pO queue free % 100 100 1 cM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 355 458 458 Volume Left 0	vC1, stage 1 conf vol					221			
tC, single (s) tC, 2 stage (s) tF (s)	vC2, stage 2 conf vol					355			
tC, 2 stage (s) tF (s) 2.2 3.5 3.3 p0 queue free % 100 100 1 cM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 355 458 458 Volume Left 0 0 0 0 0 0 0 0 0 Volume Right 0 0 0 0 0 0 0 0 0 0 0 0 0	vCu, unblocked vol			221		477	112		
tF (s) 2.2 3.5 3.3 p0 queue free % 100 100 1 cM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 355 458 458 Volume Left 0 0 0 0 0 0 0 0 0 Volume Right 0 0 0 0 0 0 458 458 cSH 1700 1700 1700 1700 1700 922 922 Volume to Capacity 0.06 0.06 0.21 0.21 0.21 0.50 0.50 Queue Length 95th (ft) 0 0 0 0 0 71 71 Control Delay (s) 0.0 0.0 0.0 0.0 12.7 12.7 Lane LOS B B Approach Delay (s) 0.0 0.0 0.0 12.7 Approach LOS Intersection Summary Average Delay Intersection Capacity Utilization 46.7% ICU Level of Service	tC, single (s)			4.1		6.8	6.9		
p0 queue free % 100 100 1 cM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 355 458 458 Volume Left 0 0 0 0 0 0 0 0 Volume Right 0 0 0 0 0 458 458 cSH 1700 1700 1700 1700 922 922 Volume to Capacity 0.06 0.06 0.21 0.21 0.21 0.50 0.50 Queue Length 95th (ft) 0 0 0 0 0 71 71 Control Delay (s) 0.0 0.0 0.0 0.0 12.7 12.7 Lane LOS B B Approach Delay (s) 0.0 0.0 0.0 12.7 12.7	tC, 2 stage (s)					5.8			
CM capacity (veh/h) 1357 670 922 Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2 Volume Total 110 110 355 355 355 458 458 Volume Left 0 0 0 0 0 0 0 0 Volume Right 0 0 0 0 0 458 458 cSH 1700 1700 1700 1700 1700 922 922 Volume to Capacity 0.06 0.06 0.21 0.21 0.21 0.50 0.50 Queue Length 95th (ft) 0 0 0 0 0 71 71 Control Delay (s) 0.0 0.0 0.0 0.0 12.7 12.7 Lane LOS B B Approach Delay (s) 0.0 0.0 0.0 12.7 12.7 Approach LOS B 10 0.0 0	tF (s)					3.5	3.3		
Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2	p0 queue free %			100		100			
Volume Total 110 110 355 355 355 458 458 Volume Left 0 0 0 0 0 0 0 0 Volume Right 0 0 0 0 0 458 458 cSH 1700 1700 1700 1700 922 922 Volume to Capacity 0.06 0.06 0.21 0.21 0.21 0.50 0.50 Queue Length 95th (ft) 0 0 0 0 0 71 71 Control Delay (s) 0.0 0.0 0.0 0.0 12.7 12.7 Lane LOS B B Approach Delay (s) 0.0 0.0 12.7 Approach LOS B Intersection Summary 5.3 ICU Level of Service	cM capacity (veh/h)			1357		670	922		
Volume Left 0 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>									
Volume Right 0 0 0 0 458 458 cSH 1700 1700 1700 1700 1700 922 922 Volume to Capacity 0.06 0.06 0.21 0.21 0.21 0.50 0.50 Queue Length 95th (ft) 0 0 0 0 71 71 Control Delay (s) 0.0 0.0 0.0 0.0 12.7 12.7 Lane LOS B B B Approach Delay (s) 0.0 0.0 12.7 Approach LOS B Intersection Summary Average Delay 5.3 ICU Level of Service									
cSH 1700 1700 1700 1700 1700 922 922 Volume to Capacity 0.06 0.06 0.21 0.21 0.21 0.50 0.50 Queue Length 95th (ft) 0 0 0 0 71 71 Control Delay (s) 0.0 0.0 0.0 0.0 12.7 12.7 Lane LOS B B Approach Delay (s) 0.0 0.0 12.7 Approach LOS B B Intersection Summary 5.3 Intersection Capacity Utilization 46.7% ICU Level of Service									
Volume to Capacity 0.06 0.06 0.21 0.21 0.21 0.50 0.50 Queue Length 95th (ft) 0 0 0 0 0 71 71 Control Delay (s) 0.0 0.0 0.0 0.0 12.7 12.7 Lane LOS B B B Approach Delay (s) 0.0 0.0 12.7 Approach LOS B B Intersection Summary 5.3 Intersection Capacity Utilization 46.7% ICU Level of Service									
Queue Length 95th (ft) 0 0 0 0 71 71 Control Delay (s) 0.0 0.0 0.0 0.0 12.7 12.7 Lane LOS B B B B Approach Delay (s) 0.0 0.0 12.7 Delay B Intersection Summary 5.3 Intersection Capacity Utilization ICU Level of Service									
Control Delay (s) 0.0 0.0 0.0 0.0 12.7 12.7 Lane LOS B B Approach Delay (s) 0.0 0.0 12.7 Approach LOS B Intersection Summary Average Delay 5.3 Intersection Capacity Utilization 46.7% ICU Level of Service	. ,								
Lane LOS B B Approach Delay (s) 0.0 0.0 12.7 Approach LOS B Intersection Summary Average Delay 5.3 Intersection Capacity Utilization 46.7% ICU Level of Service	• ,								
Approach Delay (s) 0.0 0.0 12.7 Approach LOS B Intersection Summary Average Delay 5.3 Intersection Capacity Utilization 46.7% ICU Level of Service		0.0	0.0	0.0	0.0	0.0			
Approach LOS B Intersection Summary Average Delay 5.3 Intersection Capacity Utilization 46.7% ICU Level of Service								В	
Intersection Summary Average Delay 5.3 Intersection Capacity Utilization 46.7% ICU Level of Service		0.0		0.0					
Average Delay 5.3 Intersection Capacity Utilization 46.7% ICU Level of Service	Approach LOS						В		
Intersection Capacity Utilization 46.7% ICU Level of Service	Intersection Summary								
				5.3					
		ation		46.7%	IC	CU Level c	f Service		
Analysis Period (min) 15	Analysis Period (min)			15					

Synchro 10 Report 2030 Build SAT Peak Page 1 af/ms

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				ħ		7	7	†			f)	
Traffic Volume (vph)	0	0	0	2	0	166	74	355	0	0	309	222
Future Volume (vph)	0	0	0	2	0	166	74	355	0	0	309	222
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.943	
FIt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1549	1546	1675	0	0	1579	0
FIt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1549	1546	1675	0	0	1579	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	2%	0%	0%	1%	1%
Adj. Flow (vph)	0	0	0	2	0	175	78	374	0	0	325	234
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	2	0	175	78	374	0	0	559	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
7 1	ther											
Control Type: Unsignalized												

Intersection Capacity Utilization 51.3%

ICU Level of Service A

Analysis Period (min) 15

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				ሻ		7	ሻ	<u></u>			4	
Traffic Vol, veh/h	0	0	0	2	0	166	74	355	0	0	309	222
Future Vol, veh/h	0	0	0	2	0	166	74	355	0	0	309	222
Conflicting Peds, #/hr	0	0	1	1	0	0	1	0	3	3	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	170	-	-	-	-	-
Veh in Median Storage,	# -	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-1	-	-	-1	-	-	1	-
Peak Hour Factor	92	92	92	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	5	2	0	0	1	1
Mvmt Flow	0	0	0	2	0	175	78	374	0	0	325	234
Major/Minor			1	Minor1		ľ	Major1		N	//ajor2		
Conflicting Flow All				973	-	374	560	0	-	_	-	0
Stage 1				530	-	-	-	-	-	-	-	-
Stage 2				443	-	-	-	-	-	-	-	-
Critical Hdwy				6.2	-	6.1	4.15	-	-	-	-	-
Critical Hdwy Stg 1				5.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.2	-	-	-	-	-	-	-	-
Follow-up Hdwy				3.5	-	3.3	2.245	-	-	-	-	-
Pot Cap-1 Maneuver				298	0	684	996	-	0	0	-	-
Stage 1				612	0	-	-	-	0	0	-	-
Stage 2				668	0	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				274	0	684	996	-	-	-	-	-
Mov Cap-2 Maneuver				274	0	-	-	-	-	-	-	-
Stage 1				564	0	-	-	-	-	-	-	-
Stage 2				667	0	-	-	-	-	-	-	-
Approach				WB			NB			SB		
HCM Control Delay, s				12.2			1.5			0		
HCM LOS				В								
Minor Lane/Major Mvmt		NBL	NBTV	VBLn1V	VBLn2	SBT	SBR					
Capacity (veh/h)		996	-	274	684	-	-					
HCM Lane V/C Ratio		0.078	-	0.008		-	-					
HCM Control Delay (s)		8.9	-			-	-					
HCM Lane LOS		Α	-	С	В	-	-					
HCM 95th %tile Q(veh)		0.3	-	0	1	-	-					

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ኝ	1	†	7	*	†
Traffic Volume (vph)	7	120	292	98	224	57
Future Volume (vph)	7	120	292	98	224	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
	1900	1300	12	1900	1300	1900
Lane Width (ft)		13		14	13	
Grade (%)	2%	00	1%	400	040	1%
Storage Length (ft)	0	80		120	210	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1620	1853	1697	1837	2017
FIt Permitted	0.950				0.527	
Satd. Flow (perm)	1787	1620	1853	1697	1019	2017
Right Turn on Red		Yes	. 500	Yes	.510	_717
Satd. Flow (RTOR)		128		104		
Link Speed (mph)	25	120	25	104		25
,	249		332			477
Link Distance (ft)						
Travel Time (s)	6.8	0.04	9.1	0.04	0.04	13.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	2%	1%	1%	0%
Adj. Flow (vph)	7	128	311	104	238	61
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	128	311	104	238	61
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		13			13
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	10		- 10			- 10
Headway Factor	1.01	0.97	1.01	0.92	0.96	0.92
	1.01	9	1.01	9	15	0.32
Turning Speed (mph)			0			0
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	0.0	0.0	94	0.0	0.0	94
			94			94
Detector 2 Size(ft)						
Detector 2 Type			Cl+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0

	₩	_	ı		*	*
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	70.0	70.0	20.0	90.0
Total Split (%)	21.7%	21.7%	60.9%	60.9%	17.4%	78.3%
Maximum Green (s)	20.0	20.0	65.0	65.0	15.0	85.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	3.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.2	9.2	82.3	82.3	95.8	95.8
Actuated g/C Ratio	0.08	0.08	0.72	0.72	0.83	0.83
v/c Ratio	0.05	0.52	0.23	0.08	0.26	0.04
Control Delay	47.7	16.1	6.6	1.4	1.8	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	16.1	6.6	1.4	1.8	1.2
LOS	D	В	Α	Α	Α	Α
Approach Delay	17.7		5.3			1.7
Approach LOS	В		Α			Α
Queue Length 50th (ft)	5	0	65	0	6	1
Queue Length 95th (ft)	19	57	128	18	m32	m10
Internal Link Dist (ft)	169		252			397
Turn Bay Length (ft)		80		120	210	
Base Capacity (vph)	310	387	1326	1244	955	1679
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.33	0.23	0.08	0.25	0.04
Intersection Summary						
A T	0.11					

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 45 (39%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 6.0 Intersection LOS: A Intersection Capacity Utilization 44.4% ICU Level of Service A

Analysis Period (min) 15

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

2030 Build SAT Peak Synchro 10 Report af/ms Page 35



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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	7	†	7	ሻ	†
Traffic Volume (veh/h)	7	120	292	98	224	57
Future Volume (veh/h)	7	120	292	98	224	57
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1876	1921	1864	1954	1954	1970
Adj Flow Rate, veh/h	7	128	311	104	238	61
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	1	1	0
Cap, veh/h	174	159	1338	1189	835	1606
Arrive On Green	0.10	0.10	0.72	0.72	0.09	1.00
Sat Flow, veh/h	1787	1628	1864	1656	1861	1970
Grp Volume(v), veh/h	7	128	311	104	238	61
Grp Sat Flow(s),veh/h/ln	1787	1628	1864	1656	1861	1970
Q Serve(g_s), s	0.4	8.9	6.5	2.2	3.8	0.0
Cycle Q Clear(g_c), s	0.4	8.9	6.5	2.2	3.8	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	174	159	1338	1189	835	1606
V/C Ratio(X)	0.04	0.81	0.23	0.09	0.29	0.04
Avail Cap(c_a), veh/h	311	283	1338	1189	976	1606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	50.8	5.5	4.9	3.2	0.0
Incr Delay (d2), s/veh	0.2	18.1	0.4	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.4	2.5	0.8	1.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	47.2	68.9	5.9	5.0	3.4	0.0
LnGrp LOS	D	E	Α	Α	Α	Α
Approach Vol, veh/h	135		415			299
Approach Delay, s/veh	67.8		5.7			2.7
Approach LOS	E		A			A
	_	^				
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.3	87.5		16.2		98.8
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0		20.0		85.0
Max Q Clear Time (g_c+I1), s	5.8	8.5		10.9		2.0
Green Ext Time (p_c), s	0.5	5.4		0.5		8.0
Intersection Summary						
HCM 6th Ctrl Delay			14.5			
HCM 6th LOS			В			
TIGIVI OUI LOO			D			

2030 Build SAT Peak Synchro 10 Report af/ms Page 37

	-	7	_	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑ ↑			41∱		
Traffic Volume (vph)	284	69	610	400	0	0
Future Volume (vph)	284	69	610	400	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.971					
Flt Protected				0.971		
Satd. Flow (prot)	3099	0	0	3093	0	0
Flt Permitted				0.971		
Satd. Flow (perm)	3099	0	0	3093	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		4	4			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	1%	2%	0%	0%
Adj. Flow (vph)	299	73	642	421	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	372	0	0	1063	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza				IC	ULevelo	of Service B

Intersection Capacity Utilization 56.0%

Analysis Period (min) 15

ICU Level of Service B

	→	7	*	•	•	/
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	† ‡			414		
Traffic Volume (veh/h)	284	69	610	400	0	0
Future Volume (Veh/h)	284	69	610	400	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	3%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	299	73	642	421	0	0
Pedestrians					4	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)				562		
pX, platoon unblocked					0.84	
vC, conflicting volume			303		1834	190
vC1, stage 1 conf vol					340	
vC2, stage 2 conf vol					1494	
vCu, unblocked vol			303		1612	190
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			49		100	100
cM capacity (veh/h)			1262		100	826
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	199	173	782	281		
Volume Left	0	0	642	0		
Volume Right	0	73	0	0		
cSH	1700	1700	1262	1700		
Volume to Capacity	0.12	0.10	0.51	0.17		
Queue Length 95th (ft)	0	0	75	0		
Control Delay (s)	0.0	0.0	9.9	0.0		
Lane LOS			Α			
Approach Delay (s)	0.0		7.3			
Approach LOS						
Intersection Summary						
Average Delay			5.4			
Intersection Capacity Utiliza	tion		56.0%	IC	U Level c	f Service
Analysis Period (min)			15			

2030 Build SAT Peak Synchro 10 Report af/ms Page 1

Lanes, Volumes, Timings 11: Bethany Pike/Oglebay Drive & Warden Run Road

	•	•	†	<i>></i>	>	↓		
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations	W		ĵ.			4		
Traffic Volume (vph)	61	8	201	61	10	185		
Future Volume (vph)	61	8	201	61	10	185		
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700		
Lane Width (ft)	12	12	12	12	11	11		
Grade (%)	3%		-2%			4%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Frt	0.984		0.969					
Flt Protected	0.958					0.997		
Satd. Flow (prot)	1579	0	1664	0	0	1561		
Flt Permitted	0.958					0.997		
Satd. Flow (perm)	1579	0	1664	0	0	1561		
Link Speed (mph)	30		30			30		
Link Distance (ft)	1796		396			959		
Travel Time (s)	40.8		9.0			21.8		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%		
Adj. Flow (vph)	67	9	221	67	11	203		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	76	0	288	0	0	214		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Right	Left	Left		
Median Width(ft)	12		0			0		
Link Offset(ft)	0		0			0		
Crosswalk Width(ft)	16		16			16		
Two way Left Turn Lane								
Headway Factor	1.18	1.18	1.14	1.14	1.23	1.23		
Turning Speed (mph)	15	9		9	15			
Sign Control	Stop		Free			Free		
Intersection Summary								
Area Type:	Other							
Control Type: Unsignalized								
Intersection Capacity Utilizat	ion 31.0%			IC	U Level	of Service	e A	
Analysis David (min) 15								

Analysis Period (min) 15

Synchro 10 Report Page 39 2030 Build SAT Peak af/ms

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		f)			4
Traffic Vol, veh/h	61	8	201	61	10	185
Future Vol, veh/h	61	8	201	61	10	185
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-		-	
Storage Length	0	-	-	-	-	-
Veh in Median Storage	e, # 0	-	0	-	-	0
Grade, %	3	_	-2	_	_	4
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	67	9	221	67	11	203
mmil ion	0,			Ų,		200
NA ' (NA'					4 . 0	
	Minor1		Major1		Major2	
Conflicting Flow All	480	255	0	0	288	0
Stage 1	255	-	-	-	-	-
Stage 2	225	-	-	-	-	-
Critical Hdwy	7	6.5	-	-	4.1	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	506	772	-	-	1286	-
Stage 1	759	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	501	772	-	-	1286	-
Mov Cap-2 Maneuver	501	-	-	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Annragah	MD		ND		CD	
Approach	WB		NB		SB	
HCM Control Delay, s	13.1		0		0.4	
HCM LOS	В					
Minor Lane/Major Mvm	nt _	NBT	NBRV	WBLn1	SBL	SBT
Capacity (veh/h)		-	-	522	1286	-
HCM Lane V/C Ratio		-	-	0.145		-
HCM Control Delay (s)		-	-		7.8	0
HCM Lane LOS		-	-	В	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-
,						

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	7	<u> </u>	7	ኘ	<u> </u>
Traffic Volume (vph)	308	18	368	356	20	389
Future Volume (vph)	308	18	368	356	20	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%	1900	-1%	1900	1900	-2%
. ,		0	-170	175	200	-270
Storage Length (ft)	0	0		475	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	4.55	4		75	4.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1872	1591	1787	1881
Flt Permitted	0.950				0.300	
Satd. Flow (perm)	1770	1583	1872	1591	564	1881
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		20		396		
Link Speed (mph)	30		30	300		30
Link Distance (ft)	660		3796			747
Travel Time (s)	15.0		86.3			17.0
. ,		0.00		0.00	0.00	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	342	20	409	396	22	432
Shared Lane Traffic (%)						
Lane Group Flow (vph)	342	20	409	396	22	432
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9	0.00	9	15	0.00
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
• ,						
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	CI+Ex	Cl+Ex	CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			CI+Ex
Detector 2 Channel			J Z.			J
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	pm+ov	NA	pm+ov	pm+pt	NA
Protected Phases	8	1	2	8	1	6

2030 Build SAT Peak Synchro 10 Report af/ms Page 41

	•	•	†	~	>	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8		2	6	
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	12.0	23.0	23.0	12.0	23.0
Total Split (s)	37.0	12.0	41.0	37.0	12.0	53.0
Total Split (%)	41.1%	13.3%	45.6%	41.1%	13.3%	58.9%
Maximum Green (s)	32.0	7.0	36.0	32.0	7.0	48.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	17.3	29.9	18.7	46.2	21.9	21.9
Actuated g/C Ratio	0.34	0.59	0.37	0.91	0.43	0.43
v/c Ratio	0.57	0.02	0.60	0.27	0.05	0.53
Control Delay	20.2	4.7	19.3	0.7	8.9	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	4.7	19.3	0.7	8.9	13.2
LOS	C	A	В	A	A	В
Approach Delay	19.4		10.1			13.0
Approach LOS	В		В			В
Queue Length 50th (ft)	64	0	77	0	3	83
Queue Length 95th (ft)	220	10	253	13	16	198
Internal Link Dist (ft)	580	- 10	3716	- 10	- 10	667
Turn Bay Length (ft)	300		0710	475	300	301
Base Capacity (vph)	1253	981	1419	1519	439	1627
Starvation Cap Reductn	0	0	0	0	439	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reducting	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.02	0.29	0.26	0.05	0.27
	0.21	0.02	0.23	0.20	0.03	0.21
Intersection Summary						
Area Type:	Other					
Cycle Length: 90						
Actuated Cycle Length: 50).8					
Natural Cycle: 60						
Control Type: Actuated-Ur	ncoordinated					
Maximum v/c Ratio: 0.60						

Splits and Phases: 12: Bethany Pike & Site Dwy

Intersection Signal Delay: 13.0 Intersection Capacity Utilization 45.9%

Analysis Period (min) 15



Intersection LOS: B
ICU Level of Service A

ement WBL WBR NBT NBR SBL SBT e Configurations 1 <
fic Volume (veh/h) 308 18 368 356 20 389 ire Volume (veh/h) 308 18 368 356 20 389 il Q (Qb), veh 0 0 0 0 0 0 0 Bike Adj(A_pbT) 1.00 1.00 1.00 1.00 k Zone On Approach No No No Sat Flow, veh/h/ln 1870 1870 1909 1909 1949 1949 Flow Rate, veh/h 342 20 409 396 22 432 k Hour Factor 0.90 0.90 0.90 0.90 0.90 cent Heavy Veh, % 2 2 2 2 2 2 2 g, veh/h 448 442 649 957 346 963 re On Green 0.25 0.25 0.34 0.34 0.03 0.49 Flow, veh/h 1781 1585 1909 1618 1856 1949 Volume(v), veh/h 342 20 409 396 22 432 Sat Flow(s),veh/h/ln 1781 1585 1909 1618 1856 1949 erve(g_s), s 7.0 0.4 7.1 5.2 0.3 5.7
re Volume (veh/h) 308 18 368 356 20 389 al Q (Qb), veh 0 0 0 0 0 0 0 Bike Adj(A_pbT) 1.00 1.00 1.00 1.00 cling Bus, Adj 1.00 1.00 1.00 1.00 1.00 k Zone On Approach No No No Sat Flow, veh/h/ln 1870 1870 1909 1909 1949 1949 Flow Rate, veh/h 342 20 409 396 22 432 k Hour Factor 0.90 0.90 0.90 0.90 0.90 cent Heavy Veh, % 2 2 2 2 2 2 2 c, veh/h 448 442 649 957 346 963 re On Green 0.25 0.25 0.34 0.34 0.03 0.49 Flow, veh/h 1781 1585 1909 1618 1856 1949 Volume(v), veh/h 342 20 409 396 22 432 Sat Flow(s),veh/h/ln 1781 1585 1909 1618 1856 1949 erve(g_s), s 7.0 0.4 7.1 5.2 0.3 5.7
al Q (Qb), veh 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Bike Adj(A_pbT) 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0
king Bus, Adj 1.00 1.94 1.949 1.00<
k Zone On Approach No No No Sat Flow, veh/h/ln 1870 1909 1909 1949 1949 Flow Rate, veh/h 342 20 409 396 22 432 k Hour Factor 0.90 0.90 0.90 0.90 0.90 sent Heavy Veh, % 2 2 2 2 2 veh/h 448 442 649 957 346 963 ve On Green 0.25 0.25 0.34 0.03 0.49 Flow, veh/h 1781 1585 1909 1618 1856 1949 Volume(v), veh/h 342 20 409 396 22 432 Sat Flow(s),veh/h/ln 1781 1585 1909 1618 1856 1949 erve(g_s), s 7.0 0.4 7.1 5.2 0.3 5.7
Sat Flow, veh/h/ln 1870 1870 1909 1909 1949 1949 Flow Rate, veh/h 342 20 409 396 22 432 k Hour Factor 0.90 0.90 0.90 0.90 0.90 0.90 cent Heavy Veh, % 2 2 2 2 2 2 c, veh/h 448 442 649 957 346 963 ce On Green 0.25 0.25 0.34 0.34 0.03 0.49 Flow, veh/h 1781 1585 1909 1618 1856 1949 Volume(v), veh/h 342 20 409 396 22 432 Sat Flow(s),veh/h/ln 1781 1585 1909 1618 1856 1949 erve(g_s), s 7.0 0.4 7.1 5.2 0.3 5.7
Flow Rate, veh/h 342 20 409 396 22 432 k Hour Factor 0.90 0.90 0.90 0.90 0.90 0.90 0.90 eent Heavy Veh, % 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
k Hour Factor 0.90 0.90 0.90 0.90 0.90 0.90 cent Heavy Veh, % 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
tent Heavy Veh, % 2
ve On Green 0.25 0.25 0.34 0.34 0.03 0.49 Flow, veh/h 1781 1585 1909 1618 1856 1949 Volume(v), veh/h 342 20 409 396 22 432 Sat Flow(s), veh/h/ln 1781 1585 1909 1618 1856 1949 erve(g_s), s 7.0 0.4 7.1 5.2 0.3 5.7
ve On Green 0.25 0.25 0.34 0.34 0.03 0.49 Flow, veh/h 1781 1585 1909 1618 1856 1949 Volume(v), veh/h 342 20 409 396 22 432 Sat Flow(s), veh/h/ln 1781 1585 1909 1618 1856 1949 erve(g_s), s 7.0 0.4 7.1 5.2 0.3 5.7
Flow, veh/h 1781 1585 1909 1618 1856 1949 Volume(v), veh/h 342 20 409 396 22 432 Sat Flow(s),veh/h/ln 1781 1585 1909 1618 1856 1949 erve(g_s), s 7.0 0.4 7.1 5.2 0.3 5.7
Volume(v), veh/h 342 20 409 396 22 432 Sat Flow(s),veh/h/ln 1781 1585 1909 1618 1856 1949 erve(g_s), s 7.0 0.4 7.1 5.2 0.3 5.7
Sat Flow(s),veh/h/ln 1781 1585 1909 1618 1856 1949 erve(g_s), s 7.0 0.4 7.1 5.2 0.3 5.7
erve(g_s), s 7.0 0.4 7.1 5.2 0.3 5.7
(0-)
e Q Clear(g_c), s 7.0 0.4 7.1 5.2 0.3 5.7
o In Lane 1.00 1.00 1.00
e Grp Cap(c), veh/h 448 442 649 957 346 963
Ratio(X) 0.76 0.05 0.63 0.41 0.06 0.45
l Cap(c_a), veh/h 1450 1333 1748 1889 626 2379
M Platoon Ratio 1.00 1.00 1.00 1.00 1.00
tream Filter(I) 1.00 1.00 1.00 1.00 1.00
orm Delay (d), s/veh 13.6 10.4 10.9 4.3 7.8 6.5
Delay (d2), s/veh 2.7 0.0 1.0 0.3 0.1 0.3
al Q Delay(d3),s/veh 0.0 0.0 0.0 0.0 0.0
BackOfQ(50%),veh/ln 2.6 0.1 2.4 2.3 0.1 1.6
g. Movement Delay, s/veh
rp Delay(d),s/veh 16.4 10.4 11.9 4.6 7.9 6.8
rp LOS B B A A A
roach Vol, veh/h 362 805 454
roach Delay, s/veh 16.0 8.3 6.8
roach LOS B A A
er - Assigned Phs 1 2 6 8
Duration (G+Y+Rc), s 6.1 18.4 24.4 14.9
nge Period (Y+Rc), s 5.0 5.0 5.0 5.0
Green Setting (Gmax), s 7.0 36.0 48.0 32.0
Q Clear Time (g_c+l1), s 2.3 9.1 7.7 9.0
en Ext Time (p_c), s 0.0 4.3 3.0 1.1
section Summary
M 6th Ctrl Delay 9.6
M 6th LOS A

