CARPENTER MARTY transportation

Forest Ridge Development

Traffic Impact Study

Prepared for: Watcon Consulting Engineers, LLC
April 8, 2021

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614.656.2424
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I. Purpose of Report & Study Objectives

The purpose of this traffic analysis and report is to document the potential traffic impacts of a proposed single-family development located in Pataskala, Ohio. This traffic impact study (TIS) is required by the City of Pataskala as part of the development approval process. The signed Memorandum of Understanding can be found in **Appendix A**.

II. Proposed Development

A. Off-Site Developments

The study area is bounded by SR-310 to the east, Morse Road to the north, and Broad Street to the south. The surrounding area is largely undeveloped except for residential developments and single-family homes located along SR-310 to the north and south.

B. On-Site Development

Location

The site is located on the east side of SR-310 between Morse Road and Broad Street in Pataskala, Ohio. **Figure 1** shows the location of the proposed site in central Ohio and **Figure 2** shows the study area.

Figure 1 – Location in Central Ohio

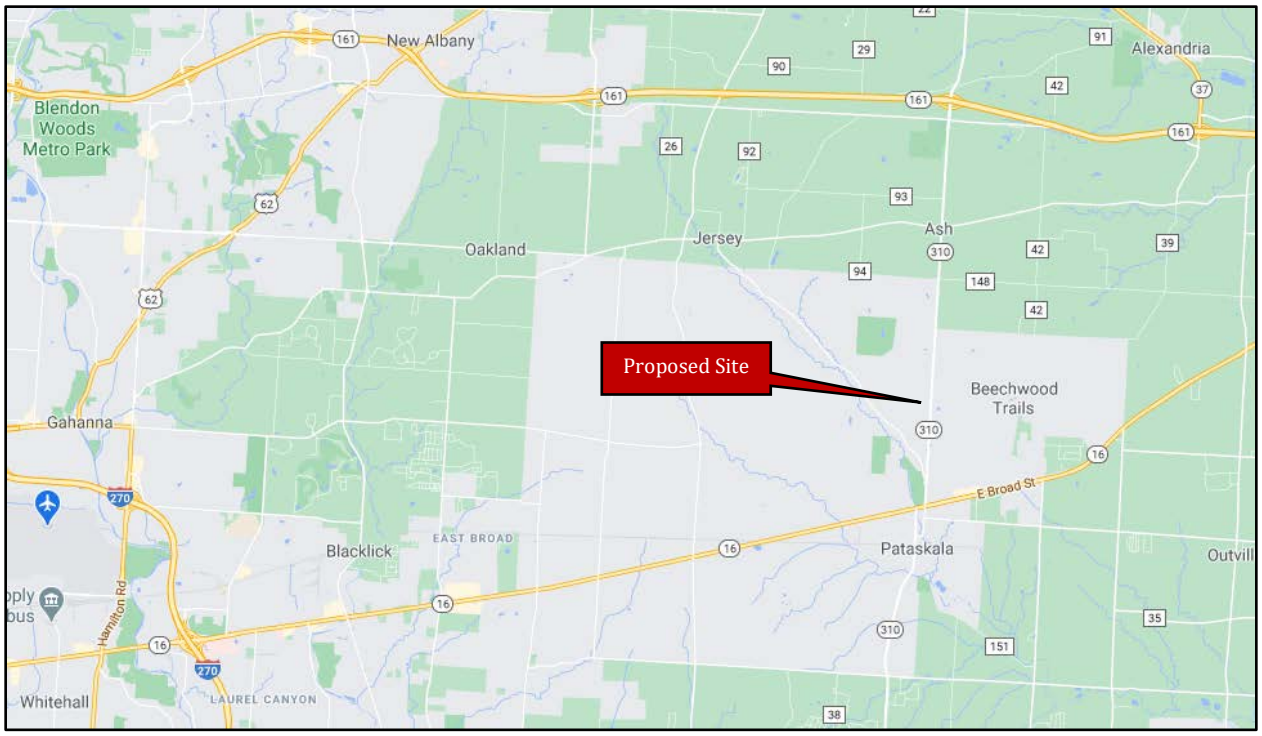
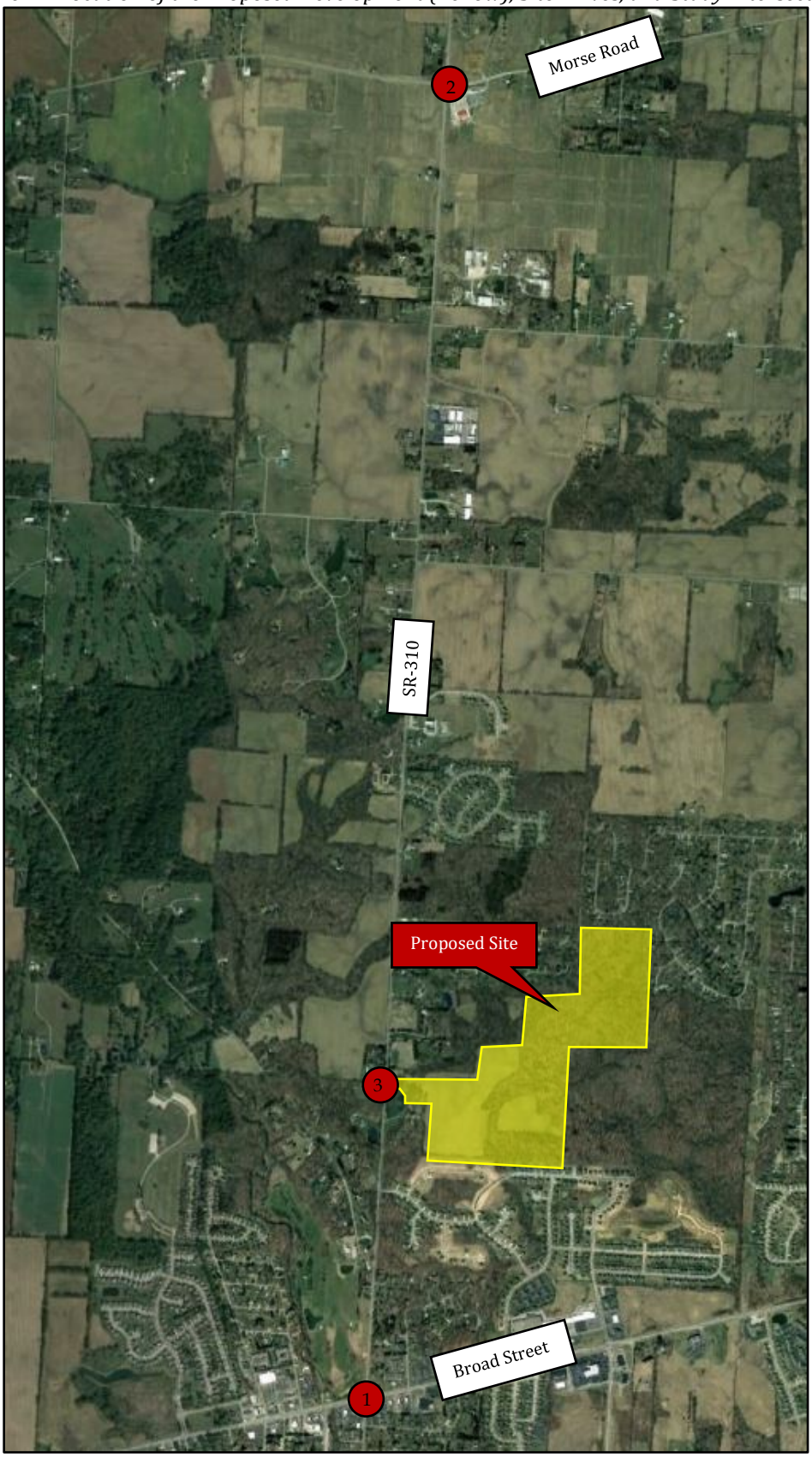


Figure 2 – Location of the Proposed Development (Yellow), Site Drives, and Study Intersections



Land Use & Intensity

The site is currently undeveloped green space. The site is proposed to be developed with 255 single-family units. The development is proposed to have one full access point to SR-310.

The site plan is provided in **Appendix A.**

III. Area Conditions

A. Area of Influence

The study intersections for the proposed development are listed below. Numbers correspond to **Figure 2**.

1. Broad Street & SR-310
2. Morse Road & SR-310
3. SR-310 & Site Access

B. Jurisdictions

The proposed site and study intersections #1 and #3 are under the jurisdiction of the City of Pataskala. Intersection #2 is under Licking County jurisdiction.

C. Traffic Volumes & Conditions

Turning movement counts were collected at the intersection of Morse Road & SR-310 from 6 AM to 7 PM by Carpenter Marty Transportation on March 11, 2021. Turning movement counts for the intersection of Broad Street & SR-310 were collected in April of 2019 and provided by the City. The City also provided existing signal timings for the Broad Street intersection which were utilized in the baseline analysis. Count data and existing signal timings can be found in **Appendix B.**

IV. Projected Traffic

A. Background Traffic

For analysis, the Opening Year of the development is 2022 and the Design, or Horizon Year, is 2042. Linear, annual growth rates for the Broad Street intersection from a previous study were provided by the City. As no historical data could be found for the Morse Road intersection, the highest growth rate provided for the Broad Street intersection was used as a blanket growth rate for the study area. This approach is expected to produce conservative analysis results. The blanket growth rate of 2% was applied to the count data to develop Background, or No Build, traffic for the Opening and Horizon Years. Growth rates provided by the City can be seen in **Appendix B**.

B. Site Traffic

Trip Generation

Trips for the proposed site were generated using standard Institute of Transportation Engineers (ITE) practices and the *Trip Generation Manual*, 10th edition, data via the OTISS program[1]. Land Use Code *(LUC) 210 – Single-Family Detached Housing* was used to generate trips for the proposed development. Trip generation was submitted to the City for review

[1] Online Traffic Impact Study Software developed by ITE and Transoft Solutions.

with the MOU. **Table 1** shows the trip generation of the proposed development. Pass-by and internal capture reductions do not apply to this land use. The full trip generation details can be found in **Appendix C.**

Table 1 – Proposed Site Trip Generation Summary

Land Use	Size	AM Peak		PM Peak	
		Entry	Exit	Entry	Exit
210 – Single-Family Detached Housing	255 Dwelling Units	46	139	157	92

Site traffic was distributed to/from the site based on count data, knowledge of the surrounding area, and engineering judgement. Site traffic was added to the No Build traffic to produce Build traffic for the Opening and Horizon Years. The full volume calculations can be found in **Appendix D.**

V. Traffic Analysis

A. Turn Lane Warrant Analysis

Turn lane warrant analysis was conducted at the Site Access intersection using standard ODOT turn lane warrant graphs. If a turn lane was warranted in any particular scenario, the length was calculated using methodologies in the ODOT Location and Design (L&D) Manual. SR-310 has a speed limit of 50 mph along the site frontage. Therefore, a design speed of 55 mph was utilized for the turn lane warrant analysis.

B. Capacity Analysis

The Highway Capacity Manual (HCM) 6th Edition module of the Synchro 10 software was used to analyze capacity at all study intersections. A minimum Level-of-Service (LOS) of D for the overall intersection, approaches, and individual movement during peak traffic hours was considered acceptable at each intersection. If an intersection fell below these criteria, mitigation strategies were developed to bring each movement back to an acceptable LOS. Baseline analysis was conducted at the Site Access intersection assuming both unsignalized and signalized intersection control.

C. Sight Distance

Sight distance exhibits were developed per ODOT standards and the example sheet provided by the City to identify the minimum sight lines required for the Site Access intersection. A posted speed of 50 mph and a high-speed design speed of 60 mph were utilized.

VI. Results

A. Turn Lane Warrant Analysis

Results of the turn lane warrant analyses show that a 285' southbound left turn lane and a 285' northbound right turn lane are warranted at the Site Access intersection in both analysis years. Turn lane lengths are inclusive of a 50' diverging taper. The full turn lane warrant analysis can be found in **Appendix E.**

Baseline analysis assumed both warranted turn lanes were installed in the unsignalized Site Access analysis. Signalized analysis assumed only the southbound left turn lane would be installed.

B. Capacity Analysis

Results of the capacity analysis for the study intersections can be seen in **Table 2**. Baseline analysis assumes existing signal timings at the intersection of Broad Street & SR-310. It was assumed that pattern 1/1/1 applied to the AM peak and pattern 3/3/3 applied to the PM peak. Planning-level signal timings and clearance intervals were utilized at the intersection of Morse Road & SR-310 and the signalized intersection analysis for the Site Access intersection with SR-310. The total intersection delay for stop-controlled intersections is represented by the highest approach delay. Red text denotes delays that exceed acceptable criteria. The full capacity analysis can be found in **Appendix F.**

Table 2 – Baseline Capacity Analysis Summary

Intersection	Approach/ Movement	Opening Year				Horizon Year			
		AM No Build	AM Build	PM No Build	PM Build	AM No Build	AM Build	PM No Build	PM Build
Broad Street & SR-310	EB	B/16.0	B/16.7	C/27.5	D/38.0	C/32.3	D/36.9	E/72.3	F/93.8
	WB	C/28.7	C/29.9	D/40.7	D/45.4	F/140.8	F/144.1	F/143.0	F/154.3
	NB	D/35.7	D/36.5	C/32.5	C/33.4	D/43.3	D/44.4	D/38.1	D/39.7
	SB	F/99.8	F/167.1	F/121.9	F/153.1	F/231.5	F/311.1	F/276.0	F/316.8
	Total	**D/38.3**	**E/55.1**	**D/51.0**	**E/64.2**	**F/107.1**	**F/128.9**	**F/129.0**	**F/150.8**
Morse Road & SR-310	EB	C/32.3	C/33.0	C/34.0	D/36.1	C/34.0	D/35.2	D/37.2	D/39.1
	WB	C/32.6	C/33.2	C/31.7	C/33.3	C/34.4	D/35.6	C/33.6	C/34.7
	NB	A/4.5	A/4.8	A/5.3	A/5.4	A/5.5	A/5.8	A/6.3	A/6.5
	SB	A/5.2	A/5.5	A/7.6	A/8.3	A/6.3	A/6.5	B/10.2	B/11.3
	Total	**A/7.0**	**A/7.1**	**A/9.4**	**A/9.9**	**A/8.2**	**A/8.4**	**B/11.6**	**B/12.4**
SR-310 & Site Access (unsignalized)	WB		C/16.5		C/21.0		C/24.0		E/37.6
	SB Left		A/8.3		A/8.5		A/8.7		A/9.0
	Total		**C/16.5**		**C/21.0**		**C/24.0**		**E/37.6**
SR-310 & Site Access (signalized)	WB		A/8.7		B/10.6		B/10.6		B/14.3
	NB		A/7.8		A/6.1		A/8.2		A/5.9
	SB		A/6.9		A/7.1		A/6.9		A/7.7
	Total		**A/7.6**		**A/7.0**		**A/8.1**		**A/7.4**

As seen above in **Table 2**, the intersection of Broad Street & SR-310 has failing LOS in all scenarios with the existing signal timings provided. The unsignalized analysis of the Site Access intersection exceeds acceptable LOS by 2.6 seconds in the Horizon Year PM Build scenario. As the delay fails by only 2.6 seconds in the Horizon Year on the stop-controlled approach of the intersection, this was considered acceptable. Signalized analysis for the same intersection shows acceptable LOS in all scenarios. The intersection of Morse Road & SR-310 is shown to operate acceptably in all analysis scenarios.

Mitigation was attempted to bring the Broad Street & SR-310 intersection to acceptable LOS. **Table 3** below shows a summary of improvements by scenario. **Table 4** shows the resulting capacity analysis with improvements.

Table 3 - Capacity Analysis with Improvements

Intersection	Opening Year		Horizon Year	
	No Build	Build	No Build	Build
Broad Street & SR-310	Add a 440' SBR (plus overlap phase)	Add a 465' SBR (plus overlap phase)	Add a 515' SBR (plus overlap phase) Add a second WBT lane	Add a 515' SBR (plus overlap phase) Add a second WBT lane

Table 4 – Baseline Capacity Analysis Summary

Intersection	Approach/ Movement	Opening Year				Horizon Year			
		AM No Build	AM Build	PM No Build	PM Build	AM No Build	AM Build	PM No Build	PM Build
Broad Street & SR-310	EB	B/13.2	B/13.4	B/19.0	C/21.6	B/16.4	B/17.0	C/32.7	D/37.0
	WB	C/22.1	C/22.9	C/25.1	C/30.8	C/23.3	C/24.2	C/28.4	C/34.2
	NB	D/42.2	D/44.7	D/44.9	D/46.5	D/41.4	D/42.3	D/44.3	D/42.7
	SB	D/41.3	D/46.8	D/41.1	D/39.2	D/40.3	D/44.6	D/37.8	D/36.2
	Total	**C/25.3**	**C/27.7**	**C/27.9**	**C/30.3**	**C/26.5**	**C/28.4**	**C/33.9**	**D/36.7**

As can be seen in **Table 4**, the improvements noted in **Table 3** result in acceptable LOS in all scenarios. Full capacity analysis with improvements can be found in **Appendix F**.

C. Sight Distance Exhibit

Vertical sight distance for the proposed Site Access meets the posted 50 mph speed requirement for both left and right turns. For the high-speed design speed of 60 mph, the requirement for the left turn meets while the right turn requirement is not met. There does not appear to be any horizontal sight distance obstructions aside from some minor vegetation. The sight distance exhibit can be seen in **Appendix G**.

VII. Recommendations and Conclusions

The results of the turn lane warrant analysis show that 285' southbound left and northbound right turn lanes are warranted at the Site Access under the unsignalized condition. Turn lane lengths are inclusive of a 50' diverging taper. It is anticipated that a signal will be required at the intersection due to sight distance constraints. Thus, it is recommended that only the southbound left turn lane be installed as a Build improvement.

Capacity analysis shows that the intersection of Broad Street & SR-310 requires a southbound right turn lane as a No Build improvement in both analysis years and an additional westbound through lane as a No Build improvement in the Horizon Year. It is recommended that the southbound right turn lane be installed as a No Build improvement and that future analysis be conducted at the intersection to determine when and if the westbound through lane will be required. An additional through lane will need to be implemented as corridor-wide improvement, extending through multiple intersections. This signal installation and through lane addition would be considered No Build improvements.

The sight distance analysis shows that the sight line for a vehicle exiting the site looking left is obstructed by the vertical curvature of SR-301. Thus, it is recommended that a signal be installed at the intersection and that westbound right turns on red be restricted. The signal installation is considered a Build improvement. Additionally, it is recommended that any sight line obstructions, such as vegetation, be removed from the sight triangles shown in the sight distance exhibit.

No additional improvements are required or recommended for the study area.

VIII. Appendices

Appendix A – Site Plan and MOU
Appendix B – Count Data, Signal Timings, and Growth Rates
Appendix C – Trip Generation
Appendix D – Volume Calculations
Appendix E – Turn Lane Warrant & Length Analysis
Appendix F – Capacity Analysis
Appendix G – Sight Distance Analysis

Appendix A
Site Plan & MOU

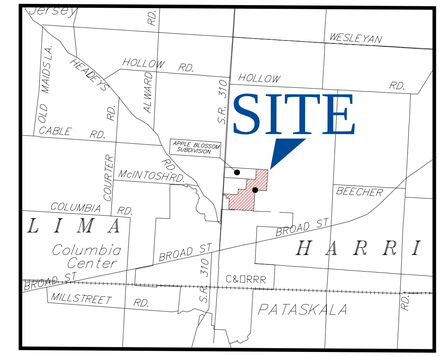
Appendix A

CARPENTER MARTY transportation

PRELIMINARY PLAN
FOR

Forest Ridge

LOCATED IN:
QUARTER TOWNSHIP 2, TOWNSHIP 1, RANGE 14
UNITED STATES MILITARY LANDS
TOWNSHIP OF HARRISON, COUNTY OF LICKING, STATE OF OHIO



LOCATION MAP
NO SCALE

PHASING

SECTION 1 – 51 LOTS
SECTION 2 – 45 LOTS
SECTION 3 – 47 LOTS
SECTION 4 – 50 LOTS
SECTION 5A & 5B – 62 LOTS TOTAL

SITE STATISTICS

TOTAL ACREAGE:	128.1 ACRES
# OF LOTS PERMITTED:	372
# OF LOTS PROVIDED:	255
GROSS DENSITY:	1.9 LOT\ACRE
ZONING CLASSIFICATION:	R–15 (Overlay)
50' RIGHT–OF–WAY:	11,676 L.F.
60' RIGHT–OF–WAY:	2510 L.F.
OPEN SPACE PROVIDED:	46.2 AC.=36%
MINIMUM LOT SIZE:	70' x 130'

SETBACKS:
FRONT: 30'
SIDE: 5'
REAR: 30'

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NOTES

NOTE "A": Open Space "A" through "K" as designated and delineated hereon, shall be owned and maintained by the Forest Ridge subdivision for the purpose of passive open space, and for the construction, operation, maintenance and repair of the retention pond, storm sewers, drainage, ditches, swales and all underground drainage from all lots and adjacent lands.

NOTE "B": The "Open Space K" island located within the right of way of Forest Ridge Drive shall be maintained by the Forest Ridge Homeowners Association.

NOTE "C": All of Forest Ridge Sections 1–5 is in the Flood Hazard Zone X as shown on the Federal Emergency Management Agency Flood Insurance Rate Map, 39089C0293J, effective date 03/16/2015.

NOTE "D": "No Parking" signs shall be posted on the same side of the streets as the fire hydrants.

NOTE "E": Each lot is for one single family dwelling unit.

NOTE "F": A new traffic light shall be constructed at the 1st Section of development at the intersection of S.R 310 and Forest Ridge Drive.

NOTE "G": All contours here are shown in one foot intervals.

NOTE "H": The proposed house location shall be constructed in the area of lot exclusive of the front, side and rear setbacks.

NOTE "I": Street lights shall also be provided within the right of way of New Public Roads staggered at an approximate spacing of 200 feet as shown on the plan. Light fixture to be installed shall be the City of Pataskala Colonial Style Fixture.

NOTE "J": The Applicant shall submit a Tree Replacement Survey and Landscape Plan Pursuant to Section 1283 with the Final Plan Application per section of the development.

STATE OF OHIO
JAMES T. WATKINS
E-57855
REGISTERED
PROFESSIONAL ENGINEER

Applicant _____ Date

Registered Engineer _____ Date

Chairmen of Planning and Zoning Commision _____ Date

Utility Director _____ Date

Director of Planning _____ Date

Public Service Director _____ Date

City Administrator _____ Date

City Engineer _____ Date

ENGINEER/PLANNER

Prepared By:
WATCON
CONSULTING ENGINEERS & SURVEYORS
83 Shull Avenue
Gahanna, Ohio 43230
Ph. (614) 414–7979

OWNER/DEVELOPER:

Attn: William Fannin Jr
8471 Olinda Way #3702
Fort Myers, Florida
Phone: (239) 745–5492
Email: williamfanninjr@gmail.com

DATE: March 5, 2021

MOU Attachment not included

March 10, 2021

Traffic Impact Study Memorandum of Understanding

Re: Proposed Forest Ridge Single-Family Development Traffic Impact Study
Between: City of Pataskala and Carpenter Marty Transportation

Carpenter Marty Transportation (CM) has been retained to complete a traffic impact study (TIS) for the proposed Forest Ridge development located along SR-310 in Pataskala, OH. The site is proposed to develop as single-family housing with a total of 255 units. The purpose of this Memorandum of Understanding (MOU) is to establish a mutually agreeable scope for a TIS of the proposed development. A conceptual site plan can be seen in the **Attachment**. The below scope was developed based on Licking County criteria, as provided by the City of Pataskala. It should be noted that there is potential for the development to be renamed something other than Forest Ridge as the project moves forward based on correspondence with the City of Pataskala.

Proposed TIS Scope

- Licking County TIS criteria requires analysis of the proposed access points and the next intersection of two classified roads in each direction from the proposed access point(s). CM will obtain AM and PM peak hour, turning movement count data at the following intersections:
    - Broad Street & SR-310 (provided by the City)
    - Morse Road & SR-310
- Trip Generation - Trips for the proposed site were generated using standard Institute of Transportation Engineers (ITE) data for Land Use Code *(LUC) 210 – Single-Family Detached Housing* in the ITE Trip Generation Manual, 10th edition. A summary of the trip generation is shown below in **Table 1**.

Table 1 – Trip Generation Summary

Land Use	Size	AM Peak			PM Peak		
		Entry	Exit	TOTAL	Entry	Exit	TOTAL
210 – Single-Family Detached Housing	255 Dwelling Units	46	139	185	157	92	249

Trips will be distributed to the surrounding study network based on the count data, knowledge of the surrounding area, and engineering judgment. Trip generation printouts are provided in the **Attachment**.

- Volume Development - Develop Opening Year (2022) and Horizon Year (2042) traffic plates for Build and No Build, AM and PM Peaks based on growth rates and the traffic distribution developed above. Growth rates will be obtained from MORPC and/or calculated using MORPC data provided by the City of Pataskala.
- Capacity Analysis - Perform HCM 6th Edition Synchro 10 capacity analysis at the below intersections for Build and No Build, AM and PM Peaks.
    - Broad Street & SR-310

- SR-310 & Morse Road
- SR-310 & Site Access

If acceptable Level-of-Service (LOS) is not obtained, determine what mitigation is necessary to obtain acceptable LOS. A minimum LOS of D for the overall intersection, approaches, and movements will be considered acceptable for all intersections.

- Turn Lane Warrant Analysis - Perform turn lane warrant analyses at the proposed access point to SR-310. SR-310 is an Ohio Department of Transportation (ODOT) classified minor arterial. Therefore, methodologies located in the ODOT Location & Design Manual will be utilized to determine if turn lanes are warranted. Calculate lengths for any turn lanes that are warranted.
- Sight Distance Profile – Develop a line of sight triangle and sight distance profile per ODOT standards and the example sheet provided by the City of Pataskala.
- Report - Develop a report that documents what is necessary to satisfy the City of Pataskala which will include an introduction, analysis, results, conclusions, and recommendations.

Please signify your concurrence with this MOU by signing below. If you have any questions or comments, please contact Drew Laurent at 614-656-2421 or dlaurent@cmtran.com.

Sincerely,

Gina Balsamo, PE
Project Manager
Carpenter Marty Transportation

City of Pataskala (or their Representative)

Signature: _____ Date: 3-10-2021

Appendix B
Count Data, Signal Timings, & Growth rates

Appendix B

CARPENTER MARTY transportation

APPENDIX B
MORPC GROWTH RATES

From: Hwashik Jang <hjang@morpc.org>
Sent: Thursday, July 25, 2019 12:52 PM
To: Deibel, Curtis <cdeibel@gpdgroup.com>; Seaman, Scott <sseaman@gpdgroup.com>
Cc: Alan Haines - (ahaines@ci.pataskala.oh.us) <ahaines@ci.pataskala.oh.us>; Zhuojun Jiang <zjiang@morpc.org>; Ying Su <ysu@morpc.org>; Nick Gill <NGILL@morpc.org>
Subject: RE: State Route 16 (Broad Street), City of Pataskala \\\ Project Growth Rates

Curtis,

We have completed processing growth rates for your traffic study.

Please use a linear annual growth rate as summarized in the following table below.

Location	**Linear Annual Growth Rate**
HAVENS CORNERS RD e/o TAYLOR RD	0.70%
HAVENS CORNERS RD w/o TAYLOR RD	0.70%
TAYLOR RD s/o HAVENS CORNERS RD	0.50%
HAVENS CORNERS RD e/o SUMMIT RD	0.50%
SUMMIT RD n/o HAVENS CORNERS RD	2.50%
HAVENS CORNERS RD w/o SUMMIT RD	0.60%
SUMMIT RD s/o HAVENS CORNERS RD	2.25%
SR 16 e/o WATKINS RD	0.70%
WATKINS RD n/o SR 16	1.00%
SR 16 w/o WATKINS RD	0.70%
WATKINS RD s/o SR 16	1.00%
SR 16 e/o MINK ST	0.70%
MINK ST n/o SR 16	2.50%

SR 16 w/o MINK ST	0.70%
MINK ST s/o SR 16	2.50%
SR 16 e/o SUMMIT RD	0.70%
SUMMIT RD n/o SR 16	1.70%
SR 16 w/o SUMMIT RD	0.70%
SUMMIT RD s/o SR 16	1.00%
SR 16 e/o TAYLOR RD	0.60%
TAYLOR RD n/o SR 16	0.50%
SR 16 w/o TAYLOR RD	0.50%
TAYLOR RD s/o SR 16	1.40%

Note: The above rates were derived based on planning level analysis by using MORPC's regional travel demand model.

If you have any other questions, please let me know.

Thanks,

HWASHIK JANG

Senior Planner | **Mid-Ohio Regional Planning Commission**
T: 614.233.4145 | hjang@morpc.org

111 Liberty Street, Suite 100 | Columbus, OH 43215

From: Hwashik Jang <hjang@morpc.org>
Sent: Tuesday, September 3, 2019 11:19 AM
To: Deibel, Curtis <cdeibel@gpdgroup.com>; Seaman, Scott <sseaman@gpdgroup.com>
Cc: Zhuojun Jiang <zjiang@morpc.org>; Ying Su <ysu@morpc.org>; Nick Gill <NGILL@morpc.org>
Subject: RE: State Route 16 (Broad Street), City of Pataskala \\\ Project Growth Rates

Curtis,

We have completed processing growth rates for two additional study intersections.

Please use a linear annual growth rate as summarized in the following table below.

Location	**Linear Annual Growth Rate**
Broad St e/o Main St	1.00%
Broad St w/o Main St	0.70%
Main St s/o Broad St	1.50%
Broad St e/o Twp Rd	0.70%
Twp Rd n/o Broad St	2.00%
Broad St w/o Twp Rd	1.00%
Twp Rd s/o Broad St	0.90%

Note: The above rates were derived based on planning level analysis by using MORPC's regional travel demand model.

If you have any other questions, please let me know.

Thanks,

HWASHIK JANG

Broad Street / Hazelton Etna Road / Township Road								
Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Direction	**WBL**	**EB**	**SBL**	**NB**	**EBL**	**WB**	**NBL**	**SB**
Min Green	7	20	7	10	7	20	7	10
Max Green	10	35	10	15	10	35	10	15
Yellow	3.2	4.1	3.0	3.4	3.2	4.1	3.0	3.4
All Red	2.5	1.0	1.7	1.5	2.5	1.0	1.7	1.5
Walk								
Ped Clear								
Recall		MIN				MIN		
1/1/1	13	45	12	20	18	40	12	20
2/2/2	15	40	15	20	15	40	15	20
3/3/3	13	40	12	25	15	38	12	25

Weekday Coord Schedule				Weekend Coord Schedule			
Time	**Plan Name**	**Cycle**	**Offset**	**Time**	**Plan Name**	**Cycle**	**Offset**
0:00	---	FREE	---	**0:00**	---	FREE	---
6:00	Pattern 7	90	0	**8:00**	Pattern 8	90	0
9:00	Pattern 8	90	0	**8:00**	---	FREE	---
3:00	Pattern 9	90	40				
8:00	---	FREE	---				

Broad Street / Oxford Drive								
Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Direction	**WBL**	**EB**	**SBL**	**NB**	**EBL**	**WB**	**NBL**	**SB**
Min Green	7	20	7	10	7	20	7	10
Max Green	10	35	10	20	10	35	10	20
Yellow	3.2	4.1	3.0	3.4	3.2	4.1	3.0	3.4
All Red	1.6	1.0	1.3	1.0	1.6	1.0	1.3	1.0
Walk		9		4		9		4
Ped Clear		17		14		17		14
Recall		MIN				MIN		
1/1/1	12	41	12	25	12	41	12	25
2/2/2	14	39	12	25	17	36	12	25
3/3/3	12	41	12	25	18	35	12	25

Weekday Coord Schedule				Weekend Coord Schedule			
Time	**Plan Name**	**Cycle**	**Offset**	**Time**	**Plan Name**	**Cycle**	**Offset**
0:00	---	FREE	---	**0:00**	---	FREE	---
6:00	Pattern 7	90	50	**8:00**	Pattern 8	90	60
9:00	Pattern 8	90	60	**8:00**	---	FREE	---
3:00	Pattern 9	90	15				
8:00	---	FREE	---				

Broad Street / Corylus Drive								
Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Direction	**WBL**	**EB**		**NB**	**EBL**	**WB**		**SB**
Min Green	7	20		10	7	20		10
Max Green	10	40		25	10	40		25
Yellow	3.2	4.1		4.1	3.2	4.1		4.1
All Red	1.9	1.0		1.0	1.9	1.0		1.0
Walk		10		4				
Ped Clear		18		17				
Recall		MIN				MIN		
1/1/1	13	47		30	13	47		30
2/2/2	15	45		30	15	45		30
3/3/3	13	47		30	13	47		30

Weekday Coord Schedule				Weekend Coord Schedule			
Time	**Plan Name**	**Cycle**	**Offset**	**Time**	**Plan Name**	**Cycle**	**Offset**
0:00	---	FREE	---	**0:00**	---	FREE	---
6:00	Pattern 7	90	50	**8:00**	Pattern 8	90	55
9:00	Pattern 8	90	55	**8:00**	---	FREE	---
3:00	Pattern 9	90	20				
8:00	---	FREE	---				

Broad Street / One Healthy Drive								
Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Direction	**WBL**	**EB**		**NB**		**WB**		
Min Green	7	20		10		20		
Max Green	15	40		15		55		
Yellow	3.2	4.1		3.0		4.1		
All Red	1.6	1.0		1.0		1.0		
Walk		12						
Ped Clear		10						
Recall		MIN				MIN		
1/1/1	20	50		20		70		
2/2/2	20	50		20		70		
3/3/3	15	55		20		70		

Weekday Coord Schedule				Weekend Coord Schedule			
Time	**Plan Name**	**Cycle**	**Offset**	**Time**	**Plan Name**	**Cycle**	**Offset**
0:00	---	FREE	---	**0:00**	---	FREE	---
6:00	Pattern 7	90	25	**8:00**	Pattern 8	90	85
9:00	Pattern 8	90	85	**8:00**	---	FREE	---
3:00	Pattern 9	90	50				
8:00	---	FREE	---				

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"15 Years ... and still Counting"

65 Degrees - Cloudy
Schools in Session

File Name : Broad_Street_at_Township_Road_644260_04-16-2019
Site Code : Site 2 - Tuesday
Start Date : 4/16/2019
Page No : 1