2030 Build SAT Peak Synchro 10 Report af/ms Page 43

	-	\rightarrow	•	←	4	~
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1>			ર્ન	W	
Traffic Volume (vph)	63	8	20	62	7	18
Future Volume (vph)	63	8	20	62	7	18
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%			3%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.985				0.904	
Flt Protected				0.988	0.986	
Satd. Flow (prot)	1642	0	0	1622	1486	0
FIt Permitted				0.988	0.986	
Satd. Flow (perm)	1642	0	0	1622	1486	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	1796			721	825	
Travel Time (s)	49.0			19.7	22.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	70	9	22	69	8	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	0	0	91	28	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	tion 21.5%			IC	CU Level o	of Service
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4	¥	
Traffic Vol, veh/h	63	8	20	62	7	18
Future Vol, veh/h	63	8	20	62	7	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	_	None	-		-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage	, # 0	-	-	0	0	-
Grade, %	0	-	-	3	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	70	9	22	69	8	20
N. 4 . 4 . 4 . 4						
	Major1		Major2		/linor1	
Conflicting Flow All	0	0	79	0	188	75
Stage 1	-	-	-	-	75	-
Stage 2	-	-	-	-	113	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1519	-	801	986
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1519	-	789	986
Mov Cap-2 Maneuver	-	-	-	-	789	-
Stage 1	-	_	-	-	948	-
Stage 2	_	-	_	-	898	-
g v -						
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.8		9	
HCM LOS					Α	
Minor Lane/Major Mvm	nt N	NBLn1	EBT	EBR	WBL	WBT
	it l					
Capacity (veh/h)		922	-	-	1519	-
HCM Cartral Palace(a)		0.03	-		0.015	-
HCM Lang LOS		9	-	-	7.4	0
HCM Lane LOS		Α	-	-	A 0	Α
HCM 95th %tile Q(veh	١	0.1	_	_		-



Appendix J. Year of Full Build-Out 2030 With Development (Build) Mitigated Synchro Analyses

Lanes, Volumes, Timings 1: Altenheim Ave/Bethany Pike & US 40 National Road

	۶	-	•	•	←	•	•	†	<i>></i>	/	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ĥ			4î.			4			ર્ન	7
Traffic Volume (vph)	446	224	3	11	320	218	195	42	50	193	2	541
Future Volume (vph)	446	224	3	11	320	218	195	42	50	193	2	541
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			2%			7%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			1.00				0.99
Frt		0.998			0.940			0.976				0.850
Flt Protected	0.950				0.999			0.967			0.953	
Satd. Flow (prot)	1693	1685	0	0	3273	0	0	1713	0	0	1793	1584
FIt Permitted	0.179				0.946			0.557			0.588	
Satd. Flow (perm)	319	1685	0	0	3099	0	0	986	0	0	1106	1563
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			152			12				128
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		879			1354			343			3796	
Travel Time (s)		17.1			26.4			9.4			86.3	
Confl. Peds. (#/hr)			2	2			2					2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	5%	11%	0%	0%	3%	2%	1%	0%	2%	2%	0%	3%
Adj. Flow (vph)	525	264	4	13	376	256	229	49	59	227	2	636
Shared Lane Traffic (%)												
Lane Group Flow (vph)	525	268	0	0	645	0	0	337	0	0	229	636
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.02	1.02	1.02	1.01	1.01	1.01	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	Cl+Ex		Cl+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			Cl+Ex			CI+Ex	
Detector 2 Channel												

Synchro 10 Report 2030 Build MIT AM Peak Page 1 af/ms

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6			2			4			4	1
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	15.0	20.0		20.0	20.0		17.0	17.0		17.0	17.0	15.0
Total Split (s)	34.0	61.0		27.0	27.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	35.8%	64.2%		28.4%	28.4%		35.8%	35.8%		35.8%	35.8%	35.8%
Maximum Green (s)	29.0	56.0		22.0	22.0		29.0	29.0		29.0	29.0	29.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	2.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	2.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Act Effct Green (s)	56.0	56.0			24.3			29.0			29.0	55.7
Actuated g/C Ratio	0.59	0.59			0.26			0.31			0.31	0.59
v/c Ratio	0.91	0.27			0.71			1.09			0.68	0.65
Control Delay	32.4	6.4			30.1			110.3			40.8	11.3
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	32.4	6.4			30.1			110.3			40.8	11.3
LOS	С	Α			С			F			D	В
Approach Delay		23.7			30.1			110.3			19.1	
Approach LOS		С			С			F			В	
Queue Length 50th (ft)	239	71			148			~226			121	145
Queue Length 95th (ft)	#372	95			195			#365			192	208
Internal Link Dist (ft)		799			1274			263			3716	
Turn Bay Length (ft)												130
Base Capacity (vph)	607	993			904			309			337	1010
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.86	0.27			0.71			1.09			0.68	0.63

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 54 (57%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

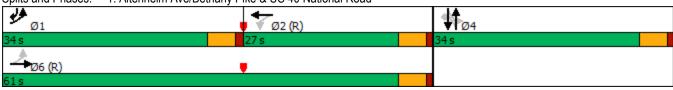
Intersection Signal Delay: 34.8 Intersection LOS: C
Intersection Capacity Utilization 78.4% ICU Level of Service D

Analysis Period (min) 15

1: Altenheim Ave/Bethany Pike & US 40 National Road

- Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Splits and Phases: 1: Altenheim Ave/Bethany Pike & US 40 National Road



2030 Build MIT AM Peak 05/07/2020

HCM 6th Edition methodology does not support Non-NEMA phasing.

	۶	→	•	•	—	4	4	†	/	/	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	1>			4			4			4	
Traffic Volume (vph)	141	246	2	0	319	3	0	0	0	7	0	269
Future Volume (vph)	141	246	2	0	319	3	0	0	0	7	0	269
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.999						0.869	
Flt Protected	0.950										0.999	
Satd. Flow (prot)	1466	1674	0	0	1641	0	0	1907	0	0	1400	0
FIt Permitted	0.950										0.999	
Satd. Flow (perm)	1466	1674	0	0	1641	0	0	1907	0	0	1400	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	2%	0%	0%	3%	0%	0%	0%	0%	17%	0%	2%
Adj. Flow (vph)	157	273	2	0	354	3	0	0	0	8	0	299
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	275	0	0	357	0	0	0	0	0	307	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												

Intersection Capacity Utilization 62.6%

ICU Level of Service B

Analysis Period (min) 15

Synchro 10 Report 2030 Build MIT AM Peak Page 5 af/ms

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ች	ĵ.			4			4			4	
Traffic Vol, veh/h	141	246	2	0	319	3	0	0	0	7	0	269
Future Vol, veh/h	141	246	2	0	319	3	0	0	0	7	0	269
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	_	None	-	_	None	_	_	None	_	_	None
Storage Length	130	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage	e,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	7	2	0	0	3	0	0	0	0	17	0	2
Mvmt Flow	157	273	2	0	354	3	0	0	0	8	0	299
Major/Minor I	Major1		ı	Major2		ı	Minor1			Minor2		
Conflicting Flow All	358	0	0	275	0	0	1093	946	274	945	946	357
Stage 1	-	-	-	-	-	-	588	588		357	357	-
Stage 2	_	_	_	_	_	_	505	358	-	588	589	_
Critical Hdwy	4.17	_	_	4.1	_	_	7.5	6.9	6.4	7.07	6.3	6.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	6.07	5.3	-
Critical Hdwy Stg 2	_	_	_	_	_	_	6.5	5.9	-	6.07	5.3	_
Follow-up Hdwy	2.263	-	-	2.2	-	-	3.5	4	3.3		4	3.318
Pot Cap-1 Maneuver	1173	-	-	1300	-	-	171	237	758	240	278	694
Stage 1	-	-	-	-	-	-	467	468	-	643	645	-
Stage 2	-	-	-	-	-	-	523	607	-	486	515	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1172	-	-	1300	-	-	87	205	758	215	240	693
Mov Cap-2 Maneuver	-	-	-	-	-	-	87	205	-	215	240	-
Stage 1	-	-	-	-	-	-	404	405	-	556	644	-
Stage 2	-	-	-	-	-	-	297	606	-	421	446	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.1			0			0			15.2		
HCM LOS							A			С		
							-					
Minor Lane/Major Mvm	nt N	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		-	1172	-	-	1300	-	-	656			
HCM Lane V/C Ratio		-	0.134	-	-	-	-	-	0.467			
HCM Control Delay (s)		0	8.5	-	-	0	-	-	15.2			
HCM Lane LOS		A	Α	-	-	A	-	-	С			
HCM 95th %tile Q(veh))	-	0.5	-	-	0	-	-	2.5			

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	∱ }		ሻ	∱ }			4			4	7
Traffic Volume (vph)	184	955	6	0	982	48	3	0	2	36	Ö	198
Future Volume (vph)	184	955	6	0	982	48	3	0	2	36	0	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	16	14
Grade (%)		0%			0%			-4%			2%	
Storage Length (ft)	150		0	0		0	0		0	0		300
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00										
Frt		0.999			0.993			0.955				0.850
Flt Protected	0.950							0.968			0.950	
Satd. Flow (prot)	1787	3428	0	1900	3482	0	0	1664	0	0	1911	1689
Flt Permitted	0.164							0.796			0.754	
Satd. Flow (perm)	309	3428	0	1900	3482	0	0	1369	0	0	1516	1689
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			12			138				232
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1133			236			237			1020	
Travel Time (s)		22.1			4.6			6.5			27.8	
Confl. Peds. (#/hr)			5	5								
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	1%	5%	33%	0%	3%	2%	33%	0%	0%	6%	0%	1%
Adj. Flow (vph)	216	1124	7	0	1155	56	4	0	2	42	0	233
Shared Lane Traffic (%)												
Lane Group Flow (vph)	216	1131	0	0	1211	0	0	6	0	0	42	233
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			Cl+Ex	

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Size(π) Detector 2 Type			
Delector 2 Type			

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	13.0	68.0					12.0	12.0		12.0	12.0	12.0
Total Split (%)	13.7%	71.6%					12.6%	12.6%		12.6%	12.6%	12.6%
Maximum Green (s)	8.0	63.0					7.0	7.0		7.0	7.0	7.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Act Effct Green (s)	63.0	63.0			65.3			7.0			7.0	7.0
Actuated g/C Ratio	0.66	0.66			0.69			0.07			0.07	0.07
v/c Ratio	0.67	0.50			0.51			0.03			0.38	0.69
Control Delay	16.9	9.0			8.0			0.2			52.2	17.4
Queue Delay	0.0	0.0			0.2			0.0			0.0	0.0
Total Delay	16.9	9.0			0.9			0.2			52.2	17.4
LOS	В	Α			Α			Α			D	В
Approach Delay		10.2			0.9			0.2			22.7	
Approach LOS		В			Α			Α			С	
Queue Length 50th (ft)	40	185			3			0			25	1
Queue Length 95th (ft)	59	221			2			0			56	59
Internal Link Dist (ft)		1053			156			157			940	
Turn Bay Length (ft)	150											300
Base Capacity (vph)	329	2273			2398			228			111	339
Starvation Cap Reductn	0	0			351			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.66	0.50			0.59			0.03			0.38	0.69
Intersection Summary												

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 7.5
Intersection Capacity Utilization 57.6%

Intersection LOS: A ICU Level of Service B

Detector 2 Channel				
Detector 2 Extend (s) Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach LOS Queue Length 50th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	·	Ø2	Ø3	Ø7
Turn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Protected Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Cyl Queue Length 50th (ft) Queue Length 95th (ft) Ium Bay Length (t) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Detector 2 Extend (s)			
Protected Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Cyl Queue Length 50th (ft) Queue Length 95th (ft) Ium Bay Length (t) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Turn Type			
Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (%) S8% 16% Maximum Green (s) Yellow Time (s) All-Red Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn		2	3	7
Detector Phase Switch Phase Minimum Initial (s) 5.0 5.0 5.0 Minimum Split (s) 20.0 15.0 15.0 Total Split (s) 55.0 15.0 15.0 Total Split (%) 58% 16% 16% Maximum Green (s) 50.0 10.0 10.0 Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 4.0 4.0 Recall Mode C-Max None None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Permitted Phases			
Minimum Initial (s) 5.0 5.0 5.0 Minimum Split (s) 20.0 15.0 15.0 Total Split (s) 55.0 15.0 15.0 Total Split (%) 58% 16% 16% Maximum Green (s) 50.0 10.0 10.0 Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 4.0 4.0 Act Effct Green (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Minimum Initial (s) 5.0 5.0 5.0 Minimum Split (s) 20.0 15.0 15.0 Total Split (s) 55.0 15.0 15.0 Total Split (%) 58% 16% 16% Maximum Green (s) 50.0 10.0 10.0 Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 4.0 4.0 Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Minimum Split (s) 20.0 15.0 15.0 Total Split (s) 55.0 15.0 15.0 Total Split (%) 58% 16% 16% Maximum Green (s) 50.0 10.0 10.0 Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 4.0 4.0 Recall Mode C-Max None None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn		5.0	5.0	5.0
Total Split (s) 55.0 15.0 16% Total Split (%) 58% 16% 16% Maximum Green (s) 50.0 10.0 10.0 Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 4.0 4.0 Recall Mode C-Max None None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Total Split (%) 58% 16% 16% Maximum Green (s) 50.0 10.0 10.0 Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 4.0 4.0 Recall Mode C-Max None None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Maximum Green (s) 50.0 10.0 10.0 Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 4.0 4.0 Recall Mode C-Max None None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Yellow Time (s) 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 4.0 4.0 Recall Mode C-Max None None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
All-Red Time (s) 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 4.0 4.0 Recall Mode C-Max None None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Storage Cap Reductn		1.0	1.0	1.0
Lead/Lag				
Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn		l an		
Vehicle Extension (s) Recall Mode C-Max None None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Recall Mode C-Max None None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn			4.0	4.0
Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn				
Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn		C-Max	None	None
v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn				
Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Queue Length 50th (ft)			
Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Queue Length 95th (ft)			
Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Internal Link Dist (ft)			
Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Turn Bay Length (ft)			
Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn				
Spillback Cap Reductn Storage Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio	Reduced v/c Ratio			
Intersection Summary	Intersection Summary			

Analysis Period (min) 15

Splits and Phases: 3: Driveway/Park Road & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑ ↑		ň	∱ }			4			4	
Traffic Volume (vph)	11	883	99	51	986	11	8	0	17	4	1	31
Future Volume (vph)	11	883	99	51	986	11	8	0	17	4	1	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%			0%	
Storage Length (ft)	0		0	105		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.998			0.907			0.884	
Flt Protected		0.999		0.950				0.985			0.994	
Satd. Flow (prot)	0	3394	0	1770	3498	0	0	1656	0	0	1637	0
Flt Permitted		0.937		0.080				0.905			0.966	
Satd. Flow (perm)	0	3183	0	149	3498	0	0	1521	0	0	1591	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			2			138			36	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			3.5	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	13	1039	116	60	1160	13	9	0	20	5	1	36
Shared Lane Traffic (%)											•	
Lane Group Flow (vph)	0	1168	0	60	1173	0	0	29	0	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12	g		12			0			0	9
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	•	1	2	-	1	2	_
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	Cl+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		Cl+Ex	CI+Ex	
Detector 1 Channel	J,	U. L		J	J		J/.	J		J/.	J	
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel		OI. LX			OI. LX			OI. LX			OI. LX	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
	1 01111	11/7		1 (1111	11/7		1 01111	11/7		i Gilli	11/7	

Synchro 10 Report Page 13 2030 Build MIT AM Peak af/ms

Lane Group	Ø1	Ø6	Ø10	Ø14			
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Grade (%)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Enter Blocked Intersection							
Lane Alignment							
Median Width(ft)							
Link Offset(ft)							
Crosswalk Width(ft)							
Two way Left Turn Lane							
Headway Factor							
Turning Speed (mph)							
Number of Detectors							
Detector Template							
Leading Detector (ft)							
Trailing Detector (ft)							
Detector 1 Position(ft)							
Detector 1 Size(ft)							
Detector 1 Type							
Detector 1 Channel							
Detector 1 Extend (s)							
Detector 1 Queue (s)							
Detector 1 Delay (s)							
Detector 2 Position(ft)							
Detector 2 Size(ft)							
Detector 2 Type							
Detector 2 Channel							
Detector 2 Extend (s)							
Turn Type							

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		6 14			2			7			3	
Permitted Phases	6 14			2			7			3		
Detector Phase	6 14	6 14		2	2		7	7		3	3	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)				20.0	20.0		15.0	15.0		15.0	15.0	
Total Split (s)				55.0	55.0		15.0	15.0		15.0	15.0	
Total Split (%)				57.9%	57.9%		15.8%	15.8%		15.8%	15.8%	
Maximum Green (s)				50.0	50.0		10.0	10.0		10.0	10.0	
Yellow Time (s)				4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				5.0	5.0			5.0			5.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode				C-Max	C-Max		None	None		None	None	
Act Effct Green (s)		75.0		50.3	50.3			10.0			10.0	
Actuated g/C Ratio		0.79		0.53	0.53			0.11			0.11	
v/c Ratio		0.46		0.77	0.63			0.10			0.21	
Control Delay		1.7		60.9	14.0			0.7			18.5	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		1.7		60.9	14.0			0.7			18.5	
LOS		Α		Е	В			Α			В	
Approach Delay		1.7			16.3			0.7			18.5	
Approach LOS		Α			В			Α			В	
Queue Length 50th (ft)		10		31	239			0			3	
Queue Length 95th (ft)		0		m#60	m243			0			32	
Internal Link Dist (ft)		156			799			398			76	
Turn Bay Length (ft)				105								
Base Capacity (vph)		2521		78	1854			283			199	
Starvation Cap Reductn		107		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.48		0.77	0.63			0.10			0.21	
1.1												

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 9.2 Intersection LOS: A Intersection Capacity Utilization 54.9% ICU Level of Service A

Analysis Period (min) 15

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

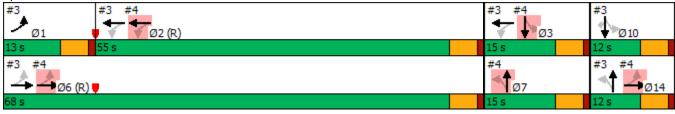
Queue shown is maximum after two cycles.

1 0	~ 4	~~	C/10	Q4.4
Lane Group	Ø1	Ø6	Ø10	Ø14
Protected Phases	1	6	10	14
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	13.0	20.0	12.0	12.0
Total Split (s)	13.0	68.0	12.0	12.0
Total Split (%)	14%	72%	13%	13%
Maximum Green (s)	8.0	63.0	7.0	7.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead			
Lead-Lag Optimize?	Yes			
Vehicle Extension (s)	2.0	5.0	4.0	4.0
Recall Mode	None	C-Max	None	None
Act Effct Green (s)	140110	UIVIUX	140110	140110
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				
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Synchro 10 Report Page 16 2030 Build MIT AM Peak af/ms

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

Splits and Phases: 4: Leatherwood Lane/Gas Station & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Lane Configurations	ተ ኈ		ች	^	ሻሻ					
Traffic Volume (vph)	184	130	309	894	245	0				
Future Volume (vph)	184	130	309	894	245	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	11	11	10	11	11	12				
Grade (%)	0%			0%	-1%					
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	1.00				
Frt	0.938									
Flt Protected			0.950		0.950					
Satd. Flow (prot)	3044	0	1652	3388	3271	0				
Flt Permitted			0.298		0.950					
Satd. Flow (perm)	3044	0	518	3388	3271	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)	144									
Link Speed (mph)	35			35	25					
Link Distance (ft)	562			201	135					
Travel Time (s)	10.9			3.9	3.7					
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				
Heavy Vehicles (%)	10%	4%	2%	3%	4%	0%				
Adj. Flow (vph)	204	144	343	993	272	0				
Shared Lane Traffic (%)						•				
Lane Group Flow (vph)	348	0	343	993	272	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	10	J •		10	22	J				
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	16			16	16					
Two way Left Turn Lane	Yes									
Headway Factor	1.04	1.04	1.09	1.04	1.04	0.99				
Turning Speed (mph)		9	15		15	9				
Number of Detectors	2		1	2	1					
Detector Template	Thru		Left	Thru	Left					
Leading Detector (ft)	100		20	100	20					
Trailing Detector (ft)	0		0	0	0					
Detector 1 Position(ft)	0		0	0	0					
Detector 1 Size(ft)	6		20	6	20					
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	Cl+Ex					
Detector 1 Channel										
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft)	94			94						
Detector 2 Size(ft)	6			6						
Detector 2 Type	CI+Ex			CI+Ex						
Detector 2 Channel	· ·			· ·						
Detector 2 Extend (s)	0.0			0.0						
Turn Type	NA		pm+pt	NA	Prot					
Protected Phases	2		1	16	8		3	4	6	
Permitted Phases	_		16	. •						
			. •							

	-	→ •	•	1					
Lane Group	EBT	EBR WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Detector Phase	2	1	16	8					
Switch Phase									
Minimum Initial (s)	5.0	5.0		5.0		5.0	5.0	5.0	
Minimum Split (s)	20.0	15.0		17.0		17.0	17.0	20.0	
Total Split (s)	20.0	23.0		52.0		34.0	18.0	43.0	
Total Split (%)	21.1%	24.2%		54.7%		36%	19%	45%	
Maximum Green (s)	15.0	18.0		47.0		29.0	13.0	38.0	
Yellow Time (s)	4.0	4.0		4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0					
Total Lost Time (s)	5.0	5.0		5.0					
Lead/Lag	Lag	Lead				Lead	Lag		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes		
Vehicle Extension (s)	5.0	2.5		4.0		4.0	5.0	5.0	
Recall Mode	C-Max	None		None		None	None	C-Max	
Act Effct Green (s)	15.1	38.1	38.1	46.9					
Actuated g/C Ratio	0.16	0.40	0.40	0.49					
v/c Ratio	0.58	0.81	0.73	0.17					
Control Delay	25.6	26.3	13.5	8.0					
Queue Delay	0.0	0.0	0.0	3.0					
Total Delay	25.6	26.3	13.5	11.0					
LOS	С	С	В	В					
Approach Delay	25.6		16.8	11.0					
Approach LOS	С		В	В					
Queue Length 50th (ft)	58	47	131	21					
Queue Length 95th (ft)	105	#254	211	m33					
Internal Link Dist (ft)	482		121	55					
Turn Bay Length (ft)									
Base Capacity (vph)	605	423	1359	1618					
Starvation Cap Reductn	0	0	0	1226					
Spillback Cap Reductn	0	0	0	0					
Storage Cap Reductn	0	0	0	0					
Reduced v/c Ratio	0.58	0.81	0.73	0.69					
Intersection Summary									

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 57 (60%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

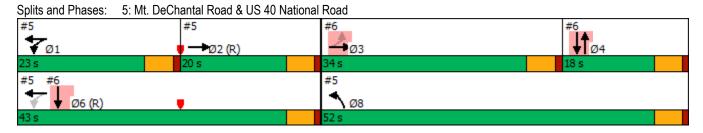
Intersection Signal Delay: 17.6 Intersection LOS: B
Intersection Capacity Utilization 45.9% ICU Level of Service A

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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



HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4îb						↑ ↑				
Traffic Volume (vph)	57	682	86	0	0	0	0	188	303	0	439	0
Future Volume (vph)	57	682	86	0	0	0	0	188	303	0	439	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	12	16	12
Grade (%)		-1%			0%			0%			1%	
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Frt		0.984						0.907				
Flt Protected		0.997						0.001				
Satd. Flow (prot)	0	3441	0	0	0	0	0	3222	0	0	2080	0
FIt Permitted		0.997						VLLL			2000	
Satd. Flow (perm)	0	3441	0	0	0	0	0	3222	0	0	2080	0
Right Turn on Red		0111	Yes			Yes		VLLL	Yes		2000	Yes
Satd. Flow (RTOR)		14	100			100		348	100			100
Link Speed (mph)		35			30			25			25	
Link Distance (ft)		482			215			270			135	
Travel Time (s)		9.4			4.9			7.4			3.7	
Confl. Peds. (#/hr)		Э. т			т.5		2	7.7			0.1	2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	4%	0.07	0.07	0.07	0.07	5%	5%	5%	0.07	3%	0.07
Adj. Flow (vph)	66	784	99	0	0 /0	0 /0	0	216	348	0 /0	505	0 /0
Shared Lane Traffic (%)	00	704	33	U	U	U	U	210	J -1 U	U	303	U
Lane Group Flow (vph)	0	949	0	0	0	0	0	564	0	0	505	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	Leit	0	rtigiit	Leit	0	ragnt	Leit	0	ragni	Leit	0	ragni
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		10			10			10			10	
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	0.96	0.96	0.96	1.01	0.85	1.01
Turning Speed (mph)	15	0.33	9	1.00	1.00	9	15	0.90	9	1.01	0.05	9
Number of Detectors	13	2	9	10		9	10	2	9	10	2	9
Detector Template	Left	Thru						Thru			Thru	
Leading Detector (ft)	20	100						100			100	
Trailing Detector (ft)	0	0						0			0	
Detector 1 Position(ft)	0	0						0			0	
Detector 1 Size(ft)	20	6						6			6	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex			CI+Ex	
Detector 1 Channel	CITEX	CITEX						CITEX			CITEX	
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
· ,	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0							94				
Detector 2 Position(ft)		94 6						94			94 6	
Detector 2 Size(ft)												
Detector 2 Type		CI+Ex						Cl+Ex			CI+Ex	
Detector 2 Channel		0.0						0.0			0.0	
Detector 2 Extend (s)	Darrie	0.0						0.0			0.0	
Turn Type	Perm	NA						NA			NA	

Lane Group	Ø1	Ø2	Ø6	Ø8
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Grade (%)				
Lane Util. Factor				
Ped Bike Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type				

Synchro 10 Report 2030 Build MIT AM Peak Page 24 af/ms

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings 2030 Build MIT AM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

	۶	→	•	•	+	•	•	†	/	/	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		3						4			6 4	
Permitted Phases	3											
Detector Phase	3	3						4			6 4	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0				
Minimum Split (s)	17.0	17.0						17.0				
Total Split (s)	34.0	34.0						18.0				
Total Split (%)	35.8%	35.8%						18.9%				
Maximum Green (s)	29.0	29.0						13.0				
Yellow Time (s)	4.0	4.0						4.0				
All-Red Time (s)	1.0	1.0						1.0				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag	Lead	Lead						Lag				
Lead-Lag Optimize?	Yes	Yes						Yes				
Vehicle Extension (s)	4.0	4.0						5.0				
Recall Mode	None	None						None				
Act Effct Green (s)	INOTIC	28.9						13.0			56.1	
Actuated g/C Ratio		0.30						0.14			0.59	
v/c Ratio		0.90						0.76			0.41	
Control Delay		43.9						19.0			3.4	
Queue Delay		0.0						0.0			2.3	
Total Delay		43.9						19.0			5.7	
LOS		43.9 D						19.0 B			3.7 A	
Approach Delay		43.9						19.0			5.7	
Approach LOS		43.9 D						19.0 B			3.7 A	
Queue Length 50th (ft)		282						64			30	
Queue Length 95th (ft)		#374						116			m35	
Internal Link Dist (ft)		402			135			190			55	
Turn Bay Length (ft)		402			133			190			55	
		1060						741			1229	
Base Capacity (vph)												
Starvation Cap Reductn		0						0			570	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0.70			0	
Reduced v/c Ratio		0.90						0.76			0.77	
Intersection Summary	Other											
Area Type:	Other											
Cycle Length: 95												
Actuated Cycle Length: 95	ad ta abaaa	2.FDT on	4 C/MDT	l Ctart a	f Croon							
Offset: 57 (60%), Reference	eu to priase	.∠.⊏BI an	u o.WBT	L, SIAIT O	Green							
Natural Cycle: 90	andin atad											
Control Type: Actuated-Coo	Jiulilated											
Maximum v/c Ratio: 0.90	7.4				Anne - 11	100.0						
Intersection Signal Delay: 2					tersection		^					
Intersection Capacity Utiliza	ation 54.7%			IC	U Level (of Service	A					
Analysis Period (min) 15		.,										
# 95th percentile volume	exceeds ca	pacity, qu	eue may	be longer								

Synchro 10 Report Page 25 2030 Build MIT AM Peak af/ms

Lanes, Volumes, Timings 2030 Build MIT AM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

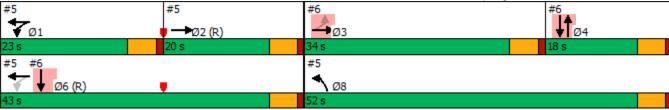
L O	~ ~ 4	~~	~~	~
Lane Group	Ø1	Ø2	Ø6	Ø8
Protected Phases	1	2	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	20.0	20.0	17.0
Total Split (s)	23.0	20.0	43.0	52.0
Total Split (%)	24%	21%	45%	55%
Maximum Green (s)	18.0	15.0	38.0	47.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.5	5.0	5.0	4.0
Recall Mode	None	C-Max	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Neduced V/C Natio				
Intersection Summary				

Synchro 10 Report Page 26 2030 Build MIT AM Peak af/ms

6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

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

Splits and Phases: 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Turn



HCM 6th Edition methodology does not support clustered intersections.

Synchro 10 Report 2030 Build MIT AM Peak Page 28 af/ms

	-	7	_	•	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	^			ተተተ		77
Traffic Volume (vph)	184	0	0	1203	0	986
Future Volume (vph)	184	0	0	1203	0	986
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	11	12	12
Grade (%)	0%			0%	-2%	
Storage Length (ft)		0	590		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	0.88
Frt						0.850
Flt Protected						
Satd. Flow (prot)	2963	0	0	4398	0	2470
FIt Permitted						
Satd. Flow (perm)	2963	0	0	4398	0	2470
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			1133	215	
Travel Time (s)	3.9			22.1	4.2	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	9%	0%	0%	2%	0%	4%
Adj. Flow (vph)	216	0	0	1415	0	1160
Shared Lane Traffic (%)						
Lane Group Flow (vph)	216	0	0	1415	0	1160
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	1			1	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	1.15	1.15	1.20	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	
Intersection Summary						
Area Type: (Other					
Control Type: Unsignalized						
Intersection Capacity Utilizati	ion 50.9%			IC	U Level	of Service A
A 1 ' D ' 1/ ' \ 45						

Analysis Period (min) 15

Synchro 10 Report Page 29 2030 Build MIT AM Peak af/ms

HCM Unsignalized Intersection Capacity Analysis 203 7: Mt. DeChantal Road/I-70 Off-Ramp Right Turn & US 40 National Road

	\rightarrow	7	*	•	7	/			
Movement	EBT	EBR	WBL	WBT	NEL	NER			
Lane Configurations	^			^		77			
Traffic Volume (veh/h)	184	0	0	1203	0	986			
Future Volume (Veh/h)	184	0	0	1203	0	986			
Sign Control	Free			Free	Yield	000			
Grade	0%			0%	-2%				
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85			
Hourly flow rate (vph)	216	0.00	0.00	1415	0.00	1160			
Pedestrians	210			1110		1100			
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type	None			TWLTL					
Median storage veh)	INOLIG			2					
Upstream signal (ft)	201			1133					
pX, platoon unblocked	201			1133	0.98				
			216		688	108			
vC, conflicting volume vC1, stage 1 conf vol			210		216	100			
					472				
vC2, stage 2 conf vol			216			108			
vCu, unblocked vol					626				
tC, single (s)			4.1		6.8	7.0			
tC, 2 stage (s)			0.0		5.8	2.2			
tF (s)			2.2		3.5	3.3			
p0 queue free %			100		100	0			
cM capacity (veh/h)			1366		585	919			
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1	NE 2		
Volume Total	108	108	472	472	472	580	580		
Volume Left	0	0	0	0	0	0	0		
Volume Right	0	0	0	0	0	580	580		
cSH	1700	1700	1700	1700	1700	919	919		
Volume to Capacity	0.06	0.06	0.28	0.28	0.28	0.63	0.63		
Queue Length 95th (ft)	0	0	0	0	0	116	116		
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	15.4	15.4		
Lane LOS						С	С		
Approach Delay (s)	0.0		0.0			15.4			
Approach LOS						С			
Intersection Summary									
Average Delay			6.4						
Intersection Capacity Utilization	n		50.9%	IC	U Level c	of Service		Α	
Analysis Period (min)			15						

Synchro 10 Report 2030 Build MIT AM Peak Page 1 af/ms

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				7		7	*	†			ĵ.	
Traffic Volume (vph)	0	0	0	4	0	83	52	397	0	0	259	267
Future Volume (vph)	0	0	0	4	0	83	52	397	0	0	259	267
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.931	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1519	1576	1627	0	0	1528	0
FIt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1519	1576	1627	0	0	1528	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	3%	5%	0%	0%	1%	5%
Adj. Flow (vph)	0	0	0	4	0	92	58	441	0	0	288	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	4	0	92	58	441	0	0	585	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
<i>y</i> 1	Other											
Control Type: Unsignalized												
Intersection Capacity Utilization	on 50.2%			IC	U Level	of Service	A					

Analysis Period (min) 15

Synchro 10 Report Page 30 2030 Build MIT AM Peak af/ms

Intersection												
Int Delay, s/veh	1.4											
		ED.	ED-0	14/5:	MOT	MIDE	ND	NET	NIDD	00:	057	000
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				<u>ች</u>		7	7				f)	
Traffic Vol, veh/h	0	0	0	4	0	83	52	397	0	0	259	267
Future Vol, veh/h	0	0	0	4	0	83	52	397	0	0	259	267
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	170	-	-	-	-	-
Veh in Median Storage,	# -	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-1	-	-	-1	-	-	1	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	2	3	5	0	0	1	5
Mvmt Flow	0	0	0	4	0	92	58	441	0	0	288	297
Major/Minor			ı	Minor1			Major1		١	/lajor2		
Conflicting Flow All				994		441	585	0		- -	_	0
Stage 1				557		441	- 303	-	_	_	-	U
Stage 2				437		_		_	_	_		_
Critical Hdwy				6.2		6.12	4.13	-	-	_	-	
Critical Hdwy Stg 1				5.2	_	0.12	4.13	_		-	-	_
				5.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2				3.5	-	3.318	2 227	-				
Follow-up Hdwy				290	-	624	985	-	0	0	-	-
Pot Cap-1 Maneuver				596	0			-			-	-
Stage 1					0	-	-	-	0	0	-	-
Stage 2				672	0	-	-	-	0	0	-	-
Platoon blocked, %				070	0	604	005	-			-	-
Mov Cap-1 Maneuver				273	0	624	985	-	-	-	-	-
Mov Cap-2 Maneuver				273	0	-	-	-	-	-	-	-
Stage 1				561	0	-	-	-	-	-	-	-
Stage 2				672	0	-	-	-	-	-	-	-
Approach				WB			NB			SB		
HCM Control Delay, s				12.1			1			0		
HCM LOS				В								
Minor Lane/Major Mvmt		NBL	NBTV	VBLn1V	VBLn2	SBT	SBR					
Capacity (veh/h)		985		273	624		-					
HCM Lane V/C Ratio		0.059	_	0.016		_	_					
HCM Control Delay (s)		8.9	_	18.4	11.8		_					
HCM Lane LOS		0.9 A	<u> </u>	10.4 C	В		-					
HCM 95th %tile Q(veh)		0.2	<u>-</u>	0.1	0.5	-	-					
HOW Sour Wille Q(Ven)		U.Z		U. I	0.5	-	-					

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	*	7	†	7	*	<u> </u>
Traffic Volume (vph)	6	72	368	70	139	106
Future Volume (vph)	6	72	368	70	139	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
	1900	1300	1900	1900	1300	1900
Lane Width (ft)		13		14	13	
Grade (%)	2%	00	1%	400	040	1%
Storage Length (ft)	0	80		120	210	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98	1.00	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1652	1783	1714	1856	1997
Flt Permitted	0.950				0.458	
Satd. Flow (perm)	1787	1652	1783	1676	894	1997
Right Turn on Red	1101	Yes	1700	Yes	007	1001
		81		79		
Satd. Flow (RTOR)	O.F.	01	O.F.	19		O.F.
Link Speed (mph)	25		25			25
Link Distance (ft)	249		332			477
Travel Time (s)	6.8		9.1			13.0
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	6%	0%	0%	1%
Adj. Flow (vph)	7	81	413	79	156	119
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	81	413	79	156	119
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12	rugiit	13	ragne	Loit	13
Link Offset(ft)	0		0			0
()						
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	101	0.07	1.01	0.00	0.00	0.00
Headway Factor	1.01	0.97	1.01	0.92	0.96	0.92
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	CI+Ex	Cl+Ex	CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel	OITEX	OITEX	OI LX	OITEX	OFFEX	OITEX
	.0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			CI+Ex			CI+Ex

	•		T		*	+
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	50.0	50.0	20.0	70.0
Total Split (%)	26.3%	26.3%	52.6%	52.6%	21.1%	73.7%
Maximum Green (s)	20.0	20.0	45.0	45.0	15.0	65.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	0.0	0.0	Lag	Lag	Lead	0.0
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	2.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	8.7	8.7	67.6	67.6	78.8	79.8
Actuated g/C Ratio	0.09	0.09	0.71	0.71	0.83	0.84
v/c Ratio	0.04	0.36	0.33	0.07	0.19	0.07
Control Delay	38.7	14.0	7.0	1.6	0.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	14.0	7.0	1.6	0.8	0.4
LOS	30.7 D	В	7.0 A	Α	Α.	Α
Approach Delay	16.0	D	6.1	Л	А	0.6
Approach LOS	В		Α			Α
Queue Length 50th (ft)	4	0	86	0	2	1
Queue Length 95th (ft)	16	41	157	15	m3	m2
• ,	169	41	252	10	IIIS	397
Internal Link Dist (ft)	109	80	232	120	210	391
Turn Bay Length (ft)	376	411	1267	1214	893	1678
Base Capacity (vph)						
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0 00	0 20	0 22	0.07	0 17	0 07
Reduced v/c Ratio	0.02	0.20	0.33	0.07	0.17	0.07
Intersection Summary						
Area Type:	Other					
Cycle Length: 95						
Actuated Cycle Length: 95						

Actuated Cycle Length: 95

Offset: 90 (95%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 5.4

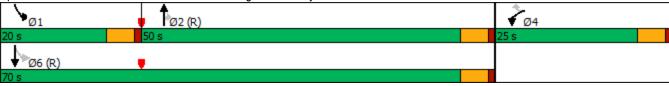
Intersection Capacity Utilization 43.7%

Intersection LOS: A ICU Level of Service A

Analysis Period (min) 15

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

Splits and Phases: 9: Mt. DeChantal Road & Krogers Driveway



	•	4	†	<i>></i>	/	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	7	1	7	ሻ	†
Traffic Volume (veh/h)	6	72	368	70	139	106
Future Volume (veh/h)	6	72	368	70	139	106
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1876	1952	1805	1970	1970	1954
Adj Flow Rate, veh/h	7	81	413	79	156	119
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0.03	0.00	6	0.00	0.00	1
Cap, veh/h	118	109	1308	1208	785	1620
Arrive On Green	0.07	0.07	0.72	0.72	0.09	1.00
Sat Flow, veh/h	1787	1654	1805	1667	1876	1954
Grp Volume(v), veh/h	7	81	413	79	156	119
Grp Sat Flow(s),veh/h/ln	1787	1654	1805	1667	1876	1954
Q Serve(g_s), s	0.3	4.6	7.8	1.3	1.8	0.0
Cycle Q Clear(g_c), s	0.3	4.6	7.8	1.3	1.8	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	118	109	1308	1208	785	1620
V/C Ratio(X)	0.06	0.74	0.32	0.07	0.20	0.07
Avail Cap(c_a), veh/h	376	348	1308	1208	984	1620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	43.6	4.7	3.8	2.6	0.0
Incr Delay (d2), s/veh	0.4	19.0	0.6	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.4	2.7	0.4	0.4	0.0
Unsig. Movement Delay, s/veh	0.2			0.1	0.1	0.0
LnGrp Delay(d),s/veh	42.1	62.6	5.3	3.9	2.7	0.1
LnGrp LOS	D	62.6 E	Α	Α	Α	A
	88	<u> </u>	492			275
Approach Vol, veh/h						
Approach Delay, s/veh	61.0		5.1			1.6
Approach LOS	E		Α			Α
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.9	73.8		11.3		83.7
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	45.0		20.0		65.0
Max Q Clear Time (g_c+l1), s	3.8	9.8		6.6		2.0
Green Ext Time (p_c), s	0.2	6.6		0.4		1.5
· · ·	0.2	0.0		0.4		1.0
Intersection Summary						
HCM 6th Ctrl Delay			9.7			
HCM 6th LOS			Α			

	-	7	*	•	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑ ↑			414		
Traffic Volume (vph)	309	42	760	369	0	0
Future Volume (vph)	309	42	760	369	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.982					
Flt Protected				0.967		
Satd. Flow (prot)	2988	0	0	3023	0	0
Flt Permitted				0.967		
Satd. Flow (perm)	2988	0	0	3023	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	0%	3%	4%	0%	0%
Adj. Flow (vph)	355	48	874	424	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	403	0	0	1298	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
	Other					
Control Type: Unsignalized	J (1 101					
Intersection Capacity Utilizat	ion 64 9%			IC	الاوبواد	of Service
Analysis Period (min) 15	1011 U -1 .3/0			10	O LEVEL	OEI VICE
Analysis i Gilou (IIIII) 13						

	-	7	*	←	•	/
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	∱ ∱			414		
Traffic Volume (veh/h)	309	42	760	369	0	0
Future Volume (Veh/h)	309	42	760	369	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	3%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	355	48	874	424	0	0
Pedestrians					2	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)				562		
pX, platoon unblocked					0.75	
vC, conflicting volume			357		2341	204
vC1, stage 1 conf vol					381	
vC2, stage 2 conf vol					1960	
vCu, unblocked vol			357		2124	204
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			27		100	100
cM capacity (veh/h)			1191		29	809
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	237	166	1015	283		
Volume Left	0	0	874	0		
Volume Right	0	48	0	0		
cSH	1700	1700	1191	1700		
Volume to Capacity	0.14	0.10	0.73	0.17		
Queue Length 95th (ft)	0	0	176	0		
Control Delay (s)	0.0	0.0	15.4	0.0		
Lane LOS			С			
Approach Delay (s)	0.0		12.0			
Approach LOS						
Intersection Summary						
Average Delay			9.2			
Intersection Capacity Utiliza	ation		64.9%	IC	U Level c	of Service
Analysis Period (min)			15			

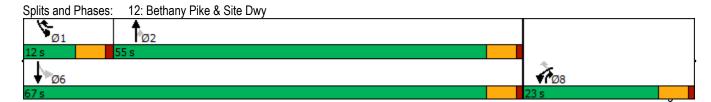
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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		ĵ»			4
Traffic Volume (vph)	58	4	185	60	8	252
Future Volume (vph)	58	4	185	60	8	252
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	11	11
Grade (%)	3%		-2%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992		0.967			
Flt Protected	0.955					0.998
Satd. Flow (prot)	1586	0	1608	0	0	1562
Flt Permitted	0.955					0.998
Satd. Flow (perm)	1586	0	1608	0	0	1562
Link Speed (mph)	30		30			30
Link Distance (ft)	1796		396			959
Travel Time (s)	40.8		9.0			21.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	3%	4%	0%	3%
Adj. Flow (vph)	63	4	201	65	9	274
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	0	266	0	0	283
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12	•	0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.18	1.18	1.14	1.14	1.23	1.23
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
•	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	tion 32.6%			IC	U Level	of Service
Analysis Period (min) 15				10	2 20.01	
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Synchro 10 Report Page 37 2030 Build MIT AM Peak af/ms

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
	₩.	WDIX		NOIN	ODL	
Lane Configurations		1	105	60	0	€
Traffic Vol, veh/h	58	4	185	60	8	252
Future Vol, veh/h	58	4	185	60	8	252
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage,	# 0	-	0	-	-	0
Grade, %	3	-	-2	-	-	4
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	4	0	3
Mvmt Flow	63	4	201	65	9	274
WIVIIICI IOW	00	7	201	00	5	217
Major/Minor N	1inor1	<u> </u>	Major1	<u> </u>	Major2	
Conflicting Flow All	526	234	0	0	266	0
Stage 1	234	_	-	-	-	-
Stage 2	292	-	_	-	-	-
Critical Hdwy	7	6.5	_	_	4.1	_
Critical Hdwy Stg 1	6	-	_	_	-	_
Critical Hdwy Stg 2	6	_	_	_	_	_
Follow-up Hdwy	3.5	3.3	_	<u>-</u>	2.2	<u>-</u>
	472	794	_		1310	
Pot Cap-1 Maneuver			-	-	1310	-
Stage 1	779	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	468	794	-	-	1310	-
Mov Cap-2 Maneuver	468	-	-	-	-	-
Stage 1	779	-	-	-	-	-
Stage 2	720	-	-	-	-	-
, and the second						
	14/D		NB		0.5	
Approach	WB		NB		SB	
HCM Control Delay, s	13.7		0		0.2	
HCM LOS	В					
Minor Lane/Major Mvmt		NBT	NDDV	VBLn1	SBL	SBT
Capacity (veh/h)		-	-		1310	-
HCM Lane V/C Ratio		-	-		0.007	-
HCM Control Delay (s)		-	-	13.7	7.8	0
HCM Lane LOS		-	-	В	Α	Α
HCM 95th %tile Q(veh)		-	-	0.5	0	-
HOW YOUR WINE W(Ven)		-	-	0.5	U	-

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	7	<u>↑</u>	7	<u> </u>	<u> </u>
Traffic Volume (vph)	96	5	384	230	13	575
Future Volume (vph)	96	5	384	230	13	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%	1900	-1%	1900	1900	-2%
. ,		٥	-170	175	200	-Z 70
Storage Length (ft)	0	0		475	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	4.00	4.00	4.00	75	4.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
FIt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1872	1591	1787	1881
Flt Permitted	0.950				0.359	
Satd. Flow (perm)	1770	1583	1872	1591	675	1881
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		6		256		
Link Speed (mph)	30		30			30
Link Distance (ft)	660		3796			747
Travel Time (s)	15.0		86.3			17.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	107	0.90	427	256	14	639
	107	U	421	250	14	039
Shared Lane Traffic (%)	107	c	407	056	14	639
Lane Group Flow (vph)	107	6	427	256		
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
	CI+Ex	CI+Ex	CI+Ex	CI+Ex	Cl+Ex	Cl+Ex
Detector 1 Type	OI+EX	UI+EX	UI+EX	UI+EX	UI+EX	UI+EX
Detector 1 Channel	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	pm+ov	NA	pm+ov	pm+pt	NA
Protected Phases	8	1	2	8	1	6
		ı		<u> </u>	'	<u> </u>

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8		2	6	
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	12.0	22.5	22.5	12.0	22.5
Total Split (s)	23.0	12.0	55.0	23.0	12.0	67.0
Total Split (%)	25.6%	13.3%	61.1%	25.6%	13.3%	74.4%
Maximum Green (s)	18.0	7.0	50.0	18.0	7.0	62.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	8.2	19.4	19.9	37.9	21.5	21.5
Actuated g/C Ratio	0.20	0.48	0.50	0.94	0.53	0.53
v/c Ratio	0.30	0.01	0.46	0.17	0.03	0.64
Control Delay	17.9	6.0	9.8	0.6	4.4	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	6.0	9.8	0.6	4.4	9.9
LOS	В	Α	Α	Α	Α	Α
Approach Delay	17.3		6.4			9.8
Approach LOS	В		Α			Α
Queue Length 50th (ft)	18	0	45	0	1	79
Queue Length 95th (ft)	68	6	175	13	6	176
Internal Link Dist (ft)	580		3716			667
Turn Bay Length (ft)				475	300	
Base Capacity (vph)	827	820	1827	1546	563	1881
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.01	0.23	0.17	0.02	0.34
Intersection Summary						
Area Type:	Other					
Cycle Length: 90						
Actuated Cycle Length: 40).2					
Natural Cycle: 60						
Control Type: Actuated-Ur	ncoordinated					
Maximum v/c Ratio: 0.64						
Intersection Signal Delay:	8.7			Ir	ntersection	n LOS: A
Intersection Capacity Utiliz						of Service
Analysis Period (min) 15	_ation 10.0 /0				JO LOVOI	01 001 1100
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Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Ť	7	^	7	ሻ	^	
Traffic Volume (veh/h)	96	5	384	230	13	575	
Future Volume (veh/h)	96	5	384	230	13	575	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1909	1909	1949	1949	
Adj Flow Rate, veh/h	107	6	427	256	14	639	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	181	190	723	777	432	1099	
Arrive On Green	0.10	0.10	0.38	0.38	0.02	0.56	
Sat Flow, veh/h	1781	1585	1909	1618	1856	1949	
Grp Volume(v), veh/h	107	6	427	256	14	639	
Grp Sat Flow(s),veh/h/ln	1781	1585	1909	1618	1856	1949	
Q Serve(g_s), s	1.7	0.1	5.4	2.9	0.1	6.4	
Cycle Q Clear(g_c), s	1.7	0.1	5.4	2.9	0.1	6.4	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	181	190	723	777	432	1099	
V/C Ratio(X)	0.59	0.03	0.59	0.33	0.03	0.58	
Avail Cap(c_a), veh/h	1072	983	3191	2869	832	4039	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	12.8	11.6	7.4	4.8	5.3	4.2	
Incr Delay (d2), s/veh	3.0	0.1	8.0	0.2	0.0	0.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.4	0.7	0.0	0.9	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	15.9	11.7	8.2	5.0	5.3	4.7	
LnGrp LOS	В	В	A	A	A	A	
Approach Vol, veh/h	113		683			653	
Approach Delay, s/veh	15.7		7.0			4.7	
Approach LOS	В		Α			Α	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	5.5	16.3				21.9	8.0
Change Period (Y+Rc), s	5.0	5.0				5.0	5.0
Max Green Setting (Gmax), s	7.0	50.0				62.0	18.0
Max Q Clear Time (g_c+I1), s	2.1	7.4				8.4	3.7
Green Ext Time (p_c), s	0.0	4.0				5.2	0.2
Intersection Summary							
HCM 6th Ctrl Delay			6.7				
HCM 6th LOS			Α				