Groups Printed- Cars - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Township Road From North					Broad Street From East					Township Road From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	21	4	4	0	29	7	77	6	0	90	1	9	12	0	22	2	26	22	0	50	191
06:15 AM	38	3	6	0	47	10	110	4	0	124	4	16	20	0	40	7	57	57	0	121	332
06:30 AM	36	10	8	0	54	11	137	0	0	148	9	27	13	0	49	10	72	40	0	122	373
06:45 AM	46	17	6	0	69	19	138	8	0	165	6	25	19	0	50	10	66	54	0	130	414
Total	141	34	24	0	199	47	462	18	0	527	20	77	64	0	161	29	221	173	0	423	1310
07:00 AM	43	10	8	0	61	16	106	3	0	125	5	34	24	1	64	9	77	45	0	131	381
07:15 AM	52	6	9	0	67	19	123	6	0	148	9	42	28	0	79	12	72	75	0	159	453
07:30 AM	60	5	11	0	76	14	109	6	0	129	6	32	19	1	58	17	78	75	0	170	433
07:45 AM	50	11	12	0	73	15	119	9	0	143	15	23	19	0	57	10	80	56	0	146	419
Total	205	32	40	0	277	64	457	24	0	545	35	131	90	2	258	48	307	251	0	606	1686
08:00 AM	46	10	14	0	70	13	127	9	0	149	9	21	25	0	55	6	96	41	0	143	417
08:15 AM	47	17	15	0	79	24	122	9	0	155	9	19	22	0	50	7	98	55	0	160	444
08:30 AM	55	13	11	0	79	11	127	7	0	145	14	30	18	0	62	8	86	56	0	150	436
08:45 AM	53	18	16	0	87	13	120	9	0	142	16	18	37	0	71	14	78	42	0	134	434
Total	201	58	56	0	315	61	496	34	0	591	48	88	102	0	238	35	358	194	0	587	1731
09:00 AM	37	11	13	0	61	12	98	17	0	127	22	11	29	0	62	10	112	33	0	155	405
09:15 AM	31	9	9	0	49	11	104	8	0	123	25	28	31	0	84	14	71	31	0	116	372
09:30 AM	17	11	12	0	40	15	97	6	0	118	15	17	25	0	57	11	106	38	0	155	370
09:45 AM	31	9	15	0	55	17	85	12	0	114	7	17	19	0	43	12	106	22	0	140	352
Total	116	40	49	0	205	55	384	43	0	482	69	73	104	0	246	47	395	124	0	566	1499
10:00 AM	20	7	16	0	43	14	82	9	0	105	19	10	22	0	51	9	90	23	0	122	321
10:15 AM	30	10	11	0	51	14	88	10	0	112	11	11	14	0	36	19	88	34	0	141	340
10:30 AM	25	9	9	0	43	15	91	9	0	115	14	9	19	0	42	10	101	26	0	137	337
10:45 AM	32	10	11	0	53	5	99	12	0	116	18	11	15	0	44	17	124	30	0	171	384
Total	107	36	47	0	190	48	360	40	0	448	62	41	70	0	173	55	403	113	0	571	1382
11:00 AM	28	10	24	0	62	7	113	7	0	127	7	7	11	0	25	12	109	24	0	145	359
11:15 AM	28	9	19	0	56	14	115	14	0	143	17	14	16	0	47	20	103	32	0	155	401
11:30 AM	36	12	24	0	72	8	115	11	0	134	17	10	21	1	49	14	114	39	0	167	422
11:45 AM	45	15	17	0	77	11	111	18	0	140	21	11	33	0	65	19	109	32	0	160	442
Total	137	46	84	0	267	40	454	50	0	544	62	42	81	1	186	65	435	127	0	627	1624
12:00 PM	45	5	17	0	67	12	108	16	0	136	15	11	31	0	57	17	135	40	0	192	452
12:15 PM	45	24	17	0	86	20	124	12	0	156	16	19	35	0	70	9	135	32	0	176	488
12:30 PM	43	10	27	0	80	12	94	19	0	125	14	7	19	0	40	13	134	37	0	184	429
12:45 PM	29	5	18	0	52	17	101	12	0	130	20	11	24	0	55	13	153	33	0	199	436
Total	162	44	79	0	285	61	427	59	0	547	65	48	109	0	222	52	557	142	0	751	1805
01:00 PM	32	12	19	1	64	18	97	18	0	133	13	8	15	0	36	8	117	37	0	162	395
01:15 PM	42	12	13	0	67	17	95	10	0	122	14	17	18	0	49	17	130	37	0	184	422
01:30 PM	39	12	14	0	65	17	112	12	0	141	19	11	15	2	47	14	101	34	0	149	402
01:45 PM	51	15	28	0	94	15	112	13	0	140	10	19	20	0	49	14	103	27	0	144	427
Total	164	51	74	1	290	67	416	53	0	536	56	55	68	2	181	53	451	135	0	639	1646
02:00 PM	36	15	13	0	64	10	115	10	0	135	15	9	21	0	45	18	116	35	0	169	413
02:15 PM	40	11	11	0	62	15	113	11	0	139	20	16	19	0	55	17	121	46	0	184	440
02:30 PM	34	7	7	0	48	9	123	20	0	152	20	17	25	1	63	23	153	48	0	224	487
02:45 PM	55	19	27	0	101	8	118	19	0	145	20	5	19	0	44	24	121	40	0	185	475
Total	165	52	58	0	275	42	469	60	0	571	75	47	84	1	207	82	511	169	0	762	1815

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"15 Years ... and still Counting"

File Name : Broad_Street_at_Township_Road_644260_04-16-2019
Site Code : Site 2 - Tuesday
Start Date : 4/16/2019
Page No : 2

Groups Printed- Cars - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Township Road From North					Broad Street From East					Township Road From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	39	16	17	0	72	17	124	11	0	152	25	15	17	0	57	15	177	49	0	241	522
03:15 PM	68	20	23	0	111	23	138	16	0	177	10	15	30	0	55	14	153	28	0	195	538
03:30 PM	60	12	27	0	99	13	131	20	0	164	30	12	22	1	65	34	179	47	0	260	588
03:45 PM	42	15	23	0	80	16	117	15	0	148	25	12	26	0	63	34	179	49	0	262	553
Total	209	63	90	0	362	69	510	62	0	641	90	54	95	1	240	97	688	173	0	958	2201
04:00 PM	48	22	25	0	95	11	117	17	0	145	17	19	26	0	62	27	166	55	0	248	550
04:15 PM	68	33	25	0	126	13	96	20	0	129	18	26	35	0	79	25	171	47	0	243	577
04:30 PM	84	24	38	0	146	15	129	9	0	153	18	14	22	0	54	18	193	46	0	257	610
04:45 PM	67	32	32	0	131	18	104	17	0	139	23	23	20	0	66	27	192	53	0	272	608
Total	267	111	120	0	498	57	446	63	0	566	76	82	103	0	261	97	722	201	0	1020	2345
05:00 PM	71	26	18	0	115	13	125	21	0	159	20	22	25	0	67	24	163	56	0	243	584
05:15 PM	57	30	20	0	107	8	123	25	0	156	25	19	23	0	67	28	180	57	0	265	595
05:30 PM	67	24	31	0	122	17	120	17	0	154	16	25	22	0	63	25	171	51	0	247	586
05:45 PM	59	35	23	0	117	17	122	16	0	155	17	24	23	0	64	24	174	60	0	258	594
Total	254	115	92	0	461	55	490	79	0	624	78	90	93	0	261	101	688	224	0	1013	2359
06:00 PM	69	26	24	0	119	12	112	16	0	140	13	17	34	0	64	26	141	31	0	198	521
06:15 PM	53	32	26	0	111	12	115	15	0	142	23	20	21	0	64	25	160	45	0	230	547
06:30 PM	33	23	26	0	82	17	97	10	0	124	23	14	17	0	54	15	153	30	0	198	458
06:45 PM	38	10	9	0	57	9	108	15	0	132	18	14	23	0	55	21	126	35	0	182	426
Total	193	91	85	0	369	50	432	56	0	538	77	65	95	0	237	87	580	141	0	808	1952
Grand Total	2321	773	898	1	3993	716	5803	641	0	7160	813	893	1158	7	2871	848	6316	2167	0	9331	23355
Apprch %	58.1	19.4	22.5	0		10	81	9	0		28.3	31.1	40.3	0.2		9.1	67.7	23.2	0		
Total %	9.9	3.3	3.8	0	17.1	3.1	24.8	2.7	0	30.7	3.5	3.8	5	0	12.3	3.6	27	9.3	0	40	
Cars	2166	758	875	0	3799	693	5643	624	0	6960	799	875	1133	0	2807	836	6131	2048	0	9015	22581
% Cars	93.3	98.1	97.4	0	95.1	96.8	97.2	97.3	0	97.2	98.3	98	97.8	0	97.8	98.6	97.1	94.5	0	96.6	96.7
Buses	13	5	5	0	23	4	34	11	0	49	7	10	10	0	27	7	41	9	0	57	156
% Buses	0.6	0.6	0.6	0	0.6	0.6	0.6	1.7	0	0.7	0.9	1.1	0.9	0	0.9	0.8	0.6	0.4	0	0.6	0.7
Trucks	142	10	18	0	170	19	126	6	0	151	7	8	15	0	30	5	144	110	0	259	610
% Trucks	6.1	1.3	2	0	4.3	2.7	2.2	0.9	0	2.1	0.9	0.9	1.3	0	1	0.6	2.3	5.1	0	2.8	2.6
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	1	1	0	0	0	0	0	0	0	0	7	7	0	0	0	0	0	8
% Pedestrians	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0.2	0	0	0	0	0	0

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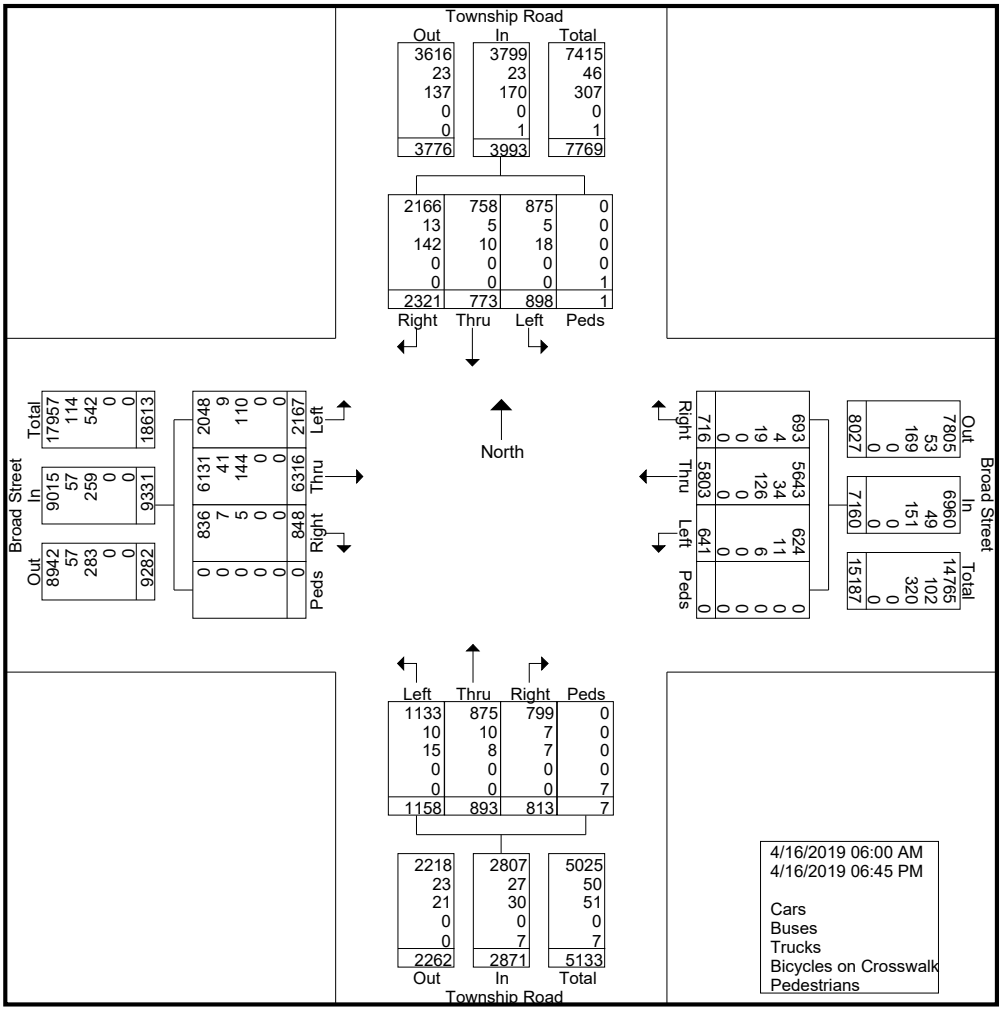
"15 Years ... and still Counting"

File Name : Broad_Street_at_Township_Road_644260_04-16-2019
Site Code : Site 2 - Tuesday
Start Date : 4/16/2019
Page No : 3



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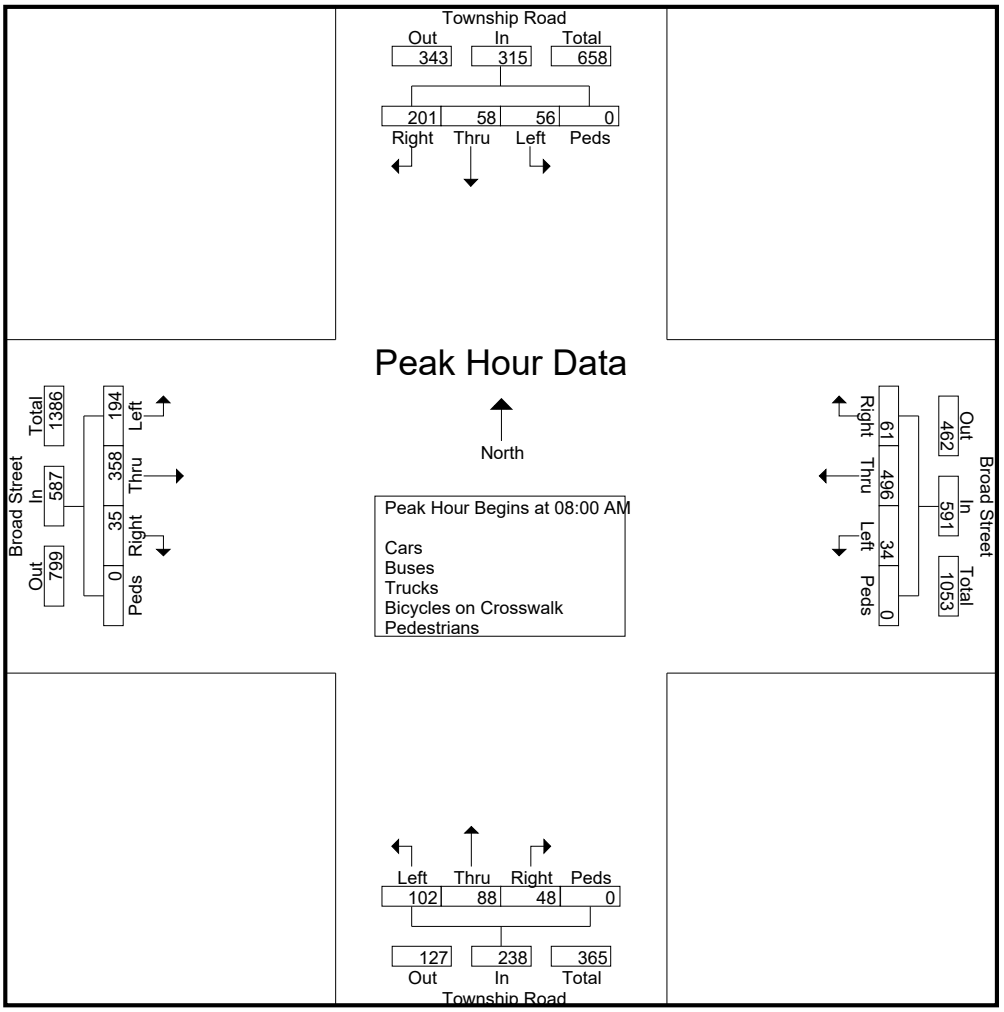
"15 Years ... and still Counting"

File Name : Broad_Street_at_Township_Road_644260_04-16-2019
Site Code : Site 2 - Tuesday
Start Date : 4/16/2019
Page No : 4

	Township Road From North					Broad Street From East					Township Road From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	46	10	14	0	70	13	**127**	**9**	0	149	9	21	25	0	55	6	96	41	0	143	417
08:15 AM	47	17	15	0	79	**24**	122	9	0	**155**	9	19	22	0	50	7	**98**	55	0	**160**	**444**
08:30 AM	**55**	13	11	0	79	11	127	7	0	145	14	**30**	18	0	62	8	86	**56**	0	150	436
08:45 AM	53	**18**	**16**	0	**87**	13	120	9	0	142	**16**	18	**37**	0	**71**	**14**	78	42	0	134	434
Total Volume	201	58	56	0	315	61	496	34	0	591	48	88	102	0	238	35	358	194	0	587	1731
% App. Total	63.8	18.4	17.8	0		10.3	83.9	5.8	0		20.2	37	42.9	0		6	61	33	0		
PHF	.914	.806	.875	.000	.905	.635	.976	.944	.000	.953	.750	.733	.689	.000	.838	.625	.913	.866	.000	.917	.975



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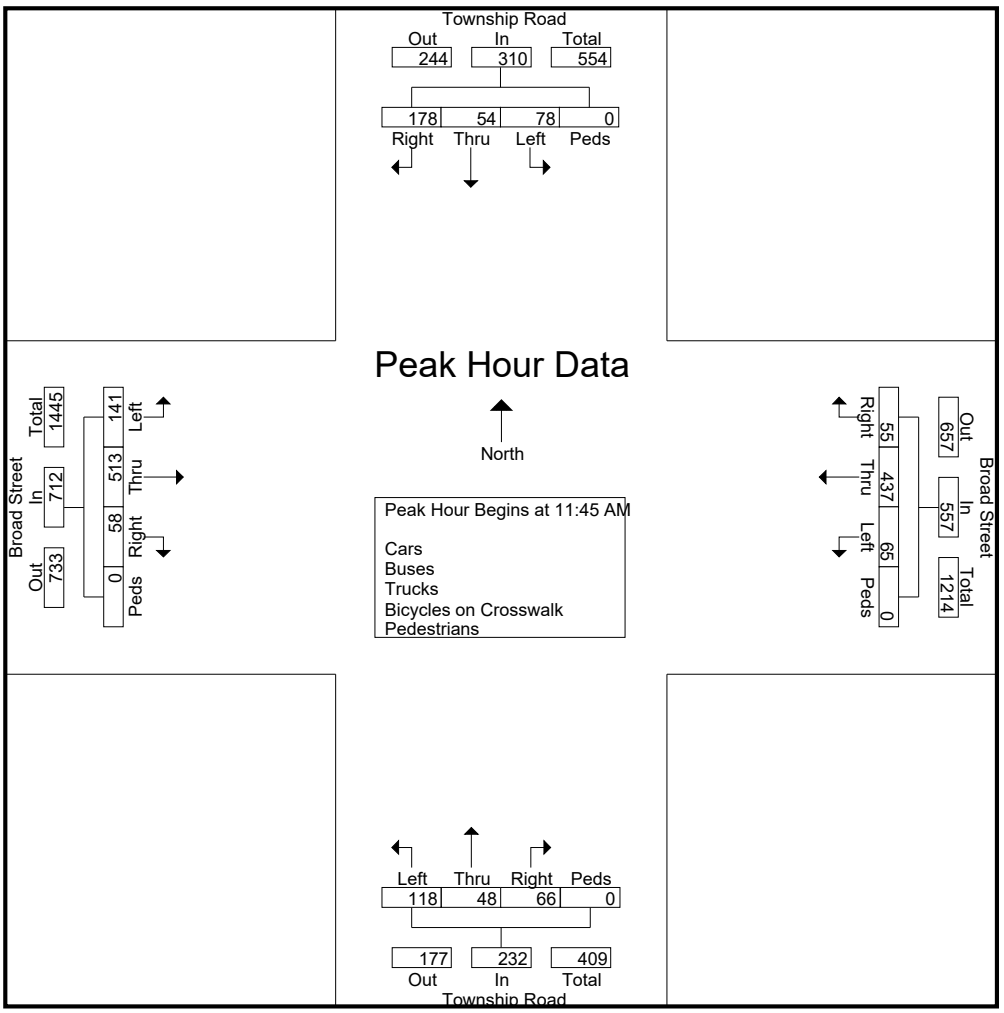
"15 Years ... and still Counting"

File Name : Broad_Street_at_Township_Road_644260_04-16-2019
Site Code : Site 2 - Tuesday
Start Date : 4/16/2019
Page No : 5

	Township Road From North					Broad Street From East					Township Road From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	**45**	15	17	0	77	11	111	18	0	140	**21**	11	33	0	65	**19**	109	32	0	160	442
12:00 PM	45	5	17	0	67	12	108	16	0	136	15	11	31	0	57	17	**135**	**40**	0	**192**	452
12:15 PM	45	**24**	17	0	**86**	**20**	**124**	12	0	**156**	16	**19**	**35**	0	**70**	9	135	32	0	176	**488**
12:30 PM	43	10	**27**	0	80	12	94	**19**	0	125	14	7	19	0	40	13	134	37	0	184	429
Total Volume	178	54	78	0	310	55	437	65	0	557	66	48	118	0	232	58	513	141	0	712	1811
% App. Total	57.4	17.4	25.2	0		9.9	78.5	11.7	0		28.4	20.7	50.9	0		8.1	72.1	19.8	0		
PHF	.989	.563	.722	.000	.901	.688	.881	.855	.000	.893	.786	.632	.843	.000	.829	.763	.950	.881	.000	.927	.928



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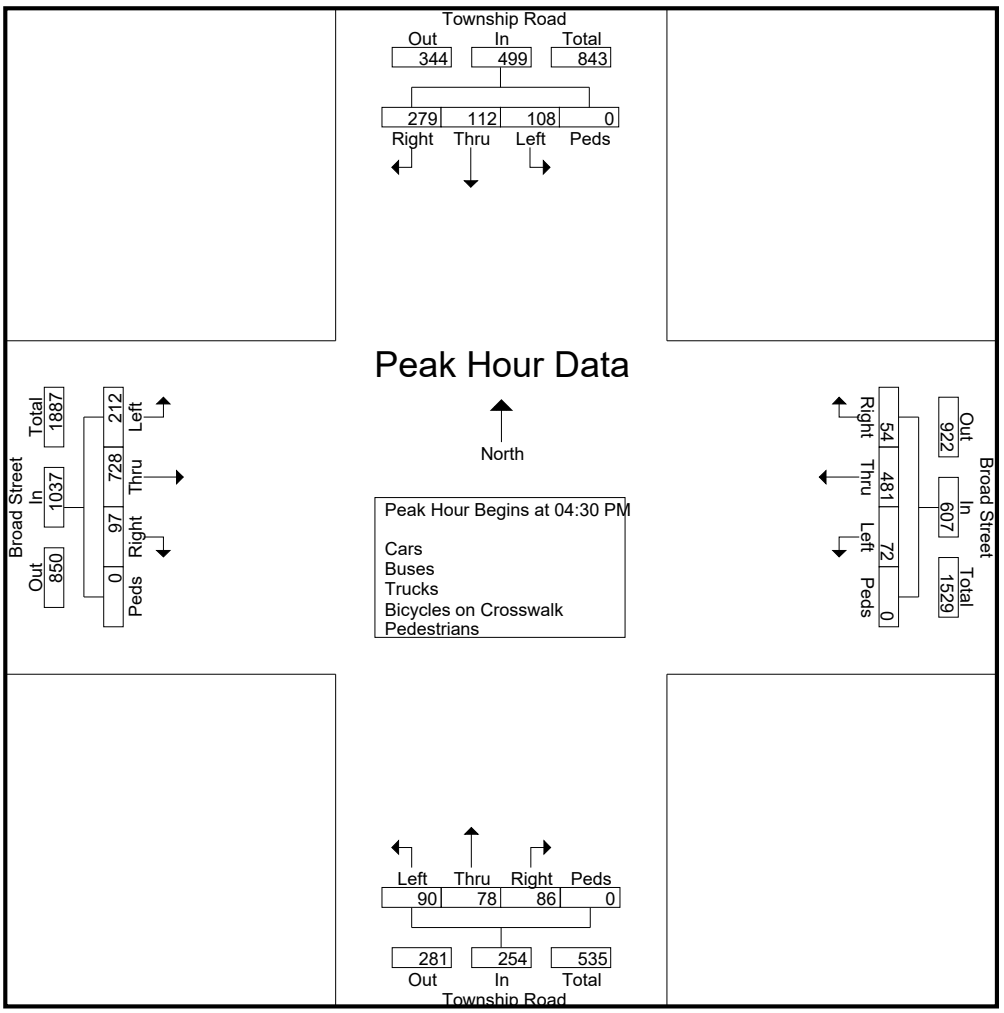
File Name : Broad_Street_at_Township_Road_644260_04-16-2019
Site Code : Site 2 - Tuesday
Start Date : 4/16/2019
Page No : 6

	Township Road From North					Broad Street From East					Township Road From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	**84**	24	**38**	0	**146**	15	**129**	9	0	153	18	14	22	0	54	18	**193**	46	0	257	**610**
04:45 PM	67	**32**	32	0	131	**18**	104	17	0	139	23	**23**	20	0	66	27	192	53	0	**272**	608
05:00 PM	71	26	18	0	115	13	125	21	0	**159**	20	22	**25**	0	**67**	24	163	56	0	243	584
05:15 PM	57	30	20	0	107	8	123	**25**	0	156	**25**	19	23	0	67	**28**	180	**57**	0	265	595
Total Volume	279	112	108	0	499	54	481	72	0	607	86	78	90	0	254	97	728	212	0	1037	2397
% App. Total	55.9	22.4	21.6	0		8.9	79.2	11.9	0		33.9	30.7	35.4	0		9.4	70.2	20.4	0		
PHF	.830	.875	.711	.000	.854	.750	.932	.720	.000	.954	.860	.848	.900	.000	.948	.866	.943	.930	.000	.953	.982



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"15 Years ... and still Counting"

65 Degrees - Cloudy
Schools in Session

File Name : Broad_Street_at_Oxford Street_644409_04-16-2019
Site Code : Site 12 - Tuesday
Start Date : 4/16/2019
Page No : 1

Groups Printed- Cars - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Oxford Street From North					Broad Street From East					Oxford Street From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	10	0	0	0	10	4	91	1	0	96	0	2	1	0	3	2	20	2	0	24	133
06:15 AM	10	0	2	0	12	4	101	1	0	106	0	1	5	0	6	0	44	10	0	54	178
06:30 AM	17	0	4	0	21	3	144	0	0	147	1	2	7	0	10	0	71	7	0	78	256
06:45 AM	24	0	2	0	26	4	134	0	0	138	2	0	3	0	5	1	59	12	0	72	241
Total	61	0	8	0	69	15	470	2	0	487	3	5	16	0	24	3	194	31	0	228	808
07:00 AM	12	1	2	0	15	5	118	0	0	123	1	2	4	0	7	0	71	8	0	79	224
07:15 AM	23	1	0	0	24	9	126	0	2	137	2	2	4	0	8	1	69	18	0	88	257
07:30 AM	29	2	4	1	36	9	104	0	0	113	0	1	3	0	4	0	60	18	0	78	231
07:45 AM	23	0	3	0	26	3	117	0	0	120	1	1	3	0	5	0	85	18	0	103	254
Total	87	4	9	1	101	26	465	0	2	493	4	6	14	0	24	1	285	62	0	348	966
08:00 AM	26	4	4	0	34	5	136	0	2	143	0	4	3	0	7	0	70	20	0	90	274
08:15 AM	23	0	1	0	24	3	141	0	0	144	3	2	5	0	10	2	85	33	0	120	298
08:30 AM	24	3	7	0	34	6	121	1	0	128	1	3	2	0	6	0	81	31	0	112	280
08:45 AM	29	1	7	0	37	3	119	0	0	122	1	4	2	0	7	0	83	35	0	118	284
Total	102	8	19	0	129	17	517	1	2	537	5	13	12	0	30	2	319	119	0	440	1136
09:00 AM	32	1	4	0	37	6	106	1	0	113	1	3	2	0	6	1	96	33	0	130	286
09:15 AM	22	4	5	0	31	10	106	0	0	116	1	2	1	0	4	1	88	21	0	110	261
09:30 AM	25	4	5	0	34	1	93	0	1	95	0	4	0	0	4	1	110	37	0	148	281
09:45 AM	26	1	6	0	33	2	94	2	0	98	1	3	3	0	7	1	92	38	0	131	269
Total	105	10	20	0	135	19	399	3	1	422	3	12	6	0	21	4	386	129	0	519	1097
11:00 AM	39	3	9	0	51	10	97	0	2	109	1	3	1	0	5	0	91	45	0	136	301
11:15 AM	34	3	4	0	41	4	113	0	0	117	0	3	0	0	3	1	80	42	0	123	284
11:30 AM	38	3	7	0	48	9	105	0	0	114	0	1	1	0	2	1	97	55	0	153	317
11:45 AM	39	1	3	0	43	9	102	1	0	112	2	3	2	0	7	0	80	63	0	143	305
Total	150	10	23	0	183	32	417	1	2	452	3	10	4	0	17	2	348	205	0	555	1207
12:00 PM	45	3	7	0	55	8	97	2	0	107	2	3	3	0	8	0	111	42	0	153	323
12:15 PM	50	1	13	0	64	5	110	1	2	118	2	2	2	0	6	4	100	49	0	153	341
12:30 PM	27	3	5	0	35	12	102	1	0	115	1	1	2	0	4	1	124	64	0	189	343
12:45 PM	30	3	10	0	43	5	109	1	1	116	1	3	0	0	4	0	118	53	0	171	334
Total	152	10	35	0	197	30	418	5	3	456	6	9	7	0	22	5	453	208	0	666	1341
04:00 PM	32	4	16	0	52	8	108	0	0	116	0	5	3	0	8	4	156	51	0	211	387
04:15 PM	43	7	8	0	58	9	90	0	0	99	4	4	1	0	9	3	161	54	0	218	384
04:30 PM	36	7	7	0	50	7	101	2	0	110	1	3	4	0	8	1	169	76	0	246	414
04:45 PM	45	5	15	0	65	8	104	3	0	115	1	6	2	0	9	3	174	67	2	246	435
Total	156	23	46	0	225	32	403	5	0	440	6	18	10	0	34	11	660	248	2	921	1620
05:00 PM	56	6	13	0	75	10	102	2	0	114	2	1	4	0	7	0	138	69	0	207	403
05:15 PM	42	6	8	0	56	10	108	1	0	119	1	7	3	0	11	4	154	74	0	232	418
05:30 PM	53	12	20	0	85	7	112	4	0	123	2	4	3	0	9	3	152	51	0	206	423
05:45 PM	44	8	14	0	66	5	105	1	0	111	0	5	6	0	11	5	133	73	0	211	399
Total	195	32	55	0	282	32	427	8	0	467	5	17	16	0	38	12	577	267	0	856	1643
06:00 PM	38	10	12	0	60	3	115	5	2	125	3	1	2	2	8	0	121	67	0	188	381
06:15 PM	48	1	10	0	59	7	103	3	2	115	0	6	3	0	9	5	125	73	1	204	387
06:30 PM	45	4	8	0	57	5	75	2	0	82	1	3	1	0	5	3	117	85	0	205	349
06:45 PM	33	2	16	0	51	4	95	4	2	105	0	3	3	0	6	3	98	49	0	150	312
Total	164	17	46	0	227	19	388	14	6	427	4	13	9	2	28	11	461	274	1	747	1429

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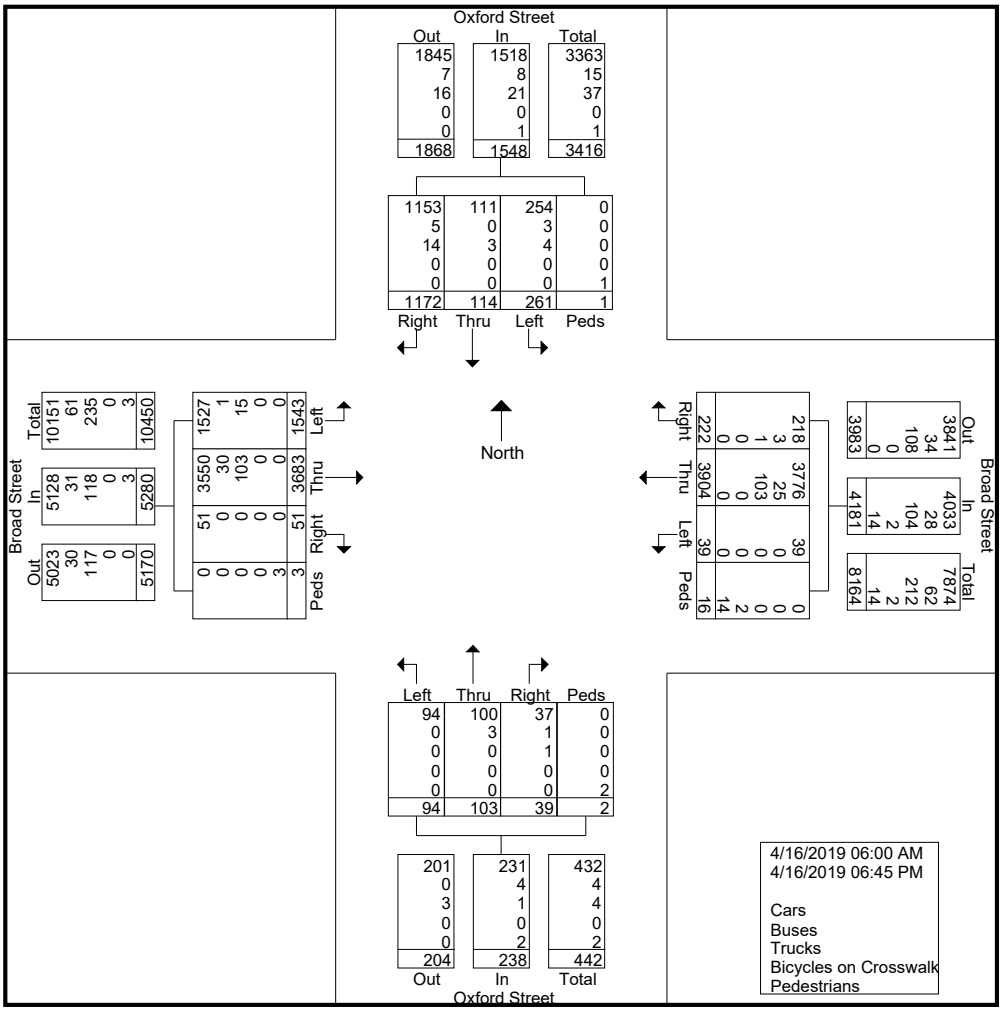
"15 Years ... and still Counting"

File Name : Broad_Street_at_Oxford Street_644409_04-16-2019
Site Code : Site 12 - Tuesday
Start Date : 4/16/2019
Page No : 2

Groups Printed- Cars - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Oxford Street From North					Broad Street From East					Oxford Street From South					Broad Street From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	1172	114	261	1	1548	222	3904	39	16	4181	39	103	94	2	238	51	3683	1543	3	5280	11247
Apprch %	75.7	7.4	16.9	0.1		5.3	93.4	0.9	0.4		16.4	43.3	39.5	0.8		1	69.8	29.2	0.1		
Total %	10.4	1	2.3	0	13.8	2	34.7	0.3	0.1	37.2	0.3	0.9	0.8	0	2.1	0.5	32.7	13.7	0	46.9	
Cars	1153	111	254	0	1518	218	3776	39	0	4033	37	100	94	0	231	51	3550	1527	0	5128	10910
% Cars	98.4	97.4	97.3	0	98.1	98.2	96.7	100	0	96.5	94.9	97.1	100	0	97.1	100	96.4	99	0	97.1	97
Buses	5	0	3	0	8	3	25	0	0	28	1	3	0	0	4	0	30	1	0	31	71
% Buses	0.4	0	1.1	0	0.5	1.4	0.6	0	0	0.7	2.6	2.9	0	0	1.7	0	0.8	0.1	0	0.6	0.6
Trucks	14	3	4	0	21	1	103	0	0	104	1	0	0	0	1	0	103	15	0	118	244
% Trucks	1.2	2.6	1.5	0	1.4	0.5	2.6	0	0	2.5	2.6	0	0	0	0.4	0	2.8	1	0	2.2	2.2
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	12.5	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	1	1	0	0	0	14	14	0	0	0	2	2	0	0	0	3	3	20
% Pedestrians	0	0	0	100	0.1	0	0	0	87.5	0.3	0	0	0	100	0.8	0	0	0	100	0.1	0.2



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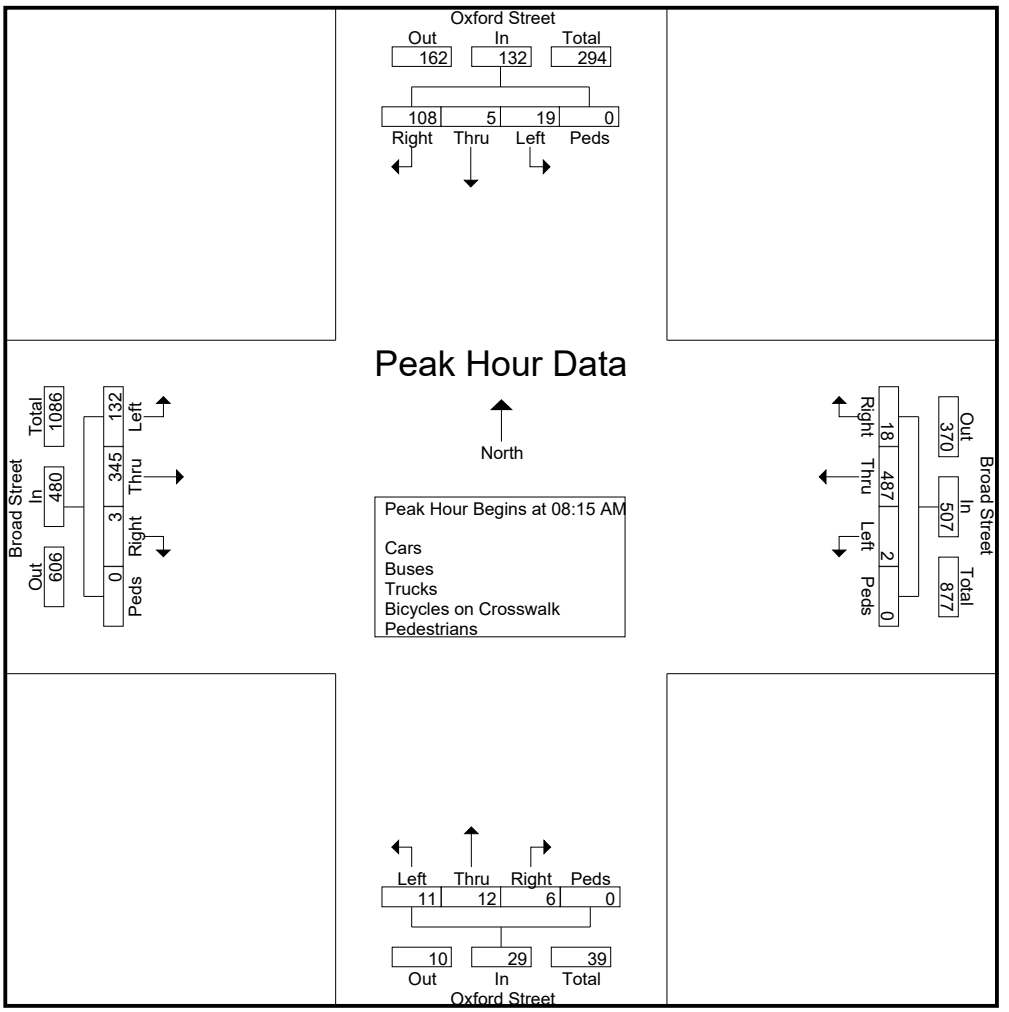
"15 Years ... and still Counting"

File Name : Broad_Street_at_Oxford Street_644409_04-16-2019
Site Code : Site 12 - Tuesday
Start Date : 4/16/2019
Page No : 3

	Oxford Street From North					Broad Street From East					Oxford Street From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	23	0	1	0	24	3	**141**	0	0	**144**	**3**	2	**5**	0	**10**	**2**	85	33	0	120	**298**
08:30 AM	24	**3**	**7**	0	34	**6**	121	**1**	0	128	1	3	2	0	6	0	81	31	0	112	280
08:45 AM	29	1	7	0	**37**	3	119	0	0	122	1	**4**	2	0	7	0	83	**35**	0	118	284
09:00 AM	**32**	1	4	0	37	6	106	1	0	113	1	3	2	0	6	1	**96**	33	0	**130**	286
Total Volume	108	5	19	0	132	18	487	2	0	507	6	12	11	0	29	3	345	132	0	480	1148
% App. Total	81.8	3.8	14.4	0		3.6	96.1	0.4	0		20.7	41.4	37.9	0		0.6	71.9	27.5	0		
PHF	.844	.417	.679	.000	.892	.750	.863	.500	.000	.880	.500	.750	.550	.000	.725	.375	.898	.943	.000	.923	.963



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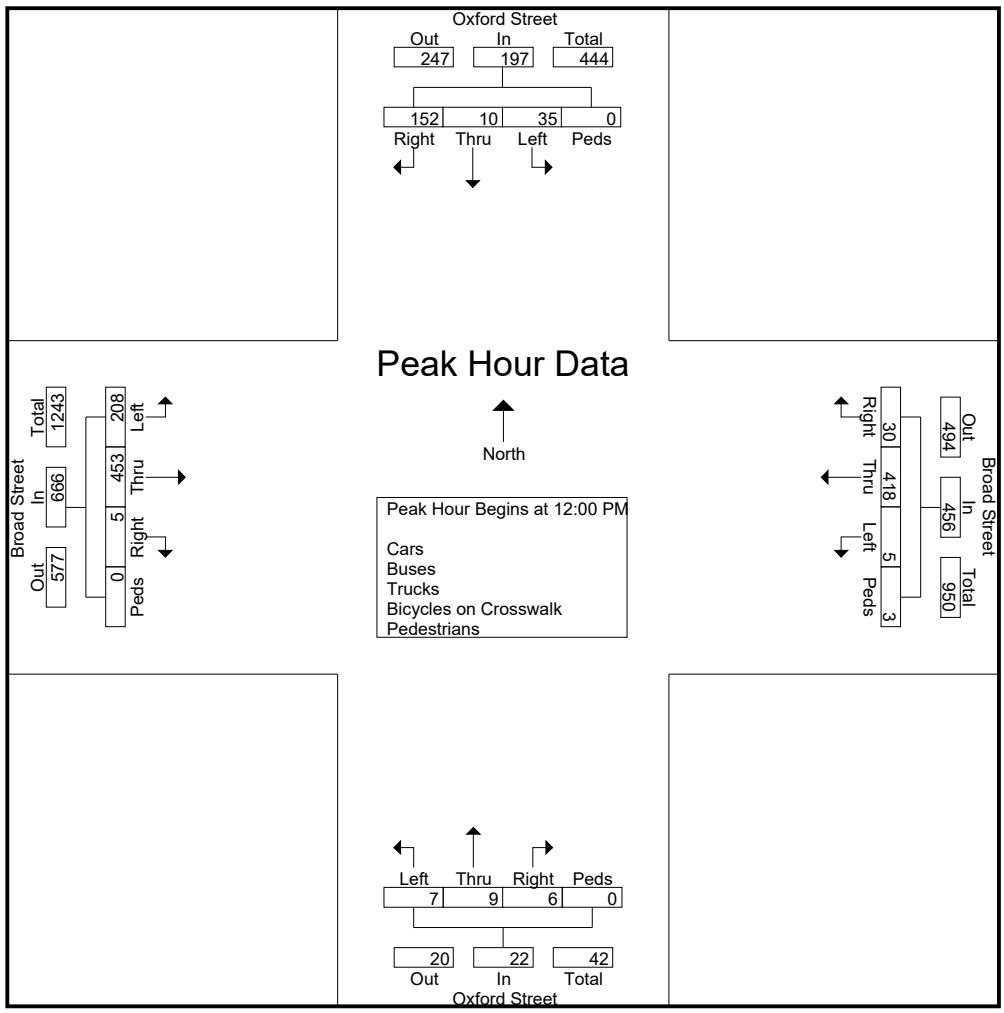
"15 Years ... and still Counting"

File Name : Broad_Street_at_Oxford Street_644409_04-16-2019
Site Code : Site 12 - Tuesday
Start Date : 4/16/2019
Page No : 4

	Oxford Street From North					Broad Street From East					Oxford Street From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	45	**3**	7	0	55	8	97	**2**	0	107	**2**	**3**	**3**	0	**8**	0	111	42	0	153	323
12:15 PM	**50**	1	**13**	0	**64**	5	**110**	1	**2**	**118**	2	2	2	0	6	**4**	100	49	0	153	341
12:30 PM	27	3	5	0	35	**12**	102	1	0	115	1	1	2	0	4	1	**124**	**64**	0	**189**	**343**
12:45 PM	30	3	10	0	43	5	109	1	1	116	1	3	0	0	4	0	118	53	0	171	334
Total Volume	152	10	35	0	197	30	418	5	3	456	6	9	7	0	22	5	453	208	0	666	1341
% App. Total	77.2	5.1	17.8	0		6.6	91.7	1.1	0.7		27.3	40.9	31.8	0		0.8	68	31.2	0		
PHF	.760	.833	.673	.000	.770	.625	.950	.625	.375	.966	.750	.750	.583	.000	.688	.313	.913	.813	.000	.881	.977



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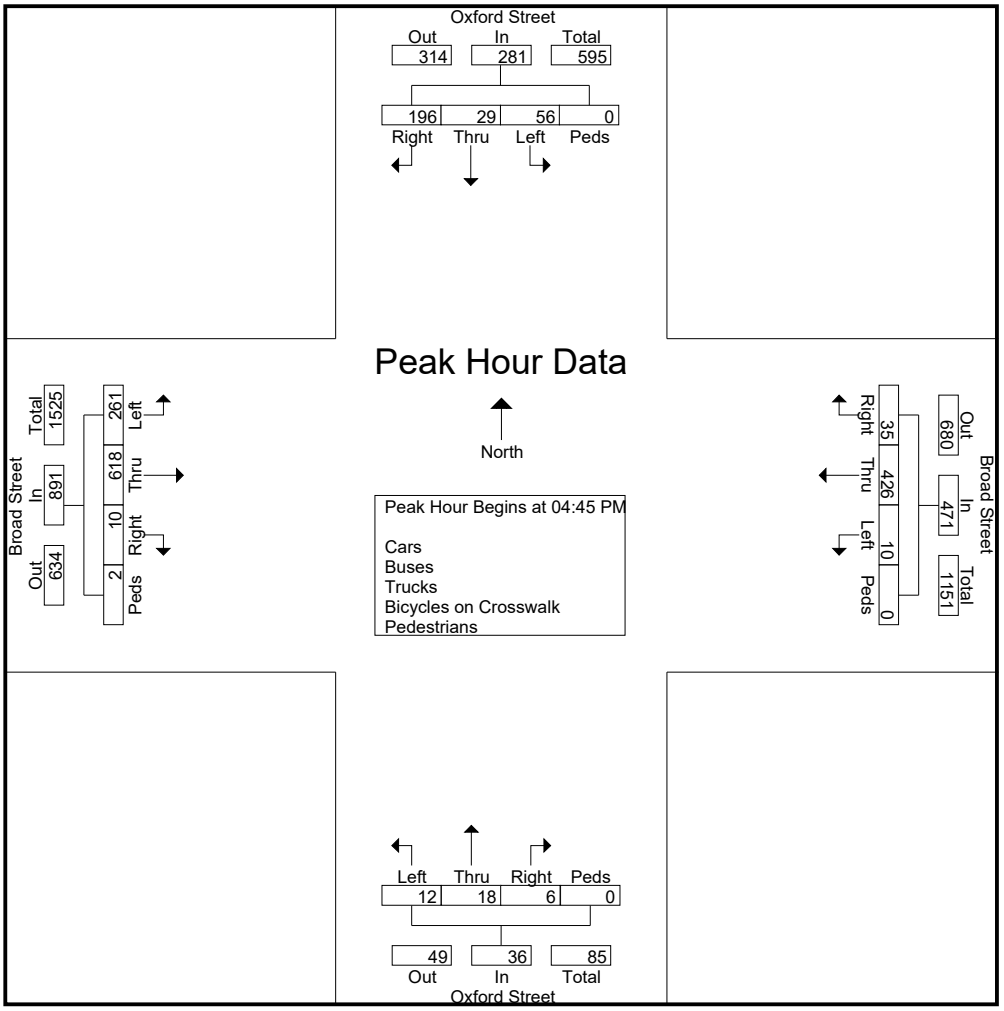
"15 Years ... and still Counting"

File Name : Broad_Street_at_Oxford Street_644409_04-16-2019
Site Code : Site 12 - Tuesday
Start Date : 4/16/2019
Page No : 5

	Oxford Street From North					Broad Street From East					Oxford Street From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	45	5	15	0	65	8	104	3	0	115	1	6	2	0	9	3	**174**	67	**2**	**246**	**435**
05:00 PM	**56**	6	13	0	75	**10**	102	2	0	114	**2**	1	**4**	0	7	0	138	69	0	207	403
05:15 PM	42	6	8	0	56	10	108	1	0	119	1	**7**	3	0	**11**	**4**	154	**74**	0	232	418
05:30 PM	53	**12**	**20**	0	**85**	7	**112**	**4**	0	**123**	2	4	3	0	9	3	152	51	0	206	423
Total Volume	196	29	56	0	281	35	426	10	0	471	6	18	12	0	36	10	618	261	2	891	1679
% App. Total	69.8	10.3	19.9	0		7.4	90.4	2.1	0		16.7	50	33.3	0		1.1	69.4	29.3	0.2		
PHF	.875	.604	.700	.000	.826	.875	.951	.625	.000	.957	.750	.643	.750	.000	.818	.625	.888	.882	.250	.905	.965



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"15 Years ... and still Counting"

65 Degrees - Cloudy
Schools in Session

File Name : Broad_Street_at_Corylus_Drive_644411_04-16-2019
Site Code : Site 13 - Tuesday
Start Date : 4/16/2019
Page No : 1

Groups Printed- Cars - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Corylus Drive From North					Broad Street From East					Corylus Drive From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	4	2	5	0	11	5	91	0	0	96	0	1	2	0	3	1	16	4	0	21	131
06:15 AM	5	5	4	0	14	3	106	0	0	109	3	4	4	0	11	2	33	6	0	41	175
06:30 AM	7	2	3	0	12	7	127	4	0	138	2	2	3	0	7	8	61	6	0	75	232
06:45 AM	7	14	6	0	27	5	127	3	0	135	3	3	5	0	11	3	54	1	0	58	231
Total	23	23	18	0	64	20	451	7	0	478	8	10	14	0	32	14	164	17	0	195	769
07:00 AM	10	4	5	0	19	7	121	4	0	132	2	6	7	0	15	5	63	3	0	71	237
07:15 AM	5	3	10	0	18	9	116	7	0	132	6	9	12	0	27	3	61	3	0	67	244
07:30 AM	7	2	8	0	17	9	104	4	0	117	7	2	6	0	15	1	59	2	0	62	211
07:45 AM	12	8	6	1	27	5	109	7	0	121	0	6	4	0	10	5	75	5	0	85	243
Total	34	17	29	1	81	30	450	22	0	502	15	23	29	0	67	14	258	13	0	285	935
08:00 AM	6	5	7	0	18	10	114	5	0	129	4	3	12	0	19	3	60	8	0	71	237
08:15 AM	13	3	3	0	19	11	125	7	0	143	1	5	8	0	14	5	73	9	0	87	263
08:30 AM	5	4	15	0	24	9	116	4	1	130	1	8	11	0	20	8	67	8	0	83	257
08:45 AM	6	8	8	0	22	14	115	2	0	131	2	4	4	0	10	11	71	7	0	89	252
Total	30	20	33	0	83	44	470	18	1	533	8	20	35	0	63	27	271	32	0	330	1009
09:00 AM	9	3	14	0	26	11	98	4	0	113	2	7	9	0	18	13	79	8	0	100	257
09:15 AM	15	9	16	0	40	20	80	4	0	104	2	6	11	0	19	10	72	5	0	87	250
09:30 AM	2	9	13	0	24	9	91	1	0	101	3	7	8	0	18	6	93	14	0	113	256
09:45 AM	3	8	7	0	18	14	84	5	0	103	4	9	9	0	22	8	81	11	0	100	243
Total	29	29	50	0	108	54	353	14	0	421	11	29	37	0	77	37	325	38	0	400	1006
11:00 AM	12	5	27	0	44	16	82	6	0	104	4	8	12	0	24	5	84	10	0	99	271
11:15 AM	7	12	22	0	41	19	89	2	0	110	1	6	12	0	19	4	60	14	0	78	248
11:30 AM	13	11	20	0	44	19	85	5	0	109	2	9	10	0	21	4	77	19	0	100	274
11:45 AM	9	10	20	0	39	22	85	2	0	109	5	14	12	0	31	9	66	10	0	85	264
Total	41	38	89	0	168	76	341	15	0	432	12	37	46	0	95	22	287	53	0	362	1057
12:00 PM	8	8	25	0	41	24	90	7	0	121	3	8	16	0	27	16	79	23	0	118	307
12:15 PM	18	10	23	0	51	25	83	8	0	116	1	10	9	0	20	11	82	14	0	107	294
12:30 PM	18	9	33	0	60	11	78	4	0	93	2	3	17	0	22	11	101	11	0	123	298
12:45 PM	14	11	33	0	58	20	81	11	0	112	3	10	13	0	26	14	92	15	0	121	317
Total	58	38	114	0	210	80	332	30	0	442	9	31	55	0	95	52	354	63	0	469	1216
04:00 PM	4	20	38	0	62	16	80	8	0	104	5	16	20	0	41	19	128	23	0	170	377
04:15 PM	11	21	38	0	70	26	79	6	0	111	5	11	12	0	28	10	138	15	0	163	372
04:30 PM	10	20	31	0	61	12	87	14	1	114	7	15	11	0	33	18	138	17	0	173	381
04:45 PM	11	29	37	0	77	24	92	10	0	126	3	20	10	0	33	17	154	17	0	188	424
Total	36	90	144	0	270	78	338	38	1	455	20	62	53	0	135	64	558	72	0	694	1554
05:00 PM	12	24	40	0	76	16	73	10	2	101	5	11	19	0	35	15	131	10	0	156	368
05:15 PM	7	22	33	0	62	14	101	5	0	120	7	13	18	0	38	12	138	9	0	159	379
05:30 PM	9	26	33	0	68	17	93	8	0	118	3	16	12	0	31	23	127	19	0	169	386
05:45 PM	4	20	41	0	65	19	85	10	0	114	2	15	20	0	37	17	98	25	0	140	356
Total	32	92	147	0	271	66	352	33	2	453	17	55	69	0	141	67	494	63	0	624	1489
06:00 PM	13	19	35	0	67	17	100	5	0	122	5	15	9	0	29	10	113	11	0	134	352
06:15 PM	5	21	28	0	54	16	80	4	1	101	4	18	10	0	32	6	109	16	0	131	318
06:30 PM	13	19	43	0	75	18	53	3	0	74	7	9	9	0	25	11	95	22	0	128	302
06:45 PM	11	16	41	0	68	22	67	6	1	96	5	9	9	0	23	11	83	21	0	115	302
Total	42	75	147	0	264	73	300	18	2	393	21	51	37	0	109	38	400	70	0	508	1274

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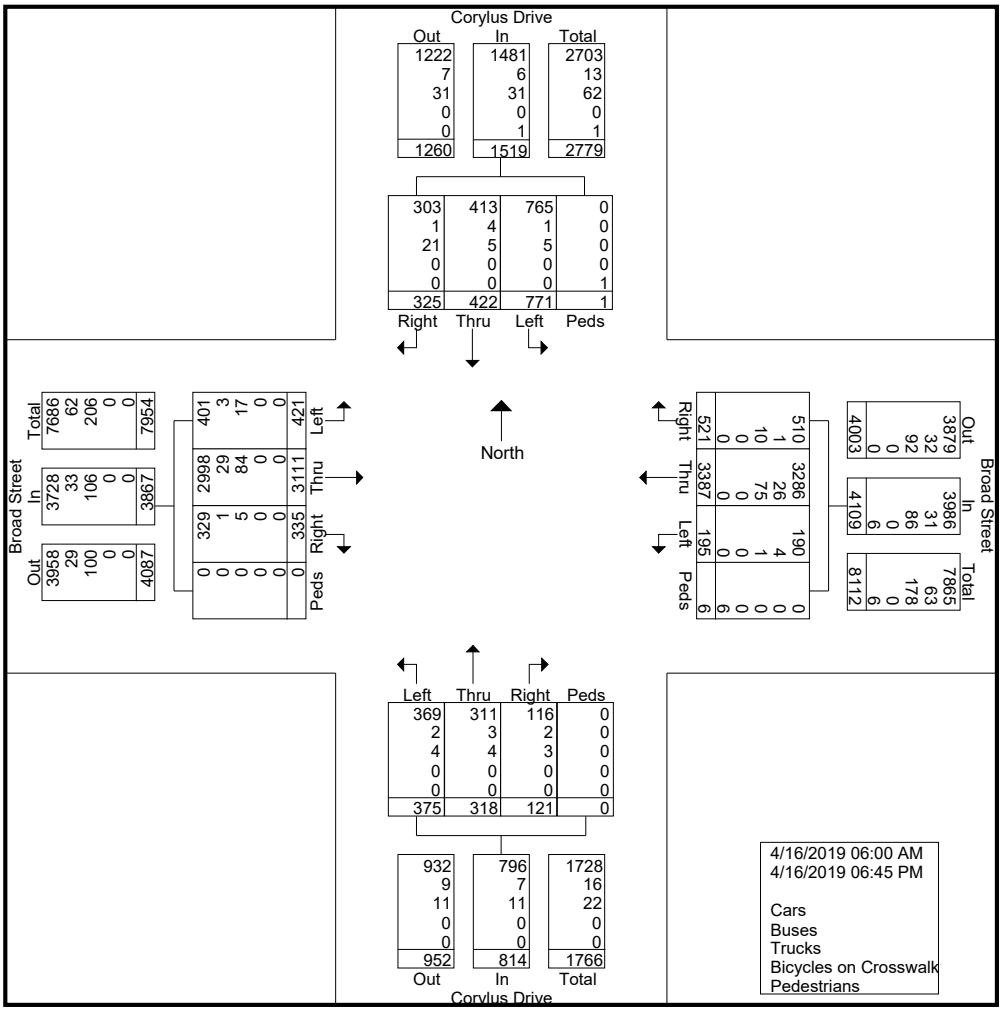
"15 Years ... and still Counting"

File Name : Broad_Street_at_Corylus_Drive_644411_04-16-2019
Site Code : Site 13 - Tuesday
Start Date : 4/16/2019
Page No : 2

Groups Printed- Cars - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	Corylus Drive From North					Broad Street From East					Corylus Drive From South					Broad Street From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	325	422	771	1	1519	521	3387	195	6	4109	121	318	375	0	814	335	3111	421	0	3867	10309
Apprch %	21.4	27.8	50.8	0.1		12.7	82.4	4.7	0.1		14.9	39.1	46.1	0		8.7	80.4	10.9	0		
Total %	3.2	4.1	7.5	0	14.7	5.1	32.9	1.9	0.1	39.9	1.2	3.1	3.6	0	7.9	3.2	30.2	4.1	0	37.5	
Cars	303	413	765	0	1481	510	3286	190	0	3986	116	311	369	0	796	329	2998	401	0	3728	9991
% Cars	93.2	97.9	99.2	0	97.5	97.9	97	97.4	0	97	95.9	97.8	98.4	0	97.8	98.2	96.4	95.2	0	96.4	96.9
Buses	1	4	1	0	6	1	26	4	0	31	2	3	2	0	7	1	29	3	0	33	77
% Buses	0.3	0.9	0.1	0	0.4	0.2	0.8	2.1	0	0.8	1.7	0.9	0.5	0	0.9	0.3	0.9	0.7	0	0.9	0.7
Trucks	21	5	5	0	31	10	75	1	0	86	3	4	4	0	11	5	84	17	0	106	234
% Trucks	6.5	1.2	0.6	0	2	1.9	2.2	0.5	0	2.1	2.5	1.3	1.1	0	1.4	1.5	2.7	4	0	2.7	2.3
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	1	1	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	7
% Pedestrians	0	0	0	100	0.1	0	0	0	100	0.1	0	0	0	0	0	0	0	0	0	0	0.1



Cummins Consulting Services, PLLC

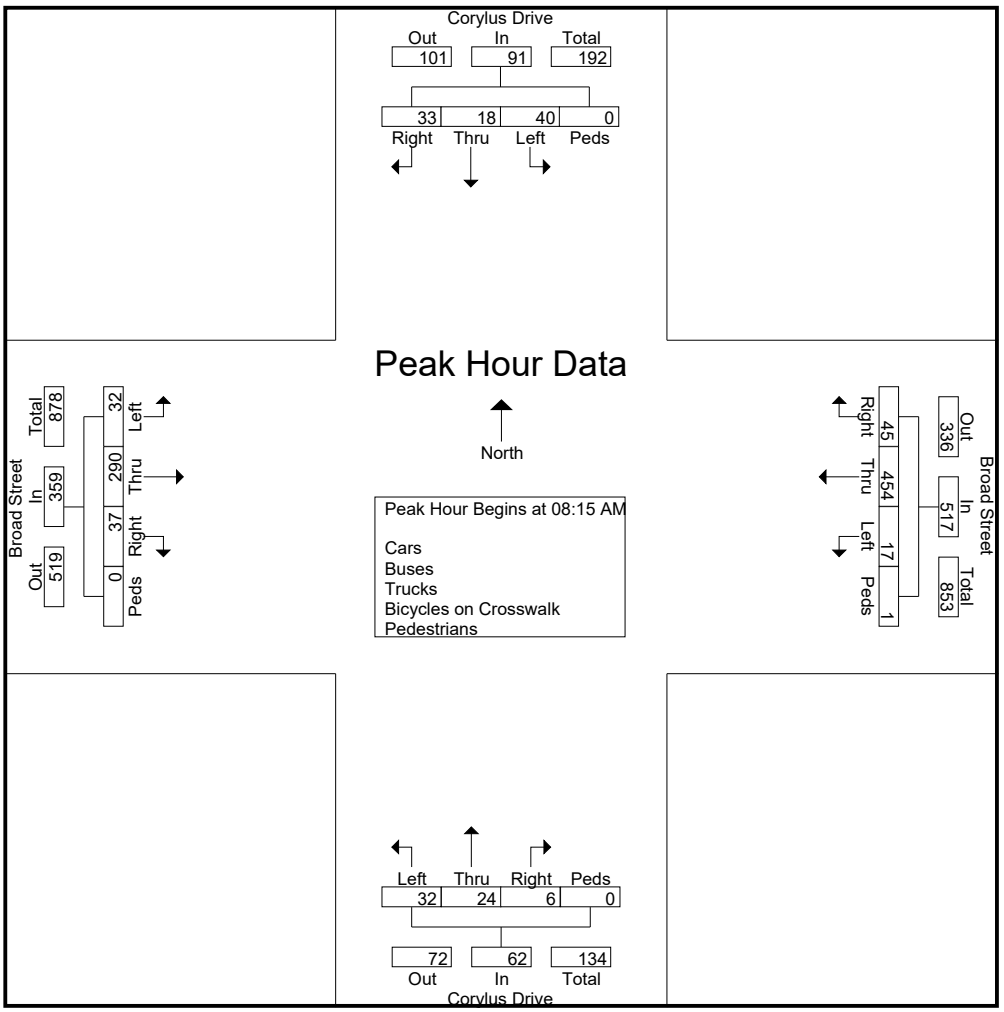
2216 Young Drive, Suite 1 Lexington, Kentucky 40505

Office: (859) 785-1500 www.ccsdata.com

"15 Years ... and still Counting"

File Name : Broad_Street_at_Corylus_Drive_644411_04-16-2019
Site Code : Site 13 - Tuesday
Start Date : 4/16/2019
Page No : 3

	Corylus Drive From North					Broad Street From East					Corylus Drive From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	**13**	3	3	0	19	11	**125**	**7**	0	**143**	1	5	8	0	14	5	73	**9**	0	87	**263**
08:30 AM	5	4	**15**	0	24	9	116	4	**1**	130	1	**8**	**11**	0	**20**	8	67	8	0	83	257
08:45 AM	6	**8**	8	0	22	**14**	115	2	0	131	**2**	4	4	0	10	11	71	7	0	89	252
09:00 AM	9	3	14	0	**26**	11	98	4	0	113	2	7	9	0	18	**13**	**79**	8	0	**100**	257
Total Volume	33	18	40	0	91	45	454	17	1	517	6	24	32	0	62	37	290	32	0	359	1029
% App. Total	36.3	19.8	44	0		8.7	87.8	3.3	0.2		9.7	38.7	51.6	0		10.3	80.8	8.9	0		
PHF	.635	.563	.667	.000	.875	.804	.908	.607	.250	.904	.750	.750	.727	.000	.775	.712	.918	.889	.000	.898	.978



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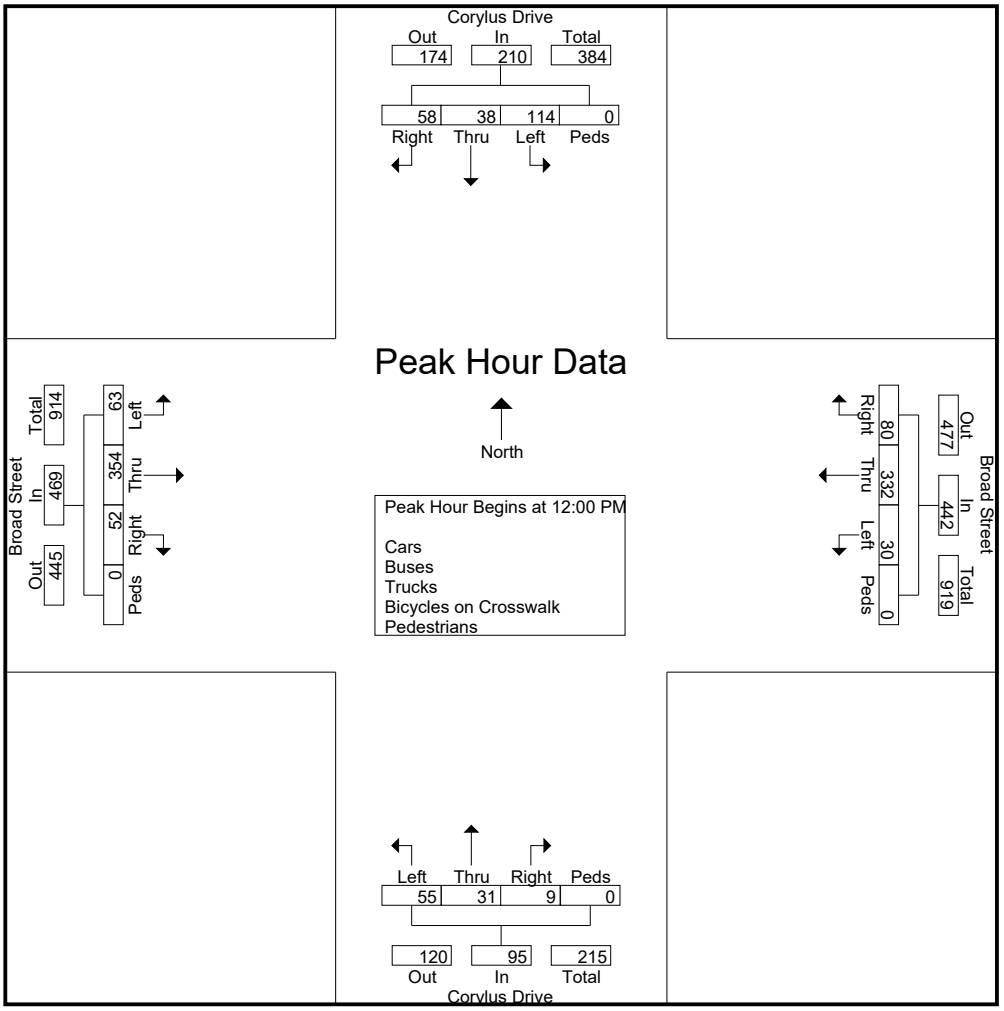
"15 Years ... and still Counting"

File Name : Broad_Street_at_Corylus_Drive_644411_04-16-2019
Site Code : Site 13 - Tuesday
Start Date : 4/16/2019
Page No : 4

	Corylus Drive From North					Broad Street From East					Corylus Drive From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	8	8	25	0	41	24	**90**	7	0	**121**	**3**	8	16	0	**27**	**16**	79	**23**	0	118	307
12:15 PM	**18**	10	23	0	51	**25**	83	8	0	116	1	**10**	9	0	20	11	82	14	0	107	294
12:30 PM	18	9	**33**	0	**60**	11	78	4	0	93	2	3	**17**	0	22	11	**101**	11	0	**123**	298
12:45 PM	14	**11**	33	0	58	20	81	**11**	0	112	3	10	13	0	26	14	92	15	0	121	**317**
Total Volume	58	38	114	0	210	80	332	30	0	442	9	31	55	0	95	52	354	63	0	469	1216
% App. Total	27.6	18.1	54.3	0		18.1	75.1	6.8	0		9.5	32.6	57.9	0		11.1	75.5	13.4	0		
PHF	.806	.864	.864	.000	.875	.800	.922	.682	.000	.913	.750	.775	.809	.000	.880	.813	.876	.685	.000	.953	.959



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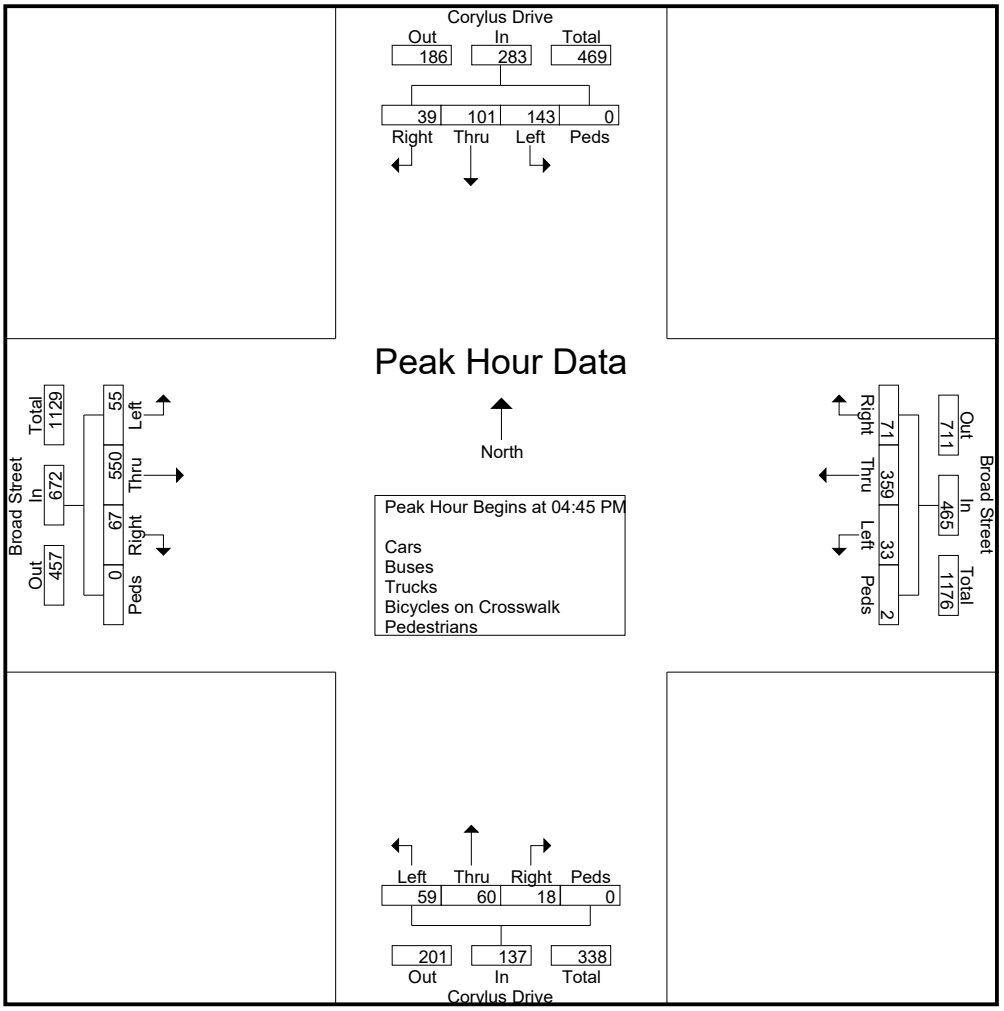
"15 Years ... and still Counting"

File Name : Broad_Street_at_Corylus_Drive_644411_04-16-2019
Site Code : Site 13 - Tuesday
Start Date : 4/16/2019
Page No : 5

	Corylus Drive From North					Broad Street From East					Corylus Drive From South					Broad Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	11	**29**	37	0	**77**	**24**	92	**10**	0	**126**	3	**20**	10	0	33	17	**154**	17	0	**188**	**424**
05:00 PM	**12**	24	**40**	0	76	16	73	10	**2**	101	5	11	**19**	0	35	15	131	10	0	156	368
05:15 PM	7	22	33	0	62	14	**101**	5	0	120	**7**	13	18	0	**38**	12	138	9	0	159	379
05:30 PM	9	26	33	0	68	17	93	8	0	118	3	16	12	0	31	**23**	127	**19**	0	169	386
Total Volume	39	101	143	0	283	71	359	33	2	465	18	60	59	0	137	67	550	55	0	672	1557
% App. Total	13.8	35.7	50.5	0		15.3	77.2	7.1	0.4		13.1	43.8	43.1	0		10	81.8	8.2	0		
PHF	.813	.871	.894	.000	.919	.740	.889	.825	.250	.923	.643	.750	.776	.000	.901	.728	.893	.724	.000	.894	.918



Morse Road and OH-310 - TMC

Thu Mar 11, 2021
Full Length (6 AM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 819307, Location: 40.055605, -82.668444