	-	•	•	←	4	/
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	î»	_		ર્ન	W	
Traffic Volume (vph)	63	5	13	60	2	6
Future Volume (vph)	63	5	13	60	2	6
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%			3%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989				0.895	
FIt Protected				0.991	0.989	
Satd. Flow (prot)	1648	0	0	1627	1475	0
Flt Permitted				0.991	0.989	
Satd. Flow (perm)	1648	0	0	1627	1475	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	1796			721	825	
Travel Time (s)	49.0			19.7	22.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	70	6	14	67	2	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	0	81	9	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizati	ion 21.0%			IC	CU Level o	of Service A
Analysis Period (min) 15						

1.1					
1.1					
	EDD	WDI	WDT	NDI	NDD
EBT	EBR	WBL	WBT	NBL	NBR
	-	40			^
					6
					6
					0
Free		Free			Stop
-	None	-	None	-	None
-	-	-	-		-
,# 0	-	-	0	0	-
0	-	-	3	0	-
90	90	90	90	90	90
2	2	2	2	2	2
70	6	14	67	2	7
laior1	N	Major2	N	Minor1	
					72
					73
		-			-
		- 4.40			-
-	-	4.12			6.22
-	-	-	-		-
-	-	-	-		-
-	-		-		
-	-	1523	-	822	989
-	-	-	-	950	-
-	-	-	-	929	-
-	-		-		
-	_	1523	-	814	989
_	_	-	_		-
_	_	_	-		_
_	_	_	_		_
				320	
EB					
0		1.3		8.9	
				Α	
	MDI1	EDT	EDD	WDI	WDT
I					WBT
	939	-		1523	-
	0.009	-	-	0.009	-
				/	^
	8.9	-	-	7.4	0
		- -	-	7.4 A 0	0 A
	63 63 0 Free	63 5 63 5 0 0 Free Free - None - None 90 90 2 2 2 70 6 Major1	63 5 13 63 5 13 0 0 0 0 Free Free Free - None None O 90 90 90 2 2 2 2 70 6 14 Major1 Major2 0 0 76 4.12 4.12 1523 1523 1523 1523 1523 1523 1523 1523 1523 1523 1523 1523 1523 1523 1523 1523	63 5 13 60 63 5 13 60 0 0 0 0 0 Free Free Free Free - None - None - None - O O O O 0 O O 0 O O 0 O O 0 O O 0 O O 0 O O 0 O O 0 O O O 0 O O 0 O O 0 O O O 0 O O 0 O O O 0 O O 0 O O O 0 O 0	63 5 13 60 2 63 5 13 60 2 0 0 0 0 0 0 Free Free Free Free Stop - None - None 0 0 # 0 3 0 90 90 90 90 90 2 2 2 2 2 2 70 6 14 67 2 Major1 Major2 Minor1 0 0 76 0 168 73 95 - 4.12 - 6.42 1523 - 822 1523 - 822 1523 - 822 1523 - 824 1523 - 822 1523 - 824 1523 - 822 1523 - 824 1523 - 822 950 1523 - 814 950 1523 - 814 950 1523 - 814 950 1523 - 814 950 950 920 EB WB NB 0 1.3 8.9 A

Lanes, Volumes, Timings 1: Altenheim Ave/Bethany Pike & US 40 National Road

Lane Group		۶	-	•	•	←	•	•	†	<i>></i>	/	ţ	1
Traffic Volume (vph) 552 382 9 5 467 340 185 48 59 336 5 627	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph) 552 382 9 5 467 340 185 48 59 336 5 627	Lane Configurations	*	ĵ.			4Tb			4			ર્ની	7
Ideal Flow (yphph)				9	5	467	340	185		59	336		627
Ideal Flow (rypin)	\ , ,		382	9	5		340	185	48	59	336	5	
Grade (%)	· · /	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	\		3%			2%			7%				
Storage Lanes	. ,	0		0	0		0	0		0	0		130
Taper Length (ff)		1		0	0		0	0		0	0		1
Ped Bike Factor		25			25			25			25		
Fith	Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fit Protected 0.950 Satcl. Flow (prot) 1760 1810 0 0 3297 0 0 1718 0 0 1811 1553 1518 1554 1519 1	Ped Bike Factor		1.00			1.00			1.00				0.98
Satd. Flow (prort) 1760 1810 0 0 3297 0 0 1718 0 0 1811 1553 FIF Permitted	Frt		0.996			0.937			0.973				0.850
Fit Permitted	Flt Protected	0.950							0.969			0.953	
Satd. Flow (perm)	Satd. Flow (prot)	1760	1810	0	0	3297	0	0	1718	0	0	1811	1553
New Note	FIt Permitted	0.118				0.952			0.394			0.564	
Satd. Flow (RTOR)	Satd. Flow (perm)	219	1810	0	0	3139	0	0	697	0	0	1072	1528
Link Speed (mph) 35 35 25 30 Link Distance (ft) 879 1354 343 3796 Travel Time (s) 17.1 26.4 9.4 86.3 Confl. Peds. (#/hr) 1 1 9 9 Peak Hour Factor 0.93	" ,			Yes			Yes			Yes			Yes
Link Distance (ft)			2			152			12				
Link Distance (ft)	Link Speed (mph)		35			35			25			30	
Travel Time (s)									343				
Confi. Peds. (#/hr)													
Peak Hour Factor	` ,			1	1			9					9
Heavy Vehicles (%)		0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph) 594 411 10 5 502 366 199 52 63 361 5 674 Shared Lane Traffic (%) Lane Group Flow (vph) 594 421 0 0 873 0 0 314 0 0 366 674 Enter Blocked Intersection No No<				0%						0%			
Shared Lane Traffic (%) Lane Group Flow (yph) 594 421 0 0 873 0 0 314 0 0 366 674		594		10		502	366	199	52	63	361	5	
Lane Group Flow (vph) 594 421 0 0 873 0 0 314 0 0 366 674													
Enter Blocked Intersection No No No No No No No	. ,	594	421	0	0	873	0	0	314	0	0	366	674
Median Width(ft) 16 0 0 0 0 Link Offset(ft) 0 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 16 Two way Left Turn Lane Yes 1.02 1.02 1.01 1.01 1.01 1.05 1.05 0.99 0.99 0.99 Turning Speed (mph) 15 9 <td> ,</td> <td>No</td>	,	No	No	No	No	No	No	No	No	No	No	No	No
Median Width(ft) 16 0 0 0 0 Link Offset(ft) 0 0 0 0 0 Crosswalk Width(ft) 16 16 16 16 16 Two way Left Turn Lane Yes 1.02 1.02 1.01 1.01 1.01 1.05 1.05 0.99 0.99 0.99 Turning Speed (mph) 15 9 <td>Lane Alignment</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td> <td>Left</td> <td>Left</td> <td>Right</td>	Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Crosswalk Width(ft) 16 16 16 16 16 Two way Left Turn Lane Yes Headway Factor 1.02 1.02 1.02 1.01 1.01 1.01 1.05 1.05 1.05 0.99 0.99 0.99 Turning Speed (mph) 15 9 <td< td=""><td>Median Width(ft)</td><td></td><td>16</td><td>•</td><td></td><td>0</td><td>•</td><td></td><td>0</td><td>•</td><td></td><td>0</td><td></td></td<>	Median Width(ft)		16	•		0	•		0	•		0	
Two way Left Turn Lane Yes Headway Factor 1.02 1.02 1.01 1.01 1.01 1.05 1.05 0.99 0.99 0.99 Turning Speed (mph) 15 9 <	Link Offset(ft)		0			0			0			0	
Headway Factor 1.02 1.02 1.02 1.01 1.01 1.01 1.05 1.05 1.05 0.99 0.99 0.99 Turning Speed (mph) 15	Crosswalk Width(ft)		16			16			16			16	
Turning Speed (mph) 15 9 15 9 15 9 15 9 Number of Detectors 1 2 1 0 2 1 0	Two way Left Turn Lane		Yes										
Number of Detectors 1 2 1	Headway Factor	1.02	1.02	1.02	1.01	1.01	1.01	1.05	1.05	1.05	0.99	0.99	0.99
Number of Detectors 1 2 1	Turning Speed (mph)	15		9	15		9	15		9	15		9
Leading Detector (ft) 20 100 20 100 20 100 20 Trailing Detector (ft) 0			2			2		1	2			2	1
Leading Detector (ft) 20 100 20 100 20 100 20 Trailing Detector (ft) 0	Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Trailing Detector (ft) 0	Leading Detector (ft)	20	100		20	100			100		20	100	
Detector 1 Position(ft) 0 0 0 0 0 0 0 0 0 0 0 0 0 Description 0		0	0		0	0		0	0		0	0	
Detector 1 Size(ft) 20 6 20 6 20 6 20 6 20 6 20 6 20 6 20 Detector 1 Chex Detector 1 Chex CI+Ex		0	0		0	0		0	0		0	0	
Detector 1 Type CI+Ex		20	6		20	6		20	6		20	6	20
Detector 1 Channel Detector 1 Extend (s) 0.0	()		CI+Ex			Cl+Ex		CI+Ex				CI+Ex	
Detector 1 Queue (s) 0.0													
Detector 1 Queue (s) 0.0	Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s) 0.0													
Detector 2 Position(ft) 94 94 94 94 Detector 2 Size(ft) 6 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex CI+Ex													
Detector 2 Size(ft) 6 6 6 6 Detector 2 Type CI+Ex CI+Ex CI+Ex													
Detector 2 Type CI+Ex CI+Ex CI+Ex													
71													
DOLOGIO E OTIGITIO	Detector 2 Channel		J			J. L A			J			J	

Synchro 10 Report 2030 Build MIT PM Peak Page 1 af/ms

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6			2			4			4	1
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	15.0	20.0		20.0	20.0		17.0	17.0		17.0	17.0	15.0
Total Split (s)	36.0	70.0		34.0	34.0		45.0	45.0		45.0	45.0	36.0
Total Split (%)	31.3%	60.9%		29.6%	29.6%		39.1%	39.1%		39.1%	39.1%	31.3%
Maximum Green (s)	31.0	65.0		29.0	29.0		40.0	40.0		40.0	40.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	3.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Act Effct Green (s)	65.0	65.0			29.0			40.0			40.0	71.0
Actuated g/C Ratio	0.57	0.57			0.25			0.35			0.35	0.62
v/c Ratio	1.10	0.41			0.96			1.26			0.98	0.69
Control Delay	92.3	19.4			58.0			176.2			81.1	14.7
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	92.3	19.4			58.0			176.2			81.1	14.7
LOS	F	В			Е			F			F	В
Approach Delay		62.1			58.0			176.2			38.1	
Approach LOS		Е			Е			F			D	
Queue Length 50th (ft)	~454	257			287			~287			266	236
Queue Length 95th (ft)	#679	359			#423			#467			#465	356
Internal Link Dist (ft)		799			1274			263			3716	
Turn Bay Length (ft)												130
Base Capacity (vph)	539	1023			905			250			372	979
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	1.10	0.41			0.96			1.26			0.98	0.69

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 70 (61%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.26

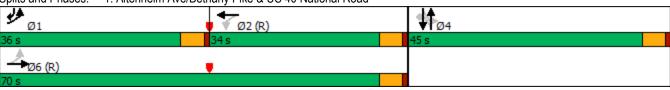
Intersection Signal Delay: 64.3 Intersection LOS: E
Intersection Capacity Utilization 92.6% ICU Level of Service F

Analysis Period (min) 15

1: Altenheim Ave/Bethany Pike & US 40 National Road

- Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Splits and Phases: 1: Altenheim Ave/Bethany Pike & US 40 National Road



2030 Build MIT PM Peak 05/07/2020

HCM 6th Edition methodology does not support Non-NEMA phasing.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	î»			4			4			4	
Traffic Volume (vph)	236	343	0	0	323	10	1	0	0	6	0	185
Future Volume (vph)	236	343	0	0	323	10	1	0	0	6	0	185
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.996						0.869	
Flt Protected	0.950							0.950			0.998	
Satd. Flow (prot)	1569	1708	0	0	1637	0	0	1812	0	0	1405	0
Flt Permitted	0.950							0.950			0.998	
Satd. Flow (perm)	1569	1708	0	0	1637	0	0	1812	0	0	1405	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	2%
Adj. Flow (vph)	268	390	0	0	367	11	1	0	0	7	0	210
Shared Lane Traffic (%)												
Lane Group Flow (vph)	268	390	0	0	378	0	0	1	0	0	217	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 62.8%

ICU Level of Service B

Analysis Period (min) 15

Synchro 10 Report 2030 Build MIT PM Peak Page 5 af/ms

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ř	(4			4			4	
Traffic Vol, veh/h	236	343	0	0	323	10	1	0	0	6	0	185
Future Vol, veh/h	236	343	0	0	323	10	1	0	0	6	0	185
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0	0	0	2
Mvmt Flow	268	390	0	0	367	11	1	0	0	7	0	210
Major/Minor N	/lajor1		ı	Major2		- 1	Minor1		ı	/linor2		
Conflicting Flow All	378	0	0	390	0	0	1404	1304	390	1299	1299	373
Stage 1	-	_	-	_	_	_	926	926	-	373	373	-
Stage 2	_	-	-	_	_	_	478	378	_	926	926	-
Critical Hdwy	4.1	-	-	4.1	_	_	7.5	6.9	6.4	6.9	6.3	6.12
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Critical Hdwy Stg 2	_	_	-	_	_	_	6.5	5.9	-	5.9	5.3	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5		3.318
Pot Cap-1 Maneuver	1192	_	_	1180	_	_	101	140	649	150	175	680
Stage 1	-	-	-	-	-	-	293	316	-	665	635	-
Stage 2	-	-	-	-	-	-	543	593	-	342	369	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1192	-	-	1180	-	-	58	109	649	124	136	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	58	109	-	124	136	-
Stage 1	-	-	-	-	-	-	227	245	-	515	635	-
Stage 2	-	-	-	-	-	-	375	593	-	265	286	-
Ŭ												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.6			0			68.3			14.5		
HCM LOS	J. 5						F			В		
Minor Lane/Major Mvmt	t N	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		58	1192	-	-	1180	-	-	596			
HCM Lane V/C Ratio			0.225	_	_	-	_		0.364			
HCM Control Delay (s)		68.3	8.9	-	-	0	-	-	14.5			
HCM Lane LOS		F	A	_	_	Ā	_	_	В			
HCM 95th %tile Q(veh)		0.1	0.9	_	_	0	_	_	1.7			

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	^		ሻ	ተ ኈ			4			4	7
Traffic Volume (vph)	136	1093	12	5	1280	48	5	0	6	62	Ö	175
Future Volume (vph)	136	1093	12	5	1280	48	5	0	6	62	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	16	14
Grade (%)		0%			0%			-4%			2%	
Storage Length (ft)	150		0	0		0	0		0	0		300
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00			1.00				0.99
Frt		0.998			0.995			0.921				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1752	3532	0	1805	3519	0	0	1982	0	0	2025	1705
FIt Permitted	0.112			0.221				0.897			0.750	
Satd. Flow (perm)	207	3532	0	419	3519	0	0	1813	0	0	1599	1681
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			7			114				170
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1133			236			237			1020	
Travel Time (s)		22.1			4.6			6.5			27.8	
Confl. Peds. (#/hr)	1		16	16		1	1					1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	2%	0%	0%	2%	2%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	149	1201	13	5	1407	53	5	0	7	68	0	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	1214	0	5	1460	0	0	12	0	0	68	192
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12	J		12	Ŭ		0	Ŭ		0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	· ·			· ·								· ·
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	0.0
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
20000012 1990		O1 - LX			O1 - LA			O1 · LA			O1 · L∧	

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			

2030 Build MIT PM Peak Synchro 10 Report af/ms Page 8

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	13.0	82.0					18.0	18.0		18.0	18.0	18.0
Total Split (%)	11.3%	71.3%					15.7%	15.7%		15.7%	15.7%	15.7%
Maximum Green (s)	8.0	77.0					13.0	13.0		13.0	13.0	13.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Act Effct Green (s)	77.0	77.0		79.6	79.6			13.0			13.0	13.0
Actuated g/C Ratio	0.67	0.67		0.69	0.69			0.11			0.11	0.11
v/c Ratio	0.63	0.51		0.02	0.60			0.04			0.38	0.56
Control Delay	20.3	10.6		0.2	1.2			0.3			54.0	17.0
Queue Delay	0.0	0.0		0.0	0.2			0.0			0.0	0.0
Total Delay	20.3	10.6		0.2	1.4			0.3			54.0	17.0
LOS	С	В		Α	Α			Α			D	В
Approach Delay		11.6			1.4			0.3			26.7	
Approach LOS		В			Α			Α			С	
Queue Length 50th (ft)	30	283		0	8			0			47	15
Queue Length 95th (ft)	m52	345		m0	6			0			94	87
Internal Link Dist (ft)		1053			156			157			940	
Turn Bay Length (ft)	150											300
Base Capacity (vph)	246	2365		289	2438			306			180	340
Starvation Cap Reductn	0	0		0	265			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.61	0.51		0.02	0.67			0.04			0.38	0.56

Intersection Summary

Area Type: Other

Cycle Length: 115

Actuated Cycle Length: 115

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 8.0 Intersection LOS: A

Intersection Capacity Utilization 64.5% ICU Level of Service C

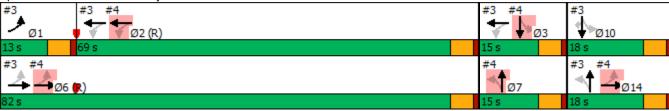
2030 Build MIT PM Peak Synchro 10 Report af/ms Page 9

Lane Group	Ø2	Ø3	Ø7
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	20.0	15.0	15.0
Total Split (s)	69.0	15.0	15.0
Total Split (%)	60%	13%	13%
Maximum Green (s)	64.0	10.0	10.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	5.0	4.0	4.0
Recall Mode	C-Max	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			
Intersection Summary			
intersection outlinary			

Analysis Period (min) 15

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

Splits and Phases: 3: Driveway/Park Road & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

2030 Build MIT PM Peak Synchro 10 Report af/ms Page 12

Lanes, Volumes, Timings 4: Leatherwood Lane/Gas Station & US 40 National Road

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		∱ }		ሻ	↑ ↑			4			4	
Traffic Volume (vph)	3	1095	63	39	1254	13	45	0	35	7	1	30
Future Volume (vph)	3	1095	63	39	1254	13	45	0	35	7	1	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%			0%	
Storage Length (ft)	0		0	105		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.998		1100	0.941			0.894	
Flt Protected				0.950				0.973			0.991	
Satd. Flow (prot)	0	3511	0	1770	3532	0	0	1697	0	0	1650	0
Flt Permitted		0.953		0.062	0002		•	0.851			0.942	•
Satd. Flow (perm)	0	3346	0	115	3532	0	0	1484	0	0	1569	0
Right Turn on Red			Yes		0002	Yes	•		Yes			Yes
Satd. Flow (RTOR)		21			1			114			33	
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			3.5	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	3	1203	69	43	1378	14	49	0	38	8	1	33
Shared Lane Traffic (%)		1200			1010						•	
Lane Group Flow (vph)	0	1275	0	43	1392	0	0	87	0	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			. •			. •	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	-	1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel	0. 1	O		O/.	O		U. L /.	O		0. 1	O	
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	0.0	94		0.0	94		0.0	94		0.0	94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Type Detector 2 Channel		OI · LX			OI - LX			OI LX			OI - LX	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	i Cilli	6 14		i Gilli	2		i Gilli	7		i Gilli	3	
- 1000000 1 110000		U 1 1						ı			J	

Synchro 10 Report Page 13 2030 Build MIT PM Peak af/ms

2030 Build MIT PM Peak Synchro 10 Report af/ms Page 14

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6 14			2			7			3		
Detector Phase	6 14	6 14		2	2		7	7		3	3	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)				20.0	20.0		15.0	15.0		15.0	15.0	
Total Split (s)				69.0	69.0		15.0	15.0		15.0	15.0	
Total Split (%)				60.0%	60.0%		13.0%	13.0%		13.0%	13.0%	
Maximum Green (s)				64.0	64.0		10.0	10.0		10.0	10.0	
Yellow Time (s)				4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				5.0	5.0			5.0			5.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode				C-Max	C-Max		None	None		None	None	
Act Effct Green (s)		95.0		64.6	64.6			10.0			10.0	
Actuated g/C Ratio		0.83		0.56	0.56			0.09			0.09	
v/c Ratio		0.46		0.67	0.70			0.37			0.25	
Control Delay		1.4		49.5	17.1			9.1			24.8	
Queue Delay		0.1		0.0	0.0			0.0			0.0	
Total Delay		1.4		49.5	17.1			9.1			24.8	
LOS		Α		D	В			Α			С	
Approach Delay		1.4			18.1			9.1			24.8	
Approach LOS		Α			В			Α			С	
Queue Length 50th (ft)		11		22	412			0			6	
Queue Length 95th (ft)		0		m32	m397			30			42	
Internal Link Dist (ft)		156			799			398			76	
Turn Bay Length (ft)				105								
Base Capacity (vph)		2767		64	1985			233			166	
Starvation Cap Reductn		239		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.50		0.67	0.70			0.37			0.25	

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 75

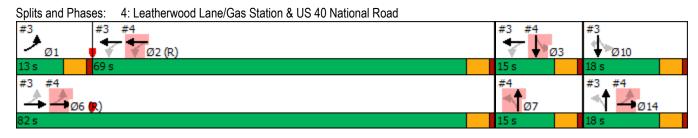
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 10.4 Intersection LOS: B
Intersection Capacity Utilization 54.7% ICU Level of Service A

Analysis Period (min) 15

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



Lang Group $O(1)$ $O(6)$ $O(1)$ $O(6)$
Lane Group Ø1 Ø6 Ø10 Ø14 Permitted Phases
Detector Phase
Switch Phase
Minimum Initial (s) 5.0 5.0 5.0 5.0
Minimum Split (s) 13.0 20.0 12.0 12.0
Total Split (s) 13.0 82.0 18.0 18.0
Total Split (%) 11% 71% 16% 16%
Maximum Green (s) 8.0 77.0 13.0 13.0
Yellow Time (s) 4.0 4.0 4.0 4.0
All-Red Time (s) 1.0 1.0 1.0
Lost Time Adjust (s)
Total Lost Time (s)
Lead/Lag Lead
Lead-Lag Optimize? Yes
Vehicle Extension (s) 2.0 5.0 4.0 4.0
Recall Mode None C-Max None None
Act Effct Green (s)
Actuated g/C Ratio
v/c Ratio
Control Delay
Queue Delay
Total Delay
LOS
Approach Delay
Approach LOS
Queue Length 50th (ft)
Queue Length 95th (ft)
Internal Link Dist (ft)
Turn Bay Length (ft)
Base Capacity (vph)
Starvation Cap Reductn
Spillback Cap Reductn
Storage Cap Reductn
Reduced v/c Ratio
Intersection Summary

Synchro 10 Report Page 17 2030 Build MIT PM Peak af/ms

HCM 6th Edition methodology does not support clustered intersections.