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US

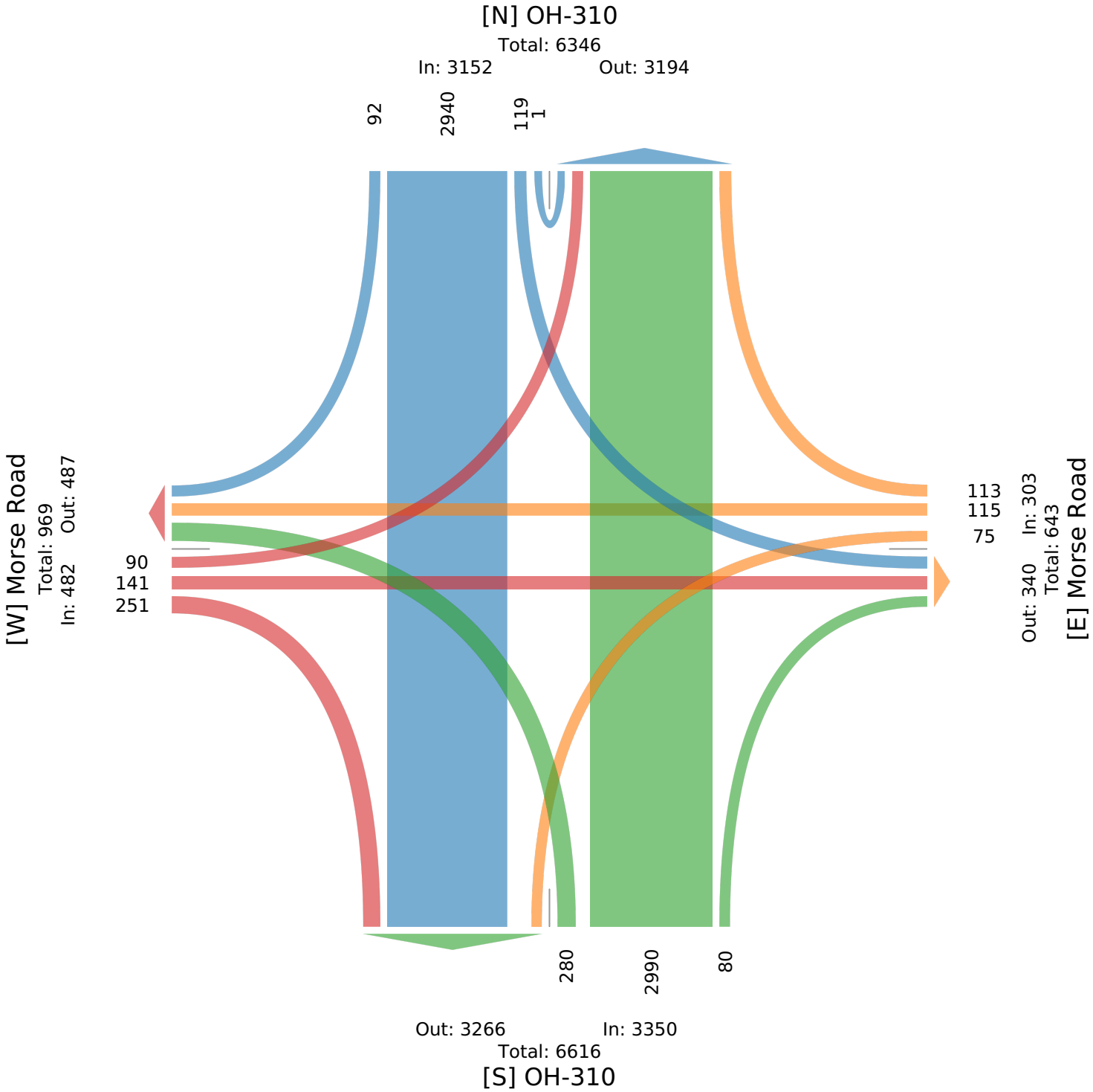
Leg	Morse Road					Morse Road					OH-310					OH-310					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2021-03-11 6:00AM	0	0	0	0	**0**	0	0	0	0	**0**	0	13	0	0	**13**	0	7	0	0	**7**	**20**
6:15AM	1	0	0	0	**1**	0	1	1	0	**2**	0	33	0	0	**33**	0	14	0	0	**14**	**50**
6:30AM	1	0	0	0	**1**	0	0	0	0	**0**	2	42	0	0	**44**	0	14	0	0	**14**	**59**
6:45AM	0	0	2	0	**2**	0	1	1	0	**2**	2	40	0	0	**42**	1	14	1	0	**16**	**62**
Hourly Total	2	0	2	0	**4**	0	2	2	0	**4**	4	128	0	0	**132**	1	49	1	0	**51**	**191**
7:00AM	2	1	1	0	**4**	0	1	0	0	**1**	2	58	0	0	**60**	0	35	1	0	**36**	**101**
7:15AM	0	0	2	0	**2**	2	2	0	0	**4**	15	67	1	0	**83**	0	32	1	0	**33**	**122**
7:30AM	1	1	3	0	**5**	2	3	2	0	**7**	10	103	0	0	**113**	0	45	1	0	**46**	**171**
7:45AM	0	1	2	0	**3**	1	7	3	0	**11**	9	95	2	0	**106**	0	56	2	0	**58**	**178**
Hourly Total	3	3	8	0	**14**	5	13	5	0	**23**	36	323	3	0	**362**	0	168	5	0	**173**	**572**
8:00AM	0	2	4	0	**6**	0	3	2	0	**5**	5	76	1	0	**82**	0	51	1	0	**52**	**145**
8:15AM	2	4	2	0	**8**	3	1	4	0	**8**	6	70	2	0	**78**	1	52	0	0	**53**	**147**
8:30AM	1	0	3	0	**4**	3	3	10	0	**16**	5	82	2	0	**89**	0	53	2	0	**55**	**164**
8:45AM	3	2	5	0	**10**	4	1	4	0	**9**	1	84	1	0	**86**	1	60	1	0	**62**	**167**
Hourly Total	6	8	14	0	**28**	10	8	20	0	**38**	17	312	6	0	**335**	2	216	4	0	**222**	**623**
9:00AM	0	0	2	0	**2**	0	0	5	0	**5**	5	69	1	0	**75**	1	45	4	0	**50**	**132**
9:15AM	2	1	7	0	**10**	1	4	5	0	**10**	7	64	3	0	**74**	0	46	4	0	**50**	**144**
9:30AM	5	0	4	0	**9**	2	2	2	0	**6**	8	62	2	0	**72**	2	45	2	0	**49**	**136**
9:45AM	3	3	2	0	**8**	0	2	2	0	**4**	3	80	5	0	**88**	0	44	0	0	**44**	**144**
Hourly Total	10	4	15	0	**29**	3	8	14	0	**25**	23	275	11	0	**309**	3	180	10	0	**193**	**556**
10:00AM	1	1	3	0	**5**	0	1	2	0	**3**	5	59	1	0	**65**	1	38	1	0	**40**	**113**
10:15AM	0	4	3	0	**7**	1	5	2	0	**8**	4	48	3	0	**55**	0	48	3	0	**51**	**121**
10:30AM	0	0	5	0	**5**	0	1	4	0	**5**	5	62	0	0	**67**	4	39	3	0	**46**	**123**
10:45AM	1	3	2	0	**6**	1	3	1	0	**5**	8	41	1	0	**50**	0	42	3	0	**45**	**106**
Hourly Total	2	8	13	0	**23**	2	10	9	0	**21**	22	210	5	0	**237**	5	167	10	0	**182**	**463**
11:00AM	0	2	2	0	**4**	0	1	0	0	**1**	7	47	0	0	**54**	3	39	4	0	**46**	**105**
11:15AM	1	6	3	0	**10**	1	0	0	0	**1**	11	52	0	0	**63**	4	37	0	0	**41**	**115**
11:30AM	0	1	2	0	**3**	2	1	2	0	**5**	5	56	1	0	**62**	4	51	0	0	**55**	**125**
11:45AM	1	0	4	0	**5**	0	2	4	0	**6**	8	45	1	0	**54**	2	45	4	0	**51**	**116**
Hourly Total	2	9	11	0	**22**	3	4	6	0	**13**	31	200	2	0	**233**	13	172	8	0	**193**	**461**
12:00PM	2	0	0	0	**2**	3	3	3	0	**9**	2	47	2	0	**51**	2	44	2	0	**48**	**110**
12:15PM	2	3	1	0	**6**	2	2	2	0	**6**	5	54	1	0	**60**	2	48	0	0	**50**	**122**
12:30PM	0	3	4	0	**7**	0	6	3	0	**9**	2	67	1	0	**70**	1	46	2	0	**49**	**135**
12:45PM	3	1	5	0	**9**	1	2	2	0	**5**	2	41	0	0	**43**	1	48	1	0	**50**	**107**
Hourly Total	7	7	10	0	**24**	6	13	10	0	**29**	11	209	4	0	**224**	6	186	5	0	**197**	**474**
1:00PM	2	7	5	0	**14**	2	2	0	0	**4**	6	41	0	0	**47**	3	50	2	0	**55**	**120**
1:15PM	3	8	6	0	**17**	3	2	2	0	**7**	4	37	2	0	**43**	5	45	1	0	**51**	**118**
1:30PM	2	5	4	0	**11**	4	3	4	0	**11**	6	58	2	0	**66**	4	56	3	0	**63**	**151**
1:45PM	2	0	7	0	**9**	3	4	4	0	**11**	4	38	4	0	**46**	6	53	4	0	**63**	**129**
Hourly Total	9	20	22	0	**51**	12	11	10	0	**33**	20	174	8	0	**202**	18	204	10	0	**232**	**518**
2:00PM	2	0	6	0	**8**	2	2	3	0	**7**	7	57	1	0	**65**	3	54	1	0	**58**	**138**
2:15PM	1	7	6	0	**14**	2	5	0	0	**7**	5	50	2	0	**57**	1	54	5	0	**60**	**138**
2:30PM	1	2	8	0	**11**	2	4	2	0	**8**	3	49	1	0	**53**	2	47	0	0	**49**	**121**
2:45PM	4	4	5	0	**13**	0	2	1	0	**3**	3	29	4	0	**36**	5	65	5	0	**75**	**127**
Hourly Total	8	13	25	0	**46**	6	13	6	0	**25**	18	185	8	0	**211**	11	220	11	0	**242**	**524**
3:00PM	2	6	4	0	**12**	2	1	0	0	**3**	6	52	3	0	**61**	12	49	1	0	**62**	**138**
3:15PM	3	4	3	0	**10**	2	1	5	0	**8**	7	59	0	0	**66**	3	64	2	1	**70**	**154**
3:30PM	0	3	3	0	**6**	3	2	2	0	**7**	6	67	4	0	**77**	3	58	1	0	**62**	**152**
3:45PM	1	4	3	0	**8**	4	7	0	0	**11**	2	46	1	0	**49**	5	65	3	0	**73**	**141**
Hourly Total	6	17	13	0	**36**	11	11	7	0	**29**	21	224	8	0	**253**	23	236	7	1	**267**	**585**
4:00PM	2	1	8	0	**11**	2	1	0	0	**3**	7	51	1	0	**59**	4	75	2	0	**81**	**154**
4:15PM	8	3	9	0	**20**	0	1	5	0	**6**	2	51	2	0	**55**	4	84	1	0	**89**	**170**
4:30PM	4	7	11	0	**22**	1	2	1	0	**4**	4	50	2	0	**56**	4	79	3	0	**86**	**168**
4:45PM	2	7	7	0	**16**	2	0	2	0	**4**	9	59	1	0	**69**	4	84	3	0	**91**	**180**

Leg	Morse Road					Morse Road					OH-310					OH-310					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
Hourly Total	16	18	35	0	**69**	5	4	8	0	**17**	22	211	6	0	**239**	16	322	9	0	**347**	**672**
5:00PM	3	2	5	0	**10**	1	2	4	0	**7**	11	68	6	0	**85**	1	77	2	0	**80**	**182**
5:15PM	1	5	12	0	**18**	2	5	3	0	**10**	2	74	2	0	**78**	4	90	2	0	**96**	**202**
5:30PM	5	7	7	0	**19**	1	4	2	0	**7**	5	51	2	0	**58**	3	98	0	0	**101**	**185**
5:45PM	5	4	11	0	**20**	0	3	1	0	**4**	5	48	1	0	**54**	4	119	3	0	**126**	**204**
Hourly Total	14	18	35	0	**67**	4	14	10	0	**28**	23	241	11	0	**275**	12	384	7	0	**403**	**773**
6:00PM	2	5	11	0	**18**	3	1	0	0	**4**	9	85	0	0	**94**	2	113	2	0	**117**	**233**
6:15PM	0	5	13	0	**18**	1	0	1	0	**2**	8	67	2	0	**77**	3	111	1	0	**115**	**212**
6:30PM	0	3	18	0	**21**	2	0	2	0	**4**	6	73	3	0	**82**	2	116	1	0	**119**	**226**
6:45PM	3	3	6	0	**12**	2	3	3	0	**8**	9	73	3	0	**85**	2	96	1	0	**99**	**204**
Hourly Total	5	16	48	0	**69**	8	4	6	0	**18**	32	298	8	0	**338**	9	436	5	0	**450**	**875**
Total	90	141	251	0	**482**	75	115	113	0	**303**	280	2990	80	0	**3350**	119	2940	92	1	**3152**	**7287**
% Approach	18.7%	29.3%	52.1%	0%	**-**	24.8%	38.0%	37.3%	0%	**-**	8.4%	89.3%	2.4%	0%	**-**	3.8%	93.3%	2.9%	0%	**-**	-
% Total	1.2%	1.9%	3.4%	0%	**6.6%**	1.0%	1.6%	1.6%	0%	**4.2%**	3.8%	41.0%	1.1%	0%	**46.0%**	1.6%	40.3%	1.3%	0%	**43.3%**	-
Lights	79	137	243	0	**459**	67	106	96	0	**269**	265	2780	67	0	**3112**	104	2720	88	0	**2912**	6752
% Lights	87.8%	97.2%	96.8%	0%	**95.2%**	89.3%	92.2%	85.0%	0%	**88.8%**	94.6%	93.0%	83.8%	0%	**92.9%**	87.4%	92.5%	95.7%	0%	**92.4%**	92.7%
Articulated Trucks	2	0	1	0	**3**	3	1	1	0	**5**	0	96	3	0	**99**	2	83	0	0	**85**	192
% Articulated Trucks	2.2%	0%	0.4%	0%	**0.6%**	4.0%	0.9%	0.9%	0%	**1.7%**	0%	3.2%	3.8%	0%	**3.0%**	1.7%	2.8%	0%	0%	**2.7%**	2.6%
Buses and Single-Unit Trucks	9	4	7	0	**20**	5	8	16	0	**29**	15	114	10	0	**139**	13	137	4	1	**155**	343
% Buses and Single-Unit Trucks	10.0%	2.8%	2.8%	0%	**4.1%**	6.7%	7.0%	14.2%	0%	**9.6%**	5.4%	3.8%	12.5%	0%	**4.1%**	10.9%	4.7%	4.3%	100%	**4.9%**	4.7%

*L: Left, R: Right, T: Thru, U: U-Turn

Morse Road and OH-310 - TMC
Thu Mar 11, 2021
Full Length (6 AM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 819307, Location: 40.055605, -82.668444

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



Morse Road and OH-310 - TMC

Thu Mar 11, 2021
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 819307, Location: 40.055605, -82.668444

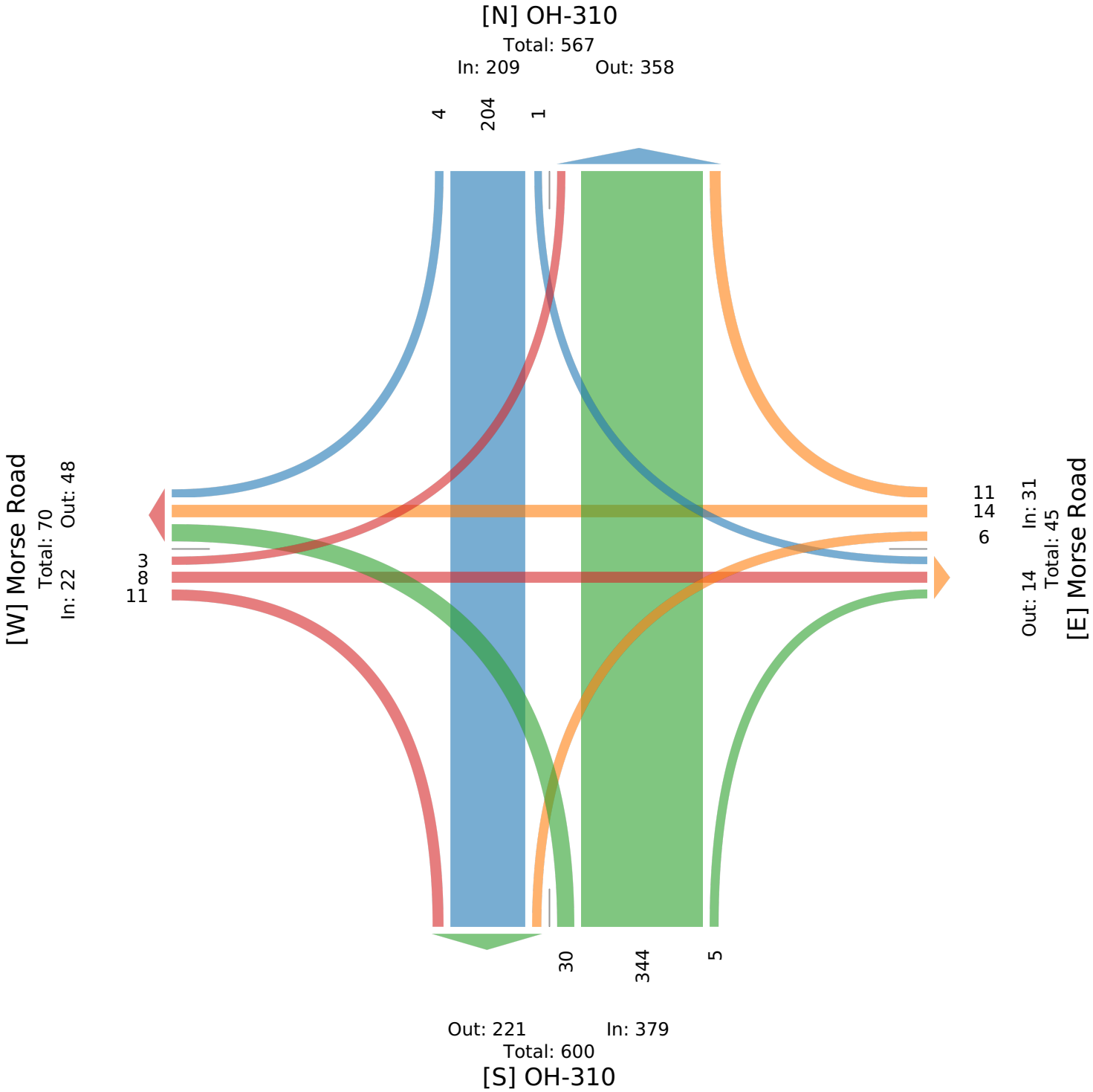
Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US

Leg	Morse Road					Morse Road					OH-310					OH-310					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2021-03-11 7:30AM	1	1	3	0	**5**	2	3	2	0	**7**	10	103	0	0	**113**	0	45	1	0	**46**	**171**
7:45AM	0	1	2	0	**3**	1	7	3	0	**11**	9	95	2	0	**106**	0	56	2	0	**58**	**178**
8:00AM	0	2	4	0	**6**	0	3	2	0	**5**	5	76	1	0	**82**	0	51	1	0	**52**	**145**
8:15AM	2	4	2	0	**8**	3	1	4	0	**8**	6	70	2	0	**78**	1	52	0	0	**53**	**147**
Total	3	8	11	0	**22**	6	14	11	0	**31**	30	344	5	0	**379**	1	204	4	0	**209**	**641**
% Approach	13.6%	36.4%	50.0%	0%	**-**	19.4%	45.2%	35.5%	0%	**-**	7.9%	90.8%	1.3%	0%	**-**	0.5%	97.6%	1.9%	0%	**-**	-
% Total	0.5%	1.2%	1.7%	0%	**3.4%**	0.9%	2.2%	1.7%	0%	**4.8%**	4.7%	53.7%	0.8%	0%	**59.1%**	0.2%	31.8%	0.6%	0%	**32.6%**	-
PHF	0.375	0.500	0.688		**- 0.688**	0.500	0.500	0.688		**- 0.705**	0.750	0.835	0.625		**- 0.838**	0.250	0.911	0.500		**- 0.901**	0.900
Lights	3	8	11	0	**22**	6	13	8	0	**27**	29	333	3	0	**365**	1	191	4	0	**196**	610
% Lights	100%	100%	100%	0%	**100%**	100%	92.9%	72.7%	0%	**87.1%**	96.7%	96.8%	60.0%	0%	**96.3%**	100%	93.6%	100%	0%	**93.8%**	95.2%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	2	0	0	**2**	0	8	0	0	**8**	10
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0.6%	0%	0%	**0.5%**	0%	3.9%	0%	0%	**3.8%**	1.6%
Buses and Single-Unit Trucks	0	0	0	0	**0**	0	1	3	0	**4**	1	9	2	0	**12**	0	5	0	0	**5**	21
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	0%	7.1%	27.3%	0%	**12.9%**	3.3%	2.6%	40.0%	0%	**3.2%**	0%	2.5%	0%	0%	**2.4%**	3.3%

*L: Left, R: Right, T: Thru, U: U-Turn

Morse Road and OH-310 - TMC
Thu Mar 11, 2021
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 819307, Location: 40.055605, -82.668444

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



Morse Road and OH-310 - TMC

Thu Mar 11, 2021
Midday Peak (11:45 AM - 12:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 819307, Location: 40.055605, -82.668444

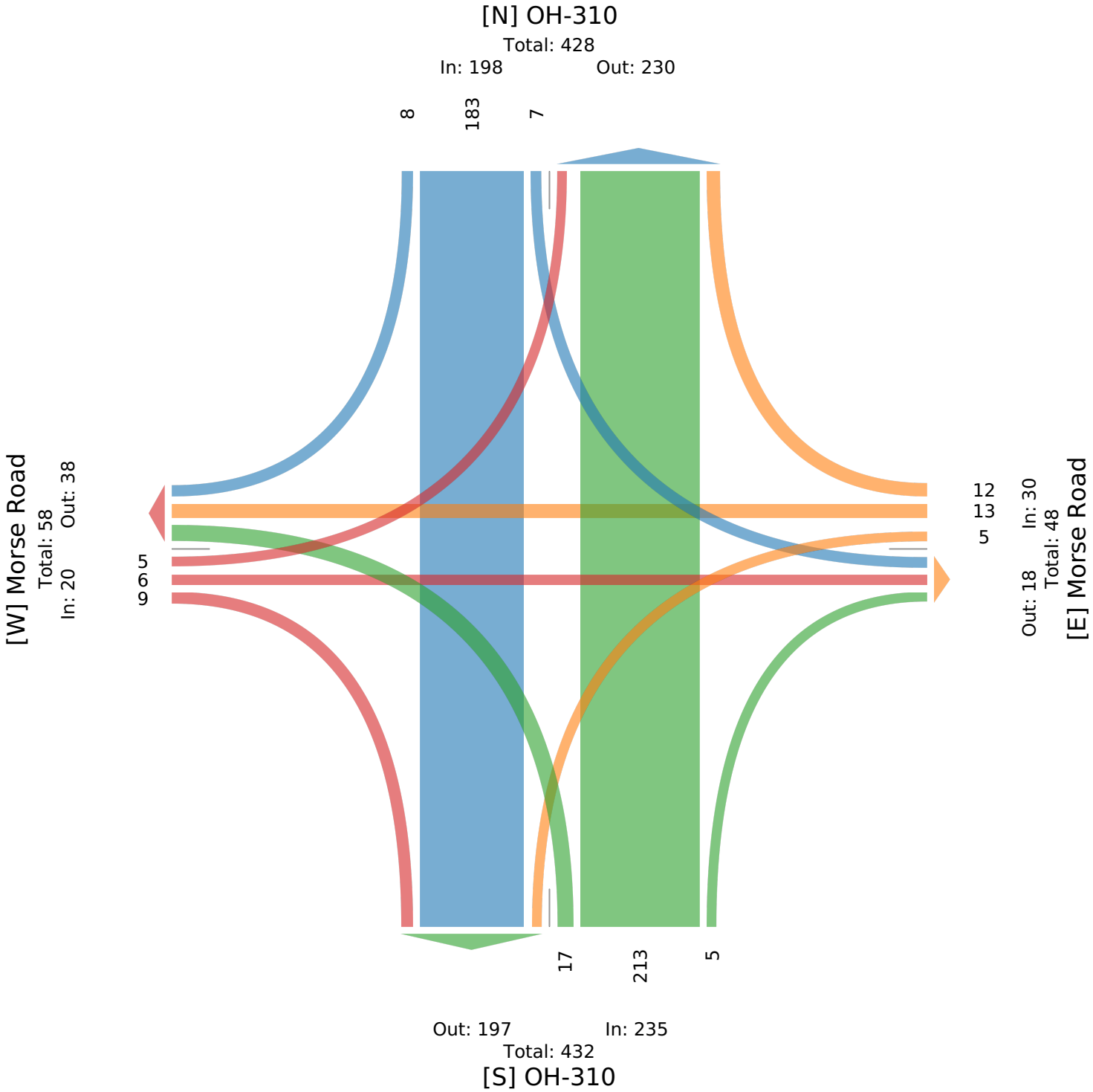
Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US

Leg	Morse Road					Morse Road					OH-310					OH-310					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2021-03-11 11:45AM	1	0	4	0	**5**	0	2	4	0	**6**	8	45	1	0	**54**	2	45	4	0	**51**	**116**
12:00PM	2	0	0	0	**2**	3	3	3	0	**9**	2	47	2	0	**51**	2	44	2	0	**48**	**110**
12:15PM	2	3	1	0	**6**	2	2	2	0	**6**	5	54	1	0	**60**	2	48	0	0	**50**	**122**
12:30PM	0	3	4	0	**7**	0	6	3	0	**9**	2	67	1	0	**70**	1	46	2	0	**49**	**135**
Total	5	6	9	0	**20**	5	13	12	0	**30**	17	213	5	0	**235**	7	183	8	0	**198**	**483**
% Approach	25.0%	30.0%	45.0%	0%	**-**	16.7%	43.3%	40.0%	0%	**-**	7.2%	90.6%	2.1%	0%	**-**	3.5%	92.4%	4.0%	0%	**-**	-
% Total	1.0%	1.2%	1.9%	0%	**4.1%**	1.0%	2.7%	2.5%	0%	**6.2%**	3.5%	44.1%	1.0%	0%	**48.7%**	1.4%	37.9%	1.7%	0%	**41.0%**	-
PHF	0.625	0.500	0.563	-	**0.714**	0.417	0.542	0.750	-	**0.833**	0.531	0.795	0.625	-	**0.839**	0.875	0.953	0.500	-	**0.971**	0.894
Lights	4	6	9	0	**19**	5	12	8	0	**25**	16	192	5	0	**213**	5	158	6	0	**169**	426
% Lights	80.0%	100%	100%	0%	**95.0%**	100%	92.3%	66.7%	0%	**83.3%**	94.1%	90.1%	100%	0%	**90.6%**	71.4%	86.3%	75.0%	0%	**85.4%**	88.2%
Articulated Trucks	1	0	0	0	**1**	0	0	0	0	**0**	0	12	0	0	**12**	0	9	0	0	**9**	22
% Articulated Trucks	20.0%	0%	0%	0%	**5.0%**	0%	0%	0%	0%	**0%**	0%	5.6%	0%	0%	**5.1%**	0%	4.9%	0%	0%	**4.5%**	4.6%
Buses and Single-Unit Trucks	0	0	0	0	**0**	0	1	4	0	**5**	1	9	0	0	**10**	2	16	2	0	**20**	35
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	0%	7.7%	33.3%	0%	**16.7%**	5.9%	4.2%	0%	0%	**4.3%**	28.6%	8.7%	25.0%	0%	**10.1%**	7.2%

*L: Left, R: Right, T: Thru, U: U-Turn

Morse Road and OH-310 - TMC
Thu Mar 11, 2021
Midday Peak (11:45 AM - 12:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 819307, Location: 40.055605, -82.668444

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



Morse Road and OH-310 - TMC

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US

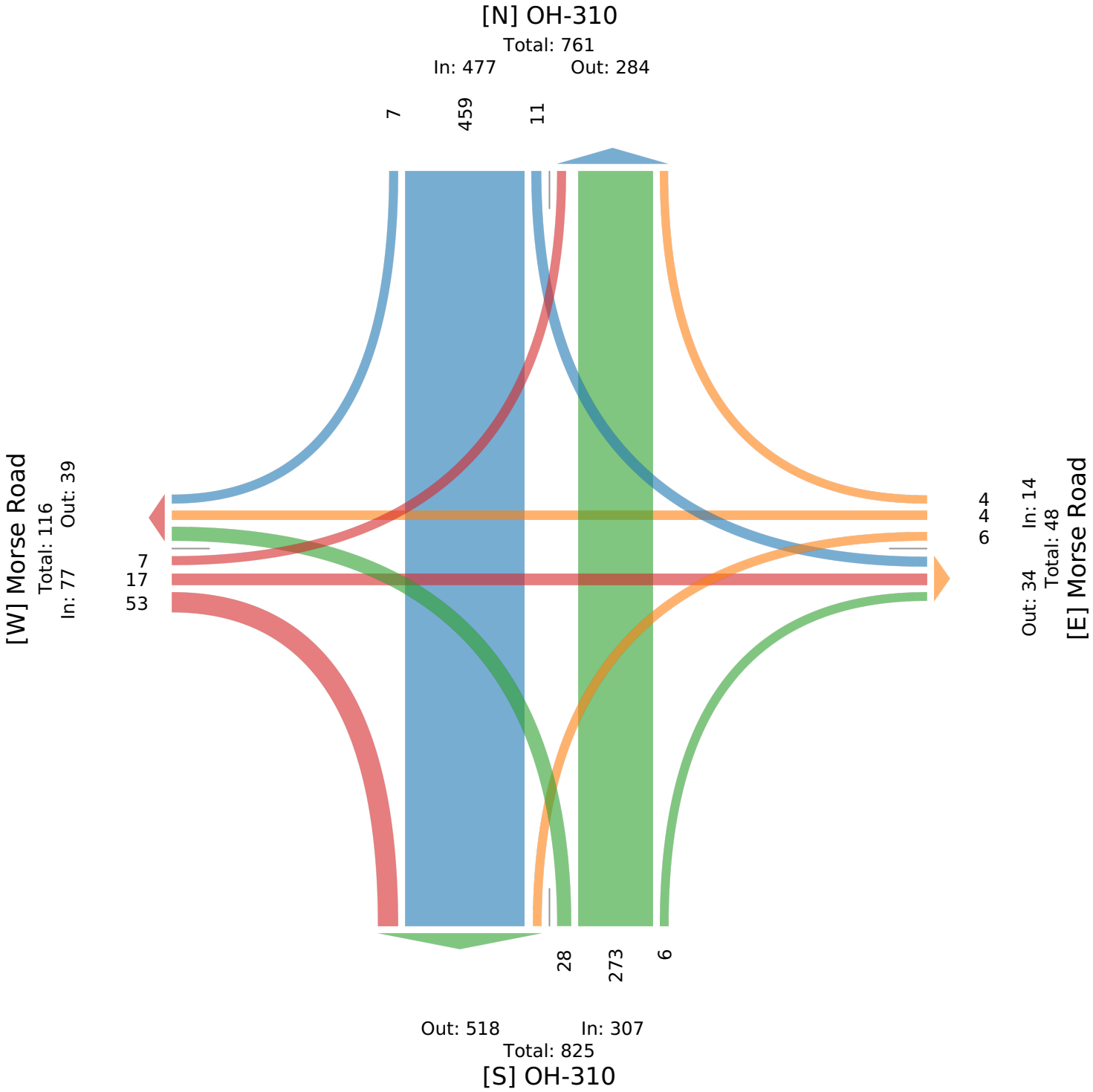
Thu Mar 11, 2021
PM Peak (5:45 PM - 6:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 819307, Location: 40.055605, -82.668444

Leg	Morse Road					Morse Road					OH-310					OH-310					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2021-03-11 5:45PM	5	4	11	0	**20**	0	3	1	0	**4**	5	48	1	0	**54**	4	119	3	0	**126**	**204**
6:00PM	2	5	11	0	**18**	3	1	0	0	**4**	9	85	0	0	**94**	2	113	2	0	**117**	**233**
6:15PM	0	5	13	0	**18**	1	0	1	0	**2**	8	67	2	0	**77**	3	111	1	0	**115**	**212**
6:30PM	0	3	18	0	**21**	2	0	2	0	**4**	6	73	3	0	**82**	2	116	1	0	**119**	**226**
Total	7	17	53	0	**77**	6	4	4	0	**14**	28	273	6	0	**307**	11	459	7	0	**477**	**875**
% Approach	9.1%	22.1%	68.8%	0%	**-**	42.9%	28.6%	28.6%	0%	**-**	9.1%	88.9%	2.0%	0%	**-**	2.3%	96.2%	1.5%	0%	**-**	-
% Total	0.8%	1.9%	6.1%	0%	**8.8%**	0.7%	0.5%	0.5%	0%	**1.6%**	3.2%	31.2%	0.7%	0%	**35.1%**	1.3%	52.5%	0.8%	0%	**54.5%**	-
PHF	0.350	0.850	0.736	-	**0.917**	0.500	0.333	0.500	-	**0.875**	0.778	0.803	0.500	-	**0.816**	0.688	0.964	0.583	-	**0.946**	0.939
Lights	6	17	52	0	**75**	6	4	4	0	**14**	28	262	6	0	**296**	11	440	7	0	**458**	843
% Lights	85.7%	100%	98.1%	0%	**97.4%**	100%	100%	100%	0%	**100%**	100%	96.0%	100%	0%	**96.4%**	100%	95.9%	100%	0%	**96.0%**	96.3%
Articulated Trucks	0	0	0	0	**0**	0	0	0	0	**0**	0	8	0	0	**8**	0	7	0	0	**7**	15
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	2.9%	0%	0%	**2.6%**	0%	1.5%	0%	0%	**1.5%**	1.7%
Buses and Single-Unit Trucks	1	0	1	0	**2**	0	0	0	0	**0**	0	3	0	0	**3**	0	12	0	0	**12**	17
% Buses and Single-Unit Trucks	14.3%	0%	1.9%	0%	**2.6%**	0%	0%	0%	0%	**0%**	0%	1.1%	0%	0%	**1.0%**	0%	2.6%	0%	0%	**2.5%**	1.9%

*L: Left, R: Right, T: Thru, U: U-Turn

Morse Road and OH-310 - TMC
Thu Mar 11, 2021
PM Peak (5:45 PM - 6:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 819307, Location: 40.055605, -82.668444

Provided by: Carpenter Marty (CM) Transportation Inc.
6612 Singletree Drive, Columbus, OH, 43229, US



From: Hwashik Jang <hjang@morpc.org>
Sent: Tuesday, September 3, 2019 11:19 AM
To: Deibel, Curtis <cdeibel@gpdgroup.com>; Seaman, Scott <sseaman@gpdgroup.com>
Cc: Zhuojun Jiang <zjiang@morpc.org>; Ying Su <ysu@morpc.org>; Nick Gill <NGILL@morpc.org>
Subject: RE: State Route 16 (Broad Street), City of Pataskala \\\ Project Growth Rates

Curtis,

We have completed processing growth rates for two additional study intersections.

Please use a linear annual growth rate as summarized in the following table below.

Location	**Linear Annual Growth Rate**
Broad St e/o Main St	1.00%
Broad St w/o Main St	0.70%
Main St s/o Broad St	1.50%
Broad St e/o Twp Rd	0.70%
Twp Rd n/o Broad St	2.00%
Broad St w/o Twp Rd	1.00%
Twp Rd s/o Broad St	0.90%

Note: The above rates were derived based on planning level analysis by using MORPC's regional travel demand model.

If you have any other questions, please let me know.

Thanks,

HWASHIK JANG

Appendix C
Trip Generation

Appendix C

CARPENTER MARTY transportation

Scenario - 1

Scenario Name: AM Peak

User Group:

Dev. phase: 1

No. of Years to Project Traffic : 0

Analyst Note:

Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method Rate/Equation	Entry Split%	Exit Split%	Total
210 - Single-Family Detached Housing Data Source: Trip Gen Manual, 10th Ed +	General Urban/Suburban	Dwelling Units	255	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LIN) T = 0.71(X) + 4.80	46 25%	139 75%	185

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	25	75

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	46	139	0	0	46	139
	185		0		185	

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	46	139	185

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	46	139	185
External Vehicle Trips	46	139	185
New Vehicle Trips	46	139	185

Scenario - 2

Scenario Name: PM Peak

User Group:

Dev. phase: 1

No. of Years to Project Traffic : 0

Analyst Note:

Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method Rate/Equation	Entry Split%	Exit Split%	Total
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	255	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG)	157	92	249
Data Source: Trip Gen Manual, 10th Ed +					Ln(T) =0.96Ln(X) + 0.20	63%	37%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	63	37

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	157	92	0	0	157	92
	249		0		249	

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	157	92	249

RESULTS

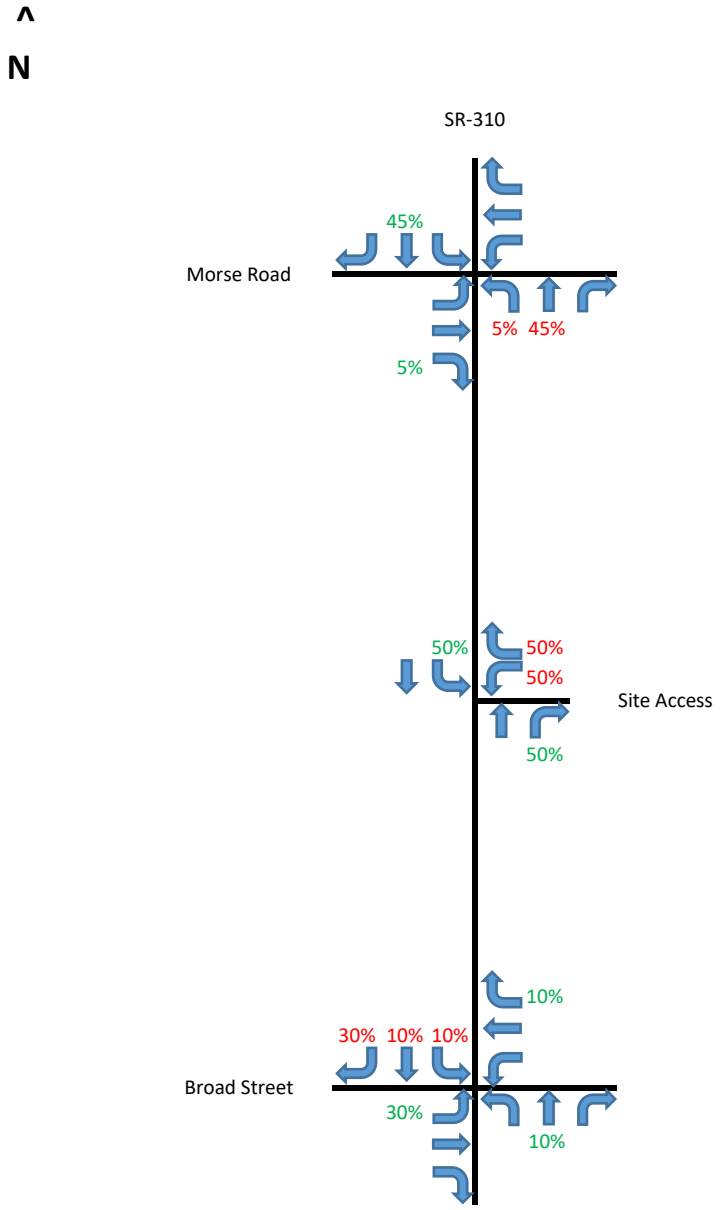
Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	157	92	249
External Vehicle Trips	157	92	249
New Vehicle Trips	157	92	249

Appendix D
Volume Calculation

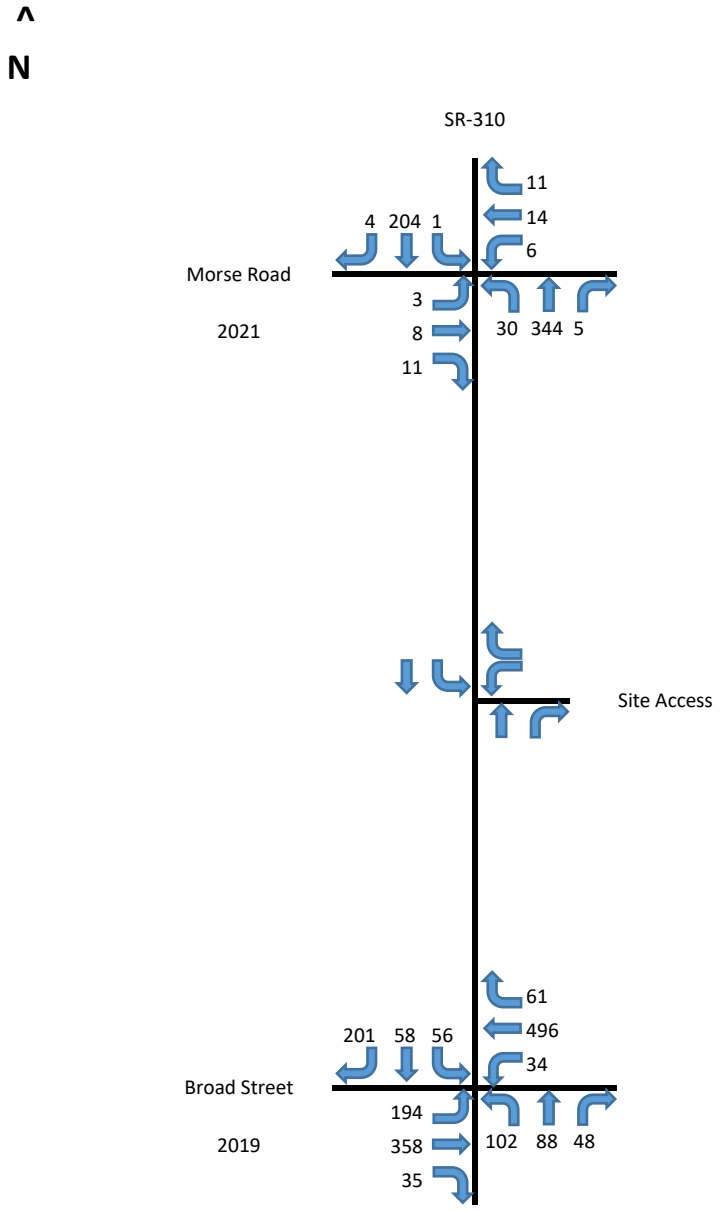
Appendix D

CARPENTER MARTY transportation

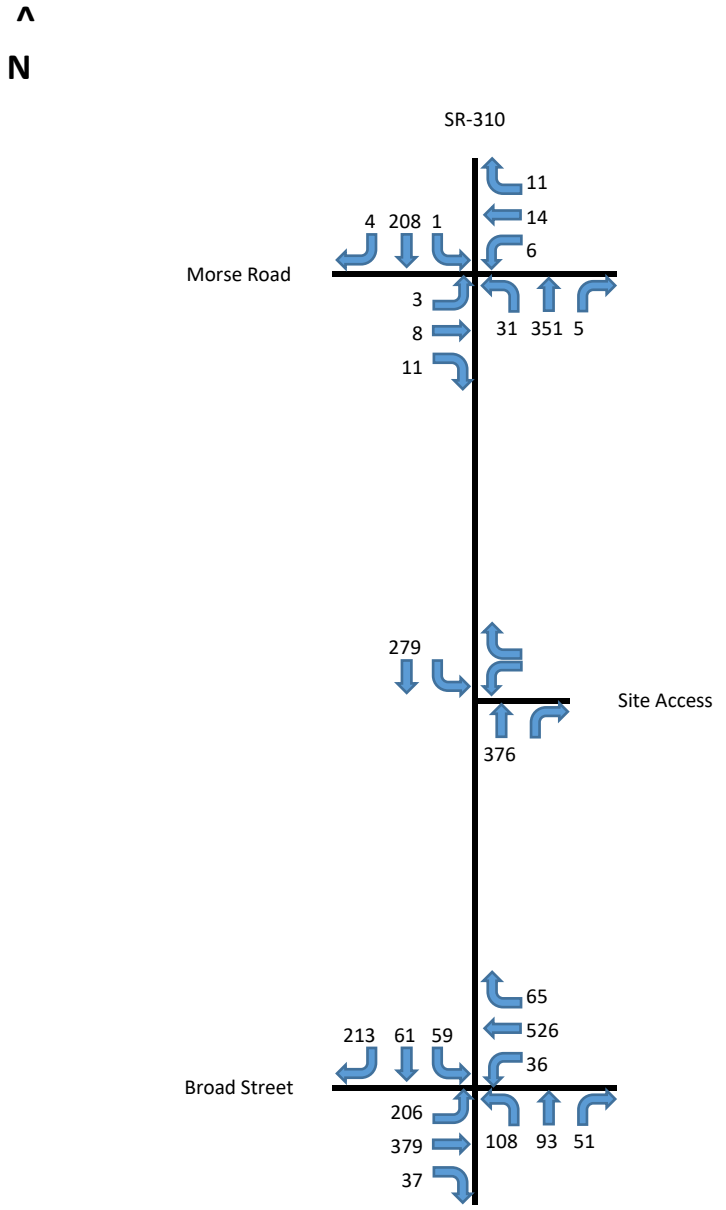
CARPENTER MARTY transportation	Year	Period	Scenario	Plate
			Distribution	



CARPENTER MARTY transportation	Year	Period	Scenario	Plate
		AM	Count	

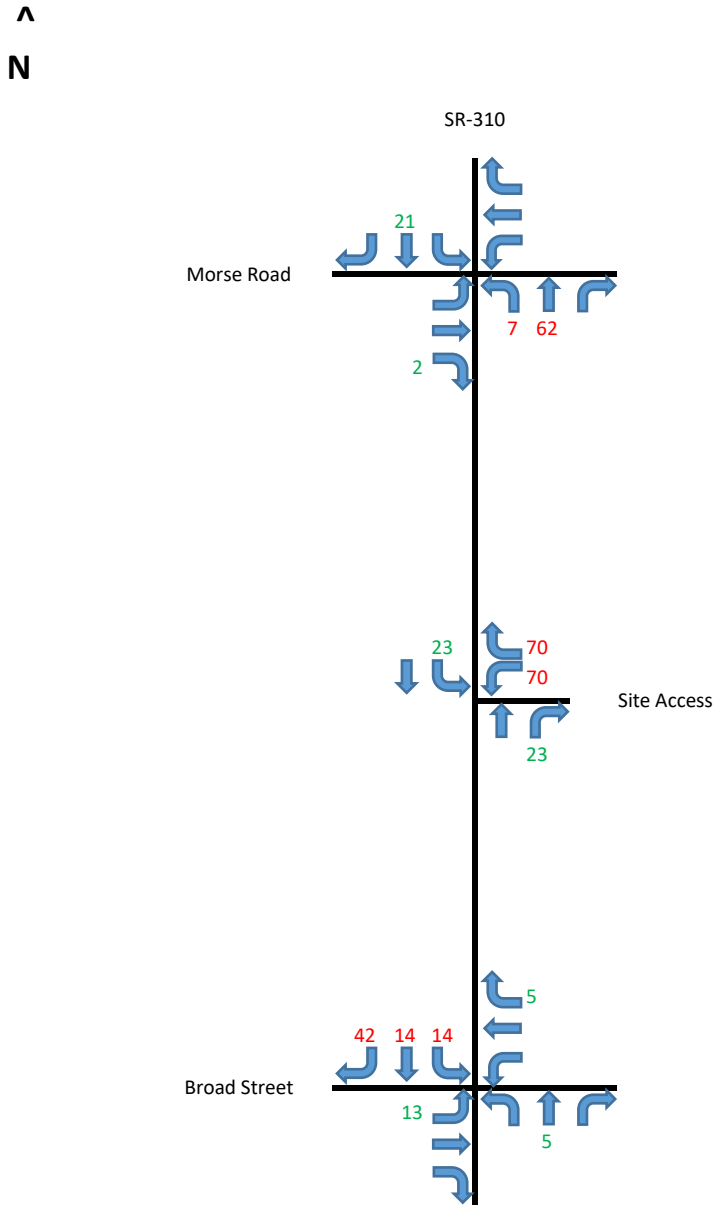


CARPENTER MARTY transportation	Year	Period	Scenario	Plate
	2022	AM	No Build	A1



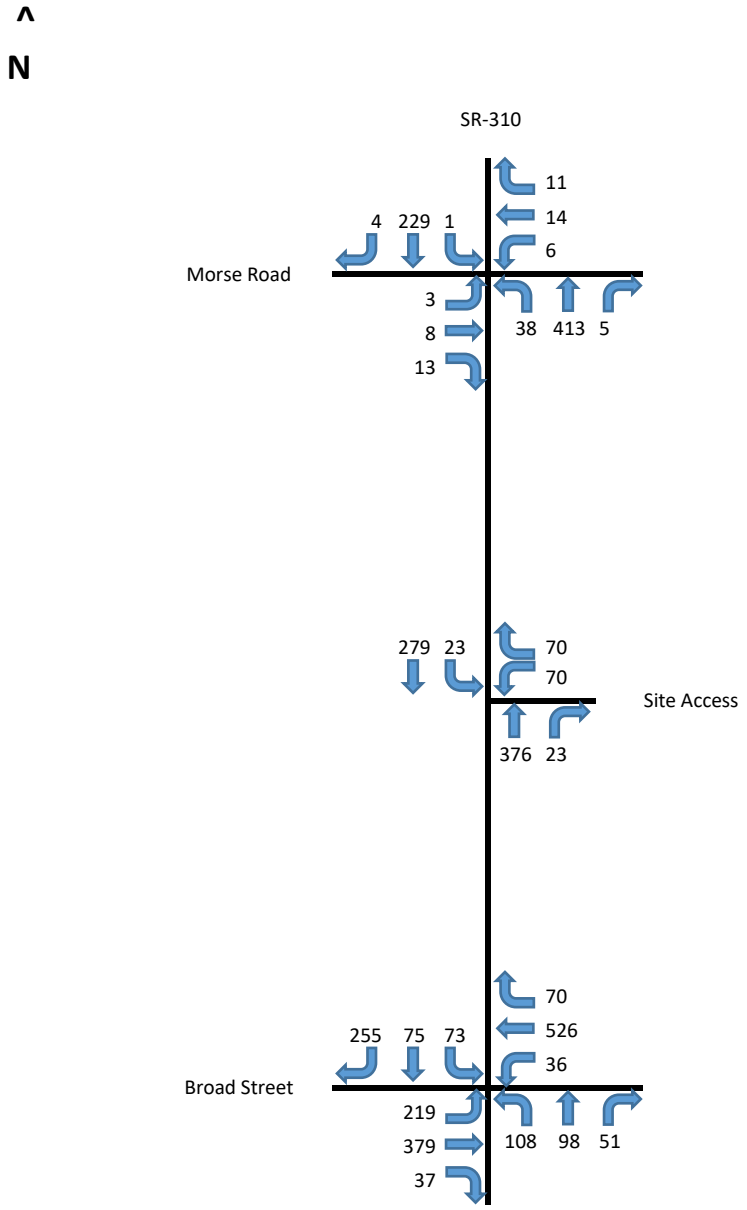
Growth Rate 2%

Year	Period	Scenario	Plate
2022	AM	Non-Pass-By Traffic	B1

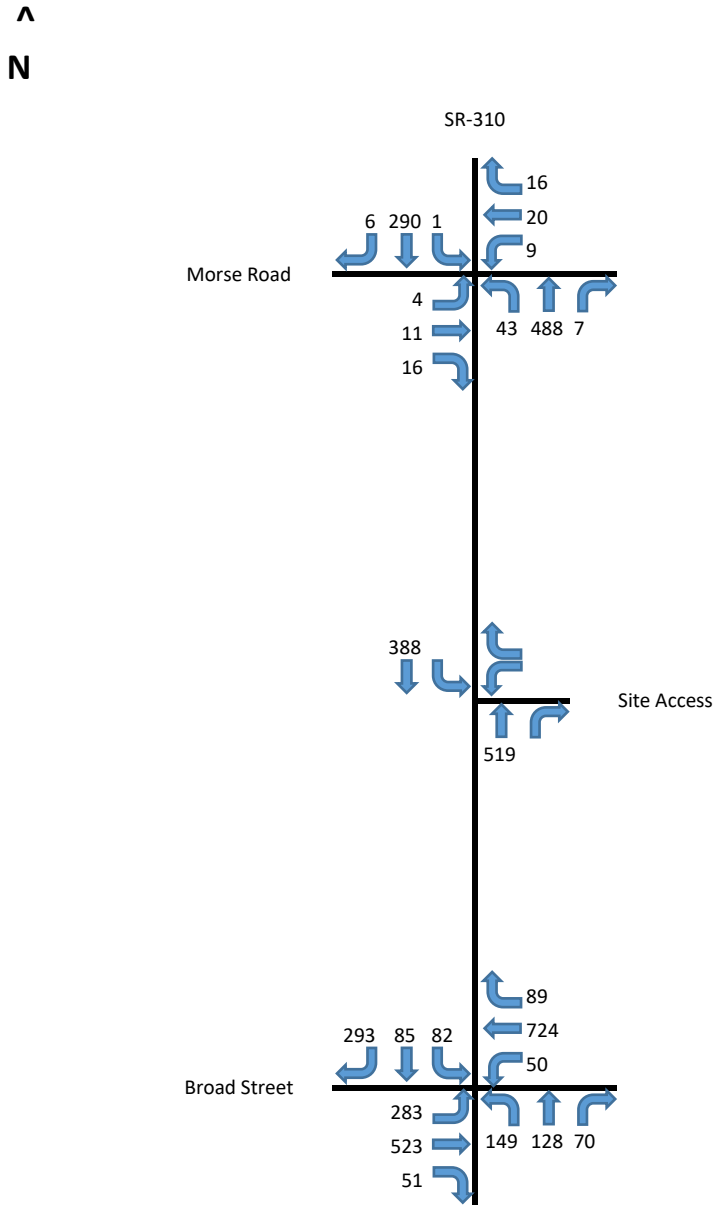


Entry	46
Exit	139

Year	Period	Scenario	Plate
2022	AM	Build	C1 = A1 + B1

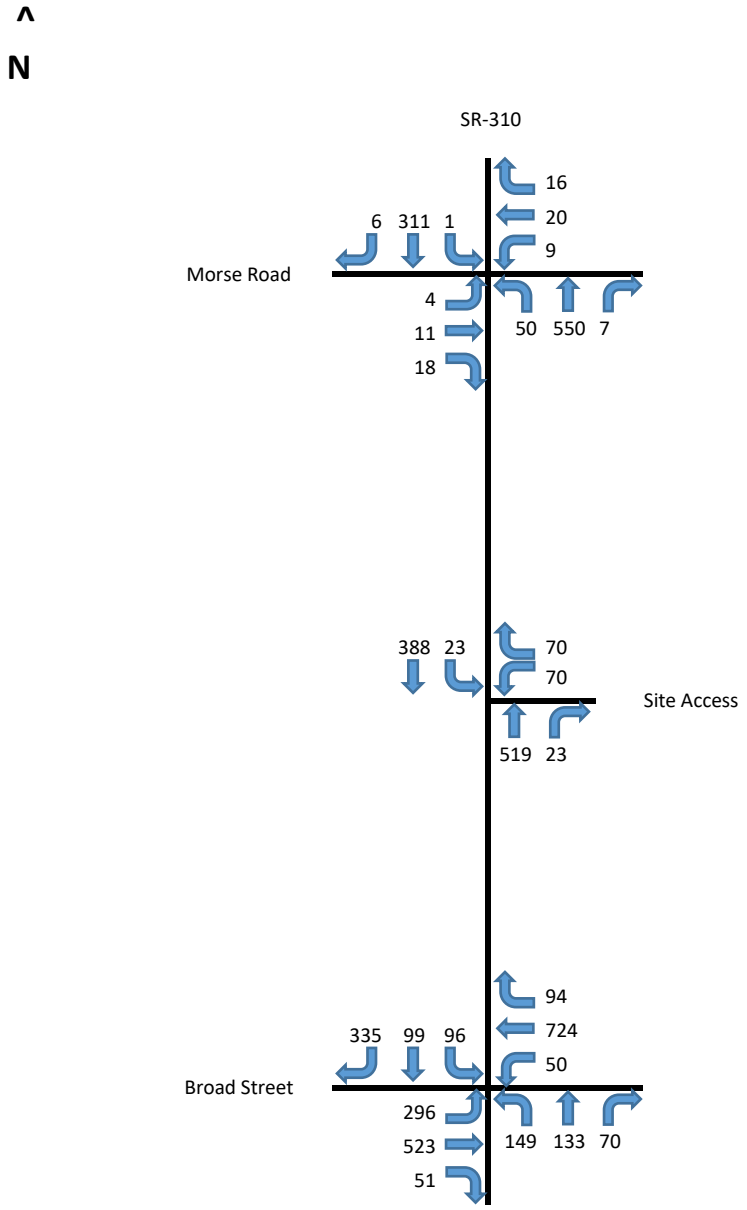


Year	Period	Scenario	Plate
2042	AM	No Build	D1

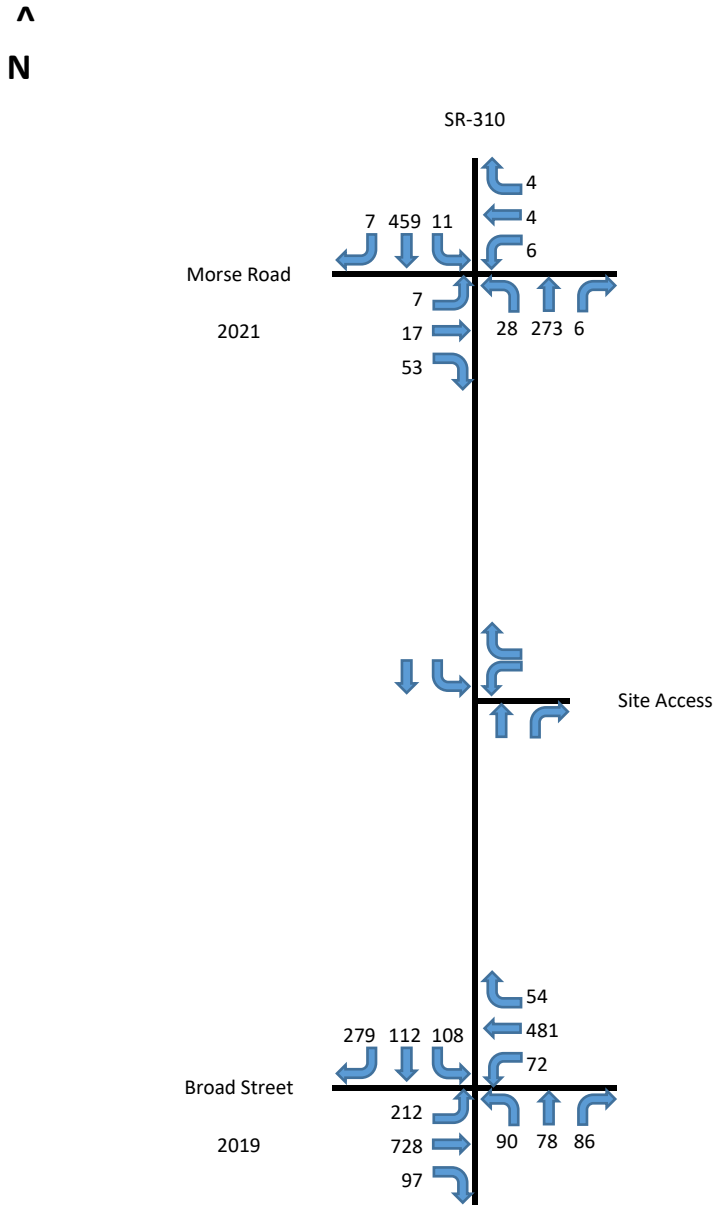


Growth Rate 2%

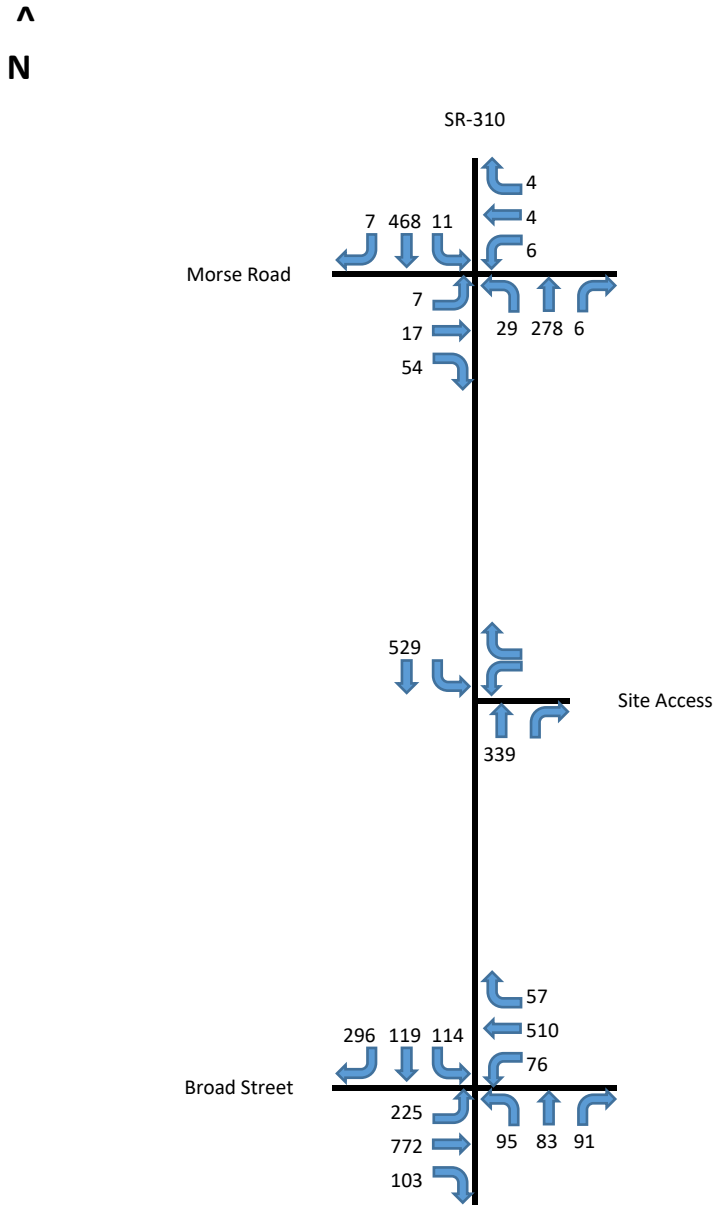
CARPENTER MARTY transportation	Year	Period	Scenario	Plate
	2042	AM	Build	E1 = B1 + D1



CARPENTER MARTY transportation	Year	Period	Scenario	Plate
		PM	Count	

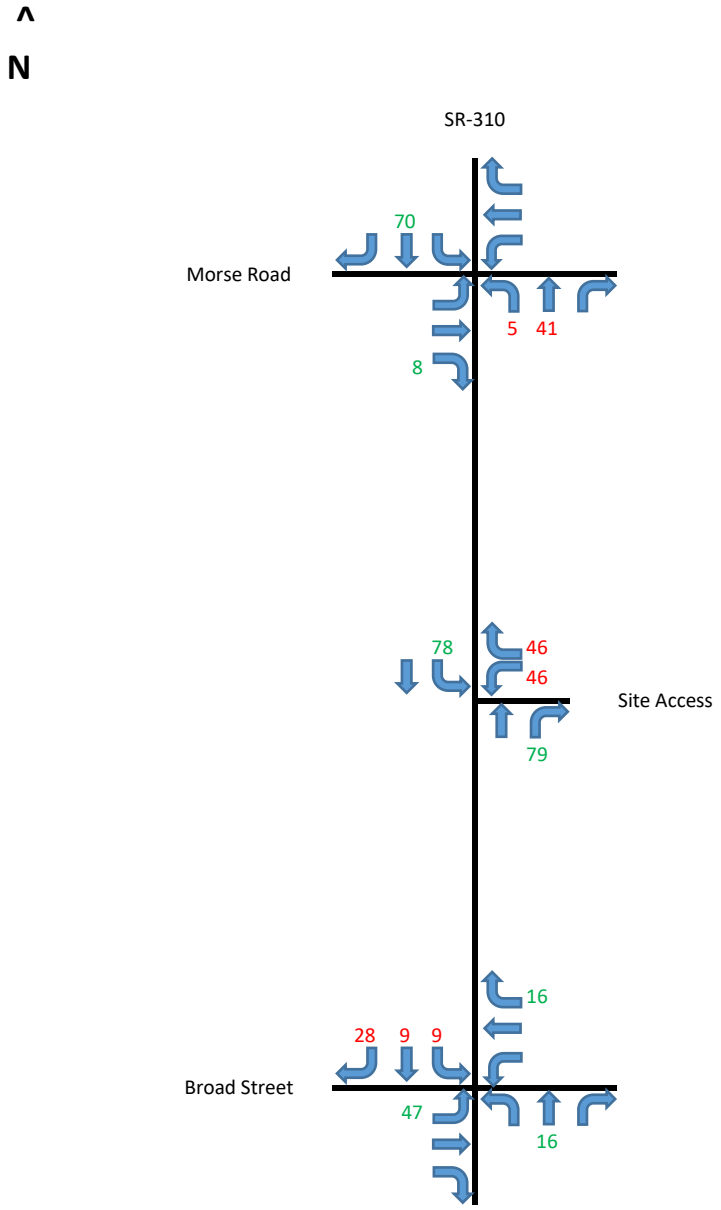


Year	Period	Scenario	Plate
2022	PM	No Build	A2



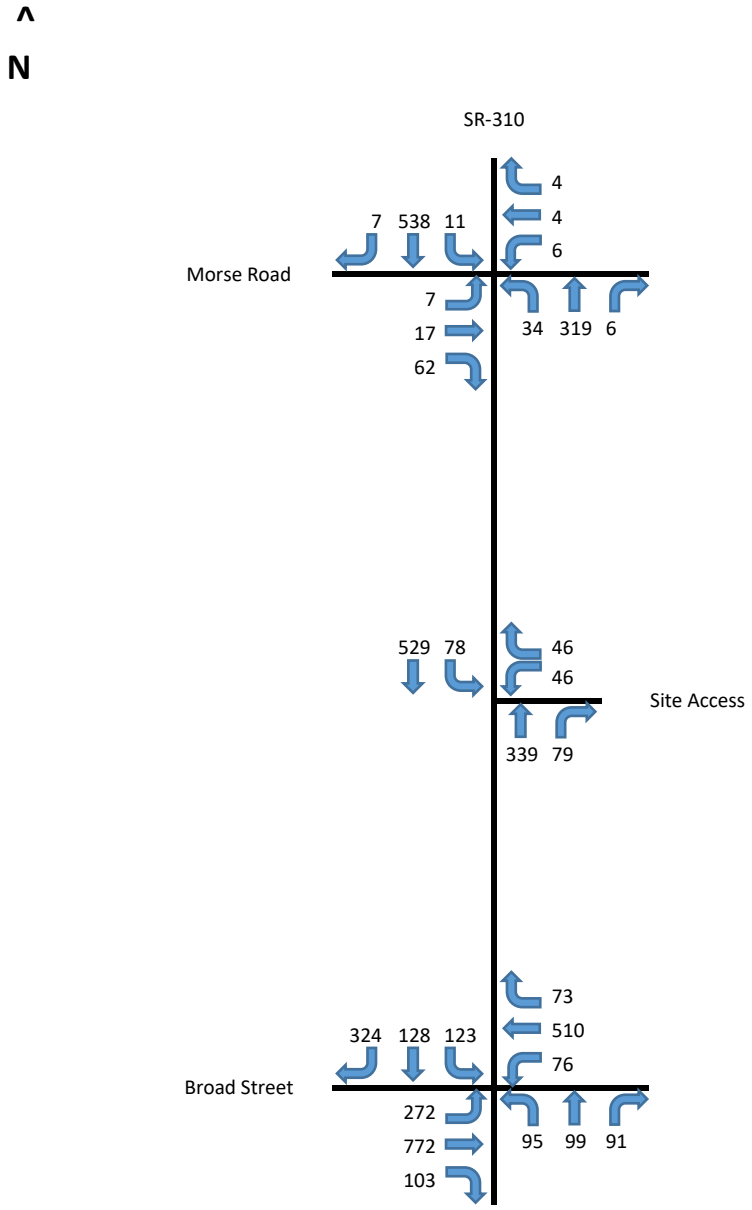
Growth Rate 2%

Year	Period	Scenario	Plate
2022	PM	Non-Pass-By Traffic	B2

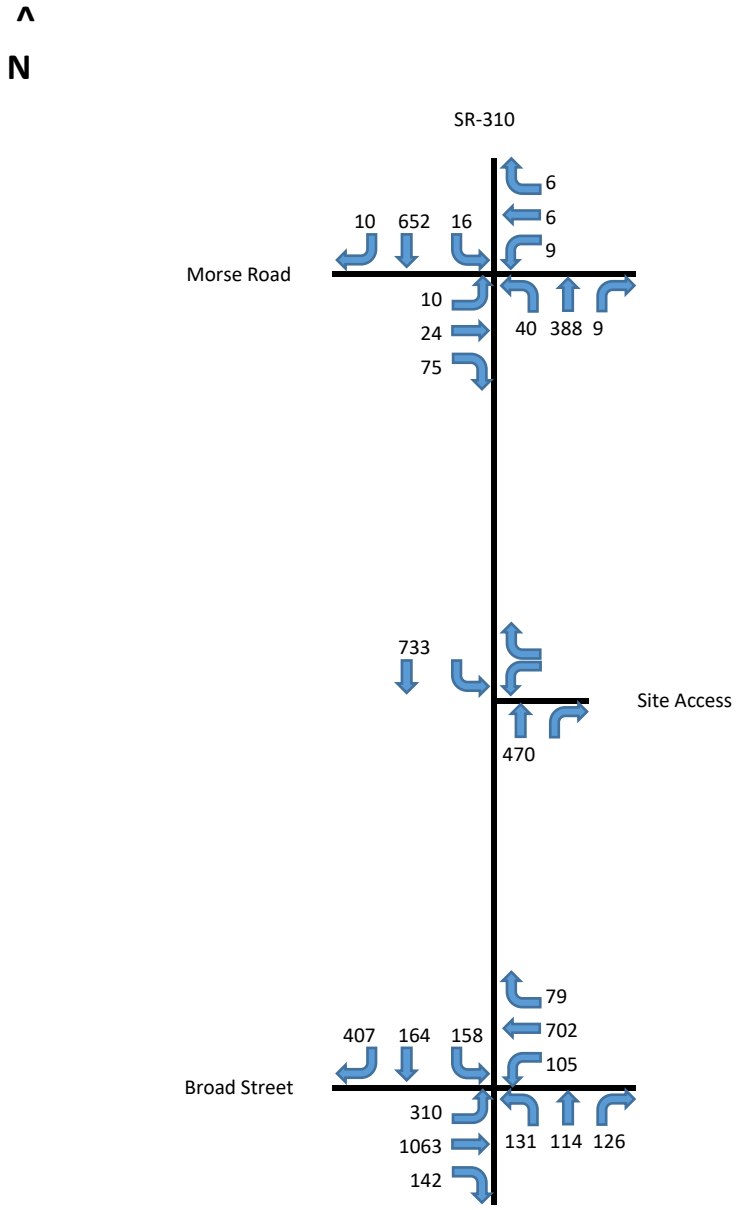


Entry	157
Exit	92

CARPENTER MARTY transportation	Year	Period	Scenario	Plate
	2022	PM	Build	C2 = A2 + B2

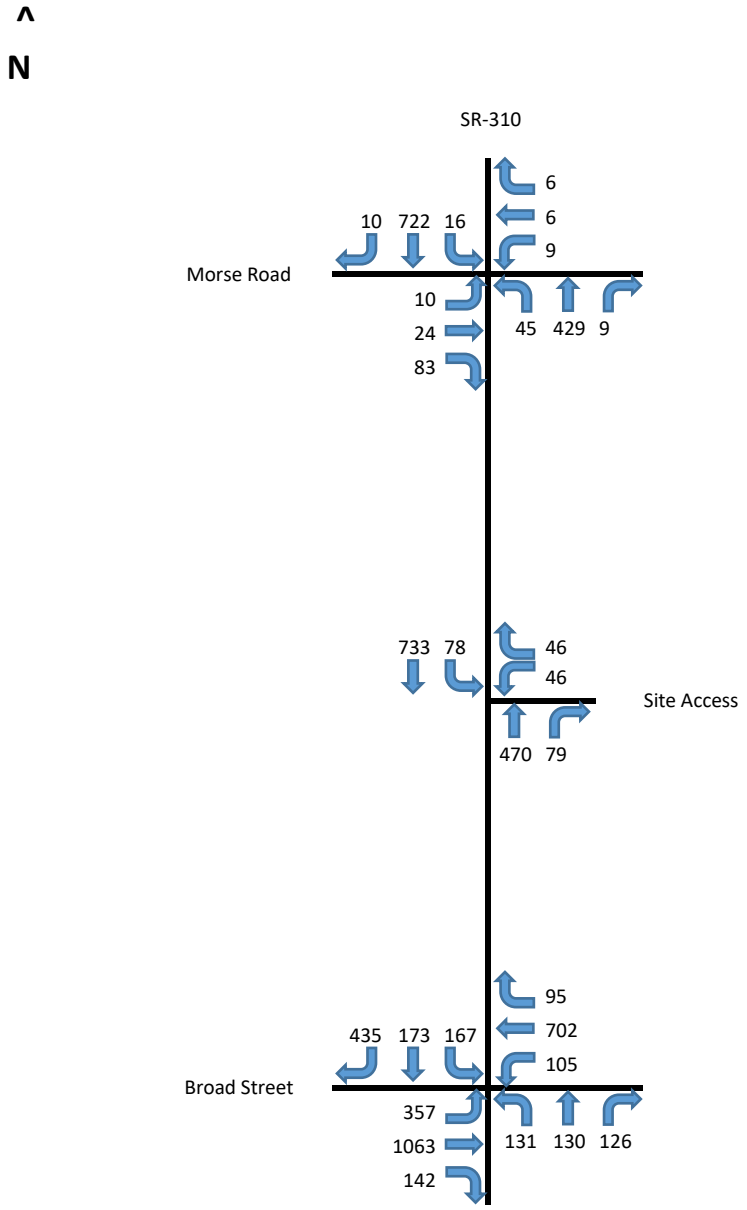


CARPENTER MARTY transportation	Year	Period	Scenario	Plate
	2042	PM	No Build	D2



Growth Rate 2%

CARPENTER MARTY transportation	Year	Period	Scenario	Plate
	2042	PM	Build	E2 = B2 + D2