2030 Build MIT PM Peak Synchro 10 Report af/ms Page 18

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Lane Configurations	† }		ች	^	777					
Traffic Volume (vph)	265	152	370	1107	396	0				
Future Volume (vph)	265	152	370	1107	396	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	11	11	10	11	11	12				
Grade (%)	0%			0%	-1%					
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	1.00				
Frt	0.945									
Flt Protected			0.950		0.950					
Satd. Flow (prot)	3157	0	1636	3455	3240	0				
Flt Permitted			0.174		0.950					
Satd. Flow (perm)	3157	0	300	3455	3240	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)	84									
Link Speed (mph)	35			35	25					
Link Distance (ft)	562			201	135					
Travel Time (s)	10.9			3.9	3.7					
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89				
Heavy Vehicles (%)	3%	7%	3%	1%	5%	0%				
Adj. Flow (vph)	298	171	416	1244	445	0				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	469	0	416	1244	445	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	10	<u> </u>		10	22					
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	16			16	16					
Two way Left Turn Lane	Yes									
Headway Factor	1.04	1.04	1.09	1.04	1.04	0.99				
Turning Speed (mph)		9	15		15	9				
Number of Detectors	2		1	2	1					
Detector Template	Thru		Left	Thru	Left					
Leading Detector (ft)	100		20	100	20					
Trailing Detector (ft)	0		0	0	0					
Detector 1 Position(ft)	0		0	0	0					
Detector 1 Size(ft)	6		20	6	20					
Detector 1 Type	CI+Ex		CI+Ex	Cl+Ex	Cl+Ex					
Detector 1 Channel										
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft)	94			94						
Detector 2 Size(ft)	6			6						
Detector 2 Type	CI+Ex			CI+Ex						
Detector 2 Channel										
Detector 2 Extend (s)	0.0			0.0						
Turn Type	NA		pm+pt	NA	Prot					
Protected Phases	2		1	16	8		3	4	6	
Permitted Phases			16							
			. •							

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Detector Phase	2		1	16	8					
Switch Phase										
Minimum Initial (s)	5.0		5.0		5.0		5.0	5.0	5.0	
Minimum Split (s)	20.0		15.0		17.0		17.0	17.0	20.0	
Total Split (s)	23.0		30.0		62.0		36.0	26.0	53.0	
Total Split (%)	20.0%		26.1%		53.9%		31%	23%	46%	
Maximum Green (s)	18.0		25.0		57.0		31.0	21.0	48.0	
Yellow Time (s)	4.0		4.0		4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0		1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0		0.0					
Total Lost Time (s)	5.0		5.0		5.0					
Lead/Lag	Lag		Lead				Lead	Lag		
Lead-Lag Optimize?	Yes		Yes				Yes	Yes		
Vehicle Extension (s)	5.0		2.5		4.0		4.0	5.0	5.0	
Recall Mode	C-Max		None		None		None	None	C-Max	
Act Effct Green (s)	18.0		48.0	48.0	57.0					
Actuated g/C Ratio	0.16		0.42	0.42	0.50					
v/c Ratio	0.83		1.00	0.86	0.28					
Control Delay	52.3		60.1	23.4	8.5					
Queue Delay	0.0		0.0	0.0	9.7					
Total Delay	52.3		60.1	23.4	18.2					
LOS	D		Е	С	В					
Approach Delay	52.3			32.6	18.2					
Approach LOS	D			С	В					
Queue Length 50th (ft)	148		~207	475	34					
Queue Length 95th (ft)	#224		#453	535	m45					
Internal Link Dist (ft)	482			121	55					
Turn Bay Length (ft)										
Base Capacity (vph)	564		415	1442	1605					
Starvation Cap Reductn	0		0	0	1120					
Spillback Cap Reductn	0		0	0	0					
Storage Cap Reductn	0		0	0	0					
Reduced v/c Ratio	0.83		1.00	0.86	0.92					

Intersection Summary

Area Type: Other

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 75 (65%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 33.7 Intersection LOS: C
Intersection Capacity Utilization 56.5% ICU Level of Service B

Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

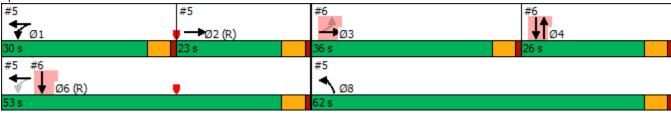
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

2030 Build MIT PM Peak Synchro 10 Report af/ms Page 20

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

Splits and Phases: 5: Mt. DeChantal Road & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

2030 Build MIT PM Peak Synchro 10 Report af/ms Page 22

Lanes, Volumes, Timings 2030 Build MIT PM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

	϶	-	•	•	←	•	•	†	/	>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4ÎÞ						♦ 13-			†	
Traffic Volume (vph)	70	695	133	0	0	0	0	325	357	0	522	0
Future Volume (vph)	70	695	133	0	0	0	0	325	357	0	522	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	12	16	12
Grade (%)		-1%			0%			0%			1%	
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00						0.99				
Frt		0.978						0.921				
Flt Protected		0.996										
Satd. Flow (prot)	0	3485	0	0	0	0	0	3304	0	0	2101	0
Flt Permitted		0.996										
Satd. Flow (perm)	0	3483	0	0	0	0	0	3304	0	0	2101	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17						212				
Link Speed (mph)		35			30			25			25	
Link Distance (ft)		482			215			270			135	
Travel Time (s)		9.4			4.9			7.4			3.7	
Confl. Peds. (#/hr)	4		4	4		4	7		5	5		7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	1%	0%	0%	0%	0%	0%	5%	1%	0%	2%	0%
Adj. Flow (vph)	74	732	140	0	0	0	0	342	376	0	549	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	946	0	0	0	0	0	718	0	0	549	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	0.96	0.96	0.96	1.01	0.85	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2			2	
Detector Template	Left	Thru						Thru			Thru	
Leading Detector (ft)	20	100						100			100	
Trailing Detector (ft)	0	0						0			0	
Detector 1 Position(ft)	0	0						0			0	
Detector 1 Size(ft)	20	6						6			6	
Detector 1 Type	CI+Ex	CI+Ex						CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		CI+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA			NA	

Synchro 10 Report Page 23 2030 Build MIT PM Peak af/ms

Lane Group	Ø1	Ø2	Ø6	Ø8		
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Lane Width (ft)						
Grade (%)						
Lane Util. Factor						
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
FIt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Confl. Peds. (#/hr)						
Peak Hour Factor						
Heavy Vehicles (%)						
Adj. Flow (vph)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						

Synchro 10 Report 2030 Build MIT PM Peak Page 24 af/ms

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings 2030 Build MIT PM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

	٠	→	•	•	←	•	4	†	<i>></i>	>	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		3						4			6 4	
Permitted Phases	3											
Detector Phase	3	3						4			6 4	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0				
Minimum Split (s)	17.0	17.0						17.0				
Total Split (s)	36.0	36.0						26.0				
Total Split (%)	31.3%	31.3%						22.6%				
Maximum Green (s)	31.0	31.0						21.0				
Yellow Time (s)	4.0	4.0						4.0				
All-Red Time (s)	1.0	1.0						1.0				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag	Lead	Lead						Lag				
Lead-Lag Optimize?	Yes	Yes						Yes				
Vehicle Extension (s)	4.0	4.0						5.0				
Recall Mode	None	None						None				
Act Effct Green (s)		31.0						21.0			74.0	
Actuated g/C Ratio		0.27						0.18			0.64	
v/c Ratio		0.99						0.93			0.41	
Control Delay		69.5						47.9			2.4	
Queue Delay		0.7						0.9			10.2	
Total Delay		70.2						48.8			12.6	
LOS		Е						D			В	
Approach Delay		70.2						48.8			12.6	
Approach LOS		Е						D			В	
Queue Length 50th (ft)		363						202			18	
Queue Length 95th (ft)		#508						#307			m38	
Internal Link Dist (ft)		402			135			190			55	
Turn Bay Length (ft)												
Base Capacity (vph)		951						776			1351	
Starvation Cap Reductn		0						0			767	
Spillback Cap Reductn		3						9			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		1.00						0.94			0.94	
Intersection Summary												
J -	Other											
Cycle Length: 115												
Actuated Cycle Length: 115												
Offset: 75 (65%), Reference	ed to phase	2:EBT an	d 6:WBT	L, Start o	f Green							
Natural Cycle: 90												
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 1.00												
Intersection Signal Delay: 49				In	tersection	LOS: D						
Intersection Capacity Utiliza	tion 64.7%			IC	CU Level	of Service	С					
Analysis Period (min) 15												
# 95th percentile volume 6	exceeds ca	pacity, que	eue may	be longer								

Synchro 10 Report Page 25 2030 Build MIT PM Peak af/ms

Lanes, Volumes, Timings 2030 Build MIT PM Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

L O	~ ~ ~ ~	~~	~~	~~
Lane Group	Ø1	Ø2	Ø6	Ø8
Protected Phases	1	2	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	20.0	20.0	17.0
Total Split (s)	30.0	23.0	53.0	62.0
Total Split (%)	26%	20%	46%	54%
Maximum Green (s)	25.0	18.0	48.0	57.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.5	5.0	5.0	4.0
Recall Mode	None	C-Max	C-Max	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Synchro 10 Report Page 26 2030 Build MIT PM Peak af/ms

6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

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

Splits and Phases: 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right Turn



HCM 6th Edition methodology does not support clustered intersections.

Synchro 10 Report 2030 Build MIT PM Peak Page 28 af/ms

	-	7	*	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	^			ተተተ		77
Traffic Volume (vph)	265	0	0	1477	0	1052
Future Volume (vph)	265	0	0	1477	0	1052
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	11	12	12
Grade (%)	0%			0%	-2%	
Storage Length (ft)		0	590		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	0.88
Frt						0.850
Flt Protected						
Satd. Flow (prot)	3106	0	0	4398	0	2543
Flt Permitted						
Satd. Flow (perm)	3106	0	0	4398	0	2543
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			1133	215	
Travel Time (s)	3.9			22.1	4.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	0%	0%	2%	0%	1%
Adj. Flow (vph)	285	0	0	1588	0	1131
Shared Lane Traffic (%)						
Lane Group Flow (vph)	285	0	0	1588	0	1131
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	1	3		1	0	J
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	1.15	1.15	1.20	1.14	1.14
Turning Speed (mph)		9	15	0	15	9
Sign Control	Free			Free	Yield	
Intersection Summary						
	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	tion 56.0%			IC	U Level o	of Service

Analysis Period (min) 15

Synchro 10 Report Page 29 2030 Build MIT PM Peak af/ms

HCM Unsignalized Intersection Capacity Analysis 203 7: Mt. DeChantal Road/I-70 Off-Ramp Right Turn & US 40 National Road

	-	7	F	•	•	/		
Movement	EBT	EBR	WBL	WBT	NEL	NER		
Lane Configurations	† †			^		77		
Traffic Volume (veh/h)	265	0	0	1477	0	1052		
Future Volume (Veh/h)	265	0	0	1477	0	1052		
Sign Control	Free			Free	Yield	1002		
Grade	0%			0%	-2%			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Hourly flow rate (vph)	285	0	0	1588	0	1131		
Pedestrians			•					
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None			TWLTL				
Median storage veh)				2				
Upstream signal (ft)	201			1133				
pX, platoon unblocked					0.89			
vC, conflicting volume			285		814	142		
vC1, stage 1 conf vol					285			
vC2, stage 2 conf vol					529			
vCu, unblocked vol			285		375	142		
tC, single (s)			4.1		6.8	6.9		
tC, 2 stage (s)					5.8			
tF (s)			2.2		3.5	3.3		
p0 queue free %			100		100	0		
cM capacity (veh/h)			1289		687	882		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1	NE 2	
Volume Total	142	142	529	529	529	566	566	
Volume Left	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	566	566	
cSH	1700	1700	1700	1700	1700	882	882	
Volume to Capacity	0.08	0.08	0.31	0.31	0.31	0.64	0.64	
Queue Length 95th (ft)	0	0	0	0	0	119	119	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	16.1	16.1	
Lane LOS						С	С	
Approach Delay (s)	0.0		0.0			16.1		
Approach LOS						С		
Intersection Summary								
Average Delay			6.0					
	ntersection Capacity Utilization		56.0%	ICU Level of Serv				
Analysis Period (min)			15		3.37			
)								

Synchro 10 Report 2030 Build MIT PM Peak Page 1 af/ms

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				7		7	*	†			ĵ.	
Traffic Volume (vph)	0	0	0	2	0	179	95	479	0	0	358	296
Future Volume (vph)	0	0	0	2	0	179	95	479	0	0	358	296
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.939	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1519	1623	1643	0	0	1527	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1519	1623	1643	0	0	1527	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)	6					6			2	2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	4%	0%	0%	4%	4%
Adj. Flow (vph)	0	0	0	2	0	188	100	504	0	0	377	312
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	2	0	188	100	504	0	0	689	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15	_	9	15		9	15	_	9	15	_	9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
<i>y</i> 1	Other											
Control Type: Unsignalized												
Intersection Capacity Utilization	on 60.5%			IC	U Level	of Service	В					

Analysis Period (min) 15

Synchro 10 Report Page 30 2030 Build MIT PM Peak af/ms

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				ሻ		7	ሻ	1			1→	
Traffic Vol, veh/h	0	0	0	2	0	179	95	479	0	0	358	296
Future Vol, veh/h	0	0	0	2	0	179	95	479	0	0	358	296
Conflicting Peds, #/hr	6	0	0	0	0	6	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	170	-	-	-	-	-
Veh in Median Storage,	# -	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	1	-	-	-1	-	-	-1	-	-	1	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	2	0	4	0	0	4	4
Mvmt Flow	0	0	0	2	0	188	100	504	0	0	377	312
Major/Minor				Minor1		N	/lajor1		N	Major2		
Conflicting Flow All				1237	-	510	689	0	-	-	-	0
Stage 1				704	-	-	-	-	-	-	-	-
Stage 2				533	-	-	-	-	-	-	-	-
Critical Hdwy				6.2	-	6.12	4.1	-	-	-	-	-
Critical Hdwy Stg 1				5.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.2	-	-	-	-	-	-	-	-
Follow-up Hdwy				3.5	-	3.318	2.2	-	-	-	-	-
Pot Cap-1 Maneuver				210	0	571	915	-	0	0	-	-
Stage 1				514	0	-	-	-	0	0	-	-
Stage 2				610	0	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				187	0	568	915	-	-	-	-	-
Mov Cap-2 Maneuver				187	0	-	-	-	-	-	-	-
Stage 1				458	0	-	-	-	-	-	-	-
Stage 2				610	0	-	-	-	-	-	-	-
Approach				WB			NB			SB		
HCM Control Delay, s				14.6			1.6			0		
HCM LOS				В								
Minor Lane/Major Mvmt		NBL	NBTV	VBLn1V	VBLn2	SBT	SBR					
Capacity (veh/h)		915	-	187	568	-	-					
HCM Lane V/C Ratio		0.109		0.011		_	_					
HCM Control Delay (s)		9.4	_	24.5	14.5	_	_					
HCM Lane LOS		A	_	C	В	_	_					
HCM 95th %tile Q(veh)		0.4	_	0	1.4	_	_					
		J. 1		- 3	1.1							

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ኝ	7	†	7	ች	†
Traffic Volume (vph)	10	152	402	135	232	97
Future Volume (vph)	10	152	402	135	232	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	1300	12	14	1300	14
Grade (%)	2%	10	1%	14	13	1%
		90	1 70	120	210	1 70
Storage Length (ft)	0	80		120	210	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	4.00	4.00	4.00	25	4.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
FIt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1620	1818	1697	1856	1977
Flt Permitted	0.950				0.446	
Satd. Flow (perm)	1787	1620	1818	1697	871	1977
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		167		140		
Link Speed (mph)	25		25			25
Link Distance (ft)	249		332			477
Travel Time (s)	6.8		9.1			13.0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0.91	2%	4%	1%	0.91	2%
. ,	11	167	442	148	255	107
Adj. Flow (vph)	11	107	442	140	200	107
Shared Lane Traffic (%)	4.4	407	4.40	4.40	055	407
Lane Group Flow (vph)	11	167	442	148	255	107
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		13			13
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	0.97	1.01	0.92	0.96	0.92
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
	20	20	6	20	20	6
Detector 1 Size(ft)						
Detector 1 Type	CI+Ex	Cl+Ex	Cl+Ex	CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
= =====================================			0.0			

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	70.0	70.0	20.0	90.0
Total Split (%)	21.7%	21.7%	60.9%	60.9%	17.4%	78.3%
Maximum Green (s)	20.0	20.0	65.0	65.0	15.0	85.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	2.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.6	9.6	82.6	82.6	95.4	95.4
Actuated g/C Ratio	0.08	0.08	0.72	0.72	0.83	0.83
v/c Ratio	0.07	0.58	0.34	0.12	0.32	0.07
Control Delay	47.7	15.8	7.5	1.5	6.8	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	15.8	7.5	1.5	6.8	5.0
LOS	D	В	Α	Α	Α	Α
Approach Delay	17.7		6.0			6.2
Approach LOS	В		Α			Α
Queue Length 50th (ft)	8	0	99	1	70	23
Queue Length 95th (ft)	26	63	198	24	m124	m52
Internal Link Dist (ft)	169		252			397
Turn Bay Length (ft)		80		120	210	
Base Capacity (vph)	310	419	1306	1258	850	1640
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.40	0.34	0.12	0.30	0.07
Intersection Summary						
Area Type:	Other					
Cycle Length: 115						
Astusted Cyale Langth, 11	15					

Cycle Length: 115
Actuated Cycle Length: 115

Offset: 10 (9%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 7.9 Intersection LOS: A Intersection Capacity Utilization 50.7% ICU Level of Service A

Analysis Period (min) 15

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

2030 Build MIT PM Peak Synchro 10 Report af/ms Page 33



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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	7	↑	7	ሻ	†
Traffic Volume (veh/h)	10	152	402	135	232	97
Future Volume (veh/h)	10	152	402	135	232	97
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1876	1921	1835	1954	1970	1939
Adj Flow Rate, veh/h	11	167	442	148	255	107
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0.01	2	4	1	0.01	2
Cap, veh/h	219	199	1262	1140	686	1533
Arrive On Green	0.12	0.12	0.69	0.69	0.10	1.00
Sat Flow, veh/h	1787	1628	1835	1656	1876	1939
Grp Volume(v), veh/h	11	167	442	148	255	107
Grp Sat Flow(s),veh/h/ln	1787	1628	1835	1656	1876	1939
Q Serve(g_s), s	0.6	11.5	11.4	3.5	4.6	0.0
Cycle Q Clear(g_c), s	0.6	11.5	11.4	3.5	4.6	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	219	199	1262	1140	686	1533
V/C Ratio(X)	0.05	0.84	0.35	0.13	0.37	0.07
Avail Cap(c_a), veh/h	311	283	1262	1140	820	1533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	49.4	7.4	6.1	4.6	0.0
Incr Delay (d2), s/veh	0.2	20.5	0.8	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.9	4.5	1.3	1.4	0.0
Unsig. Movement Delay, s/veh	3.0	3.0	1.0	1.0	1.1	3.0
LnGrp Delay(d),s/veh	44.8	69.9	8.1	6.4	4.7	0.1
LnGrp LOS	D	03.3 E	Α	Α	Α.	Α
	178	<u> </u>	590			362
Approach Vol, veh/h						
Approach Delay, s/veh	68.3		7.7			3.4
Approach LOS	E		Α			Α
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.8	84.1		19.1		95.9
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0		20.0		85.0
Max Q Clear Time (g_c+l1), s	6.6	13.4		13.5		2.0
Green Ext Time (p_c), s	0.3	8.4		0.6		1.4
"	0.0	U. T		0.0		1.7
Intersection Summary						
HCM 6th Ctrl Delay			15.9			
HCM 6th LOS			В			

	→	7	/	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑ ↑			414		
Traffic Volume (vph)	396	79	845	584	0	0
Future Volume (vph)	396	79	845	584	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.975					
Flt Protected				0.971		
Satd. Flow (prot)	3004	0	0	3063	0	0
FIt Permitted				0.971		
Satd. Flow (perm)	3004	0	0	3063	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	4%	2%	3%	0%	0%
Adj. Flow (vph)	435	87	929	642	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	522	0	0	1571	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	•
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
	Other					
Control Type: Unsignalized	Oli lei					
Intersection Capacity Utilizat	tion 7/1 10/			10	ا ا ا	of Service D
Analysis Period (min) 15	1011 / 4.170			10	O Level (JI SELVICE L
Analysis Feliou (IIIII) 15						

	→	7	*	←	•	/
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	† 1>			414		
Traffic Volume (veh/h)	396	79	845	584	0	0
Future Volume (Veh/h)	396	79	845	584	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	3%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	435	87	929	642	0	0
Pedestrians					3	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)				562		
pX, platoon unblocked					0.67	
vC, conflicting volume			438		2660	264
vC1, stage 1 conf vol					482	
vC2, stage 2 conf vol					2179	
vCu, unblocked vol			438		2497	264
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			17		100	100
cM capacity (veh/h)			1118		14	740
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	290	232	1143	428		
Volume Left	0	0	929	0		
Volume Right	0	87	0	0		
cSH	1700	1700	1118	1700		
Volume to Capacity	0.17	0.14	0.83	0.25		
Queue Length 95th (ft)	0	0	257	0		
Control Delay (s)	0.0	0.0	21.5	0.0		
Lane LOS			С			
Approach Delay (s)	0.0		15.6			
Approach LOS						
Intersection Summary						
Average Delay			11.7			
Intersection Capacity Utiliza	tion		74.1%	IC	U Level c	f Service
Analysis Period (min)			15			

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		ĥ			ર્ન
Traffic Volume (vph)	87	11	261	73	9	242
Future Volume (vph)	87	11	261	73	9	242
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	11	11
Grade (%)	3%		-2%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.984		0.971			
Flt Protected	0.958					0.998
Satd. Flow (prot)	1565	0	1667	0	0	1548
FIt Permitted	0.958					0.998
Satd. Flow (perm)	1565	0	1667	0	0	1548
Link Speed (mph)	30		30			30
Link Distance (ft)	1796		396			959
Travel Time (s)	40.8		9.0			21.8
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	1%	0%	0%	0%	0%	4%
Adj. Flow (vph)	99	13	297	83	10	275
Shared Lane Traffic (%)						
Lane Group Flow (vph)	112	0	380	0	0	285
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.18	1.18	1.14	1.14	1.23	1.23
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary	•					
	Other					
Control Type: Unsignalized	Olliel					
Intersection Capacity Utiliza	tion 35 20/			10	HLovela	of Service
	11011 33.2%			IC	U Level (or Service
Analysis Period (min) 15						

Synchro 10 Report Page 37 2030 Build MIT PM Peak af/ms

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	אופאי	1\D1	NON	ODL	- 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Traffic Vol, veh/h	87	11	261	73	9	242
Future Vol, veh/h	87	11	261	73	9	242
Conflicting Peds, #/hr	0	0	0	0	0	0
			Free	Free	Free	Free
Sign Control RT Channelized	Stop	Stop		None		None
	-	None	-		-	ivone
Storage Length	0	-	-	-	-	-
Veh in Median Storage		-	0	-	-	0
Grade, %	3	-	-2	-	-	4
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	0	0	0	0	4
Mvmt Flow	99	13	297	83	10	275
Major/Minor	Minor1	N	Major1	ı	Major2	
Conflicting Flow All	634	339	0	0	380	0
Stage 1	339	-	_	_	-	-
Stage 2	295	_	_	_	_	_
Critical Hdwy	7.01	6.5	_	_	4.1	_
Critical Hdwy Stg 1	6.01	- 0.5	_	_	7.1	_
Critical Hdwy Stg 2	6.01	_		_	_	_
Follow-up Hdwy	3.509	3.3	_	_	2.2	_
Pot Cap-1 Maneuver	400	688	-		1190	
Stage 1	684	- 000	_	-	1190	_
	721		-	_	-	-
Stage 2	121	-	-	-	-	-
Platoon blocked, %	200	000	-	-	4400	-
Mov Cap-1 Maneuver	396	688	-	-	1190	-
Mov Cap-2 Maneuver	396	-	-	-	-	-
Stage 1	684	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	16.8		0		0.3	
HCM LOS	C		U		0.0	
TIOW LOO						
Minor Lane/Major Mvn	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)		-	-		1190	-
HCM Lane V/C Ratio		-	-	0.268	0.009	-
HCM Control Delay (s))	-	-	16.8	8.1	0
HCM Lane LOS		-	-	С	Α	Α
HCM 95th %tile Q(veh	1)	-	-	1.1	0	-

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	7		7	ሻ	<u></u>
Traffic Volume (vph)	394	22	558	296	17	492
Future Volume (vph)	394	22	558	296	17	492
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
,	0%	1900	-1%	1900	1900	-2%
Grade (%)		^	-1%	400	200	-2%
Storage Length (ft)	0	0		400	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1872	1591	1787	1881
Flt Permitted	0.950				0.158	
Satd. Flow (perm)	1770	1583	1872	1591	297	1881
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		24		329		
Link Speed (mph)	30	27	30	ULU		30
	660		3796			747
Link Distance (ft)						
Travel Time (s)	15.0	0.00	86.3	0.00	0.00	17.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	438	24	620	329	19	547
Shared Lane Traffic (%)						
Lane Group Flow (vph)	438	24	620	329	19	547
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12	J -	0	J ·		12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	10		10			10
	1.00	1.00	0.99	0.99	0.99	0.99
Headway Factor			0.99			0.99
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0		0.0	0.0	94
Detector 2 Position(ft)			94			
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	pm+ov	NA	pm+ov	pm+pt	NA
Protected Phases	8	1	2	8	1	6
	<u> </u>	'		<u> </u>	'	<u> </u>

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8		2	6	
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	12.0	23.0	23.0	12.0	23.0
Total Split (s)	34.0	12.0	44.0	34.0	12.0	56.0
Total Split (%)	37.8%	13.3%	48.9%	37.8%	13.3%	62.2%
Maximum Green (s)	29.0	7.0	39.0	29.0	7.0	51.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	22.7	35.0	28.8	60.5	34.2	34.2
Actuated g/C Ratio	0.33	0.51	0.42	0.89	0.50	0.50
v/c Ratio	0.75	0.03	0.79	0.23	0.06	0.58
Control Delay	32.5	6.0	27.1	0.6	9.1	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	6.0	27.1	0.6	9.1	14.4
LOS	С	Α	С	Α	Α	В
Approach Delay	31.2		17.9			14.2
Approach LOS	С		В			В
Queue Length 50th (ft)	190	0	262	0	4	159
Queue Length 95th (ft)	#362	14	425	11	14	263
Internal Link Dist (ft)	580		3716			667
Turn Bay Length (ft)				400	300	
Base Capacity (vph)	859	854	1193	1457	323	1425
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.03	0.52	0.23	0.06	0.38