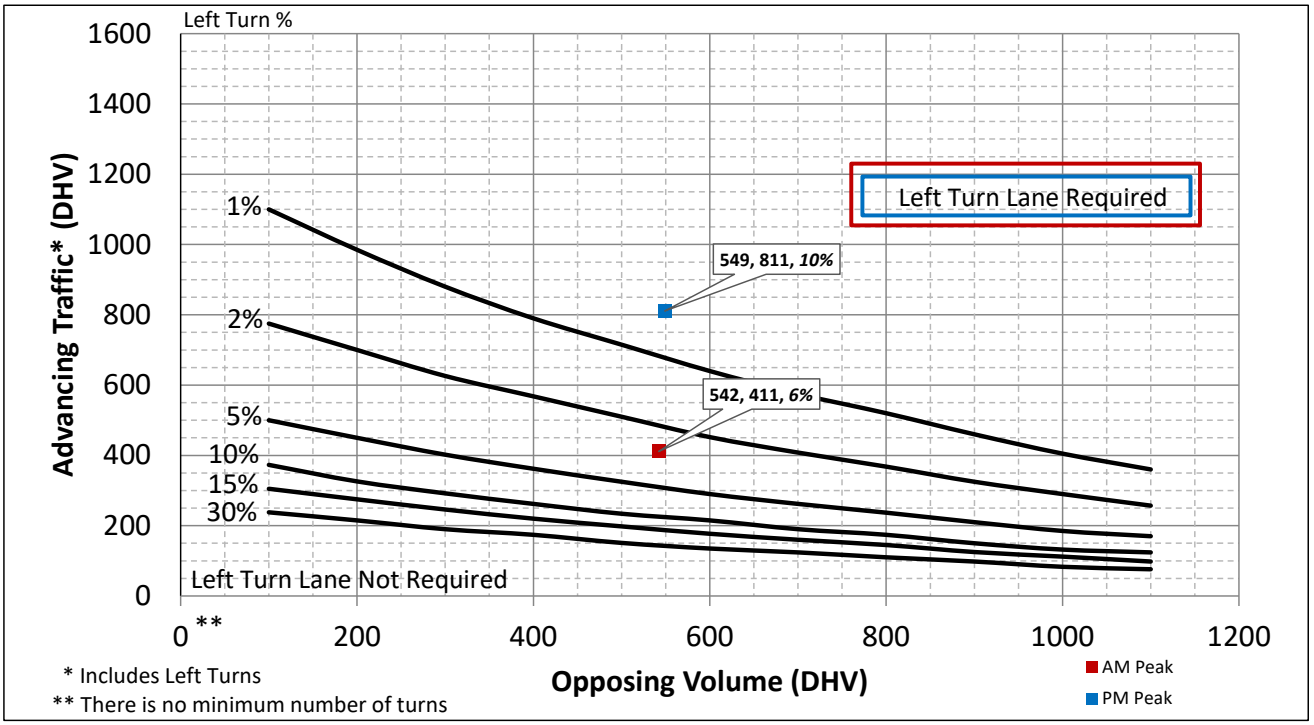


Appendix E
Turn Lane Warrant & Length Analysis

Appendix E

CARPENTER MARTY transportation

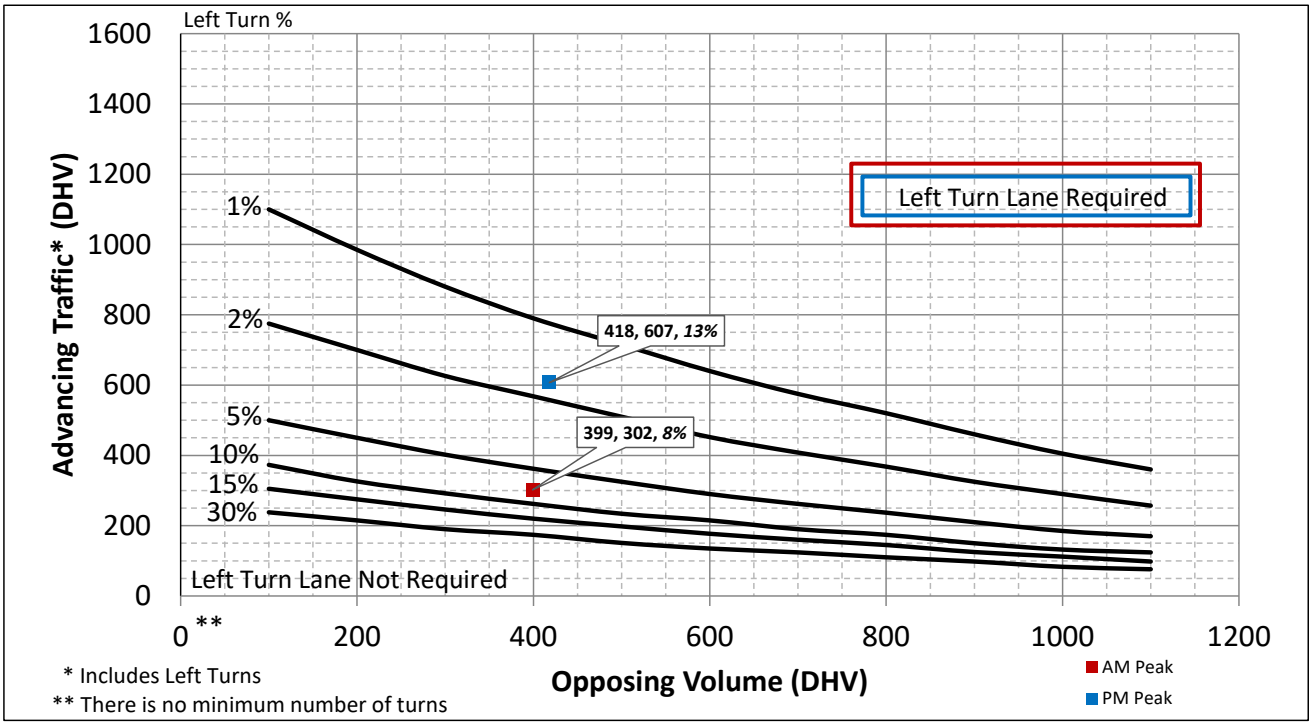
2-Lane Highway Left Turn Lane Warrant
(> 40 mph or 70 kph Posted Speed)



Turn Lane Length Calculations

AM Peak	Design Speed	55	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	*Assume 60*	
	Turn Lane Volume	23	VPH	
	Advancing Traffic	411	VPH	
	Opposing Volume	542	VPH	
	Left Turn Percentage	6%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	285		** Turn Lane Length includes 50 ft diverging taper*
	Offset Width	12		
	Approach Taper	660		
PM Peak	Design Speed	55	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	*Assume 60*	
	Turn Lane Volume	78	VPH	
	Advancing Traffic	811	VPH	
	Opposing Volume	549	VPH	
	Left Turn Percentage	10%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	2		
	Turn Lane Length	285		** Turn Lane Length includes 50 ft diverging taper*
	Offset Width	12		
	Approach Taper	660		
Is Left Turn Warrant Met		Yes	**See Above**	

2-Lane Highway Left Turn Lane Warrant
(> 40 mph or 70 kph Posted Speed)

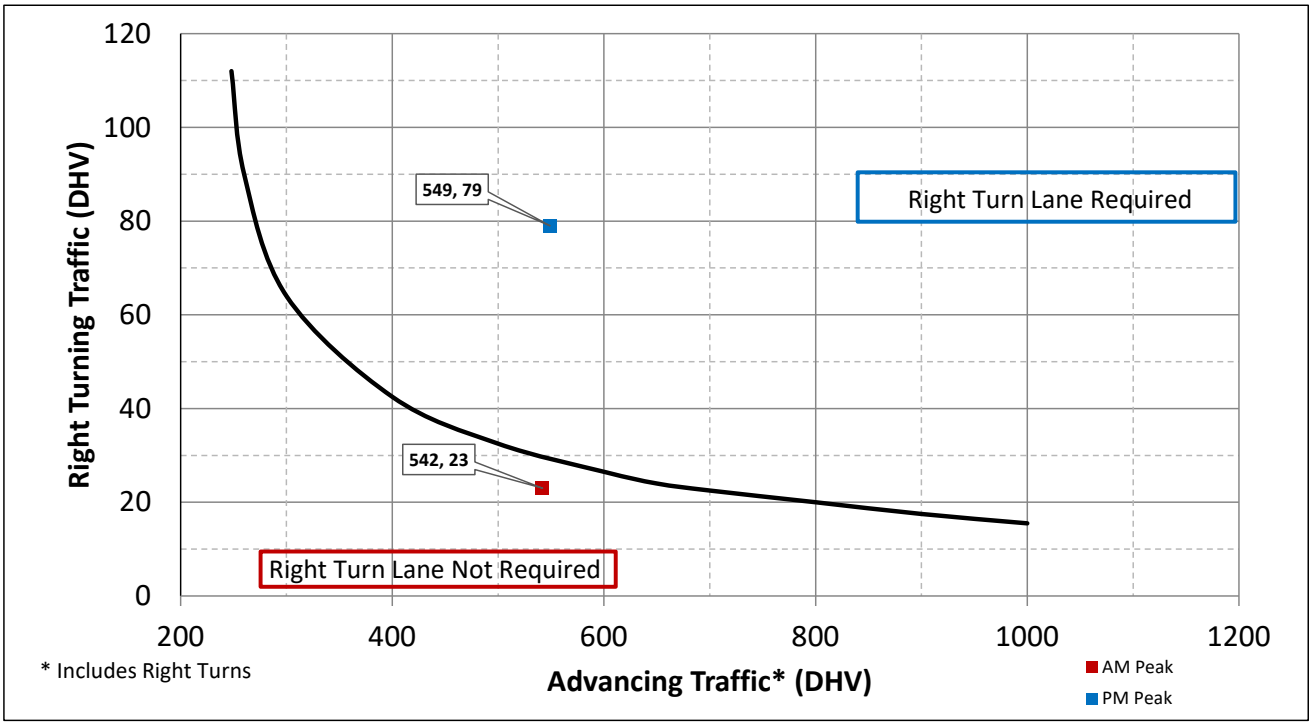


Turn Lane Length Calculations

AM Peak	Design Speed	55	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	*Assume 60*	
	Turn Lane Volume	23	VPH	
	Advancing Traffic	302	VPH	
	Opposing Volume	399	VPH	
	Left Turn Percentage	8%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	285		** Turn Lane Length includes 50 ft diverging taper*
	Offset Width	12		
	Approach Taper	660		
PM Peak	Design Speed	55	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	*Assume 60*	
	Turn Lane Volume	78	VPH	
	Advancing Traffic	607	VPH	
	Opposing Volume	418	VPH	
	Left Turn Percentage	13%		
	Location Type	Through Road		
	Condition	B or C		
	Vehicles/Cycle	2		
	Turn Lane Length	See Column to Right	285	** Turn Lane Length includes 50 ft diverging taper*
	Offset Width	12		
	Approach Taper	660		
Is Left Turn Warrant Met		Yes	See Above	

2-Lane Highway Right Turn Lane Warrant

(> 40 mph or 70 kph Posted Speed)

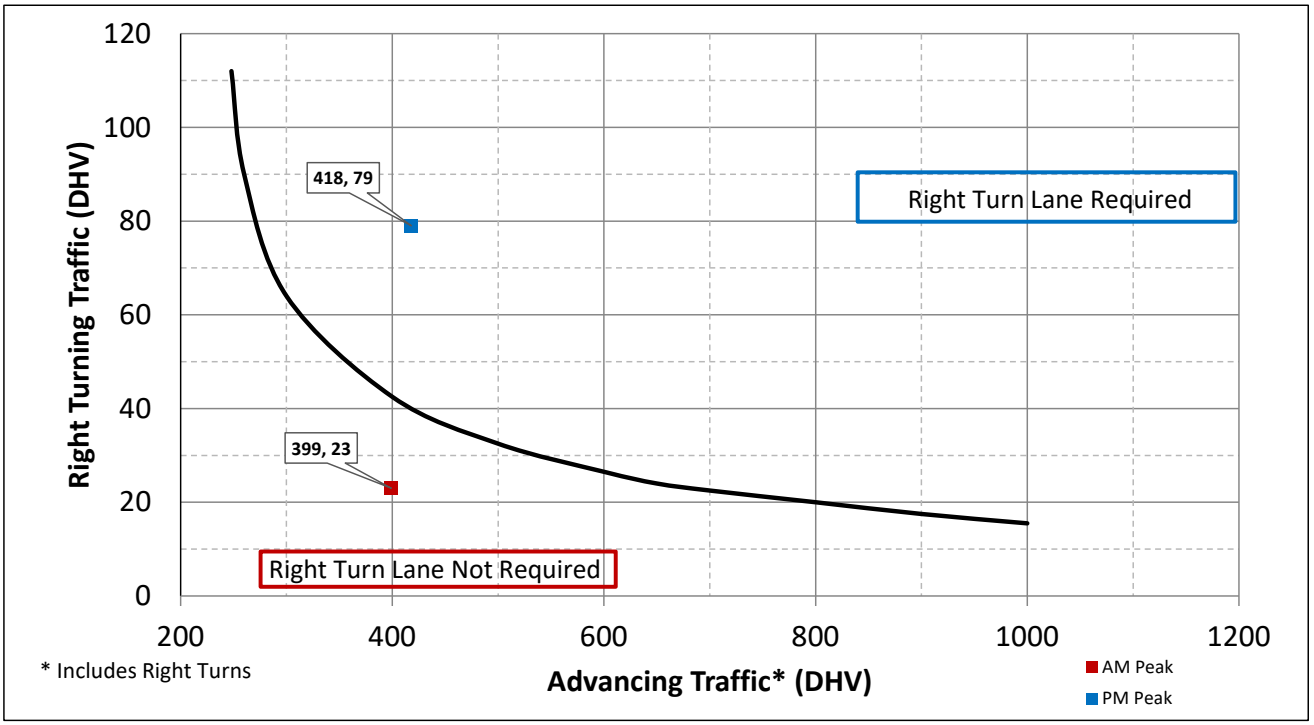


Turn Lane Length Calculations

AM Peak	Design Speed	55	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	*Assume 60*	
	Turn Lane Volume	23	VPH	
	Advancing Traffic	542	VPH	
	Right Turn Percentage	4%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	285		** Turn Lane Length includes 50 ft diverging taper*
PM Peak	Design Speed	55	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	*Assume 60*	
	Turn Lane Volume	79	VPH	
	Advancing Traffic	549	VPH	
	Right Turn Percentage	14%		
	Location Type	Through Road		
	Condition	B or C		
	Vehicles/Cycle	2		
	Turn Lane Length	See Column to Right	285	** Turn Lane Length includes 50 ft diverging taper*
Is Right Turn Warrant Met		Yes	**See Above**	

2-Lane Highway Right Turn Lane Warrant

(> 40 mph or 70 kph Posted Speed)



* Includes Right Turns

Turn Lane Length Calculations

AM Peak	Design Speed	55	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	*Assume 60*	
	Turn Lane Volume	23	VPH	
	Advancing Traffic	399	VPH	
	Right Turn Percentage	6%		
	Location Type	Through Road		
	Condition	B		
	Vehicles/Cycle	1		
	Turn Lane Length	285		** Turn Lane Length includes 50 ft diverging taper*
PM Peak	Design Speed	55	mph	
	Traffic Control	Unsignalized		
	Cycle Length	Unsignalized		
	Cycles Per Hour	60	*Assume 60*	
	Turn Lane Volume	79	VPH	
	Advancing Traffic	418	VPH	
	Right Turn Percentage	19%		
	Location Type	Through Road		
	Condition	B or C		
	Vehicles/Cycle	2		
	Turn Lane Length	See Column to Right	285	** Turn Lane Length includes 50 ft diverging taper*
Is Right Turn Warrant Met		Yes	See Above	

Right Turn Lane Length Calculations

AM Peak	**Design Speed**	40	**mph**
	Traffic Control	Signalized - 4 Phase	
	Cycle Length	Known	
	Cycles Per Hour	40	***Enter Cycles Per Hour***
	Turn Lane Volume	213	**VPH**
	Advancing Traffic	333	**VPH**
	Right Turn Percentage	64%	
	Location Type	Intersection	
	Condition	B or C	
	Vehicles/Cycle	6	
	Turn Lane Length	See Column to Right	365
PM Peak	**Design Speed**	40	**mph**
	Traffic Control	Signalized - 4 Phase	
	Cycle Length	Known	
	Cycles Per Hour	40	***Enter Cycles Per Hour***
	Turn Lane Volume	296	**VPH**
	Advancing Traffic	529	**VPH**
	Right Turn Percentage	56%	
	Location Type	Intersection	
	Condition	B or C	
	Vehicles/Cycle	8	
	Turn Lane Length	See Column to Right	440

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

Right Turn Lane Length Calculations

AM Peak	**Design Speed**	40	**mph**
	Traffic Control	Signalized - 4 Phase	
	Cycle Length	Known	
	Cycles Per Hour	40	***Enter Cycles Per Hour***
	Turn Lane Volume	255	**VPH**
	Advancing Traffic	403	**VPH**
	Right Turn Percentage	63%	
	Location Type	Intersection	
	Condition	B or C	
	Vehicles/Cycle	7	
	Turn Lane Length	See Column to Right	390
PM Peak	**Design Speed**	40	**mph**
	Traffic Control	Signalized - 4 Phase	
	Cycle Length	Known	
	Cycles Per Hour	40	***Enter Cycles Per Hour***
	Turn Lane Volume	324	**VPH**
	Advancing Traffic	575	**VPH**
	Right Turn Percentage	56%	
	Location Type	Intersection	
	Condition	B or C	
	Vehicles/Cycle	9	
	Turn Lane Length	See Column to Right	465

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

Right Turn Lane Length Calculations

AM Peak	**Design Speed**	40	**mph**
	Traffic Control	Signalized - 4 Phase	
	Cycle Length	Known	
	Cycles Per Hour	40	***Enter Cycles Per Hour***
	Turn Lane Volume	293	**VPH**
	Advancing Traffic	460	**VPH**
	Right Turn Percentage	64%	
	Location Type	Intersection	
	Condition	B or C	
	Vehicles/Cycle	8	
	Turn Lane Length	See Column to Right	440
PM Peak	**Design Speed**	40	**mph**
	Traffic Control	Signalized - 4 Phase	
	Cycle Length	Known	
	Cycles Per Hour	40	***Enter Cycles Per Hour***
	Turn Lane Volume	407	**VPH**
	Advancing Traffic	729	**VPH**
	Right Turn Percentage	56%	
	Location Type	Intersection	
	Condition	B or C	
	Vehicles/Cycle	11	
	Turn Lane Length	See Column to Right	515

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

Right Turn Lane Length Calculations

AM Peak	**Design Speed**	40	**mph**
	Traffic Control	Signalized - 4 Phase	
	Cycle Length	Known	
	Cycles Per Hour	40	***Enter Cycles Per Hour***
	Turn Lane Volume	335	**VPH**
	Advancing Traffic	530	**VPH**
	Right Turn Percentage	63%	
	Location Type	Intersection	
	Condition	B or C	
	Vehicles/Cycle	9	
	Turn Lane Length	See Column to Right	465
PM Peak	**Design Speed**	40	**mph**
	Traffic Control	Signalized - 4 Phase	
	Cycle Length	Known	
	Cycles Per Hour	40	***Enter Cycles Per Hour***
	Turn Lane Volume	435	**VPH**
	Advancing Traffic	775	**VPH**
	Right Turn Percentage	56%	
	Location Type	Intersection	
	Condition	B or C	
	Vehicles/Cycle	11	
	Turn Lane Length	See Column to Right	515

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

Appendix F
Capacity Analysis

Appendix F

CARPENTER MARTY transportation

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	13	45	12	20	18	40	12	20
Maximum Split (%)	14.4%	50.0%	13.3%	22.2%	20.0%	44.4%	13.3%	22.2%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	72	85	40	52	72	0	40	52
End Time (s)	85	40	52	72	0	40	52	72
Yield/Force Off (s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1
Yield/Force Off 170(s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1
Local Start Time (s)	72	85	40	52	72	0	40	52
Local Yield (s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1
Local Yield 170(s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	379	37	36	526	65	108	93	51	59	61	213
Future Volume (veh/h)	206	379	37	36	526	65	108	93	51	59	61	213
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	412	40	39	572	71	117	101	55	64	66	232
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	352	1583	153	550	718	89	211	204	111	313	61	214
Arrive On Green	0.09	0.48	0.48	0.05	0.44	0.44	0.07	0.18	0.18	0.06	0.17	0.17
Sat Flow, veh/h	1781	3274	316	1781	1631	203	1781	1139	620	1781	363	1277
Grp Volume(v), veh/h	224	223	229	39	0	643	117	0	156	64	0	298
Grp Sat Flow(s),veh/h/ln	1781	1777	1813	1781	0	1834	1781	0	1759	1781	0	1640
Q Serve(g_s), s	6.0	6.7	6.7	1.0	0.0	27.2	4.8	0.0	7.2	2.6	0.0	15.1
Cycle Q Clear(g_c), s	6.0	6.7	6.7	1.0	0.0	27.2	4.8	0.0	7.2	2.6	0.0	15.1
Prop In Lane	1.00		0.17	1.00		0.11	1.00		0.35	1.00		0.78
Lane Grp Cap(c), veh/h	352	859	877	550	0	808	211	0	315	313	0	275
V/C Ratio(X)	0.64	0.26	0.26	0.07	0.00	0.80	0.55	0.00	0.49	0.20	0.00	1.08
Avail Cap(c_a), veh/h	432	859	877	608	0	808	224	0	315	347	0	275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.99	0.00	0.99
Uniform Delay (d), s/veh	17.0	13.7	13.7	12.1	0.0	21.7	29.0	0.0	33.3	27.9	0.0	37.5
Incr Delay (d2), s/veh	2.2	0.7	0.7	0.1	0.0	8.0	2.6	0.0	5.5	0.3	0.0	77.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.7	2.7	0.4	0.0	12.6	2.2	0.0	3.5	1.1	0.0	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	14.5	14.5	12.1	0.0	29.7	31.6	0.0	38.7	28.2	0.0	115.2
LnGrp LOS	B	B	B	B	A	C	C	A	D	C	A	F
Approach Vol, veh/h		676			682			273			362	
Approach Delay, s/veh		16.0			28.7			35.7			99.8	
Approach LOS		B			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	48.6	10.3	21.0	13.9	44.7	11.3	20.0
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.3	39.9	* 7.3	15.1	* 12	34.9	* 7.3	15.1
Max Q Clear Time (g_c+I1), s	3.0	8.7	4.6	9.2	8.0	29.2	6.8	17.1
Green Ext Time (p_c), s	0.0	2.7	0.0	0.4	0.2	2.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	38.3
HCM 6th LOS	D

Notes

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

Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	None	None	Max	None
Maximum Split (s)	14	57	19	15	56	19
Maximum Split (%)	15.6%	63.3%	21.1%	16.7%	62.2%	21.1%
Minimum Split (s)	12	15	15	12	15	15
Yellow Time (s)	3	3	3	3	3	3
All-Red Time (s)	2	2	2	2	2	2
Minimum Initial (s)	7	10	10	7	10	10
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)						
Flash Dont Walk (s)						
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	14	71	0	15	71
End Time (s)	14	71	0	15	71	0
Yield/Force Off (s)	9	66	85	10	66	85
Yield/Force Off 170(s)	9	66	85	10	66	85
Local Start Time (s)	75	89	56	75	0	56
Local Yield (s)	84	51	70	85	51	70
Local Yield 170(s)	84	51	70	85	51	70

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	45

Splits and Phases: 6: SR-310 & Morse Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	8	11	6	14	11	31	351	5	1	208	4
Future Volume (veh/h)	3	8	11	6	14	11	31	351	5	1	208	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	9	12	7	15	12	34	382	5	1	226	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	70	78	73	86	56	888	1308	17	729	1218	22
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.05	0.71	0.71	0.00	0.66	0.66
Sat Flow, veh/h	87	757	844	173	928	601	1781	1842	24	1781	1832	32
Grp Volume(v), veh/h	24	0	0	34	0	0	34	0	387	1	0	230
Grp Sat Flow(s),veh/h/ln	1688	0	0	1702	0	0	1781	0	1866	1781	0	1865
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	5.8	0.0	0.0	3.6
Cycle Q Clear(g_c), s	1.0	0.0	0.0	1.4	0.0	0.0	0.4	0.0	5.8	0.0	0.0	3.6
Prop In Lane	0.12		0.50	0.21		0.35	1.00		0.01	1.00		0.02
Lane Grp Cap(c), veh/h	209	0	0	214	0	0	888	0	1325	729	0	1240
V/C Ratio(X)	0.11	0.00	0.00	0.16	0.00	0.00	0.04	0.00	0.29	0.00	0.00	0.19
Avail Cap(c_a), veh/h	357	0	0	362	0	0	1037	0	1325	935	0	1240
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	0.0	32.2	0.0	0.0	3.2	0.0	4.1	4.3	0.0	4.9
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.6	0.0	0.0	0.1	0.0	1.3	0.0	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	0.0	0.0	32.6	0.0	0.0	3.2	0.0	4.6	4.3	0.0	5.2
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		24			34			421			231	
Approach Delay, s/veh		32.3			32.6			4.5			5.2	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	59.5		12.1	8.6	56.0		12.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	52.0		14.0	10.0	51.0		14.0				
Max Q Clear Time (g_c+I1), s	2.0	7.8		3.0	2.4	5.6		3.4				
Green Ext Time (p_c), s	0.0	2.1		0.0	0.0	1.2		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		7.0
HCM 6th LOS		A

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	13	45	12	20	18	40	12	20
Maximum Split (%)	14.4%	50.0%	13.3%	22.2%	20.0%	44.4%	13.3%	22.2%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	72	85	40	52	72	0	40	52
End Time (s)	85	40	52	72	0	40	52	72
Yield/Force Off (s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1
Yield/Force Off 170(s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1
Local Start Time (s)	72	85	40	52	72	0	40	52
Local Yield (s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1
Local Yield 170(s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	379	37	36	526	70	108	98	51	73	75	255
Future Volume (veh/h)	219	379	37	36	526	70	108	98	51	73	75	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	238	412	40	39	572	76	117	107	55	79	82	277
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	1583	153	550	705	94	211	203	104	311	63	213
Arrive On Green	0.10	0.48	0.48	0.05	0.44	0.44	0.07	0.17	0.17	0.07	0.17	0.17
Sat Flow, veh/h	1781	3274	316	1781	1617	215	1781	1164	598	1781	375	1267
Grp Volume(v), veh/h	238	223	229	39	0	648	117	0	162	79	0	359
Grp Sat Flow(s),veh/h/ln	1781	1777	1813	1781	0	1832	1781	0	1763	1781	0	1642
Q Serve(g_s), s	6.4	6.7	6.7	1.0	0.0	27.8	4.8	0.0	7.5	3.2	0.0	15.1
Cycle Q Clear(g_c), s	6.4	6.7	6.7	1.0	0.0	27.8	4.8	0.0	7.5	3.2	0.0	15.1
Prop In Lane	1.00		0.17	1.00		0.12	1.00		0.34	1.00		0.77
Lane Grp Cap(c), veh/h	351	859	877	550	0	799	211	0	307	311	0	276
V/C Ratio(X)	0.68	0.26	0.26	0.07	0.00	0.81	0.55	0.00	0.53	0.25	0.00	1.30
Avail Cap(c_a), veh/h	423	859	877	608	0	799	224	0	307	336	0	276
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.5	13.7	13.7	12.3	0.0	22.1	29.0	0.0	33.8	27.9	0.0	37.5
Incr Delay (d2), s/veh	3.3	0.7	0.7	0.1	0.0	8.8	2.6	0.0	6.3	0.4	0.0	160.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.7	2.7	0.4	0.0	13.0	2.2	0.0	3.7	1.4	0.0	18.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	14.5	14.5	12.3	0.0	30.9	31.6	0.0	40.1	28.3	0.0	197.7
LnGrp LOS	C	B	B	B	A	C	C	A	D	C	A	F
Approach Vol, veh/h		690			687			279			438	
Approach Delay, s/veh		16.7			29.9			36.5			167.1	
Approach LOS		B			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	48.6	10.7	20.6	14.3	44.3	11.3	20.0
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.3	39.9	* 7.3	15.1	* 12	34.9	* 7.3	15.1
Max Q Clear Time (g_c+I1), s	3.0	8.7	5.2	9.5	8.4	29.8	6.8	17.1
Green Ext Time (p_c), s	0.0	2.7	0.0	0.4	0.2	1.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	55.1
HCM 6th LOS	E

Notes

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

Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	None	None	Max	None
Maximum Split (s)	14	57	19	14	57	19
Maximum Split (%)	15.6%	63.3%	21.1%	15.6%	63.3%	21.1%
Minimum Split (s)	12	15	15	12	15	15
Yellow Time (s)	3	3	3	3	3	3
All-Red Time (s)	2	2	2	2	2	2
Minimum Initial (s)	7	10	10	7	10	10
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)						
Flash Dont Walk (s)						
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	14	71	0	14	71
End Time (s)	14	71	0	14	71	0
Yield/Force Off (s)	9	66	85	9	66	85
Yield/Force Off 170(s)	9	66	85	9	66	85
Local Start Time (s)	76	0	57	76	0	57
Local Yield (s)	85	52	71	85	52	71
Local Yield 170(s)	85	52	71	85	52	71

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	50

Splits and Phases: 6: SR-310 & Morse Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	8	13	6	14	11	38	413	5	1	229	4
Future Volume (veh/h)	3	8	13	6	14	11	38	413	5	1	229	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	9	14	7	15	12	41	449	5	1	249	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	65	84	71	87	56	873	1318	15	678	1217	20
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.05	0.71	0.71	0.00	0.66	0.66
Sat Flow, veh/h	79	696	904	172	930	601	1781	1846	21	1781	1836	29
Grp Volume(v), veh/h	26	0	0	34	0	0	41	0	454	1	0	253
Grp Sat Flow(s),veh/h/ln	1680	0	0	1703	0	0	1781	0	1867	1781	0	1865
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	7.2	0.0	0.0	4.1
Cycle Q Clear(g_c), s	1.1	0.0	0.0	1.4	0.0	0.0	0.5	0.0	7.2	0.0	0.0	4.1
Prop In Lane	0.12		0.54	0.21		0.35	1.00		0.01	1.00		0.02
Lane Grp Cap(c), veh/h	207	0	0	214	0	0	873	0	1332	678	0	1237
V/C Ratio(X)	0.13	0.00	0.00	0.16	0.00	0.00	0.05	0.00	0.34	0.00	0.00	0.20
Avail Cap(c_a), veh/h	348	0	0	355	0	0	984	0	1332	879	0	1237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.8	0.0	0.0	32.9	0.0	0.0	3.1	0.0	4.2	4.5	0.0	5.2
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.6	0.0	0.0	0.1	0.0	1.6	0.0	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	0.0	0.0	33.2	0.0	0.0	3.2	0.0	4.9	4.5	0.0	5.5
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		26			34			495			254	
Approach Delay, s/veh		33.0			33.2			4.8			5.5	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	61.0		12.3	9.1	57.0		12.3
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	9.0	52.0		14.0	9.0	52.0		14.0
Max Q Clear Time (g_c+I1), s	2.0	9.2		3.1	2.5	6.1		3.4
Green Ext Time (p_c), s	0.0	2.5		0.0	0.0	1.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	7.1
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	70	376	23	23	279
Future Vol, veh/h	70	70	376	23	23	279
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	-	-	285	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	76	409	25	25	303

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	762	409	0	0	434	0
Stage 1	409	-	-	-	-	-
Stage 2	353	-	-	-	-	-
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	373	642	-	-	1126	-
Stage 1	671	-	-	-	-	-
Stage 2	711	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	365	642	-	-	1126	-
Mov Cap-2 Maneuver	365	-	-	-	-	-
Stage 1	671	-	-	-	-	-
Stage 2	695	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.5	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	465	1126	-
HCM Lane V/C Ratio	-	-	0.327	0.022	-
HCM Control Delay (s)	-	-	16.5	8.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.4	0.1	-

Phase Number	2	6	8
Movement	NBT	SBTL	WBL
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	Min	Min	None
Maximum Split (s)	60	60	30
Maximum Split (%)	66.7%	66.7%	33.3%
Minimum Split (s)	15	15	15
Yellow Time (s)	3	3	3
All-Red Time (s)	2	2	2
Minimum Initial (s)	10	10	10
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)			
Flash Dont Walk (s)			
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	0	0	60
End Time (s)	60	60	0
Yield/Force Off (s)	55	55	85
Yield/Force Off 170(s)	55	55	85
Local Start Time (s)	0	0	60
Local Yield (s)	55	55	85
Local Yield 170(s)	55	55	85

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	40

Splits and Phases: 9: SR-310 & Site Access

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	70	376	23	23	279
Future Volume (veh/h)	70	70	376	23	23	279
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	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	76	409	25	25	303
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	212	212	651	40	442	698
Arrive On Green	0.25	0.25	0.37	0.37	0.37	0.37
Sat Flow, veh/h	834	834	1745	107	954	1870
Grp Volume(v), veh/h	153	0	0	434	25	303
Grp Sat Flow(s),veh/h/ln	1679	0	0	1851	954	1870
Q Serve(g_s), s	2.0	0.0	0.0	5.1	0.6	3.2
Cycle Q Clear(g_c), s	2.0	0.0	0.0	5.1	5.7	3.2
Prop In Lane	0.50	0.50		0.06	1.00	
Lane Grp Cap(c), veh/h	426	0	0	691	442	698
V/C Ratio(X)	0.36	0.00	0.00	0.63	0.06	0.43
Avail Cap(c_a), veh/h	1566	0	0	3799	2044	3839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.2	0.0	0.0	6.9	9.2	6.3
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	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	0.5	0.0	0.0	0.7	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.7	0.0	0.0	7.8	9.3	6.7
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	153		434			328
Approach Delay, s/veh	8.7		7.8			6.9
Approach LOS	A		A			A

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		15.0				15.0	11.8
Change Period (Y+Rc), s		5.0				5.0	5.0
Max Green Setting (Gmax), s		55.0				55.0	25.0
Max Q Clear Time (g_c+I1), s		7.1				7.7	4.0
Green Ext Time (p_c), s		2.5				1.8	0.4

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

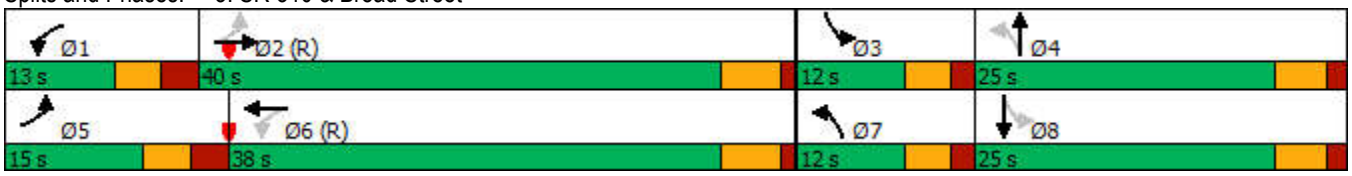
Notes

User approved volume balancing among the lanes for turning movement.