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 68.3

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 20.0 Intersection LOS: B
Intersection Capacity Utilization 59.5% ICU Level of Service B

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.



gurations
me (veh/h)
me (veh/h)
o), veh
dj(A_pbT)
s, Adj
Factor
avy Veh, %
e(v), veh/h
w(s),veh/h/ln
s), s
ear(g_c), s
е
ap(c), veh/h
()
_a), veh/h
on Ratio
ilter(I)
lay (d), s/veh
ay(d3),s/veh
fQ(50%),veh/ln
ement Delay, s/veh
y(d),s/veh
ol, veh/h
elay, s/veh
os
igned Phs
on (G+Y+Rc), s
riod (Y+Rc), s
ar Time (g_c+l1), s
Γime (p_c), s
Summary
OS
o), veh dj(A_pbT) s, Adj On Approach w, veh/h/In ate, veh/h Factor avy Veh, % Green eh/h e(v), veh/h w(s), veh/h/In s), s ear(g_c), s e ap(c), veh/h on Ratio filter(I) lay (d), s/veh d2), s/veh lay(d3), s/veh fQ(50%), veh/ln ement Delay, s/veh y(d), s/veh OS igned Phs on (G+Y+Rc), s riod (Y+Rc), s Setting (Gmax), s ar Time (g_c+I1), s Fime (p_c), s Summary trl Delay

	-	\rightarrow	•	•		/					
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	1>			ર્ન	W						
Traffic Volume (vph)	75	7	17	90	9	22					
Future Volume (vph)	75	7	17	90	9	22					
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700					
Grade (%)	0%			3%	0%						
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00					
Frt	0.988				0.905						
Flt Protected				0.992	0.986						
Satd. Flow (prot)	1647	0	0	1629	1487	0					
Flt Permitted				0.992	0.986						
Satd. Flow (perm)	1647	0	0	1629	1487	0					
Link Speed (mph)	25			25	25						
Link Distance (ft)	1796			721	825						
Travel Time (s)	49.0			19.7	22.5						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90					
Adj. Flow (vph)	83	8	19	100	10	24					
Shared Lane Traffic (%)											
Lane Group Flow (vph)	91	0	0	119	34	0					
Enter Blocked Intersection	No	No	No	No	No	No					
Lane Alignment	Left	Right	Left	Left	Left	Right					
Median Width(ft)	0			0	12						
Link Offset(ft)	0			0	0						
Crosswalk Width(ft)	16			16	16						
Two way Left Turn Lane											
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15					
Turning Speed (mph)		9	15		15	9					
Sign Control	Free			Free	Stop						
Intersection Summary											
Area Type:	Other										
Control Type: Unsignalized											
Intersection Capacity Utilization 23.0% ICU Level of Service A											
Analysis Period (min) 15											

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4	¥	
Traffic Vol, veh/h	75	7	17	90	9	22
Future Vol, veh/h	75	7	17	90	9	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-		-	None
Storage Length	-	-	_	-	0	_
Veh in Median Storage	e,# 0	_	_	0	0	-
Grade, %	0	_	-	3	0	_
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	83	8	19	100	10	24
WWWIICTIOW	00	U	10	100	10	27
Major/Minor	Major1	I	Major2	ı	Minor1	
Conflicting Flow All	0	0	91	0	225	87
Stage 1	-	-	-	-	87	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1504	-	763	971
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1504	-	753	971
Mov Cap-2 Maneuver	-	-	-	-	753	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	877	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.2		9.2	
HCM LOS					Α	
Minor Lane/Major Mvr	nt I	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		896	-	-		-
HCM Lane V/C Ratio		0.038	_		0.013	_
HCM Control Delay (s)	9.2	_	_	7.4	0
HCM Lane LOS	1	Α.Δ	_	_	Α	A
HCM 95th %tile Q(veh	1)	0.1	_	_	0	-
TOM COULT TOURC Q VCI	'/	J. 1			- 0	

Lanes, Volumes, Timings 1: Altenheim Ave/Bethany Pike & US 40 National Road

	•	-	•	•	—	•	•	†	/	/	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ĥ			4T>			4			4	7
Traffic Volume (vph)	477	323	5	9	378	307	51	23	35	289	5	468
Future Volume (vph)	477	323	5	9	378	307	51	23	35	289	5	468
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			2%			7%			-2%	
Storage Length (ft)	0		0	0		0	0		0	0		130
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt		0.998			0.934			0.957				0.850
Flt Protected	0.950				0.999			0.977			0.953	
Satd. Flow (prot)	1778	1849	0	0	3288	0	0	1714	0	0	1829	1615
Flt Permitted	0.181				0.949			0.592			0.646	
Satd. Flow (perm)	339	1849	0	0	3123	0	0	1039	0	0	1240	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			169			22				143
Link Speed (mph)		35			35			25			30	
Link Distance (ft)		879			1354			343			3796	
Travel Time (s)		17.1			26.4			9.4			86.3	
Confl. Peds. (#/hr)			6	6								
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	507	344	5	10	402	327	54	24	37	307	5	498
Shared Lane Traffic (%)												
Lane Group Flow (vph)	507	349	0	0	739	0	0	115	0	0	312	498
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0	•		0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.02	1.02	1.02	1.01	1.01	1.01	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	Cl+Ex		CI+Ex	Cl+Ex		Cl+Ex	Cl+Ex		CI+Ex	CI+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												

Synchro 10 Report 2030 Build MIT SAT Peak Page 1 af/ms

Intersection Capacity Utilization 82.4%

Analysis Period (min) 15

	۶	→	•	•	+	•	•	†	/	/	+	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Reserved	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1	6			2			4			4	1
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		2	2		4	4		4	4	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	20.0		20.0	20.0		17.0	17.0		17.0	17.0	9.5
Total Split (s)	39.0	74.0		35.0	35.0		41.0	41.0		41.0	41.0	39.0
Total Split (%)	33.9%	64.3%		30.4%	30.4%		35.7%	35.7%		35.7%	35.7%	33.9%
Maximum Green (s)	34.5	69.0		30.0	30.0		36.0	36.0		36.0	36.0	34.5
Yellow Time (s)	3.5	4.0		4.0	4.0		4.0	4.0		4.0	4.0	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	4.5	5.0			5.0			5.0			5.0	4.5
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	3.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Act Effct Green (s)	72.3	71.8			36.7			33.2			33.2	68.8
Actuated g/C Ratio	0.63	0.62			0.32			0.29			0.29	0.60
v/c Ratio	0.85	0.30			0.66			0.37			0.87	0.49
Control Delay	24.8	7.5			30.8			28.7			63.4	9.8
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	24.8	7.5			30.8			28.7			63.4	9.8
LOS	С	Α			С			С			Е	Α
Approach Delay		17.7			30.8			28.7			30.4	
Approach LOS		В			С			С			С	
Queue Length 50th (ft)	270	168			210			52			211	111
Queue Length 95th (ft)	#410	236			285			105			#361	178
Internal Link Dist (ft)		799			1274			263			3716	
Turn Bay Length (ft)												130
Base Capacity (vph)	644	1154			1112			340			388	1073
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.79	0.30			0.66			0.34			0.80	0.46
Intersection Summary												
Area Type:	Other											
Cycle Length: 115												
Actuated Cycle Length: 17	15											
Offset: 61 (53%), Referen	ced to phase	2:WBTL	and 6:EB	TL, Start	of Green							
Natural Cycle: 60												
Control Type: Actuated-C	oordinated											
Maximum v/c Ratio: 0.87												
Intersection Signal Delay:	26.2			lı	ntersection	LOS: C						

2030 Build MIT SAT Peak

synchro 10 Report

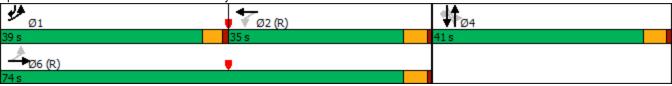
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Page 2

ICU Level of Service E

95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Splits and Phases: 1: Altenheim Ave/Bethany Pike & US 40 National Road



HCM 6th Edition methodology does not support Non-NEMA phasing.

2030 Build MIT SAT Peak

synchro 10 Report

af/ms

Page 4

2: Church Driveway/GC&P Road & Bethany Pike

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	f)			4			4			4	
Traffic Volume (vph)	135	251	1	0	247	7	0	0	0	7	0	162
Future Volume (vph)	135	251	1	0	247	7	0	0	0	7	0	162
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1900	1700	1700	1700	1700	1700
Lane Width (ft)	11	12	12	12	12	12	16	16	16	11	11	11
Grade (%)		-1%			1%			2%			-1%	
Storage Length (ft)	130		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	160			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.996						0.871	
Flt Protected	0.950										0.998	
Satd. Flow (prot)	1569	1690	0	0	1669	0	0	1907	0	0	1436	0
FIt Permitted	0.950										0.998	
Satd. Flow (perm)	1569	1690	0	0	1669	0	0	1907	0	0	1436	0
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		747			396			237			1299	
Travel Time (s)		17.0			9.0			6.5			35.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	147	273	1	0	268	8	0	0	0	8	0	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	274	0	0	276	0	0	0	0	0	184	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.20	1.15	1.15	1.16	1.16	1.16	0.86	0.99	0.99	1.20	1.20	1.20
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 51.5%

ICU Level of Service A

Analysis Period (min) 15

Int Delay, s/veh 3.8 Sen	Intersection												
Lane Configurations		3.8											
Lane Configurations	Movement	FRI	FRT	FRR	WRI	WRT	WRR	NRI	NRT	NRR	SRI	SRT	SBR
Traffic Vol, veh/h				LDIN	VVDL		אוטוע	NDL		ווטוו	ODL		ODIN
Future Vol, veh/h Conflicting Peds, #/hr O O O O O O O O O O O O O O O O O O O				1	٥		7	0		Λ	7		162
Conflicting Peds, #/hr	· ·			-			-			-	-		
Sign Control Free RTCHAINTERING Free RTCHAINTERING Free RTCHAINTERING Free RTCHAINTERING Stop None None - None None - None	·												
RT Channelized			~					~					
Storage Length	•											•	
Veh in Median Storage, # 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 - - 0 <td></td> <td>130</td> <td>-</td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>-</td> <td>-</td> <td>-</td>		130	-		-	-	-	-	-		-	-	-
Grade, %		# -	0	-	-	0	-	-	0	-	-	0	-
Heavy Vehicles, %			-1	-	-	1	-	-	2	-	-	-1	-
Major/Minor Major1 Major2 Minor1 Minor2 Conflicting Flow All 276 0 0 274 0 0 928 844 274 840 840 272 Stage 1 - - - - - - 568 568 - 272 272 - Stage 2 - - - - - - 568 568 - 272 272 - Critical Hdwy Stg 1 - - - - 6.5 5.9 - 5.9 5.3 - Critical Hdwy Stg 2 - - - - 6.5 5.9 - 5.9 5.3 - Critical Hdwy Stg 2 - - - - 6.5 5.9 - 5.9 5.3 - Critical Hdwy Stg 2 - - - - - 6.5 5.9 - 5.9 5.3 -	Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Major/Minor Major1 Major2 Minor1 Minor2 Conflicting Flow All 276 0 0 274 0 0 928 844 274 840 840 272 Stage 1 - - - - - - 568 568 - 272 272 - Stage 2 - - - - - 360 276 - 568 568 - 272 272 - - 568 568 - 272 272 - - 568 568 - 272 272 - - 568 568 - 272 272 - - 569 64 69 63 6.1 Critical Hdwy Stg 1 - - - 6.5 5.9 - 5.9 5.3 - Critical Hdwy Stg 2 - - 6.5 5.9 - 5.9 5.3 - Critical Hdwy Stg 2 -	Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Conflicting Flow All 276 0 0 274 0 0 928 844 274 840 840 272 Stage 1 568 568 - 272 272 - Stage 2 568 568 - 275 568 568 - 275 272 - 275 275 275 275 275 275 275 275 275 275	Mvmt Flow	147	273	1	0	268	8	0	0	0	8	0	176
Conflicting Flow All 276 0 0 274 0 0 928 844 274 840 840 272 Stage 1 568 568 - 272 272 - Stage 2 568 568 - 275 568 568 - 275 272 - 275 275 275 275 275 275 275 275 275 275													
Conflicting Flow All 276 0 0 274 0 0 928 844 274 840 840 272 Stage 1 568 568 - 272 272 - Stage 2 568 568 - 275 568 568 - 275 272 - 275 275 275 275 275 275 275 275 275 275	Major/Minor N	/lajor1		ľ	Major2		ľ	Minor1		N	/linor2		
Stage 1			0			0			844			840	272
Stage 2 - - - - 360 276 - 568 568 - Critical Hdwy 4.1 - - 4.1 - - 7.5 6.9 6.4 6.9 6.3 6.1 Critical Hdwy Stg 1 - - - - 6.5 5.9 - 5.9 5.3 - Critical Hdwy Stg 2 - - - - 6.5 5.9 - 5.9 5.9 5.3 - Follow-up Hdwy 2.2 - - 2.2 - 3.5 4 3.3 3.5 4 3.3 Pollow-up Hdwy 2.2 - - 1.301 - - 226 275 758 301 318 777 Stage 1 - </td <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>					-								
Critical Hdwy 4.1 - - 4.1 - - 7.5 6.9 6.4 6.9 6.3 6.1 Critical Hdwy Stg 1 - - - - - 6.5 5.9 - 5.9 5.9 5.3 - Critical Hdwy Stg 2 - - - - 6.5 5.9 - 5.9 5.3 - Follow-up Hdwy 2.2 - - 2.2 - - 3.5 4 3.3 3.5 4 3.3 Pol Cap-1 Maneuver 1299 - 1301 - - 226 275 758 301 318 777 Stage 1 - - - - - - 480 478 - 750 699 - Stage 2 - <td>•</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td>-</td>	•	-	-	-	-	-	-			-			-
Critical Hdwy Stg 2 - - - - 6.5 5.9 - 5.9 5.3 - Follow-up Hdwy 2.2 - - 2.2 - - 3.5 4 3.3 3.5 4 3.3 Pot Cap-1 Maneuver 1299 - - 1301 - - 226 275 758 301 318 777 Stage 1 - - - - - 480 478 - 750 699 - Stage 2 - - - - - 636 665 - 528 526 - Platoon blocked, % - - - - - - - - - - 282 777 Mov Cap-1 Maneuver 1299 - 1301 - - 160 244 - 275 282 777 Mov Cap-2 Maneuver - - - - 426		4.1	-	-	4.1	-	-	7.5	6.9	6.4	6.9	6.3	6.1
Follow-up Hdwy 2.2 - 2.2 - 3.5 4 3.3 3.5 4 3.3 Pot Cap-1 Maneuver 1299 - 1301 - 226 275 758 301 318 777 Stage 1 480 478 - 750 699 - 31302 -	Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Pot Cap-1 Maneuver 1299		-	-	-	-	-	-	6.5	5.9	-	5.9	5.3	-
Stage 1 - - - - 480 478 - 750 699 - Stage 2 - - - - - 636 665 - 528 526 - Platoon blocked, % -<	Follow-up Hdwy		-	-		-	-		4				3.3
Stage 2 - - - - 636 665 - 528 526 - Platoon blocked, % - <t< td=""><td>Pot Cap-1 Maneuver</td><td>1299</td><td>-</td><td>-</td><td>1301</td><td>-</td><td>-</td><td></td><td></td><td>758</td><td></td><td></td><td>777</td></t<>	Pot Cap-1 Maneuver	1299	-	-	1301	-	-			758			777
Platoon blocked, % -		-	-	-	-	-	-			-			-
Mov Cap-1 Maneuver 1299 - - 1301 - - 160 244 758 275 282 777 Mov Cap-2 Maneuver - - - - - - 160 244 - 275 282 - Stage 1 - - - - - 426 424 - 665 699 - Stage 2 - - - - - 492 665 - 468 467 - Approach EB WB NB SB HCM Control Delay, s 2.8 0 0 11.7 HCM Lane/Major Mvmt NBLn1 EBL EBT EBR WBL WBT WBR SBLn1 Capacity (veh/h) - 1299 - - 1301 - - 722 HCM Lane V/C Ratio - 0.113 - - - - 0 - 11.7 </td <td></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>636</td> <td>665</td> <td>-</td> <td>528</td> <td>526</td> <td>-</td>		-	-	-	-	-	-	636	665	-	528	526	-
Mov Cap-2 Maneuver - - - - - - 160 244 - 275 282 - Stage 1 - - - - - - 426 424 - 665 699 - Stage 2 - - - - - 492 665 - 468 467 - Approach EB WB NB			-	-		-	-				_		
Stage 1 - - - - 426 424 - 665 699 - Stage 2 - - - - - 492 665 - 468 467 - Approach EB WB NB NB SB HCM Control Delay, s 2.8 0 0 11.7 HCM LOS A A B Minor Lane/Major Mvmt NBLn1 EBL EBT EBR WBL WBT WBR SBLn1 Capacity (veh/h)				-	1301								
Stage 2 - - - - - 492 665 - 468 467 - Approach EB WB NB SB HCM Control Delay, s 2.8 0 0 11.7 HCM LOS A B Minor Lane/Major Mvmt NBLn1 EBL EBT EBR WBL WBT WBR SBLn1 Capacity (veh/h) - 1299 - 1301 - 722 HCM Lane V/C Ratio - 0.113 0.254 HCM Control Delay (s) 0 8.1 - 0 - 11.7 HCM Lane LOS A A A - B			-	-	-	-							
Approach EB WB NB SB HCM Control Delay, s 2.8 0 0 11.7 HCM LOS A B Minor Lane/Major Mvmt NBLn1 EBL EBT EBR WBL WBT WBR SBLn1 Capacity (veh/h) - 1299 1301 - 722 HCM Lane V/C Ratio - 0.113 0.254 HCM Control Delay (s) 0 8.1 - 0 - 11.7 HCM Lane LOS A A - A - B		-	-	-	-	-	-						
HCM Control Delay, s 2.8 0 0 11.7 HCM LOS	Stage 2	-	-	-	-	-	-	492	665	-	468	467	-
HCM Control Delay, s 2.8 0 0 11.7 HCM LOS													
Minor Lane/Major Mvmt NBLn1 EBL EBR WBL WBT WBR SBLn1 Capacity (veh/h) - 1299 1301 - 722 HCM Lane V/C Ratio - 0.113 0.254 HCM Control Delay (s) 0 8.1 - 0 - 11.7 HCM Lane LOS A A A - B	Approach				WB			NB			SB		
Minor Lane/Major Mvmt NBLn1 EBL EBR WBL WBT WBR SBLn1 Capacity (veh/h) - 1299 1301 - 722 HCM Lane V/C Ratio - 0.113 0.254 HCM Control Delay (s) 0 8.1 - 0 - 11.7 HCM Lane LOS A A A - B		2.8			0								
Capacity (veh/h) - 1299 - 1301 - 722 HCM Lane V/C Ratio - 0.113 0.254 HCM Control Delay (s) 0 8.1 - 0 - 11.7 HCM Lane LOS A A - A - B	HCM LOS							Α			В		
Capacity (veh/h) - 1299 - 1301 - 722 HCM Lane V/C Ratio - 0.113 0.254 HCM Control Delay (s) 0 8.1 - 0 - 11.7 HCM Lane LOS A A - A - B													
HCM Lane V/C Ratio - 0.113 0.254 HCM Control Delay (s) 0 8.1 0 11.7 HCM Lane LOS A A A - B	Minor Lane/Major Mvmt	<u> </u>	NBL _{n1}	EBL	EBT	EBR	WBL	WBT	WBR S	SBL _{n1}			
HCM Lane V/C Ratio - 0.113 0.254 HCM Control Delay (s) 0 8.1 0 11.7 HCM Lane LOS A A A - B	Capacity (veh/h)		-	1299	-	-	1301	-	-	722			
HCM Lane LOS A A A B			-	0.113	-			-	-	0.254			
	HCM Control Delay (s)		0	8.1	-	-	0	-	-	11.7			
HCM 95th %tile Q(veh) - 0.4 0 1			Α		-	-		-	-				
	HCM 95th %tile Q(veh)		-	0.4	-	-	0	-	-	1			

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	∱ ∱		ሻ	ተ ኈ			4			4	7
Traffic Volume (vph)	50	957	27	13	888	15	4	0	3	16	2	50
Future Volume (vph)	50	957	27	13	888	15	4	0	3	16	2	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	16	14
Grade (%)		0%			0%			-4%			2%	
Storage Length (ft)	150		0	0		0	0		0	0		300
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00			,,,,,,				
Frt		0.996			0.998			0.942				0.850
Flt Protected	0.950			0.950				0.972			0.957	
Satd. Flow (prot)	1805	3555	0	1805	3566	0	0	2011	0	0	2040	1705
Flt Permitted	0.241	0000	•	0.259	0000			0.875	•		0.770	1100
Satd. Flow (perm)	458	3555	0	492	3566	0	0	1810	0	0	1641	1705
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5	100		3	. 00		114				114
Link Speed (mph)		35			35			25			25	• • •
Link Distance (ft)		1133			236			237			1020	
Travel Time (s)		22.1			4.6			6.5			27.8	
Confl. Peds. (#/hr)	1	<i>EE</i> . 1	6	6	1.0	1		0.0			21.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	4%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	54	1040	29	14	965	16	4	0	3	17	2	54
Shared Lane Traffic (%)	0.	1010			000	10	•			.,		
Lane Group Flow (vph)	54	1069	0	14	981	0	0	7	0	0	19	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	Loit	12	rtigit	Loit	12	rugiit	Loit	0	rugiit	Loit	0	ragin
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			10			10	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.82	0.97	1.01	0.86	0.93
Turning Speed (mph)	15	1.00	9	15	1.00	9	15	0.02	9	15	0.00	9
Number of Detectors	1	2	<u> </u>	1	2	J	1	2	<u> </u>	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	CI+Ex	CI+Ex		Cl+Ex	CI+Ex		Cl+Ex	CI+Ex		Cl+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OITEX	OITEX		OITEX	OIILX		OIILX	OITEX		OIILX	OIILX	OIILX
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
()	0.0			0.0	0.0		0.0	0.0		0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0			0.0	94		0.0	94		0.0		0.0
Detector 2 Position(ft)		94									94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Width (ft)			
Grade (%)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Size(π) Detector 2 Type			
Delector 2 Type			

	•	-	•	•	•	•	1	†		-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6			23			14			10	
Permitted Phases	6			23			14			10		10
Detector Phase	1	6		23	23		14	14		10	10	10
Switch Phase												
Minimum Initial (s)	5.0	5.0					5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.0	20.0					12.0	12.0		12.0	12.0	12.0
Total Split (s)	13.0	81.0					16.0	16.0		16.0	16.0	16.0
Total Split (%)	11.3%	70.4%					13.9%	13.9%		13.9%	13.9%	13.9%
Maximum Green (s)	8.0	76.0					11.0	11.0		11.0	11.0	11.0
Yellow Time (s)	4.0	4.0					4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0						5.0			5.0	5.0
Lead/Lag	Lead											
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.0	5.0					4.0	4.0		4.0	4.0	4.0
Recall Mode	None	C-Max					None	None		None	None	None
Act Effct Green (s)	76.2	76.2		85.2	85.2			11.0			11.0	11.0
Actuated g/C Ratio	0.66	0.66		0.74	0.74			0.10			0.10	0.10
v/c Ratio	0.15	0.45		0.04	0.37			0.03			0.12	0.20
Control Delay	8.9	12.6		0.6	0.7			0.2			49.7	1.7
Queue Delay	0.0	0.0		0.0	0.1			0.0			0.0	0.0
Total Delay	8.9	12.6		0.6	0.8			0.2			49.7	1.7
LOS	Α	В		Α	Α			Α			D	Α
Approach Delay		12.4			8.0			0.2			14.2	
Approach LOS		В			Α			Α			В	
Queue Length 50th (ft)	17	230		0	3			0			13	0
Queue Length 95th (ft)	m36	287		m1	11			0			37	0
Internal Link Dist (ft)		1053			156			157			940	
Turn Bay Length (ft)	150											300
Base Capacity (vph)	397	2358		365	2650			276			156	266
Starvation Cap Reductn	0	0		0	518			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.14	0.45		0.04	0.46			0.03			0.12	0.20
Intersection Summary												

Area Type: Other

Cycle Length: 115

Actuated Cycle Length: 115

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 7.1

Intersection Capacity Utilization 48.2%

Intersection LOS: A ICU Level of Service A

05/07/2020

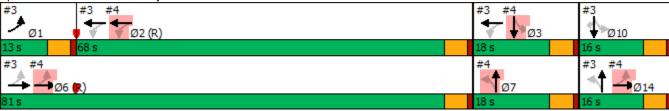
Lane Group Detector 2 Channel	Ø2	Ø3	Ø7
Detector 2 Extend (s)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	20.0	15.0	15.0
Total Split (s)	68.0	18.0	18.0
Total Split (%)	59%	16%	16%
Maximum Green (s)	63.0	13.0	13.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag		
Lead-Lag Optimize?	Yes		
Vehicle Extension (s)	5.0	4.0	4.0
Recall Mode	C-Max	None	None
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			
Intersection Summary			