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	13	40	12	25	15	38	12	25
Maximum Split (%)	14.4%	44.4%	13.3%	27.8%	16.7%	42.2%	13.3%	27.8%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	25	38	78	0	25	40	78	0
End Time (s)	38	78	0	25	40	78	0	25
Yield/Force Off (s)	32.3	72.9	85.3	20.1	34.3	72.9	85.3	20.1
Yield/Force Off 170(s)	32.3	72.9	85.3	20.1	34.3	72.9	85.3	20.1
Local Start Time (s)	75	88	38	50	75	0	38	50
Local Yield (s)	82.3	32.9	45.3	70.1	84.3	32.9	45.3	70.1
Local Yield 170(s)	82.3	32.9	45.3	70.1	84.3	32.9	45.3	70.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	772	103	76	510	57	95	83	91	114	119	296
Future Volume (veh/h)	225	772	103	76	510	57	95	83	91	114	119	296
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	245	839	112	83	554	62	103	90	99	124	129	322
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	309	1285	171	315	615	69	208	182	200	364	107	267
Arrive On Green	0.10	0.41	0.41	0.07	0.37	0.37	0.07	0.22	0.22	0.07	0.23	0.23
Sat Flow, veh/h	1781	3151	421	1781	1652	185	1781	814	895	1781	474	1183
Grp Volume(v), veh/h	245	473	478	83	0	616	103	0	189	124	0	451
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	0	1837	1781	0	1709	1781	0	1657
Q Serve(g_s), s	7.5	19.3	19.3	2.5	0.0	28.5	3.9	0.0	8.7	4.7	0.0	20.3
Cycle Q Clear(g_c), s	7.5	19.3	19.3	2.5	0.0	28.5	3.9	0.0	8.7	4.7	0.0	20.3
Prop In Lane	1.00		0.23	1.00		0.10	1.00		0.52	1.00		0.71
Lane Grp Cap(c), veh/h	309	724	732	315	0	684	208	0	382	364	0	374
V/C Ratio(X)	0.79	0.65	0.65	0.26	0.00	0.90	0.50	0.00	0.50	0.34	0.00	1.21
Avail Cap(c_a), veh/h	309	724	732	338	0	684	224	0	382	376	0	374
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.93	0.00	0.93
Uniform Delay (d), s/veh	20.1	21.5	21.5	16.5	0.0	26.7	26.0	0.0	30.5	24.3	0.0	34.8
Incr Delay (d2), s/veh	13.2	4.5	4.5	0.4	0.0	17.2	1.8	0.0	4.5	0.5	0.0	113.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	8.5	8.5	1.0	0.0	14.9	1.7	0.0	4.0	2.0	0.0	19.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	26.1	26.0	16.9	0.0	43.9	27.8	0.0	35.1	24.8	0.0	148.6
LnGrp LOS	C	C	C	B	A	D	C	A	D	C	A	F
Approach Vol, veh/h		1196			699			292			575	
Approach Delay, s/veh		27.5			40.7			32.5			121.9	
Approach LOS		C			D			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	41.8	11.4	25.0	15.0	38.6	11.2	25.2
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.3	34.9	* 7.3	20.1	* 9.3	32.9	* 7.3	20.1
Max Q Clear Time (g_c+I1), s	4.5	21.3	6.7	10.7	9.5	30.5	5.9	22.3
Green Ext Time (p_c), s	0.0	5.0	0.0	0.7	0.0	0.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	51.0
HCM 6th LOS	D

Notes

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

Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	None	None	Max	None
Maximum Split (s)	14	57	19	14	57	19
Maximum Split (%)	15.6%	63.3%	21.1%	15.6%	63.3%	21.1%
Minimum Split (s)	12	15	15	12	15	15
Yellow Time (s)	3	3	3	3	3	3
All-Red Time (s)	2	2	2	2	2	2
Minimum Initial (s)	7	10	10	7	10	10
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)						
Flash Dont Walk (s)						
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	14	71	0	14	71
End Time (s)	14	71	0	14	71	0
Yield/Force Off (s)	9	66	85	9	66	85
Yield/Force Off 170(s)	9	66	85	9	66	85
Local Start Time (s)	76	0	57	76	0	57
Local Yield (s)	85	52	71	85	52	71
Local Yield 170(s)	85	52	71	85	52	71

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	55

Splits and Phases: 6: SR-310 & Morse Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	17	54	6	4	4	29	278	6	11	468	7
Future Volume (veh/h)	7	17	54	6	4	4	29	278	6	11	468	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	18	59	7	4	4	32	302	7	12	509	8
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	48	128	129	71	49	632	1236	29	785	1202	19
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.04	0.68	0.68	0.02	0.65	0.65
Sat Flow, veh/h	72	430	1139	561	636	436	1781	1821	42	1781	1836	29
Grp Volume(v), veh/h	85	0	0	15	0	0	32	0	309	12	0	517
Grp Sat Flow(s),veh/h/ln	1641	0	0	1633	0	0	1781	0	1863	1781	0	1865
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	5.1	0.2	0.0	10.5
Cycle Q Clear(g_c), s	3.8	0.0	0.0	0.6	0.0	0.0	0.4	0.0	5.1	0.2	0.0	10.5
Prop In Lane	0.09		0.69	0.47		0.27	1.00		0.02	1.00		0.02
Lane Grp Cap(c), veh/h	233	0	0	249	0	0	632	0	1264	785	0	1221
V/C Ratio(X)	0.36	0.00	0.00	0.06	0.00	0.00	0.05	0.00	0.24	0.02	0.00	0.42
Avail Cap(c_a), veh/h	337	0	0	346	0	0	754	0	1264	950	0	1221
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.0	0.0	0.0	31.6	0.0	0.0	4.4	0.0	4.9	4.3	0.0	6.6
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	0.2	0.0	0.0	0.1	0.0	1.3	0.0	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	0.0	0.0	31.7	0.0	0.0	4.4	0.0	5.4	4.3	0.0	7.6
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		85			15			341			529	
Approach Delay, s/veh		34.0			31.7			5.3			7.6	
Approach LOS		C			C			A			A	

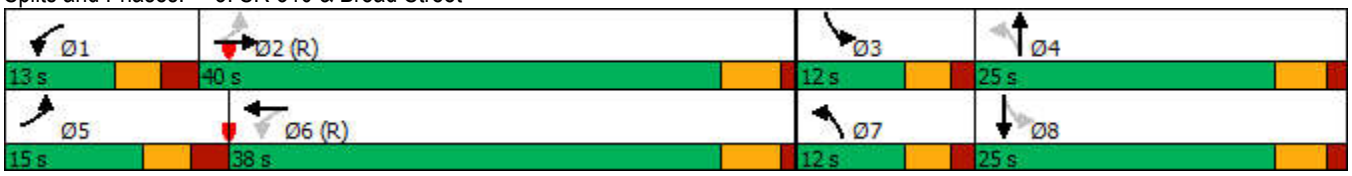
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.6	58.9		13.9	8.5	57.0		13.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	9.0	52.0		14.0	9.0	52.0		14.0
Max Q Clear Time (g_c+I1), s	2.2	7.1		5.8	2.4	12.5		2.6
Green Ext Time (p_c), s	0.0	1.6		0.2	0.0	3.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	13	40	12	25	15	38	12	25
Maximum Split (%)	14.4%	44.4%	13.3%	27.8%	16.7%	42.2%	13.3%	27.8%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	25	38	78	0	25	40	78	0
End Time (s)	38	78	0	25	40	78	0	25
Yield/Force Off (s)	32.3	72.9	85.3	20.1	34.3	72.9	85.3	20.1
Yield/Force Off 170(s)	32.3	72.9	85.3	20.1	34.3	72.9	85.3	20.1
Local Start Time (s)	75	88	38	50	75	0	38	50
Local Yield (s)	82.3	32.9	45.3	70.1	84.3	32.9	45.3	70.1
Local Yield 170(s)	82.3	32.9	45.3	70.1	84.3	32.9	45.3	70.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	100
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	272	772	103	76	510	73	95	99	91	123	128	324
Future Volume (veh/h)	272	772	103	76	510	73	95	99	91	123	128	324
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	296	839	112	83	554	79	103	108	99	134	139	352
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	1278	171	313	593	85	208	201	184	354	107	271
Arrive On Green	0.10	0.41	0.41	0.07	0.37	0.37	0.07	0.22	0.22	0.08	0.23	0.23
Sat Flow, veh/h	1781	3151	421	1781	1601	228	1781	898	824	1781	469	1188
Grp Volume(v), veh/h	296	473	478	83	0	633	103	0	207	134	0	491
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	0	1829	1781	0	1722	1781	0	1657
Q Serve(g_s), s	9.3	19.4	19.4	2.5	0.0	30.0	3.9	0.0	9.6	5.1	0.0	20.5
Cycle Q Clear(g_c), s	9.3	19.4	19.4	2.5	0.0	30.0	3.9	0.0	9.6	5.1	0.0	20.5
Prop In Lane	1.00		0.23	1.00		0.12	1.00		0.48	1.00		0.72
Lane Grp Cap(c), veh/h	293	721	728	313	0	677	208	0	385	354	0	378
V/C Ratio(X)	1.01	0.66	0.66	0.27	0.00	0.93	0.50	0.00	0.54	0.38	0.00	1.30
Avail Cap(c_a), veh/h	293	721	728	336	0	677	224	0	385	362	0	378
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	21.7	21.7	16.6	0.0	27.3	26.0	0.0	30.9	24.4	0.0	34.7
Incr Delay (d2), s/veh	54.8	4.6	4.6	0.4	0.0	21.8	1.8	0.0	5.3	0.7	0.0	153.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	8.5	8.6	1.0	0.0	16.3	1.7	0.0	4.5	2.1	0.0	24.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.8	26.3	26.3	17.0	0.0	49.1	27.8	0.0	36.2	25.1	0.0	188.1
LnGrp LOS	F	C	C	B	A	D	C	A	D	C	A	F
Approach Vol, veh/h		1247			716			310			625	
Approach Delay, s/veh		38.0			45.4			33.4			153.1	
Approach LOS		D			D			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	41.6	11.6	25.0	15.0	38.4	11.2	25.4
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.3	34.9	* 7.3	20.1	* 9.3	32.9	* 7.3	20.1
Max Q Clear Time (g_c+I1), s	4.5	21.4	7.1	11.6	11.3	32.0	5.9	22.5
Green Ext Time (p_c), s	0.0	5.0	0.0	0.7	0.0	0.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	64.2
HCM 6th LOS	E

Notes

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

Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	None	None	Max	None
Maximum Split (s)	12	60	18	12	60	18
Maximum Split (%)	13.3%	66.7%	20.0%	13.3%	66.7%	20.0%
Minimum Split (s)	12	15	15	12	15	15
Yellow Time (s)	3	3	3	3	3	3
All-Red Time (s)	2	2	2	2	2	2
Minimum Initial (s)	7	10	10	7	10	10
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)						
Flash Dont Walk (s)						
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	12	72	0	12	72
End Time (s)	12	72	0	12	72	0
Yield/Force Off (s)	7	67	85	7	67	85
Yield/Force Off 170(s)	7	67	85	7	67	85
Local Start Time (s)	78	0	60	78	0	60
Local Yield (s)	85	55	73	85	55	73
Local Yield 170(s)	85	55	73	85	55	73

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	60

Splits and Phases: 6: SR-310 & Morse Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	17	62	6	4	4	34	319	6	11	538	7
Future Volume (veh/h)	7	17	62	6	4	4	34	319	6	11	538	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	18	67	7	4	4	37	347	7	12	585	8
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	54	43	130	127	70	48	587	1259	25	756	1217	17
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.05	0.69	0.69	0.02	0.66	0.66
Sat Flow, veh/h	66	391	1179	573	635	439	1781	1827	37	1781	1841	25
Grp Volume(v), veh/h	93	0	0	15	0	0	37	0	354	12	0	593
Grp Sat Flow(s),veh/h/ln	1636	0	0	1648	0	0	1781	0	1864	1781	0	1866
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	6.1	0.2	0.0	13.1
Cycle Q Clear(g_c), s	4.4	0.0	0.0	0.6	0.0	0.0	0.5	0.0	6.1	0.2	0.0	13.1
Prop In Lane	0.09		0.72	0.47		0.27	1.00		0.02	1.00		0.01
Lane Grp Cap(c), veh/h	227	0	0	245	0	0	587	0	1284	756	0	1233
V/C Ratio(X)	0.41	0.00	0.00	0.06	0.00	0.00	0.06	0.00	0.28	0.02	0.00	0.48
Avail Cap(c_a), veh/h	302	0	0	314	0	0	651	0	1284	869	0	1233
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	0.0	33.2	0.0	0.0	4.7	0.0	5.0	4.3	0.0	7.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	0.3	0.0	0.0	0.1	0.0	1.6	0.0	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	0.0	33.3	0.0	0.0	4.7	0.0	5.5	4.3	0.0	8.3
LnGrp LOS	D	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		93			15			391			605	
Approach Delay, s/veh		36.1			33.3			5.4			8.3	
Approach LOS		D			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	62.3		14.2	9.0	60.0		14.2
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	7.0	55.0		13.0	7.0	55.0		13.0
Max Q Clear Time (g_c+I1), s	2.2	8.1		6.4	2.5	15.1		2.6
Green Ext Time (p_c), s	0.0	1.9		0.2	0.0	3.6		0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	46	339	79	78	529
Future Vol, veh/h	46	46	339	79	78	529
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	-	-	285	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	50	368	86	85	575

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1113	368	0	0	454	0
Stage 1	368	-	-	-	-	-
Stage 2	745	-	-	-	-	-
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	231	677	-	-	1107	-
Stage 1	700	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	213	677	-	-	1107	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	433	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	324	1107	-
HCM Lane V/C Ratio	-	-	0.309	0.077	-
HCM Control Delay (s)	-	-	21	8.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.2	-

Phase Number	2	6	8
Movement	NBT	SBTL	WBL
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	Min	Min	None
Maximum Split (s)	69	69	21
Maximum Split (%)	76.7%	76.7%	23.3%
Minimum Split (s)	15	15	15
Yellow Time (s)	3	3	3
All-Red Time (s)	2	2	2
Minimum Initial (s)	10	10	10
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)			
Flash Dont Walk (s)			
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	0	0	69
End Time (s)	69	69	0
Yield/Force Off (s)	64	64	85
Yield/Force Off 170(s)	64	64	85
Local Start Time (s)	0	0	69
Local Yield (s)	64	64	85
Local Yield 170(s)	64	64	85

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	40

Splits and Phases: 9: SR-310 & Site Access

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	46	46	339	79	78	529
Future Volume (veh/h)	46	46	339	79	78	529
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	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	50	368	86	85	575
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	160	160	680	159	514	867
Arrive On Green	0.19	0.19	0.46	0.46	0.46	0.46
Sat Flow, veh/h	831	831	1466	343	937	1870
Grp Volume(v), veh/h	101	0	0	454	85	575
Grp Sat Flow(s),veh/h/ln	1679	0	0	1809	937	1870
Q Serve(g_s), s	1.5	0.0	0.0	5.2	2.1	6.9
Cycle Q Clear(g_c), s	1.5	0.0	0.0	5.2	7.3	6.9
Prop In Lane	0.50	0.50		0.19	1.00	
Lane Grp Cap(c), veh/h	322	0	0	838	514	867
V/C Ratio(X)	0.31	0.00	0.00	0.54	0.17	0.66
Avail Cap(c_a), veh/h	926	0	0	3988	2146	4124
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	0.0	5.6	8.2	6.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.5	0.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.4	0.2	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.6	0.0	0.0	6.1	8.3	6.9
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	101		454			660
Approach Delay, s/veh	10.6		6.1			7.1
Approach LOS	B		A			A

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		18.5				18.5	10.6
Change Period (Y+Rc), s		5.0				5.0	5.0
Max Green Setting (Gmax), s		64.0				64.0	16.0
Max Q Clear Time (g_c+I1), s		7.2				9.3	3.5
Green Ext Time (p_c), s		2.8				4.2	0.2

Intersection Summary	
HCM 6th Ctrl Delay	7.0
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	13	45	12	20	18	40	12	20
Maximum Split (%)	14.4%	50.0%	13.3%	22.2%	20.0%	44.4%	13.3%	22.2%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	22	35	80	2	22	40	80	2
End Time (s)	35	80	2	22	40	80	2	22
Yield/Force Off (s)	29.3	74.9	87.3	17.1	34.3	74.9	87.3	17.1
Yield/Force Off 170(s)	29.3	74.9	87.3	17.1	34.3	74.9	87.3	17.1
Local Start Time (s)	72	85	40	52	72	0	40	52
Local Yield (s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1
Local Yield 170(s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	110
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	523	51	50	724	89	149	128	70	82	85	293
Future Volume (veh/h)	283	523	51	50	724	89	149	128	70	82	85	293
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	308	568	55	54	787	97	162	139	76	89	92	318
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	323	1528	148	467	633	78	224	204	112	280	62	214
Arrive On Green	0.14	0.47	0.47	0.06	0.39	0.39	0.08	0.18	0.18	0.07	0.17	0.17
Sat Flow, veh/h	1781	3274	316	1781	1633	201	1781	1137	622	1781	368	1273
Grp Volume(v), veh/h	308	308	315	54	0	884	162	0	215	89	0	410
Grp Sat Flow(s),veh/h/ln	1781	1777	1813	1781	0	1834	1781	0	1758	1781	0	1641
Q Serve(g_s), s	11.4	10.1	10.1	1.6	0.0	34.9	6.8	0.0	10.3	3.6	0.0	15.1
Cycle Q Clear(g_c), s	11.4	10.1	10.1	1.6	0.0	34.9	6.8	0.0	10.3	3.6	0.0	15.1
Prop In Lane	1.00		0.17	1.00		0.11	1.00		0.35	1.00		0.78
Lane Grp Cap(c), veh/h	323	829	847	467	0	711	224	0	316	280	0	275
V/C Ratio(X)	0.95	0.37	0.37	0.12	0.00	1.24	0.72	0.00	0.68	0.32	0.00	1.49
Avail Cap(c_a), veh/h	323	829	847	509	0	711	224	0	316	301	0	275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	26.4	15.5	15.5	14.3	0.0	27.6	29.2	0.0	34.5	28.1	0.0	37.5
Incr Delay (d2), s/veh	37.4	1.3	1.3	0.1	0.0	121.0	10.8	0.0	11.3	0.6	0.0	238.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	4.1	4.2	0.6	0.0	38.1	3.5	0.0	5.4	1.5	0.0	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	16.7	16.7	14.4	0.0	148.6	40.0	0.0	45.8	28.7	0.0	275.5
LnGrp LOS	E	B	B	B	A	F	D	A	D	C	A	F
Approach Vol, veh/h		931			938			377			499	
Approach Delay, s/veh		32.3			140.8			43.3			231.5	
Approach LOS		C			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	47.1	10.9	21.1	18.0	40.0	12.0	20.0
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.3	39.9	* 7.3	15.1	* 12	34.9	* 7.3	15.1
Max Q Clear Time (g_c+I1), s	3.6	12.1	5.6	12.3	13.4	36.9	8.8	17.1
Green Ext Time (p_c), s	0.0	3.9	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	107.1
HCM 6th LOS	F

Notes

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

Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	None	None	Max	None
Maximum Split (s)	14	59	17	14	59	17
Maximum Split (%)	15.6%	65.6%	18.9%	15.6%	65.6%	18.9%
Minimum Split (s)	12	15	15	12	15	15
Yellow Time (s)	3	3	3	3	3	3
All-Red Time (s)	2	2	2	2	2	2
Minimum Initial (s)	7	10	10	7	10	10
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)						
Flash Dont Walk (s)						
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	14	73	0	14	73
End Time (s)	14	73	0	14	73	0
Yield/Force Off (s)	9	68	85	9	68	85
Yield/Force Off 170(s)	9	68	85	9	68	85
Local Start Time (s)	76	0	59	76	0	59
Local Yield (s)	85	54	71	85	54	71
Local Yield 170(s)	85	54	71	85	54	71

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	55

Splits and Phases: 6: SR-310 & Morse Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	11	16	9	20	16	43	488	7	1	290	6
Future Volume (veh/h)	4	11	16	9	20	16	43	488	7	1	290	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	12	17	10	22	17	47	530	8	1	315	7
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	76	89	71	96	61	808	1309	20	608	1199	27
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.06	0.71	0.71	0.00	0.66	0.66
Sat Flow, veh/h	82	735	868	176	935	590	1781	1838	28	1781	1823	41
Grp Volume(v), veh/h	33	0	0	49	0	0	47	0	538	1	0	322
Grp Sat Flow(s),veh/h/ln	1684	0	0	1702	0	0	1781	0	1865	1781	0	1863
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	9.6	0.0	0.0	5.9
Cycle Q Clear(g_c), s	1.4	0.0	0.0	2.1	0.0	0.0	0.6	0.0	9.6	0.0	0.0	5.9
Prop In Lane	0.12		0.52	0.20		0.35	1.00		0.01	1.00		0.02
Lane Grp Cap(c), veh/h	223	0	0	228	0	0	808	0	1329	608	0	1226
V/C Ratio(X)	0.15	0.00	0.00	0.21	0.00	0.00	0.06	0.00	0.40	0.00	0.00	0.26
Avail Cap(c_a), veh/h	294	0	0	299	0	0	904	0	1329	800	0	1226
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.7	0.0	0.0	34.0	0.0	0.0	3.4	0.0	4.8	4.9	0.0	5.8
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.9	0.0	0.0	0.1	0.0	2.3	0.0	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	0.0	0.0	34.4	0.0	0.0	3.4	0.0	5.7	4.9	0.0	6.3
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		33			49			585			323	
Approach Delay, s/veh		34.0			34.4			5.5			6.3	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	63.4		13.5	9.6	59.0		13.5
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	9.0	54.0		12.0	9.0	54.0		12.0
Max Q Clear Time (g_c+I1), s	2.0	11.6		3.4	2.6	7.9		4.1
Green Ext Time (p_c), s	0.0	3.2		0.0	0.0	1.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	13	45	12	20	18	40	12	20
Maximum Split (%)	14.4%	50.0%	13.3%	22.2%	20.0%	44.4%	13.3%	22.2%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	72	85	40	52	72	0	40	52
End Time (s)	85	40	52	72	0	40	52	72
Yield/Force Off (s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1
Yield/Force Off 170(s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1
Local Start Time (s)	72	85	40	52	72	0	40	52
Local Yield (s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1
Local Yield 170(s)	79.3	34.9	47.3	67.1	84.3	34.9	47.3	67.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	296	523	51	50	724	94	149	133	70	96	99	335
Future Volume (veh/h)	296	523	51	50	724	94	149	133	70	96	99	335
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	322	568	55	54	787	102	162	145	76	104	108	364
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	323	1528	148	467	629	82	224	204	107	276	63	213
Arrive On Green	0.14	0.47	0.47	0.06	0.39	0.39	0.08	0.18	0.18	0.07	0.17	0.17
Sat Flow, veh/h	1781	3274	316	1781	1622	210	1781	1156	606	1781	376	1267
Grp Volume(v), veh/h	322	308	315	54	0	889	162	0	221	104	0	472
Grp Sat Flow(s),veh/h/ln	1781	1777	1813	1781	0	1833	1781	0	1761	1781	0	1642
Q Serve(g_s), s	12.2	10.1	10.1	1.6	0.0	34.9	6.8	0.0	10.6	4.2	0.0	15.1
Cycle Q Clear(g_c), s	12.2	10.1	10.1	1.6	0.0	34.9	6.8	0.0	10.6	4.2	0.0	15.1
Prop In Lane	1.00		0.17	1.00		0.11	1.00		0.34	1.00		0.77
Lane Grp Cap(c), veh/h	323	829	847	467	0	711	224	0	312	276	0	276
V/C Ratio(X)	1.00	0.37	0.37	0.12	0.00	1.25	0.72	0.00	0.71	0.38	0.00	1.71
Avail Cap(c_a), veh/h	323	829	847	509	0	711	224	0	312	293	0	276
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	15.5	15.5	14.3	0.0	27.6	29.2	0.0	34.9	28.2	0.0	37.5
Incr Delay (d2), s/veh	48.8	1.3	1.3	0.1	0.0	124.4	10.8	0.0	12.8	0.8	0.0	335.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	4.1	4.2	0.6	0.0	38.7	3.5	0.0	5.6	1.8	0.0	31.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.9	16.7	16.7	14.4	0.0	152.0	40.0	0.0	47.7	29.1	0.0	373.3
LnGrp LOS	E	B	B	B	A	F	D	A	D	C	A	F
Approach Vol, veh/h		945			943			383			576	
Approach Delay, s/veh		36.9			144.1			44.4			311.1	
Approach LOS		D			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	47.1	11.2	20.8	18.0	40.0	12.0	20.0
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.3	39.9	* 7.3	15.1	* 12	34.9	* 7.3	15.1
Max Q Clear Time (g_c+I1), s	3.6	12.1	6.2	12.6	14.2	36.9	8.8	17.1
Green Ext Time (p_c), s	0.0	3.9	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	128.9
HCM 6th LOS	F

Notes

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

Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	None	None	Max	None
Maximum Split (s)	12	61	17	12	61	17
Maximum Split (%)	13.3%	67.8%	18.9%	13.3%	67.8%	18.9%
Minimum Split (s)	12	15	15	12	15	15
Yellow Time (s)	3	3	3	3	3	3
All-Red Time (s)	2	2	2	2	2	2
Minimum Initial (s)	7	10	10	7	10	10
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)						
Flash Dont Walk (s)						
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	12	73	0	12	73
End Time (s)	12	73	0	12	73	0
Yield/Force Off (s)	7	68	85	7	68	85
Yield/Force Off 170(s)	7	68	85	7	68	85
Local Start Time (s)	78	0	61	78	0	61
Local Yield (s)	85	56	73	85	56	73
Local Yield 170(s)	85	56	73	85	56	73

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	60

Splits and Phases: 6: SR-310 & Morse Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	11	18	9	20	16	50	550	7	1	311	6
Future Volume (veh/h)	4	11	18	9	20	16	50	550	7	1	311	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	12	20	10	22	17	54	598	8	1	338	7
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	68	95	69	95	60	796	1324	18	564	1207	25
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.06	0.72	0.72	0.00	0.66	0.66
Sat Flow, veh/h	74	670	931	176	935	590	1781	1841	25	1781	1826	38
Grp Volume(v), veh/h	36	0	0	49	0	0	54	0	606	1	0	345
Grp Sat Flow(s),veh/h/ln	1676	0	0	1701	0	0	1781	0	1866	1781	0	1864
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	11.5	0.0	0.0	6.5
Cycle Q Clear(g_c), s	1.6	0.0	0.0	2.2	0.0	0.0	0.7	0.0	11.5	0.0	0.0	6.5
Prop In Lane	0.11		0.56	0.20		0.35	1.00		0.01	1.00		0.02
Lane Grp Cap(c), veh/h	218	0	0	225	0	0	796	0	1341	564	0	1232
V/C Ratio(X)	0.16	0.00	0.00	0.22	0.00	0.00	0.07	0.00	0.45	0.00	0.00	0.28
Avail Cap(c_a), veh/h	283	0	0	290	0	0	837	0	1341	707	0	1232
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	0.0	35.1	0.0	0.0	3.3	0.0	5.0	5.1	0.0	6.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.5	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	0.9	0.0	0.0	0.1	0.0	2.8	0.0	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	0.0	0.0	35.6	0.0	0.0	3.4	0.0	6.1	5.1	0.0	6.5
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		36			49			660			346	
Approach Delay, s/veh		35.2			35.6			5.8			6.5	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	65.9		13.6	10.0	61.0		13.6
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	7.0	56.0		12.0	7.0	56.0		12.0
Max Q Clear Time (g_c+I1), s	2.0	13.5		3.6	2.7	8.5		4.2
Green Ext Time (p_c), s	0.0	3.7		0.0	0.0	1.8		0.1

Intersection Summary	
HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	70	519	23	23	388
Future Vol, veh/h	70	70	519	23	23	388
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	-	-	285	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	76	564	25	25	422

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1036	564	0	0	589	0
Stage 1	564	-	-	-	-	-
Stage 2	472	-	-	-	-	-
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	256	525	-	-	986	-
Stage 1	569	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	250	525	-	-	986	-
Mov Cap-2 Maneuver	250	-	-	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	612	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	339	986	-
HCM Lane V/C Ratio	-	-	0.449	0.025	-
HCM Control Delay (s)	-	-	24	8.7	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	2.2	0.1	-

Phase Number	2	6	8
Movement	NBT	SBTL	WBL
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	Min	Min	None
Maximum Split (s)	65	65	25
Maximum Split (%)	72.2%	72.2%	27.8%
Minimum Split (s)	15	15	15
Yellow Time (s)	3	3	3
All-Red Time (s)	2	2	2
Minimum Initial (s)	10	10	10
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)			
Flash Dont Walk (s)			
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	0	0	65
End Time (s)	65	65	0
Yield/Force Off (s)	60	60	85
Yield/Force Off 170(s)	60	60	85
Local Start Time (s)	0	0	65
Local Yield (s)	60	60	85
Local Yield 170(s)	60	60	85

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	40

Splits and Phases: 9: SR-310 & Site Access

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	70	519	23	23	388
Future Volume (veh/h)	70	70	519	23	23	388
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	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	76	564	25	25	422
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	196	196	789	35	384	830
Arrive On Green	0.24	0.24	0.44	0.44	0.44	0.44
Sat Flow, veh/h	834	834	1777	79	827	1870
Grp Volume(v), veh/h	153	0	0	589	25	422
Grp Sat Flow(s),veh/h/ln	1679	0	0	1856	827	1870
Q Serve(g_s), s	2.4	0.0	0.0	8.1	0.8	5.1
Cycle Q Clear(g_c), s	2.4	0.0	0.0	8.1	8.9	5.1
Prop In Lane	0.50	0.50		0.04	1.00	
Lane Grp Cap(c), veh/h	395	0	0	824	384	830
V/C Ratio(X)	0.39	0.00	0.00	0.71	0.07	0.51
Avail Cap(c_a), veh/h	1077	0	0	3572	1609	3599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.0	0.0	0.0	7.1	10.7	6.2
Incr Delay (d2), s/veh	0.6	0.0	0.0	1.2	0.1	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	0.0	1.2	0.1	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.6	0.0	0.0	8.2	10.7	6.7
LnGrp LOS	B	A	A	A	B	A
Approach Vol, veh/h	153		589			447
Approach Delay, s/veh	10.6		8.2			6.9
Approach LOS	B		A			A

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		18.8				18.8	12.3
Change Period (Y+Rc), s		5.0				5.0	5.0
Max Green Setting (Gmax), s		60.0				60.0	20.0
Max Q Clear Time (g_c+I1), s		10.1				10.9	4.4
Green Ext Time (p_c), s		3.8				2.6	0.4

Intersection Summary	
HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

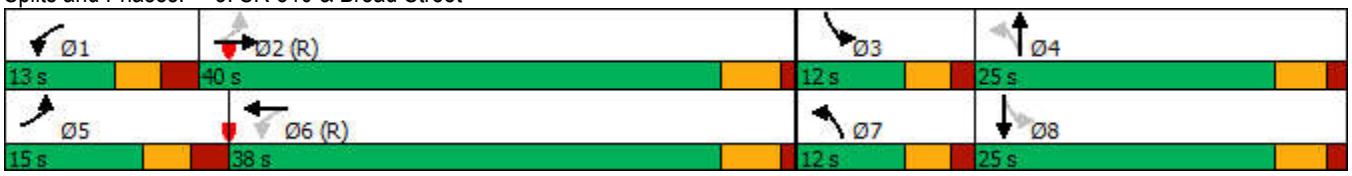
Notes

User approved volume balancing among the lanes for turning movement.