Synchro 10 Report Page 10 2030 Build MIT SAT Peak af/ms

Analysis Period (min) 15

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

Splits and Phases: 3: Driveway/Park Road & US 40 National Road



HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		∱ }		ሻ	↑ ↑			4			4	
Traffic Volume (vph)	5	925	45	27	844	2	60	1	29	7	0	12
Future Volume (vph)	5	925	45	27	844	2	60	1	29	7	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			1%	,,,,,		0%	.000
Storage Length (ft)	0	0,0	0	105	0,0	0	0	.,,	0	0	070	0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.50	0.993	0.50	1.00	0.50	0.50	1.00	0.956	1.00	1.00	0.916	1.00
Flt Protected		0.000		0.950				0.968			0.981	
Satd. Flow (prot)	0	3549	0	1787	3574	0	0	1732	0	0	1690	0
Flt Permitted	U	0.952	U	0.060	0014	U	U	0.788	U	U	0.911	U
Satd. Flow (perm)	0	3379	0	113	3574	0	0	1410	0	0	1570	0
Right Turn on Red	U	3313	Yes	110	3314	Yes	U	1410	Yes	U	1370	Yes
Satd. Flow (RTOR)		15	163			163		17	163		114	163
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		236			879			478			156	
Travel Time (s)		4.6			17.1			13.0			4.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Heavy Vehicles (%)	5	1005	49	29	917	2	65	170	32	8	0	13
Adj. Flow (vph) Shared Lane Traffic (%)	ິວ	1005	49	29	917	2	00	1	32	0	U	13
. ,	0	1059	0	29	919	0	0	98	0	0	21	0
Lane Group Flow (vph) Enter Blocked Intersection	No	No	No	No	No	No	No	No No	No	No	No	No
Lane Alignment	Left	Left		Left	Left	Right	Left	Left		Left	Left	
Median Width(ft)	Leit	12	Right	Leit	12	Rigiil	Leit	0	Right	Leit	Len 0	Right
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
()		Yes			Yes			10			10	
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Headway Factor Turning Speed (mph)	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00
Number of Detectors	15	2	9	15	2	9	13	2	9	15	2	9
	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Detector Template	20	100		20	100		20	100		20	100	
Leading Detector (ft)	0	0		0	0		0	0		0		
Trailing Detector (ft)	0	0		0						0	0	
Detector 1 Position(ft)	20	6		20	0		0 20	0		20	0	
Detector 1 Size(ft)	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	CI+Ex	
Detector 1 Type Detector 1 Channel	CI+EX	UI+EX		CI+EX	CI+EX		CI+EX	CI+EX		CI+EX	UI+EX	
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
, , ,	0.0			0.0	94		0.0	94		0.0		
Detector 2 Position(ft)		94									94	
Detector 2 Size(ft)		6 CL Ev			6 CL Ev			6 CL Ev			6 CL Ev	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel		0.0			0.0			0.0			0.0	
Detector 2 Extend (s)		0.0			0.0			0.0		D	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	

Synchro 10 Report Page 13 2030 Build MIT SAT Peak af/ms

Lane Group	Ø1	Ø6	Ø10	Ø14
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Grade (%)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph) Link Distance (ft)				
. ,				
Travel Time (s) Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Number of Detectors				
Detector Template				
Leading Detector (ft)				
Trailing Detector (ft)				
Detector 1 Position(ft)				
Detector 1 Size(ft)				
Detector 1 Type				
Detector 1 Channel				
Detector 1 Extend (s)				
Detector 1 Queue (s)				
Detector 1 Delay (s)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type				

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		6 14			2			7			3	
Permitted Phases	6 14			2			7			3		
Detector Phase	6 14	6 14		2	2		7	7		3	3	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)				20.0	20.0		15.0	15.0		15.0	15.0	
Total Split (s)				68.0	68.0		18.0	18.0		18.0	18.0	
Total Split (%)				59.1%	59.1%		15.7%	15.7%		15.7%	15.7%	
Maximum Green (s)				63.0	63.0		13.0	13.0		13.0	13.0	
Yellow Time (s)				4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				5.0	5.0			5.0			5.0	
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode				C-Max	C-Max		None	None		None	None	
Act Effct Green (s)		92.2		67.4	67.4			12.8			12.8	
Actuated g/C Ratio		0.80		0.59	0.59			0.11			0.11	
v/c Ratio		0.39		0.44	0.44			0.57			0.08	
Control Delay		1.2		43.2	17.0			53.8			0.5	
Queue Delay		0.1		0.0	0.0			0.0			0.0	
Total Delay		1.3		43.2	17.0			53.8			0.5	
LOS		Α		D	В			D			Α	
Approach Delay		1.3			17.8			53.8			0.5	
Approach LOS		Α			В			D			Α	
Queue Length 50th (ft)		4		16	277			57			0	
Queue Length 95th (ft)		0		m39	346			115			0	
Internal Link Dist (ft)		156			799			398			76	
Turn Bay Length (ft)				105								
Base Capacity (vph)		2713		66	2095			174			278	
Starvation Cap Reductn		368		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.45		0.44	0.44			0.56			0.08	
1.1												

Intersection Summary

Area Type: Other

Cycle Length: 115

Actuated Cycle Length: 115

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green, Master Intersection

Natural Cycle: 60

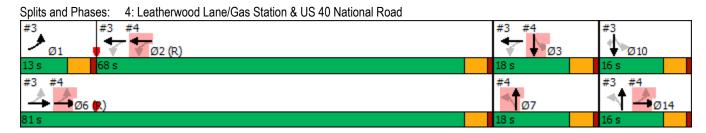
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 11.1 Intersection LOS: B
Intersection Capacity Utilization 47.8% ICU Level of Service A

Analysis Period (min) 15

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



Lane Group	Ø1	Ø6	Ø10	Ø14
Protected Phases	1	6	10	14
Permitted Phases		- 0	10	17
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	13.0	20.0	12.0	12.0
,	13.0	81.0	16.0	16.0
Total Split (s)				
Total Split (%)	11%	70%	14%	14%
Maximum Green (s)	8.0	76.0	11.0	11.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead			
Lead-Lag Optimize?	Yes			
Vehicle Extension (s)	2.0	5.0	4.0	4.0
Recall Mode	None	C-Max	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Synchro 10 Report Page 17 2030 Build MIT SAT Peak af/ms

2030 Build MIT SAT Peak 05/07/2020

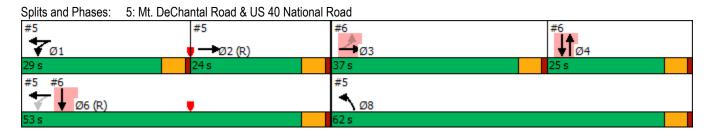
HCM 6th Edition methodology does not support clustered intersections.

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Lane Configurations	† }		*	^	777					
Traffic Volume (vph)	204	135	287	704	297	0				
Future Volume (vph)	204	135	287	704	297	0				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Width (ft)	11	11	10	11	11	12				
Grade (%)	0%			0%	-1%					
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	1.00				
Frt	0.940									
Flt Protected			0.950		0.950					
Satd. Flow (prot)	3222	0	1668	3455	3368	0				
FIt Permitted			0.318		0.950					
Satd. Flow (perm)	3222	0	558	3455	3368	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)	117									
Link Speed (mph)	35			35	25					
Link Distance (ft)	562			201	135					
Travel Time (s)	10.9			3.9	3.7					
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				
Heavy Vehicles (%)	1%	3%	1%	1%	1%	0%				
Adj. Flow (vph)	217	144	305	749	316	0				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	361	0	305	749	316	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	10			10	22					
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	16			16	16					
Two way Left Turn Lane	Yes									
Headway Factor	1.04	1.04	1.09	1.04	1.04	0.99				
Turning Speed (mph)		9	15		15	9				
Number of Detectors	2		1	2	1					
Detector Template	Thru		Left	Thru	Left					
Leading Detector (ft)	100		20	100	20					
Trailing Detector (ft)	0		0	0	0					
Detector 1 Position(ft)	0		0	0	0					
Detector 1 Size(ft)	6		20	6	20					
Detector 1 Type	CI+Ex		Cl+Ex	CI+Ex	Cl+Ex					
Detector 1 Channel										
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Detector 2 Position(ft)	94			94						
Detector 2 Size(ft)	6			6						
Detector 2 Type	CI+Ex			CI+Ex						
Detector 2 Channel										
Detector 2 Extend (s)	0.0			0.0						
Turn Type	NA		pm+pt	NA	Prot					
Protected Phases	2		1	16	8		3	4	6	
Permitted Phases			16					•		

Analysis Period (min) 15

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

Maximum Green (s) 19.0 Yellow Time (s) 4.0 All-Red Time (s) 1.0 Lost Time Adjust (s) 0.0 Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	€	•	1					
Switch Phase Minimum Initial (s) 5.0 Minimum Split (s) 20.0 Total Split (s) 24.0 Total Split (%) 20.9% 2 Maximum Green (s) 19.0 Yellow Time (s) 4.0 All-Red Time (s) 1.0 Lost Time Adjust (s) 0.0 Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	WBL	WBT	NBL	NBR	Ø3	Ø4	Ø6	
Minimum Initial (s) 5.0 Minimum Split (s) 20.0 Total Split (s) 24.0 Total Split (%) 20.9% 2 Maximum Green (s) 19.0 Yellow Time (s) 4.0 All-Red Time (s) 1.0 Lost Time Adjust (s) 0.0 Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	1	16	8					
Minimum Split (s) 20.0 Total Split (s) 24.0 Total Split (%) 20.9% 2 Maximum Green (s) 19.0 Yellow Time (s) 4.0 All-Red Time (s) 1.0 Lost Time Adjust (s) 0.0 Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max								
Minimum Split (s) 20.0 Total Split (s) 24.0 Total Split (%) 20.9% 2 Maximum Green (s) 19.0 Yellow Time (s) 4.0 All-Red Time (s) 1.0 Lost Time Adjust (s) 0.0 Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	5.0		5.0		5.0	5.0	5.0	
Total Split (s) 24.0 Total Split (%) 20.9% 2 Maximum Green (s) 19.0 Yellow Time (s) 4.0 All-Red Time (s) 1.0 Lost Time Adjust (s) 0.0 Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	15.0		17.0		17.0	17.0	20.0	
Total Split (%) 20.9% 2 Maximum Green (s) 19.0 Yellow Time (s) 4.0 All-Red Time (s) 1.0 Lost Time Adjust (s) 0.0 Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	29.0		62.0		37.0	25.0	53.0	
Maximum Green (s) 19.0 Yellow Time (s) 4.0 All-Red Time (s) 1.0 Lost Time Adjust (s) 0.0 Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	25.2%		53.9%		32%	22%	46%	
Yellow Time (s) 4.0 All-Red Time (s) 1.0 Lost Time Adjust (s) 0.0 Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	24.0		57.0		32.0	20.0	48.0	
All-Red Time (s) 1.0 Lost Time Adjust (s) 0.0 Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	4.0		4.0		4.0	4.0	4.0	
Lost Time Adjust (s) 0.0 Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	1.0		1.0		1.0	1.0	1.0	
Total Lost Time (s) 5.0 Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	0.0		0.0					
Lead/Lag Lag Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	5.0		5.0					
Lead-Lag Optimize? Yes Vehicle Extension (s) 5.0 Recall Mode C-Max	Lead				Lead	Lag		
Vehicle Extension (s) 5.0 Recall Mode C-Max	Yes				Yes	Yes		
Recall Mode C-Max	2.5		4.0		4.0	5.0	5.0	
	None		None		None	None	C-Max	
Act Effct Green (s) 22.0	49.5	49.5	55.5					
Actuated g/C Ratio 0.19	0.43	0.43	0.48					
v/c Ratio 0.51	0.67	0.50	0.19					
Control Delay 31.6	17.9	12.2	6.5					
Queue Delay 0.0	0.0	0.0	2.4					
Total Delay 31.6	17.9	12.2	8.9					
LOS C	В	В	A					
Approach Delay 31.6		13.9	8.9					
Approach LOS C		В	A					
Queue Length 50th (ft) 87	47	61	22					
Queue Length 95th (ft) 138	65	74	m30					
Internal Link Dist (ft) 482		121	55					
Turn Bay Length (ft)			00					
Base Capacity (vph) 711	471	1486	1669					
Starvation Cap Reductn 0	0	0	1207					
Spillback Cap Reductn 0	0	0	0					
Storage Cap Reductn 0	0	0	0					
Reduced v/c Ratio 0.51	0.65	0.50	0.68					
Intersection Summary								
Area Type: Other								
Cycle Length: 115								
Actuated Cycle Length: 115								
Offset: 57 (50%), Referenced to phase 2:EBT and	6:WBTL	Start of	Green					
Natural Cycle: 70		2.2	2.201					
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.82								
Intersection Signal Delay: 16.7								
Intersection Capacity Utilization 46.8%		ln	tersection	LOS: B				



HCM 6th Edition methodology does not support clustered intersections.

Lanes, Volumes, Timings 2030 Build MIT SAT Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4îb						∱ }			+	
Traffic Volume (vph)	79	527	109	0	0	0	0	218	325	0	422	0
Future Volume (vph)	79	527	109	0	0	0	0	218	325	0	422	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	13	12	16	12
Grade (%)		-1%			0%			0%			1%	
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor								0.99				
Frt		0.977						0.910				
Flt Protected		0.994										
Satd. Flow (prot)	0	3523	0	0	0	0	0	3333	0	0	2121	0
Flt Permitted		0.994										
Satd. Flow (perm)	0	3523	0	0	0	0	0	3333	0	0	2121	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18						285				
Link Speed (mph)		35			30			25			25	
Link Distance (ft)		482			215			270			135	
Travel Time (s)		9.4			4.9			7.4			3.7	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	86	573	118	0	0	0	0	237	353	0	459	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	777	0	0	0	0	0	590	0	0	459	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	0.96	0.96	0.96	1.01	0.85	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2						2			2	
Detector Template	Left	Thru						Thru			Thru	
Leading Detector (ft)	20	100						100			100	
Trailing Detector (ft)	0	0						0			0	
Detector 1 Position(ft)	0	0						0			0	
Detector 1 Size(ft)	20	6						6			6	
Detector 1 Type	CI+Ex	CI+Ex						Cl+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Position(ft)		94						94			94	
Detector 2 Size(ft)		6						6			6	
Detector 2 Type		CI+Ex						Cl+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA			NA	

Synchro 10 Report Page 23 2030 Build MIT SAT Peak af/ms

Lane Group	Ø1	Ø2	Ø6	Ø8		
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Lane Width (ft)						
Grade (%)						
Lane Util. Factor						
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
FIt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
Link Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Confl. Peds. (#/hr)						
Peak Hour Factor						
Heavy Vehicles (%)						
Adj. Flow (vph)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
Link Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
Leading Detector (ft)						
Trailing Detector (ft)						
Detector 1 Position(ft)						
Detector 1 Size(ft)						
Detector 1 Type						
Detector 1 Channel						
Detector 1 Extend (s)						
Detector 1 Queue (s)						
Detector 1 Delay (s)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						

Synchro 10 Report 2030 Build MIT SAT Peak Page 24 af/ms

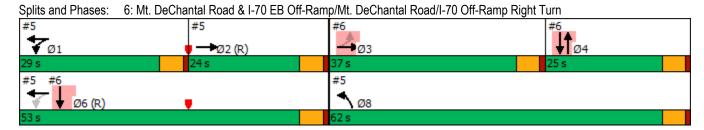
Analysis Period (min) 15

Lanes, Volumes, Timings 2030 Build MIT SAT Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		3						4			6 4	
Permitted Phases	3											
Detector Phase	3	3						4			6 4	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0				
Minimum Split (s)	17.0	17.0						17.0				
Total Split (s)	37.0	37.0						25.0				
Total Split (%)	32.2%	32.2%						21.7%				
Maximum Green (s)	32.0	32.0						20.0				
Yellow Time (s)	4.0	4.0						4.0				
All-Red Time (s)	1.0	1.0						1.0				
Lost Time Adjust (s)		0.0						0.0				
Total Lost Time (s)		5.0						5.0				
Lead/Lag	Lead	Lead						Lag				
Lead-Lag Optimize?	Yes	Yes						Yes				
Vehicle Extension (s)	4.0	4.0						5.0				
Recall Mode	None	None						None				
Act Effct Green (s)		30.5						20.0			74.5	
Actuated g/C Ratio		0.27						0.17			0.65	
v/c Ratio		0.82						0.72			0.33	
Control Delay		46.7						29.3			2.4	
Queue Delay		0.0						0.0			1.1	
Total Delay		46.7						29.3			3.6	
LOS		D						С			Α	
Approach Delay		46.7						29.3			3.6	
Approach LOS		D						С			Α	
Queue Length 50th (ft)		273						126			22	
Queue Length 95th (ft)		348						173			31	
Internal Link Dist (ft)		402			135			190			55	
Turn Bay Length (ft)												
Base Capacity (vph)		993						823			1361	
Starvation Cap Reductn		0						0			647	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.78						0.72			0.64	
Intersection Summary												
Area Type:	Other											
Cycle Length: 115												
Actuated Cycle Length: 11:	5											
Offset: 57 (50%), Reference	ed to phase	2:EBT an	d 6:WBT	L, Start o	f Green							
Natural Cycle: 70												
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.82												
Intersection Signal Delay: 3	30.2			In	itersection	LOS: C						
Intersection Capacity Utiliz	ation 50.9%			IC	CU Level of	of Service	Α					

Synchro 10 Report Page 25 2030 Build MIT SAT Peak af/ms

6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020



Lanes, Volumes, Timings 2030 Build MIT SAT Peak 6: Mt. DeChantal Road & I-70 EB Off-Ramp/Mt. DeChantal Road/I-70 Off-Ramp Right T05/07/2020

Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (%) Maximum Green (s) Yellow Time (s) Lead Lag Lead Lag Lead-Lag Optimize? Vehicle Extension (s) Actuated g/C Ratio V/c Ratio Control Delay Queue Delay Total Delay Los Approach LoS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Storage Cap Reductn Storage Cap Reductn Reduced v/c Ratio	Lane Group	Ø1	Ø2	Ø6	Ø8
Detector Phase Switch Phase	Protected Phases	1	2	6	8
Switch Phase Minimum Initial (s) 5.0 5.0 5.0 5.0 Minimum Split (s) 15.0 20.0 20.0 17.0 Total Split (s) 29.0 24.0 53.0 62.0 Total Split (%) 25% 21% 46% 54% Maximum Green (s) 24.0 19.0 48.0 57.0 Yellow Time (s) 4.0 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead Lag Lead-Lag Optimize? Yes Yes Vehicle Extension (s) 2.5 5.0 5.0 4.0 Recall Mode None C-Max C-Max None Act Effct Green (s) Act Effct Green (s) Act Effct Green (s) Act Effct Green (s) Act Effct Green (s) Approach Delay Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft)	Permitted Phases				
Minimum Initial (s) 5.0 5.0 5.0 5.0 Minimum Split (s) 15.0 20.0 20.0 17.0 Total Split (s) 29.0 24.0 53.0 62.0 Total Split (%) 25% 21% 46% 54% Maximum Green (s) 24.0 19.0 48.0 57.0 Yellow Time (s) 4.0 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead Lag Lead-Lag Optimize? Yes Yes Vehicle Extension (s) 2.5 5.0 5.0 4.0 Recall Mode None C-Max C-Max None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay Los Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Detector Phase				
Minimum Split (s) 15.0 20.0 20.0 17.0 Total Split (s) 29.0 24.0 53.0 62.0 Total Split (%) 25% 21% 46% 54% Maximum Green (s) 24.0 19.0 48.0 57.0 Yellow Time (s) 4.0 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead Lag Lead-Lag Optimize? Yes Yes Vehicle Extension (s) 2.5 5.0 5.0 4.0 Recall Mode None C-Max C-Max None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay Los Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Switch Phase				
Total Split (s)	Minimum Initial (s)	5.0	5.0	5.0	5.0
Total Split (s)		15.0	20.0	20.0	17.0
Total Split (%) 25% 21% 46% 54% Maximum Green (s) 24.0 19.0 48.0 57.0 Yellow Time (s) 4.0 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead Lag Lead-Lag Optimize? Yes Yes Vehicle Extension (s) 2.5 5.0 5.0 4.0 Recall Mode None C-Max C-Max None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn		29.0	24.0	53.0	62.0
Maximum Green (s) Yellow Time (s) All-Red Time (s) All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay Approach LOS Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn		25%	21%	46%	54%
Yellow Time (s) 4.0 4.0 4.0 4.0 All-Red Time (s) 1.0 1.0 1.0 1.0 Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead Lag Lead-Lag Optimize? Yes Yes Vehicle Extension (s) 2.5 5.0 5.0 4.0 Recall Mode None C-Max C-Max None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn		24.0	19.0	48.0	57.0
All-Red Time (s) Lost Time Adjust (s) Total Lost Time (s) Lead/Lag Lead-Lag Optimize? Vehicle Extension (s) Recall Mode Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay Los Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn		4.0	4.0	4.0	4.0
Lost Time Adjust (s) Total Lost Time (s) Lead/Lag		1.0	1.0	1.0	1.0
Total Lost Time (s) Lead/Lag Lead Lag Lead-Lag Optimize? Yes Yes Vehicle Extension (s) 2.5 5.0 5.0 4.0 Recall Mode None C-Max C-Max None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Storage Cap Reductn					
Lead/Lag Detimize? Yes Yes Vehicle Extension (s) 2.5 5.0 5.0 4.0 Recall Mode None C-Max C-Max None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn					
Vehicle Extension (s) Recall Mode None C-Max C-Max None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn		Lead	Lag		
Vehicle Extension (s) Recall Mode None C-Max C-Max None Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn					
Recall Mode Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Storage Cap Reductn		2.5	5.0	5.0	4.0
Act Effct Green (s) Actuated g/C Ratio v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn		None	C-Max	C-Max	None
v/c Ratio Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn	Act Effct Green (s)				
Control Delay Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn	Actuated g/C Ratio				
Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn					
Queue Delay Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Control Delay				
Total Delay LOS Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Queue Delay				
Approach Delay Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn					
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn					
Approach LOS Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Approach Delay				
Queue Length 50th (ft) Queue Length 95th (ft) Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn					
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn					
Internal Link Dist (ft) Turn Bay Length (ft) Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn					
Base Capacity (vph) Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn					
Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	Turn Bay Length (ft)				
Starvation Cap Reductn Spillback Cap Reductn Storage Cap Reductn	, ,				
Spillback Cap Reductn Storage Cap Reductn					
Storage Cap Reductn					
<u> </u>					
Intersection Summary	Intersection Summary				

Synchro 10 Report Page 27 2030 Build MIT SAT Peak af/ms

HCM 6th Edition methodology does not support clustered intersections.

Synchro 10 Report 2030 Build MIT SAT Peak Page 28 af/ms

	→	7	F	•	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	^			ተተተ		77
Traffic Volume (vph)	204	0	0	991	0	852
Future Volume (vph)	204	0	0	991	0	852
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	11	12	12
Grade (%)	0%			0%	-2%	
Storage Length (ft)		0	590		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.91	1.00	0.88
Ped Bike Factor						
Frt						0.850
Flt Protected						
Satd. Flow (prot)	3198	0	0	4442	0	2543
Flt Permitted						
Satd. Flow (perm)	3198	0	0	4442	0	2543
Link Speed (mph)	35			35	35	
Link Distance (ft)	201			1133	215	
Travel Time (s)	3.9			22.1	4.2	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	0%	1%	0%	1%
Adj. Flow (vph)	219	0	0	1066	0	916
Shared Lane Traffic (%)						
Lane Group Flow (vph)	219	0	0	1066	0	916
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	1			1	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	1.15	1.15	1.20	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	
Intersection Summary	Other					
Area Type: Control Type: Unsignalized	Other					
	tion 16 70/			10	الامروا	of Convice
Intersection Capacity Utilizat	uon 40.7%			IC	U Level (of Service
Analysis Period (min) 15						

Synchro 10 Report Page 29 2030 Build MIT SAT Peak af/ms

7: Mt. DeChantal Road/I-70 C	Jtt Dame	Dialet Ti	יייים סווכ	10 Notional Dood
7° Mil DeChaniai Road/i-70 C	m-Ramo	RIONITI	UM & US	40 Nahonal Road
7. Mil. Boomanian Road, 170 C	711 I KAIIIP		aiii	io i tationai i toaa

Movement EBT EBR WBL WBT NEL NER	
Lane Configurations †† ††	
Traffic Volume (veh/h) 204 0 0 991 0 852	
Future Volume (Veh/h) 204 0 0 991 0 852	
Sign Control Free Free Yield	
Grade 0% 0% -2%	
Peak Hour Factor 0.93 0.93 0.93 0.93 0.93	
Hourly flow rate (vph) 219 0 0 1066 0 916	
Pedestrians 2	
Lane Width (ft) 12.0	
Walking Speed (ft/s) 3.5	
Percent Blockage 0	
Right turn flare (veh)	
Median type None TWLTL	
Median storage veh) 2	
Upstream signal (ft) 201 1133	
pX, platoon unblocked	
vC, conflicting volume 221 576 112	
vC1, stage 1 conf vol 221	
vC2, stage 2 conf vol 355	
vCu, unblocked vol 221 576 112	
tC, single (s) 4.1 6.8 6.9	
tC, 2 stage (s) 5.8	
tF (s) 2.2 3.5 3.3	
p0 queue free % 100 100 1	
cM capacity (veh/h) 1357 621 922	
Direction, Lane # EB 1 EB 2 WB 1 WB 2 WB 3 NE 1 NE 2	
Volume Total 110 110 355 355 458 458	
Volume Left 0 0 0 0 0 0	
Volume Right 0 0 0 0 0 458 458	
cSH 1700 1700 1700 1700 922 922	
Volume to Capacity 0.06 0.06 0.21 0.21 0.50 0.50	
Queue Length 95th (ft) 0 0 0 0 71 71	
Control Delay (s) 0.0 0.0 0.0 0.0 12.7 12.7	
Lane LOS B B	
Approach Delay (s) 0.0 0.0 12.7	
Approach LOS B	
Intersection Summary	
Average Delay 5.3	
Intersection Capacity Utilization 46.7% ICU Level of Service A	1
Analysis Period (min) 15	

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				7		7	7	†			1>	
Traffic Volume (vph)	0	0	0	2	0	166	74	355	0	0	309	222
Future Volume (vph)	0	0	0	2	0	166	74	355	0	0	309	222
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	16	12	14	12	12	12	12	12	12
Grade (%)		1%			-1%			-1%			1%	
Storage Length (ft)	0		0	0		0	170		0	0		0
Storage Lanes	0		0	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850					0.943	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1839	0	1549	1546	1675	0	0	1579	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1839	0	1549	1546	1675	0	0	1579	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		255			201			477			270	
Travel Time (s)		5.8			5.5			13.0			7.4	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	2%	0%	0%	1%	1%
Adj. Flow (vph)	0	0	0	2	0	175	78	374	0	0	325	234
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	2	0	175	78	374	0	0	559	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.16	1.16	1.16	0.98	1.15	1.06	1.15	1.15	1.15	1.16	1.16	1.16
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utilizati	on 51.3%			IC	CU Level	of Service	A A					
A1 -1 - D - 1 - 1 / -1 - \ 45												

Analysis Period (min) 15

Synchro 10 Report Page 30 2030 Build MIT SAT Peak af/ms

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				ሻ		7	ሻ				î,	
Traffic Vol, veh/h	0	0	0	2	0	166	74	355	0	0	309	222
Future Vol, veh/h	0	0	0	2	0	166	74	355	0	0	309	222
Conflicting Peds, #/hr	0	0	1	1	0	0	1	0	3	3	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	·-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	170	-	-	-	-	-
Veh in Median Storage,	# -	2	-	-	0	-	_	0	-	-	0	-
Grade, %	-	1	-	-	-1	-	-	-1	-	-	1	-
Peak Hour Factor	92	92	92	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	5	2	0	0	1	1
Mvmt Flow	0	0	0	2	0	175	78	374	0	0	325	234
Major/Minor			<u> </u>	Minor1			Major1		N	/lajor2		
Conflicting Flow All				973	-	374	560	0	-	-	-	0
Stage 1				530	-	-	-	-	-	-	-	-
Stage 2				443	-	-	-	-	-	-	-	-
Critical Hdwy				6.2	-	6.1	4.15	-	-	-	-	-
Critical Hdwy Stg 1				5.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.2	-	-	-	-	-	-	-	-
Follow-up Hdwy				3.5	-	3.3	2.245	-	-	-	-	-
Pot Cap-1 Maneuver				298	0	684	996	-	0	0	-	-
Stage 1				612	0	-	-	-	0	0	-	-
Stage 2				668	0	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				274	0	684	996	-	-	-	-	-
Mov Cap-2 Maneuver				274	0	-	-	-	-	-	-	-
Stage 1				564	0	-	-	-	-	-	-	-
Stage 2				667	0	-	-	-	-	-	-	-
Ü												
Approach				WB			NB			SB		
HCM Control Delay, s				12.2			1.5			0		
HCM LOS				В								
Minor Lane/Major Mvmt		NBL	NBTV	VBLn1V		SBT	SBR					
Capacity (veh/h)		996	-	274	684	-	-					
HCM Lane V/C Ratio		0.078	-	0.008		-	-					
HCM Control Delay (s)		8.9	-	18.2	12.1	-	-					
HCM Lane LOS		Α	-	С	В	-	-					
HCM 95th %tile Q(veh)		0.3	-	0	1	-	-					

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ች	7	†	7	ሻ	<u></u>
Traffic Volume (vph)	7	120	292	98	224	57
Future Volume (vph)	7	120	292	98	224	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	14	13	14
Grade (%)	2%	10	1%	17	10	1%
,		80	1 /0	120	210	1 /0
Storage Length (ft) Storage Lanes	0	1		120		
•		T		T	1	
Taper Length (ft)	25	4.00	4.00	4.00	25	4.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
FIt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1620	1853	1697	1837	2017
Flt Permitted	0.950				0.527	
Satd. Flow (perm)	1787	1620	1853	1697	1019	2017
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		128		104		
Link Speed (mph)	25		25			25
Link Distance (ft)	249		332			477
Travel Time (s)	6.8		9.1			13.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0.94	2%	2%	1%	1%	0.34
, ,	7	128	311	104	238	61
Adj. Flow (vph)		120	311	104	230	01
Shared Lane Traffic (%)	_	400	044	404	000	0.4
Lane Group Flow (vph)	7	128	311	104	238	61
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		13			13
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	0.97	1.01	0.92	0.96	0.92
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	
· /			0			0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
			0.0			0.0

	•	•	T		-	¥
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	17.0	17.0	30.0	30.0	15.0	30.0
Total Split (s)	25.0	25.0	70.0	70.0	20.0	90.0
Total Split (%)	21.7%	21.7%	60.9%	60.9%	17.4%	78.3%
Maximum Green (s)	20.0	20.0	65.0	65.0	15.0	85.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	3.0	5.0
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	9.2	9.2	82.3	82.3	95.8	95.8
Actuated g/C Ratio	0.08	0.08	0.72	0.72	0.83	0.83
v/c Ratio	0.05	0.52	0.23	0.08	0.26	0.04
Control Delay	47.7	16.1	6.6	1.4	2.3	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	16.1	6.6	1.4	2.3	1.6
LOS	D	В	Α	Α	Α	Α
Approach Delay	17.7		5.3			2.2
Approach LOS	В		Α			Α
Queue Length 50th (ft)	5	0	65	0	21	5
Queue Length 95th (ft)	19	57	128	18	m34	m11
Internal Link Dist (ft)	169		252			397
Turn Bay Length (ft)		80		120	210	
Base Capacity (vph)	310	387	1326	1244	955	1679
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.33	0.23	0.08	0.25	0.04
Intersection Summary						
	Oll					
Area Type:	Other					
Cycle Length: 115	_					
Actuated Cycle Length: 11		O NET		. 0	. 0	
Offset: 41 (36%), Reference	ced to phase	2:NB1 a	nd 6:SBT	L, Start o	Green	
Natural Cycle: 65						

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 6.2 Intersection LOS: A Intersection Capacity Utilization 44.4% ICU Level of Service A

Analysis Period (min) 15

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



	•	4	†	/	-	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	7	1	7	ሻ	†
Traffic Volume (veh/h)	7	120	292	98	224	57
Future Volume (veh/h)	7	120	292	98	224	57
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1876	1921	1864	1954	1954	1970
Adj Flow Rate, veh/h	7	128	311	104	238	61
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	1	1	0
Cap, veh/h	174	159	1345	1195	832	1606
Arrive On Green	0.10	0.10	0.72	0.72	0.02	0.27
Sat Flow, veh/h	1787	1628	1864	1656	1861	1970
Grp Volume(v), veh/h	7	128	311	104	238	61
Grp Sat Flow(s),veh/h/ln	1787	1628	1864	1656	1861	1970
Q Serve(g_s), s	0.4	8.9	6.4	2.1	3.3	2.6
Cycle Q Clear(g_c), s	0.4	8.9	6.4	2.1	3.3	2.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	174	159	1345	1195	832	1606
V/C Ratio(X)	0.04	0.81	0.23	0.09	0.29	0.04
Avail Cap(c_a), veh/h	311	283	1345	1195	981	1606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	50.8	5.4	4.8	3.4	8.7
Incr Delay (d2), s/veh	0.2	18.1	0.4	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.4	2.5	0.7	1.2	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	47.2	68.9	5.8	4.9	3.6	8.8
LnGrp LOS	D	E	Α	Α	Α	Α
Approach Vol, veh/h	135		415			299
Approach Delay, s/veh	67.8		5.5			4.7
Approach LOS	E		A			A
	_	^				
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.8	88.0		16.2		98.8
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	65.0		20.0		85.0
Max Q Clear Time (g_c+I1), s	5.3	8.4		10.9		4.6
Green Ext Time (p_c), s	0.5	5.4		0.5		8.0
Intersection Summary						
HCM 6th Ctrl Delay			15.1			
HCM 6th LOS			В			
TIGIVI OUI LOO			D			

	→	7	/	←	•	/
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	∱ }			414		
Traffic Volume (vph)	284	69	610	400	0	0
Future Volume (vph)	284	69	610	400	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	16	14	12	12	12
Grade (%)	0%			0%	3%	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.971					
Flt Protected				0.971		
Satd. Flow (prot)	3099	0	0	3093	0	0
FIt Permitted				0.971		
Satd. Flow (perm)	3099	0	0	3093	0	0
Link Speed (mph)	35			35	30	
Link Distance (ft)	557			562	954	
Travel Time (s)	10.9			10.9	21.7	
Confl. Peds. (#/hr)		4	4			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	1%	2%	0%	0%
Adj. Flow (vph)	299	73	642	421	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	372	0	0	1063	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.15	0.98	1.06	1.15	1.18	1.18
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
	Other					
Control Type: Unsignalized	Ou IGI					
Intersection Capacity Utilizat	tion 56 0%			IC	ا ا معاد	of Service E
Analysis Period (min) 15	1011 30.0 /0			10	O LEVEL	DI OCIVICE E
Analysis Feliou (IIIII) 15						

	-	7	*	←	•	/
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	† ‡			414		
Traffic Volume (veh/h)	284	69	610	400	0	0
Future Volume (Veh/h)	284	69	610	400	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	3%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	299	73	642	421	0	0
Pedestrians					4	
Lane Width (ft)					0.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)					-	
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)				562		
pX, platoon unblocked					0.85	
vC, conflicting volume			303		1834	190
vC1, stage 1 conf vol					340	
vC2, stage 2 conf vol					1494	
vCu, unblocked vol			303		1621	190
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			49		100	100
cM capacity (veh/h)			1262		99	826
Direction, Lane #	EB 1	EB 2	WB 1	WB 2		
Volume Total	199	173	782	281		
Volume Left	0	0	642	0		
Volume Right	0	73	0	0		
cSH	1700	1700	1262	1700		
Volume to Capacity	0.12	0.10	0.51	0.17		
Queue Length 95th (ft)	0	0	75	0		
Control Delay (s)	0.0	0.0	9.9	0.0		
Lane LOS			Α			
Approach Delay (s)	0.0		7.3			
Approach LOS						
Intersection Summary						
Average Delay			5.4			
Intersection Capacity Utiliza	ation		56.0%	IC	U Level c	f Service
Analysis Period (min)			15			

Lanes, Volumes, Timings 11: Bethany Pike/Oglebay Drive & Warden Run Road

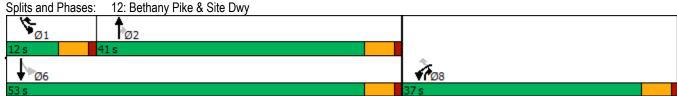
	•	•	†	<i>></i>	/	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		ĥ			ર્ન
Traffic Volume (vph)	61	8	201	61	10	185
Future Volume (vph)	61	8	201	61	10	185
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Lane Width (ft)	12	12	12	12	11	11
Grade (%)	3%		-2%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.984		0.969			
Flt Protected	0.958					0.997
Satd. Flow (prot)	1579	0	1664	0	0	1561
Flt Permitted	0.958					0.997
Satd. Flow (perm)	1579	0	1664	0	0	1561
Link Speed (mph)	30		30			30
Link Distance (ft)	1796		396			959
Travel Time (s)	40.8		9.0			21.8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%
Adj. Flow (vph)	67	9	221	67	11	203
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	288	0	0	214
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12	<u> </u>	0	<u> </u>		0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.18	1.18	1.14	1.14	1.23	1.23
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop	-	Free	-		Free
· ·	- 1-1-					
Intersection Summary						
71	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	tion 31.0%			IC	U Level	of Service
Analysis Period (min) 15						

Synchro 10 Report Page 37 2030 Build MIT SAT Peak af/ms

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	**	11511	1	11511	UDL	<u>€</u>
Traffic Vol, veh/h	61	8	201	61	10	185
Future Vol, veh/h	61	8	201	61	10	185
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None			-	None
Storage Length	0	-	_	-	_	-
Veh in Median Storage,		_	0	-	_	0
Grade, %	3	_	-2	_	_	4
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	67	9	221	67	11	203
IVIVIII(I IOW	O1	9	221	O1	- 11	200
Major/Minor N	1inor1		Major1	ı	Major2	
Conflicting Flow All	480	255	0	0	288	0
Stage 1	255	-	-	-	-	-
Stage 2	225	-	-	-	-	-
Critical Hdwy	7	6.5	-	-	4.1	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	506	772	-	-	1286	-
Stage 1	759	_	-	-	-	-
Stage 2	787	_	_	-	-	-
Platoon blocked, %			-	_		_
Mov Cap-1 Maneuver	501	772	_	-	1286	-
Mov Cap-2 Maneuver	501	-	_	_	-	_
Stage 1	759	_	_	_	_	_
Stage 2	779	_		_	_	_
Olage Z	113	_				
Approach	WB		NB		SB	
HCM Control Delay, s	13.1		0		0.4	
HCM LOS	В					
Minor Lang/Major Mumt		NPT	MPD	MRI n1	CDI	CDI
Minor Lane/Major Mvmt		NBT		WBLn1	SBL	SBT
Capacity (veh/h)		-	-	522	1286	-
Capacity (veh/h) HCM Lane V/C Ratio		-	-	522 0.145	1286 0.009	<u>-</u> -
Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)		- - -	- - -	522 0.145 13.1	1286 0.009 7.8	- - 0
Capacity (veh/h) HCM Lane V/C Ratio		-	-	522 0.145	1286 0.009	<u>-</u> -

	•	4	†	/	/	ţ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻ	7	<u> </u>	7	ኘ	<u> </u>
Traffic Volume (vph)	308	18	368	356	20	389
Future Volume (vph)	308	18	368	356	20	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%	1900	-1%	1900	1900	-2%
. ,		^	-170	175	200	-270
Storage Length (ft)	0	0		475	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	4.55	4.55		75	4.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1872	1591	1787	1881
Flt Permitted	0.950				0.300	
Satd. Flow (perm)	1770	1583	1872	1591	564	1881
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		20		396		
Link Speed (mph)	30		30	300		30
Link Distance (ft)	660		3796			747
Travel Time (s)	15.0		86.3			17.0
. ,	0.90	0.00	0.90	0.00	0.00	0.90
Peak Hour Factor		0.90		0.90	0.90	
Adj. Flow (vph)	342	20	409	396	22	432
Shared Lane Traffic (%)	0.16	00	100	000	22	100
Lane Group Flow (vph)	342	20	409	396	22	432
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9	0.00	9	15	0.00
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
• ,						
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	CI+Ex	CI+Ex	Cl+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			CI+Ex
Detector 2 Channel			O₁. LX			OI · LX
Detector 2 Extend (s)			0.0			0.0
	Drot	nmiau		nmuov	nmint	NA
Turn Type	Prot	pm+ov	NA	pm+ov	pm+pt	
Protected Phases	8	1	2	8	1	6

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8		2	6	
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	12.0	23.0	23.0	12.0	23.0
Total Split (s)	37.0	12.0	41.0	37.0	12.0	53.0
Total Split (%)	41.1%	13.3%	45.6%	41.1%	13.3%	58.9%
Maximum Green (s)	32.0	7.0	36.0	32.0	7.0	48.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	17.3	29.9	18.7	46.2	21.9	21.9
Actuated g/C Ratio	0.34	0.59	0.37	0.91	0.43	0.43
v/c Ratio	0.57	0.02	0.60	0.27	0.05	0.53
Control Delay	20.2	4.7	19.3	0.7	8.9	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	4.7	19.3	0.7	8.9	13.2
LOS	С	Α	В	Α	Α	В
Approach Delay	19.4		10.1			13.0
Approach LOS	В		В			В
Queue Length 50th (ft)	64	0	77	0	3	83
Queue Length 95th (ft)	220	10	253	13	16	198
Internal Link Dist (ft)	580		3716			667
Turn Bay Length (ft)				475	300	
Base Capacity (vph)	1253	981	1419	1519	439	1627
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.02	0.29	0.26	0.05	0.27
Intersection Summary	Other					
Area Type:	Other					
Cycle Length: 90	٠.					
Actuated Cycle Length: 50	J.8					
Natural Cycle: 60						
Control Type: Actuated-U	ncoordinated					
Maximum v/c Ratio: 0.60	12.0			I.,		- I OC. D
Intersection Signal Delay:					ntersection	
Intersection Capacity Utiliz	ZaliUH 45.9%			10	Level	of Service
Analysis Period (min) 15						
Splits and Phases: 12:	Bethany Pike	& Site D	wv			



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Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	7	7	†	7	ሻ	†	
Traffic Volume (veh/h)	308	18	368	356	20	389	
Future Volume (veh/h)	308	18	368	356	20	389	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1909	1909	1949	1949	
Adj Flow Rate, veh/h	342	20	409	396	22	432	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	448	442	649	957	346	963	
Arrive On Green	0.25	0.25	0.34	0.34	0.03	0.49	
Sat Flow, veh/h	1781	1585	1909	1618	1856	1949	
Grp Volume(v), veh/h	342	20	409	396	22	432	
Grp Sat Flow(s),veh/h/ln	1781	1585	1909	1618	1856	1949	
Q Serve(g_s), s	7.0	0.4	7.1	5.2	0.3	5.7	
Cycle Q Clear(g_c), s	7.0	0.4	7.1	5.2	0.3	5.7	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	448	442	649	957	346	963	
V/C Ratio(X)	0.76	0.05	0.63	0.41	0.06	0.45	
Avail Cap(c_a), veh/h	1450	1333	1748	1889	626	2379	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	13.6	10.4	10.9	4.3	7.8	6.5	
Incr Delay (d2), s/veh	2.7	0.0	1.0	0.3	0.1	0.3	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	2.6	0.1	2.4	2.3	0.1	1.6	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	16.4	10.4	11.9	4.6	7.9	6.8	
LnGrp LOS	В	В	В	Α	Α	Α	
Approach Vol, veh/h	362		805			454	
Approach Delay, s/veh	16.0		8.3			6.8	
Approach LOS	В		Α			Α	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	6.1	18.4				24.4	14.9
Change Period (Y+Rc), s	5.0	5.0				5.0	5.0
Max Green Setting (Gmax), s	7.0	36.0				48.0	32.0
Max Q Clear Time (g_c+l1), s	2.3	9.1				7.7	9.0
Green Ext Time (p_c), s	0.0	4.3				3.0	1.1
Intersection Summary							
HCM 6th Ctrl Delay			9.6				
HCM 6th LOS			A				

	-	•	•	←	•	~
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	f)			4	W	
Traffic Volume (vph)	63	8	20	62	7	18
Future Volume (vph)	63	8	20	62	7	18
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Grade (%)	0%			3%	0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.985				0.904	
Flt Protected				0.988	0.986	
Satd. Flow (prot)	1642	0	0	1622	1486	0
FIt Permitted				0.988	0.986	
Satd. Flow (perm)	1642	0	0	1622	1486	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	1796			721	825	
Travel Time (s)	49.0			19.7	22.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	70	9	22	69	8	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	0	0	91	28	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.15	1.15	1.18	1.18	1.15	1.15
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
71	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizat	tion 21.5%			IC	CU Level o	of Service
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	<u> </u>			4	¥	
Traffic Vol, veh/h	63	8	20	62	7	18
Future Vol, veh/h	63	8	20	62	7	18
Conflicting Peds, #/hr		0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-		-	None
Storage Length	_	-	_	-	0	-
Veh in Median Storag	ie,# 0	_	_	0	0	_
Grade, %	0	_	_	3	0	_
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	70	9	22	69	8	20
IVIVIIILI IOW	10	9	22	03	U	20
Major/Minor	Major1	1	Major2	N	Minor1	
Conflicting Flow All	0	0	79	0	188	75
Stage 1	-	-	-	-	75	-
Stage 2	-	-	-	-	113	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1519	-	801	986
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver		-	1519	-	789	986
Mov Cap-2 Maneuver		-	-	_	789	-
Stage 1	_	-	-	_	948	_
Stage 2	_	_	_	_	898	_
otago 2					000	
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.8		9	
HCM LOS					Α	
Minor Lane/Major Mvi	mt l	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		922		-		-
HCM Lane V/C Ratio		0.03	_		0.015	_
HCM Control Delay (s		9	_	_	7.4	0
HCM Lane LOS	7	A	_	_	A	A
HCM 95th %tile Q(vel	h)	0.1	_	_	0	-
,	1					



Appendix K. Turn Lane Warrant Evaluation

Project:		GC&P Beth	any Pike (W	/V 88) Mixed	d-Use Deve	lopment TIS					Calculatio	ns:	M	DS
Intersecti	on	WV 88 (Bethany Pike) and Site Dr		v coj mixo	2 000 0010	iopinioni 110					Guiodiatio		140	
		Name: WV 88 Beth					II C	T. T. T. C	·		Date:		5/8	3/20
Mainline		Speed Limit (mph): 30				 -	5	IAHL	HEAF	FER	Checked b	y:	J <i>A</i>	∖G
		Approach Direction: SB					T	TAHLS NGIN	пред	NIC	Date:		5/8	3/20
		Name: Site Drivew	ay					MOII	EEKI	NG	Sourc	e: AASHTC), <u>A Policy</u> (on the
Side Stre	et	Speed Limit (mph): 25									<u>Geome</u>	etric Design	of Highwa	ys and
												Streets	<u>s</u> , 2011	
Left-Tur	n Lane Wa	arrant SB Left Turn	<u>Lane</u>			w	/ 88 (B	Bethany P	ike) and S	Site Drive	way			
Warrant S	Satisfied?			No							X	Yes		
		SCENARIO	2030 Bı	uild With Deve	lopment									
		SCENARIO	AM Peak	PM Peak	Saturday Peak									
	Speed, MPH		30	30	30									
	# of Signal Ph	nases (U=Unsignalized)	3	3	3									
	Cycles/Hour	If unknown or Unsignalized = 40 cycles per hour (per TED 106-2)	40	40	40									
		Left Turn Volume (vph)	13	17	20									
	Left Turn Volume	% Heavy Vehiclees	2.00%	2.00%	2.00%									
Traffic	Volume	Adjusted Volume (vph)	13	18	13									
Factors		Total Volume (vph)	588	509	409									
	Advancing	% Heavy Vehicles	2.00%	2.00%	2.00%									
	Volume	Adjusted Volume (vph)	606	524	421									
		% Adjusted Left-Turns	2%	3%	3%									
	Opposing	Total Volume (vph)	614	854	724									
	Opposing Volume	% Heavy Vehicles	2.00%	2.00%	2.00%									
		Adjusted Volume (vph)	632	880	746									
	Warranting ad	dvancing volume (VA)	670	417	501									
Warrant Sat			YES	YES	NO									
	Storage (Feet)		16	23	-									
Required St AASHTO.	Required Storage (Feet) Minimum Required is 125 Feet. Rounded to next 25 Feet. Per IASHTO.			125	-									

Project:		GC&P Bethany Pike (W			evelopmen	t TIS		Calculatio	ns:			MDS	
				hany Pike				Date:				5/8/20	
Street		Speed Limit (mph): 3			NDI	NDT	NDD	Checked b	oy:			JAG	
		Approach Direction: N Name: S	ਲ ite Drivev	VOV	NBL	NBT	NBR	Date:	_			5/8/20	
Intersect	ing St	Speed Limit (mph): 2		vay				STAI	ılShi	EAFFEI	3		
		opoda ziiiik (iiipii).											
Intersect	ion:	WV 88 (Bethany Pike) a	and Site	Driveway				FINC	JINEI	ERINC	J	Source: NCH	RP Report 457
Right-T	urn Lane	Warrant (2 LANE Re	OAD, L	ESS THA	N 45 MPI	<u>NB</u>	Right Tu	urn Lane		(Bethan)	y Pike) ar		riveway age length
160 -													
140 -													
1.0		\ \											
120 -													
		\											
100 -													
80 -													
00													
60 -													
40 -													
20 -													
20													
0 -													
20	00	400		600		80	00		1000		1200		
				2030 Bu	ild With Deve	lopment							
		SCENARIO		AM Peak	PM Peak	Saturday					1	1	
	Spood MDU					Peak						1	
	Speed, MPH # of Signal P	hases (U=Unsignalized)		30	30	30 3				1	 	+	
	signall				,						t	†	
	Cycles/Hour	If unknown or Unsignalized = 40 cycles per h TED 106-2)	our (per	40	40	40							
Traffic Factors	A	Volume (vph)		614	854	724				<u> </u>			
. 20.019	Approach Total	% Heavy Vehicles		2.00%	2.00%	2.00%							
		Adjusted Volume (vph) Volume (vph)		632 230	880 296	746 356	1			1	-	1	
	Right Turns			0.00%	0.00%	2.00%					 	+	
]	Adjusted Volume (vph)		230	296	367						†	
	Warranting \			51	34	42							
Warrant Sa				YES	YES	YES							
	Storage (Feet)			288	370	459		<u> </u>		ļ		ļ	
Feet. Per AASI	iorage (Feet) /	Minimum Required is 125 Feet. Rounded t	o next 25	300	375	475							