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	13	40	12	25	15	38	12	25
Maximum Split (%)	14.4%	44.4%	13.3%	27.8%	16.7%	42.2%	13.3%	27.8%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	25	38	78	0	25	40	78	0
End Time (s)	38	78	0	25	40	78	0	25
Yield/Force Off (s)	32.3	72.9	85.3	20.1	34.3	72.9	85.3	20.1
Yield/Force Off 170(s)	32.3	72.9	85.3	20.1	34.3	72.9	85.3	20.1
Local Start Time (s)	75	88	38	50	75	0	38	50
Local Yield (s)	82.3	32.9	45.3	70.1	84.3	32.9	45.3	70.1
Local Yield 170(s)	82.3	32.9	45.3	70.1	84.3	32.9	45.3	70.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	140
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	1063	142	105	702	79	131	114	126	158	164	407
Future Volume (veh/h)	310	1063	142	105	702	79	131	114	126	158	164	407
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	337	1155	154	114	763	86	142	124	137	172	178	442
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	1247	166	229	603	68	223	181	200	318	107	265
Arrive On Green	0.10	0.40	0.40	0.07	0.37	0.37	0.08	0.22	0.22	0.08	0.22	0.22
Sat Flow, veh/h	1781	3153	419	1781	1651	186	1781	812	897	1781	476	1182
Grp Volume(v), veh/h	337	650	659	114	0	849	142	0	261	172	0	620
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	0	1837	1781	0	1709	1781	0	1658
Q Serve(g_s), s	9.3	31.3	31.6	3.5	0.0	32.9	5.4	0.0	12.6	6.7	0.0	20.2
Cycle Q Clear(g_c), s	9.3	31.3	31.6	3.5	0.0	32.9	5.4	0.0	12.6	6.7	0.0	20.2
Prop In Lane	1.00		0.23	1.00		0.10	1.00		0.52	1.00		0.71
Lane Grp Cap(c), veh/h	264	703	710	229	0	671	223	0	382	318	0	372
V/C Ratio(X)	1.28	0.92	0.93	0.50	0.00	1.26	0.64	0.00	0.68	0.54	0.00	1.67
Avail Cap(c_a), veh/h	264	703	710	243	0	671	224	0	382	318	0	372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.83	0.00	0.83
Uniform Delay (d), s/veh	24.5	25.9	26.0	20.8	0.0	28.6	26.0	0.0	32.0	25.1	0.0	34.9
Incr Delay (d2), s/veh	150.3	19.8	20.2	1.7	0.0	130.6	5.8	0.0	9.6	1.5	0.0	310.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	16.1	16.5	1.4	0.0	37.9	2.6	0.0	6.2	2.9	0.0	39.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	174.8	45.7	46.2	22.5	0.0	159.2	31.8	0.0	41.6	26.7	0.0	345.1
LnGrp LOS	F	D	D	C	A	F	C	A	D	C	A	F
Approach Vol, veh/h		1646			963			403			792	
Approach Delay, s/veh		72.3			143.0			38.1			276.0	
Approach LOS		E			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	40.7	12.0	25.0	15.0	38.0	11.9	25.1
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.3	34.9	* 7.3	20.1	* 9.3	32.9	* 7.3	20.1
Max Q Clear Time (g_c+I1), s	5.5	33.6	8.7	14.6	11.3	34.9	7.4	22.2
Green Ext Time (p_c), s	0.0	1.0	0.0	0.7	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	129.0
HCM 6th LOS	F

Notes

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

Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	None	None	Max	None
Maximum Split (s)	12	60	18	12	60	18
Maximum Split (%)	13.3%	66.7%	20.0%	13.3%	66.7%	20.0%
Minimum Split (s)	12	15	15	12	15	15
Yellow Time (s)	3	3	3	3	3	3
All-Red Time (s)	2	2	2	2	2	2
Minimum Initial (s)	7	10	10	7	10	10
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)						
Flash Dont Walk (s)						
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	12	72	0	12	72
End Time (s)	12	72	0	12	72	0
Yield/Force Off (s)	7	67	85	7	67	85
Yield/Force Off 170(s)	7	67	85	7	67	85
Local Start Time (s)	78	0	60	78	0	60
Local Yield (s)	85	55	73	85	55	73
Local Yield 170(s)	85	55	73	85	55	73

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	60

Splits and Phases: 6: SR-310 & Morse Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	24	75	9	6	6	40	388	9	16	652	10
Future Volume (veh/h)	10	24	75	9	6	6	40	388	9	16	652	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	26	82	10	7	7	43	422	10	17	709	11
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	50	130	118	79	56	499	1237	29	692	1201	19
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.05	0.68	0.68	0.03	0.65	0.65
Sat Flow, veh/h	77	433	1131	504	691	492	1781	1819	43	1781	1837	28
Grp Volume(v), veh/h	119	0	0	24	0	0	43	0	432	17	0	720
Grp Sat Flow(s),veh/h/ln	1641	0	0	1686	0	0	1781	0	1863	1781	0	1865
Q Serve(g_s), s	1.1	0.0	0.0	0.0	0.0	0.0	0.6	0.0	8.1	0.3	0.0	18.3
Cycle Q Clear(g_c), s	5.8	0.0	0.0	1.0	0.0	0.0	0.6	0.0	8.1	0.3	0.0	18.3
Prop In Lane	0.09		0.69	0.42		0.29	1.00		0.02	1.00		0.02
Lane Grp Cap(c), veh/h	235	0	0	254	0	0	499	0	1266	692	0	1220
V/C Ratio(X)	0.51	0.00	0.00	0.09	0.00	0.00	0.09	0.00	0.34	0.02	0.00	0.59
Avail Cap(c_a), veh/h	300	0	0	314	0	0	554	0	1266	791	0	1220
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.5	0.0	0.0	33.4	0.0	0.0	5.8	0.0	5.6	4.5	0.0	8.2
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.7	0.0	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	0.4	0.0	0.0	0.1	0.0	2.2	0.1	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	0.0	0.0	33.6	0.0	0.0	5.9	0.0	6.4	4.5	0.0	10.3
LnGrp LOS	D	A	A	C	A	A	A	A	A	A	A	B
Approach Vol, veh/h		119			24			475			737	
Approach Delay, s/veh		37.2			33.6			6.3			10.2	
Approach LOS		D			C			A			B	

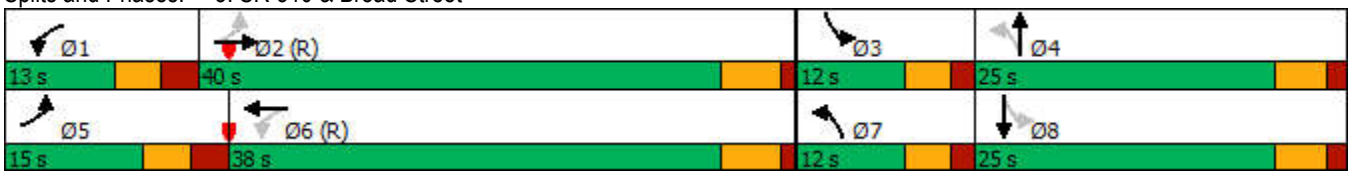
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	62.1		14.6	9.4	60.0		14.6				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	7.0	55.0		13.0	7.0	55.0		13.0				
Max Q Clear Time (g_c+I1), s	2.3	10.1		7.8	2.6	20.3		3.0				
Green Ext Time (p_c), s	0.0	2.4		0.2	0.0	4.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			11.6
HCM 6th LOS			B

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	13	40	12	25	15	38	12	25
Maximum Split (%)	14.4%	44.4%	13.3%	27.8%	16.7%	42.2%	13.3%	27.8%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	25	38	78	0	25	40	78	0
End Time (s)	38	78	0	25	40	78	0	25
Yield/Force Off (s)	32.3	72.9	85.3	20.1	34.3	72.9	85.3	20.1
Yield/Force Off 170(s)	32.3	72.9	85.3	20.1	34.3	72.9	85.3	20.1
Local Start Time (s)	75	88	38	50	75	0	38	50
Local Yield (s)	82.3	32.9	45.3	70.1	84.3	32.9	45.3	70.1
Local Yield 170(s)	82.3	32.9	45.3	70.1	84.3	32.9	45.3	70.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	140
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	357	1063	142	105	702	95	131	130	126	167	173	435
Future Volume (veh/h)	357	1063	142	105	702	95	131	130	126	167	173	435
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	388	1155	154	114	763	103	142	141	137	182	188	473
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	1247	166	229	590	80	223	195	189	305	106	266
Arrive On Green	0.10	0.40	0.40	0.07	0.37	0.37	0.08	0.22	0.22	0.08	0.22	0.22
Sat Flow, veh/h	1781	3153	419	1781	1613	218	1781	871	847	1781	471	1186
Grp Volume(v), veh/h	388	650	659	114	0	866	142	0	278	182	0	661
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	0	1831	1781	0	1718	1781	0	1657
Q Serve(g_s), s	9.3	31.3	31.6	3.5	0.0	32.9	5.4	0.0	13.5	7.1	0.0	20.2
Cycle Q Clear(g_c), s	9.3	31.3	31.6	3.5	0.0	32.9	5.4	0.0	13.5	7.1	0.0	20.2
Prop In Lane	1.00		0.23	1.00		0.12	1.00		0.49	1.00		0.72
Lane Grp Cap(c), veh/h	264	703	710	229	0	669	223	0	384	305	0	372
V/C Ratio(X)	1.47	0.92	0.93	0.50	0.00	1.29	0.64	0.00	0.72	0.60	0.00	1.78
Avail Cap(c_a), veh/h	264	703	710	243	0	669	224	0	384	305	0	372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	25.9	26.0	20.8	0.0	28.6	26.0	0.0	32.4	25.5	0.0	34.9
Incr Delay (d2), s/veh	230.7	19.8	20.2	1.7	0.0	143.1	5.8	0.0	11.3	3.1	0.0	361.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.1	16.1	16.5	1.4	0.0	40.1	2.6	0.0	6.8	3.2	0.0	45.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	255.2	45.7	46.2	22.5	0.0	171.7	31.8	0.0	43.7	28.6	0.0	396.1
LnGrp LOS	F	D	D	C	A	F	C	A	D	C	A	F
Approach Vol, veh/h		1697			980			420			843	
Approach Delay, s/veh		93.8			154.3			39.7			316.8	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	40.7	12.0	25.0	15.0	38.0	11.9	25.1
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.3	34.9	* 7.3	20.1	* 9.3	32.9	* 7.3	20.1
Max Q Clear Time (g_c+I1), s	5.5	33.6	9.1	15.5	11.3	34.9	7.4	22.2
Green Ext Time (p_c), s	0.0	1.0	0.0	0.7	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	150.8
HCM 6th LOS	F

Notes

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

Phase Number	1	2	4	5	6	8
Movement	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	None	None	Max	None
Maximum Split (s)	12	62	16	12	62	16
Maximum Split (%)	13.3%	68.9%	17.8%	13.3%	68.9%	17.8%
Minimum Split (s)	12	15	15	12	15	15
Yellow Time (s)	3	3	3	3	3	3
All-Red Time (s)	2	2	2	2	2	2
Minimum Initial (s)	7	10	10	7	10	10
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)						
Flash Dont Walk (s)						
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	12	74	0	12	74
End Time (s)	12	74	0	12	74	0
Yield/Force Off (s)	7	69	85	7	69	85
Yield/Force Off 170(s)	7	69	85	7	69	85
Local Start Time (s)	78	0	62	78	0	62
Local Yield (s)	85	57	73	85	57	73
Local Yield 170(s)	85	57	73	85	57	73

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	60

Splits and Phases: 6: SR-310 & Morse Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	24	83	9	6	6	45	429	9	16	722	10
Future Volume (veh/h)	10	24	83	9	6	6	45	429	9	16	722	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	26	90	10	7	7	49	466	10	17	785	11
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	45	130	116	78	56	459	1254	27	664	1211	17
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.06	0.69	0.69	0.03	0.66	0.66
Sat Flow, veh/h	72	405	1160	512	694	496	1781	1824	39	1781	1840	26
Grp Volume(v), veh/h	127	0	0	24	0	0	49	0	476	17	0	796
Grp Sat Flow(s),veh/h/ln	1637	0	0	1702	0	0	1781	0	1863	1781	0	1866
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	0.0	0.7	0.0	9.3	0.3	0.0	22.0
Cycle Q Clear(g_c), s	6.4	0.0	0.0	1.1	0.0	0.0	0.7	0.0	9.3	0.3	0.0	22.0
Prop In Lane	0.09		0.71	0.42		0.29	1.00		0.02	1.00		0.01
Lane Grp Cap(c), veh/h	229	0	0	250	0	0	459	0	1280	664	0	1228
V/C Ratio(X)	0.55	0.00	0.00	0.10	0.00	0.00	0.11	0.00	0.37	0.03	0.00	0.65
Avail Cap(c_a), veh/h	253	0	0	272	0	0	503	0	1280	760	0	1228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.9	0.0	0.0	34.6	0.0	0.0	6.6	0.0	5.7	4.6	0.0	8.8
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.8	0.0	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	0.4	0.0	0.0	0.2	0.0	2.5	0.1	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.1	0.0	0.0	34.7	0.0	0.0	6.7	0.0	6.5	4.6	0.0	11.5
LnGrp LOS	D	A	A	C	A	A	A	A	A	A	A	B
Approach Vol, veh/h		127			24			525			813	
Approach Delay, s/veh		39.1			34.7			6.5			11.3	
Approach LOS		D			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.3	64.5		14.7	9.8	62.0		14.7
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	7.0	57.0		11.0	7.0	57.0		11.0
Max Q Clear Time (g_c+I1), s	2.3	11.3		8.4	2.7	24.0		3.1
Green Ext Time (p_c), s	0.0	2.7		0.1	0.0	5.5		0.0

Intersection Summary			
HCM 6th Ctrl Delay			12.4
HCM 6th LOS			B

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	46	470	79	78	733
Future Vol, veh/h	46	46	470	79	78	733
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	-	-	285	285	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	50	511	86	85	797

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1478	511	0	0	597	0
Stage 1	511	-	-	-	-	-
Stage 2	967	-	-	-	-	-
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	139	563	-	-	980	-
Stage 1	602	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	127	563	-	-	980	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	337	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	37.6	0	0.9
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	207	980	-
HCM Lane V/C Ratio	-	-	0.483	0.087	-
HCM Control Delay (s)	-	-	37.6	9	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	2.4	0.3	-

Phase Number	2	6	8
Movement	NBT	SBTL	WBL
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	Min	Min	None
Maximum Split (s)	73	73	17
Maximum Split (%)	81.1%	81.1%	18.9%
Minimum Split (s)	15	15	15
Yellow Time (s)	3	3	3
All-Red Time (s)	2	2	2
Minimum Initial (s)	10	10	10
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)			
Flash Dont Walk (s)			
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	0	0	73
End Time (s)	73	73	0
Yield/Force Off (s)	68	68	85
Yield/Force Off 170(s)	68	68	85
Local Start Time (s)	0	0	73
Local Yield (s)	68	68	85
Local Yield 170(s)	68	68	85

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Uncoordinated
Natural Cycle	50

Splits and Phases: 9: SR-310 & Site Access

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	46	46	470	79	78	733
Future Volume (veh/h)	46	46	470	79	78	733
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	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	50	511	86	85	797
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	144	144	874	147	476	1047
Arrive On Green	0.17	0.17	0.56	0.56	0.56	0.56
Sat Flow, veh/h	831	831	1560	263	821	1870
Grp Volume(v), veh/h	101	0	0	597	85	797
Grp Sat Flow(s),veh/h/ln	1679	0	0	1823	821	1870
Q Serve(g_s), s	2.0	0.0	0.0	8.0	2.8	12.3
Cycle Q Clear(g_c), s	2.0	0.0	0.0	8.0	10.9	12.3
Prop In Lane	0.50	0.50		0.14	1.00	
Lane Grp Cap(c), veh/h	291	0	0	1021	476	1047
V/C Ratio(X)	0.35	0.00	0.00	0.58	0.18	0.76
Avail Cap(c_a), veh/h	537	0	0	3306	1505	3392
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	0.0	0.0	5.4	9.0	6.3
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.5	0.2	1.2
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	0.0	0.9	0.3	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.3	0.0	0.0	5.9	9.1	7.5
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	101		597			882
Approach Delay, s/veh	14.3		5.9			7.7
Approach LOS	B		A			A

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		26.0				26.0	11.5
Change Period (Y+Rc), s		5.0				5.0	5.0
Max Green Setting (Gmax), s		68.0				68.0	12.0
Max Q Clear Time (g_c+I1), s		10.0				14.3	4.0
Green Ext Time (p_c), s		3.9				6.7	0.1

Intersection Summary	
HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	12.8	49.4	11.8	16	17.2	45	11.8	16
Maximum Split (%)	14.2%	54.9%	13.1%	17.8%	19.1%	50.0%	13.1%	17.8%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	72.8	85.6	45	56.8	72.8	0	45	56.8
End Time (s)	85.6	45	56.8	72.8	0	45	56.8	72.8
Yield/Force Off (s)	79.9	39.9	52.1	67.9	84.3	39.9	52.1	67.9
Yield/Force Off 170(s)	79.9	39.9	52.1	67.9	84.3	39.9	52.1	67.9
Local Start Time (s)	72.8	85.6	45	56.8	72.8	0	45	56.8
Local Yield (s)	79.9	39.9	52.1	67.9	84.3	39.9	52.1	67.9
Local Yield 170(s)	79.9	39.9	52.1	67.9	84.3	39.9	52.1	67.9

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	379	37	36	526	65	108	93	51	59	61	213
Future Volume (veh/h)	206	379	37	36	526	65	108	93	51	59	61	213
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	412	40	39	572	71	117	101	55	64	66	232
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	401	1726	167	597	800	99	311	154	84	254	231	331
Arrive On Green	0.09	0.53	0.53	0.05	0.49	0.49	0.07	0.14	0.14	0.06	0.12	0.12
Sat Flow, veh/h	1781	3274	316	1781	1631	203	1781	1139	620	1781	1870	1585
Grp Volume(v), veh/h	224	223	229	39	0	643	117	0	156	64	66	232
Grp Sat Flow(s),veh/h/ln	1781	1777	1813	1781	0	1834	1781	0	1759	1781	1870	1585
Q Serve(g_s), s	5.5	6.1	6.2	0.9	0.0	24.8	5.1	0.0	7.6	2.7	2.9	11.1
Cycle Q Clear(g_c), s	5.5	6.1	6.2	0.9	0.0	24.8	5.1	0.0	7.6	2.7	2.9	11.1
Prop In Lane	1.00		0.17	1.00		0.11	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	401	937	956	597	0	899	311	0	239	254	231	331
V/C Ratio(X)	0.56	0.24	0.24	0.07	0.00	0.72	0.38	0.00	0.65	0.25	0.29	0.70
Avail Cap(c_a), veh/h	477	937	956	651	0	899	319	0	239	284	231	331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	14.0	11.5	11.5	9.8	0.0	18.0	31.1	0.0	36.9	31.2	35.8	33.0
Incr Delay (d2), s/veh	1.2	0.6	0.6	0.0	0.0	4.9	0.8	0.0	13.1	0.5	3.1	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.4	2.4	0.3	0.0	10.7	2.2	0.0	4.1	1.2	1.5	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	12.1	12.1	9.9	0.0	22.9	31.8	0.0	50.0	31.7	38.9	44.6
LnGrp LOS	B	B	B	A	A	C	C	A	D	C	D	D
Approach Vol, veh/h		676			682			273			362	
Approach Delay, s/veh		13.2			22.1			42.2			41.3	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	52.5	10.3	17.1	13.4	49.2	11.4	16.0
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.1	44.3	* 7.1	11.1	* 12	39.9	* 7.1	11.1
Max Q Clear Time (g_c+I1), s	2.9	8.2	4.7	9.6	7.5	26.8	7.1	13.1
Green Ext Time (p_c), s	0.0	2.8	0.0	0.1	0.2	3.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C

Notes

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

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	12.8	49.4	11.8	16	18.2	44	11.8	16
Maximum Split (%)	14.2%	54.9%	13.1%	17.8%	20.2%	48.9%	13.1%	17.8%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	71.8	84.6	44	55.8	71.8	0	44	55.8
End Time (s)	84.6	44	55.8	71.8	0	44	55.8	71.8
Yield/Force Off (s)	78.9	38.9	51.1	66.9	84.3	38.9	51.1	66.9
Yield/Force Off 170(s)	78.9	38.9	51.1	66.9	84.3	38.9	51.1	66.9
Local Start Time (s)	71.8	84.6	44	55.8	71.8	0	44	55.8
Local Yield (s)	78.9	38.9	51.1	66.9	84.3	38.9	51.1	66.9
Local Yield 170(s)	78.9	38.9	51.1	66.9	84.3	38.9	51.1	66.9

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	379	37	36	526	70	108	98	51	73	75	255
Future Volume (veh/h)	219	379	37	36	526	70	108	98	51	73	75	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	238	412	40	39	572	76	117	107	55	79	82	277
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	400	1726	167	597	784	104	298	152	78	252	231	339
Arrive On Green	0.09	0.53	0.53	0.05	0.49	0.49	0.07	0.13	0.13	0.07	0.12	0.12
Sat Flow, veh/h	1781	3274	316	1781	1617	215	1781	1164	598	1781	1870	1585
Grp Volume(v), veh/h	238	223	229	39	0	648	117	0	162	79	82	277
Grp Sat Flow(s),veh/h/ln	1781	1777	1813	1781	0	1832	1781	0	1763	1781	1870	1585
Q Serve(g_s), s	5.9	6.1	6.2	0.9	0.0	25.4	5.1	0.0	7.9	3.4	3.6	11.1
Cycle Q Clear(g_c), s	5.9	6.1	6.2	0.9	0.0	25.4	5.1	0.0	7.9	3.4	3.6	11.1
Prop In Lane	1.00		0.17	1.00		0.12	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	400	937	956	597	0	889	298	0	230	252	231	339
V/C Ratio(X)	0.59	0.24	0.24	0.07	0.00	0.73	0.39	0.00	0.70	0.31	0.36	0.82
Avail Cap(c_a), veh/h	487	937	956	651	0	889	306	0	230	273	231	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.5	11.5	11.5	10.0	0.0	18.5	31.1	0.0	37.4	31.2	36.2	33.7
Incr Delay (d2), s/veh	1.4	0.6	0.6	0.0	0.0	5.2	0.8	0.0	16.5	0.7	4.2	19.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	2.4	2.4	0.3	0.0	11.1	2.2	0.0	4.5	1.5	1.9	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	12.1	12.1	10.1	0.0	23.7	31.9	0.0	53.9	31.9	40.4	53.0
LnGrp LOS	B	B	B	B	A	C	C	A	D	C	D	D
Approach Vol, veh/h		690			687			279			438	
Approach Delay, s/veh		13.4			22.9			44.7			46.8	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	52.5	10.7	16.7	13.8	48.8	11.4	16.0
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.1	44.3	* 7.1	11.1	* 13	38.9	* 7.1	11.1
Max Q Clear Time (g_c+I1), s	2.9	8.2	5.4	9.9	7.9	27.4	7.1	13.1
Green Ext Time (p_c), s	0.0	2.8	0.0	0.1	0.3	3.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	27.7
HCM 6th LOS	C

Notes

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

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	12.8	47	11.7	18.5	19	40.8	13	17.2
Maximum Split (%)	14.2%	52.2%	13.0%	20.6%	21.1%	45.3%	14.4%	19.1%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	21	33.8	80.8	2.5	21	40	80.8	3.8
End Time (s)	33.8	80.8	2.5	21	40	80.8	3.8	21
Yield/Force Off (s)	28.1	75.7	87.8	16.1	34.3	75.7	89.1	16.1
Yield/Force Off 170(s)	28.1	75.7	87.8	16.1	34.3	75.7	89.1	16.1
Local Start Time (s)	71	83.8	40.8	52.5	71	0	40.8	53.8
Local Yield (s)	78.1	35.7	47.8	66.1	84.3	35.7	49.1	66.1
Local Yield 170(s)	78.1	35.7	47.8	66.1	84.3	35.7	49.1	66.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	772	103	76	510	57	95	83	91	114	119	296
Future Volume (veh/h)	225	772	103	76	510	57	95	83	91	114	119	296
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	245	839	112	83	554	62	103	90	99	124	129	322
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	391	1505	201	371	740	83	295	123	135	271	291	402
Arrive On Green	0.10	0.48	0.48	0.07	0.45	0.45	0.07	0.15	0.15	0.08	0.16	0.16
Sat Flow, veh/h	1781	3151	421	1781	1652	185	1781	814	895	1781	1870	1585
Grp Volume(v), veh/h	245	473	478	83	0	616	103	0	189	124	129	322
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	0	1837	1781	0	1709	1781	1870	1585
Q Serve(g_s), s	6.5	17.1	17.1	2.1	0.0	25.1	4.3	0.0	9.5	5.2	5.6	14.0
Cycle Q Clear(g_c), s	6.5	17.1	17.1	2.1	0.0	25.1	4.3	0.0	9.5	5.2	5.6	14.0
Prop In Lane	1.00		0.23	1.00		0.10	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	391	849	857	371	0	823	295	0	258	271	291	402
V/C Ratio(X)	0.63	0.56	0.56	0.22	0.00	0.75	0.35	0.00	0.73	0.46	0.44	0.80
Avail Cap(c_a), veh/h	480	849	857	391	0	823	332	0	258	273	291	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	15.8	16.7	16.7	12.4	0.0	20.6	29.0	0.0	36.5	29.4	34.5	31.5
Incr Delay (d2), s/veh	1.8	2.6	2.6	0.3	0.0	6.2	0.7	0.0	16.7	1.1	4.5	14.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.0	7.1	0.8	0.0	11.3	1.9	0.0	5.1	2.2	2.9	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	19.4	19.3	12.7	0.0	26.8	29.7	0.0	53.2	30.5	38.9	46.0
LnGrp LOS	B	B	B	B	A	C	C	A	D	C	D	D
Approach Vol, veh/h		1196			699			292			575	
Approach Delay, s/veh		19.0			25.1			44.9			41.1	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	48.1	11.6	18.5	14.5	45.4	11.2	18.9
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.1	41.9	* 7	13.6	* 13	35.7	* 8.3	12.3
Max Q Clear Time (g_c+I1), s	4.1	19.1	7.2	11.5	8.5	27.1	6.3	16.0
Green Ext Time (p_c), s	0.0	6.3	0.0	0.2	0.3	2.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	27.9
HCM 6th LOS	C

Notes

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

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	12.8	46.2	12	19	19	40	14.2	16.8
Maximum Split (%)	14.2%	51.3%	13.3%	21.1%	21.1%	44.4%	15.8%	18.7%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	21	33.8	80	2	21	40	80	4.2
End Time (s)	33.8	80	2	21	40	80	4.2	21
Yield/Force Off (s)	28.1	74.9	87.3	16.1	34.3	74.9	89.5	16.1
Yield/Force Off 170(s)	28.1	74.9	87.3	16.1	34.3	74.9	89.5	16.1
Local Start Time (s)	71	83.8	40	52	71	0	40	54.2
Local Yield (s)	78.1	34.9	47.3	66.1	84.3	34.9	49.5	66.1
Local Yield 170(s)	78.1	34.9	47.3	66.1	84.3	34.9	49.5	66.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	272	772	103	76	510	73	95	99	91	123	128	324
Future Volume (veh/h)	272	772	103	76	510	73	95	99	91	123	128	324
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	296	839	112	83	554	79	103	108	99	134	139	352
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	1473	197	363	671	96	298	141	129	273	310	447
Arrive On Green	0.12	0.47	0.47	0.07	0.42	0.42	0.07	0.16	0.16	0.08	0.17	0.17
Sat Flow, veh/h	1781	3151	421	1781	1601	228	1781	898	824	1781	1870	1585
Grp Volume(v), veh/h	296	473	478	83	0	633	103	0	207	134	139	352
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	0	1829	1781	0	1722	1781	1870	1585
Q Serve(g_s), s	8.2	17.4	17.4	2.3	0.0	27.7	4.3	0.0	10.4	5.6	6.0	14.9
Cycle Q Clear(g_c), s	8.2	17.4	17.4	2.3	0.0	27.7	4.3	0.0	10.4	5.6	6.0	14.9
Prop In Lane	1.00		0.23	1.00		0.12	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	376	831	839	363	0	767	298	0	270	273	310	447
V/C Ratio(X)	0.79	0.57	0.57	0.23	0.00	0.83	0.35	0.00	0.77	0.49	0.45	0.79
Avail Cap(c_a), veh/h	432	831	839	382	0	767	358	0	270	273	310	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.0	17.4	17.4	13.5	0.0	23.2	28.6	0.0	36.4	28.9	33.8	29.8
Incr Delay (d2), s/veh	8.2	2.8	2.8	0.3	0.0	9.9	0.7	0.0	18.7	1.4	4.6	13.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	7.2	7.3	0.9	0.0	13.1	1.9	0.0	5.7	2.4	3.1	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	20.2	20.2	13.8	0.0	33.1	29.3	0.0	55.0	30.3	38.4	42.9
LnGrp LOS	C	C	C	B	A	C	C	A	E	C	D	D
Approach Vol, veh/h		1247			716			310			625	
Approach Delay, s/veh		21.6			30.8			46.5			39.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	47.2	12.0	19.0	16.2	42.8	11.2	19.8
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.1	41.1	* 7.3	14.1	* 13	34.9	* 9.5	11.9
Max Q Clear Time (g_c+I1), s	4.3	19.4	7.6	12.4	10.2	29.7	6.3	16.9
Green Ext Time (p_c), s	0.0	6.2	0.0	0.2	0.3	1.9	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Notes

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

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	12.8	45.4	11.8	20	24	34.2	14.7	17.1
Maximum Split (%)	14.2%	50.4%	13.1%	22.2%	26.7%	38.0%	16.3%	19.0%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	16	28.8	74.2	86	16	40	74.2	88.9
End Time (s)	28.8	74.2	86	16	40	74.2	88.9	16
Yield/Force Off (s)	23.1	69.1	81.3	11.1	34.3	69.1	84.2	11.1
Yield/Force Off 170(s)	23.1	69.1	81.3	11.1	34.3	69.1	84.2	11.1
Local Start Time (s)	66	78.8	34.2	46	66	0	34.2	48.9
Local Yield (s)	73.1	29.1	41.3	61.1	84.3	29.1	44.2	61.1
Local Yield 170(s)	73.1	29.1	41.3	61.1	84.3	29.1	44.2	61.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	523	51	50	724	89	149	128	70	82	85	293
Future Volume (veh/h)	283	523	51	50	724	89	149	128	70	82	85	293
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	308	568	55	54	787	97	162	139	76	89	92	318
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	436	1567	151	478	1322	163	346	191	104	264	261	413
Arrive On Green	0.12	0.48	0.48	0.06	0.42	0.42	0.10	0.17	0.17	0.07	0.14	0.14
Sat Flow, veh/h	1781	3274	316	1781	3184	392	1781	1137	622	1781	1870	1585
Grp Volume(v), veh/h	308	308	315	54	439	445	162	0	215	89	92	318
Grp Sat Flow(s),veh/h/ln	1781	1777	1813	1781	1777	1800	1781	0	1758	1781	1870	1585
Q Serve(g_s), s	8.3	9.8	9.9	1.5	17.3	17.3	6.9	0.0	10.4	3.7	4.0	12.6
Cycle Q Clear(g_c), s	8.3	9.8	9.9	1.5	17.3	17.3	6.9	0.0	10.4	3.7	4.0	12.6
Prop In Lane	1.00		0.17	1.00		0.22	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	436	850	868	478	738	747	346	0	295	264	261	413
V/C Ratio(X)	0.71	0.36	0.36	0.11	0.60	0.60	0.47	0.00	0.73	0.34	0.35	0.77
Avail Cap(c_a), veh/h	582	850	868	516	738	747	371	0	295	281	261	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	14.7	14.8	14.8	13.0	20.4	20.4	28.9	0.0	35.5	30.0	35.0	30.8
Incr Delay (d2), s/veh	2.6	1.2	1.2	0.1	3.5	3.5	1.0	0.0	14.6	0.7	3.6	12.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	4.0	4.1	0.6	7.4	7.5	3.0	0.0	5.6	1.6	2.0	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	16.0	16.0	13.1	24.0	23.9	29.9	0.0	50.1	30.7	38.6	43.5
LnGrp LOS	B	B	B	B	C	C	C	A	D	C	D	D
Approach Vol, veh/h		931			938			377			499	
Approach Delay, s/veh		16.4			23.3			41.4			40.3	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	48.2	10.9	20.0	16.6	42.5	13.5	17.5
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.1	40.3	* 7.1	15.1	* 18	29.1	* 10	12.2
Max Q Clear Time (g_c+I1), s	3.5	11.9	5.7	12.4	10.3	19.3	8.9	14.6
Green Ext Time (p_c), s	0.0	3.9	0.0	0.3	0.6	3.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

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

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	12.8	45.4	11.8	20	24	34.2	14.3	17.5
Maximum Split (%)	14.2%	50.4%	13.1%	22.2%	26.7%	38.0%	15.9%	19.4%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	66	78.8	34.2	46	66	0	34.2	48.5
End Time (s)	78.8	34.2	46	66	0	34.2	48.5	66
Yield/Force Off (s)	73.1	29.1	41.3	61.1	84.3	29.1	43.8	61.1
Yield/Force Off 170(s)	73.1	29.1	41.3	61.1	84.3	29.1	43.8	61.1
Local Start Time (s)	66	78.8	34.2	46	66	0	34.2	48.5
Local Yield (s)	73.1	29.1	41.3	61.1	84.3	29.1	43.8	61.1
Local Yield 170(s)	73.1	29.1	41.3	61.1	84.3	29.1	43.8	61.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	296	523	51	50	724	94	149	133	70	96	99	335
Future Volume (veh/h)	296	523	51	50	724	94	149	133	70	96	99	335
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	322	568	55	54	787	102	162	145	76	104	108	364
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	437	1558	151	476	1287	167	336	194	102	264	267	427
Arrive On Green	0.13	0.48	0.48	0.06	0.41	0.41	0.10	0.17	0.17	0.07	0.14	0.14
Sat Flow, veh/h	1781	3274	316	1781	3163	410	1781	1156	606	1781	1870	1585
Grp Volume(v), veh/h	322	308	315	54	442	447	162	0	221	104	108	364
Grp Sat Flow(s),veh/h/ln	1781	1777	1813	1781	1777	1797	1781	0	1761	1781	1870	1585
Q Serve(g_s), s	8.8	9.9	9.9	1.5	17.7	17.7	6.8	0.0	10.7	4.4	4.7	12.9
Cycle Q Clear(g_c), s	8.8	9.9	9.9	1.5	17.7	17.7	6.8	0.0	10.7	4.4	4.7	12.9
Prop In Lane	1.00		0.17	1.00		0.23	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	437	846	863	476	723	731	336	0	296	264	267	427
V/C Ratio(X)	0.74	0.36	0.37	0.11	0.61	0.61	0.48	0.00	0.75	0.39	0.40	0.85
Avail Cap(c_a), veh/h	574	846	863	514	723	731	353	0	296	277	267	427
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.3	14.9	15.0	13.4	21.1	21.1	28.8	0.0	35.6	29.9	35.1	31.2
Incr Delay (d2), s/veh	3.5	1.2	1.2	0.1	3.8	3.8	1.1	0.0	15.9	1.0	4.5	18.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	4.0	4.1	0.6	7.7	7.7	3.0	0.0	5.9	1.9	2.4	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	16.2	16.2	13.5	24.9	24.9	29.8	0.0	51.5	30.9	39.6	50.0
LnGrp LOS	B	B	B	B	C	C	C	A	D	C	D	D
Approach Vol, veh/h		945			943			383			576	
Approach Delay, s/veh		17.0			24.2			42.3			44.6	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	47.9	11.2	20.0	17.1	41.7	13.4	17.8
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.1	40.3	* 7.1	15.1	* 18	29.1	* 9.6	12.6
Max Q Clear Time (g_c+I1), s	3.5	11.9	6.4	12.7	10.8	19.7	8.8	14.9
Green Ext Time (p_c), s	0.0	3.9	0.0	0.3	0.6	3.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C

Notes

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

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	12.8	43	12.2	22	24.2	31.6	13	21.2
Maximum Split (%)	14.2%	47.8%	13.6%	24.4%	26.9%	35.1%	14.4%	23.6%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	15.8	28.6	71.6	83.8	15.8	40	71.6	84.6
End Time (s)	28.6	71.6	83.8	15.8	40	71.6	84.6	15.8
Yield/Force Off (s)	22.9	66.5	79.1	10.9	34.3	66.5	79.9	10.9
Yield/Force Off 170(s)	22.9	66.5	79.1	10.9	34.3	66.5	79.9	10.9
Local Start Time (s)	65.8	78.6	31.6	43.8	65.8	0	31.6	44.6
Local Yield (s)	72.9	26.5	39.1	60.9	84.3	26.5	39.9	60.9
Local Yield 170(s)	72.9	26.5	39.1	60.9	84.3	26.5	39.9	60.9

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	1063	142	105	702	79	131	114	126	158	164	407
Future Volume (veh/h)	310	1063	142	105	702	79	131	114	126	158	164	407
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	337	1155	154	114	763	86	142	124	137	172	178	442
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	434	1345	179	250	1159	131	312	154	170	278	356	524
Arrive On Green	0.14	0.43	0.43	0.07	0.36	0.36	0.08	0.19	0.19	0.08	0.19	0.19
Sat Flow, veh/h	1781	3153	419	1781	3219	363	1781	812	897	1781	1870	1585
Grp Volume(v), veh/h	337	650	659	114	421	428	142	0	261	172	178	442
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	1777	1805	1781	0	1709	1781	1870	1585
Q Serve(g_s), s	10.0	29.7	30.0	3.5	17.9	17.9	5.7	0.0	13.1	7.0	7.7	17.1
Cycle Q Clear(g_c), s	10.0	29.7	30.0	3.5	17.9	17.9	5.7	0.0	13.1	7.0	7.7	17.1
Prop In Lane	1.00		0.23	1.00		0.20	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	434	758	766	250	640	650	312	0	325	278	356	524
V/C Ratio(X)	0.78	0.86	0.86	0.46	0.66	0.66	0.45	0.00	0.80	0.62	0.50	0.84
Avail Cap(c_a), veh/h	551	758	766	260	640	650	329	0	325	278	356	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	17.0	23.3	23.4	19.8	24.2	24.2	26.2	0.0	34.8	27.4	32.6	28.0
Incr Delay (d2), s/veh	5.4	12.0	12.2	1.3	5.2	5.2	1.0	0.0	18.7	3.5	4.1	13.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	14.0	14.3	1.4	8.1	8.2	2.5	0.0	7.1	3.1	3.8	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	35.3	35.6	21.1	29.4	29.3	27.3	0.0	53.6	30.9	36.7	41.0
LnGrp LOS	C	D	D	C	C	C	C	A	D	C	D	D
Approach Vol, veh/h		1646			963			403			792	
Approach Delay, s/veh		32.7			28.4			44.3			37.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	43.5	12.2	22.0	18.3	37.5	12.2	22.0
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.1	37.9	* 7.5	17.1	* 19	26.5	* 8.3	16.3
Max Q Clear Time (g_c+I1), s	5.5	32.0	9.0	15.1	12.0	19.9	7.7	19.1
Green Ext Time (p_c), s	0.0	3.9	0.0	0.3	0.6	2.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.9
HCM 6th LOS	C

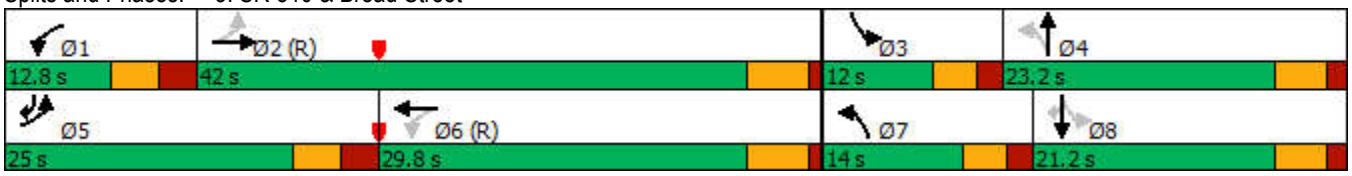
Notes

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

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	SBL	NBTL	EBL	WBTL	NBL	SBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	Max	None	C-Min	None	Max
Maximum Split (s)	12.8	42	12	23.2	25	29.8	14	21.2
Maximum Split (%)	14.2%	46.7%	13.3%	25.8%	27.8%	33.1%	15.6%	23.6%
Minimum Split (s)	12.7	25.1	11.7	14.9	12.7	25.1	11.7	14.9
Yellow Time (s)	3.2	4.1	3	3.4	3.2	4.1	3	3.4
All-Red Time (s)	2.5	1	1.7	1.5	2.5	1	1.7	1.5
Minimum Initial (s)	7	20	7	10	7	20	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)								
Flash Dont Walk (s)								
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	15	27.8	69.8	81.8	15	40	69.8	83.8
End Time (s)	27.8	69.8	81.8	15	40	69.8	83.8	15
Yield/Force Off (s)	22.1	64.7	77.1	10.1	34.3	64.7	79.1	10.1
Yield/Force Off 170(s)	22.1	64.7	77.1	10.1	34.3	64.7	79.1	10.1
Local Start Time (s)	65	77.8	29.8	41.8	65	0	29.8	43.8
Local Yield (s)	72.1	24.7	37.1	60.1	84.3	24.7	39.1	60.1
Local Yield 170(s)	72.1	24.7	37.1	60.1	84.3	24.7	39.1	60.1

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 3: SR-310 & Broad Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	357	1063	142	105	702	95	131	130	126	167	173	435
Future Volume (veh/h)	357	1063	142	105	702	95	131	130	126	167	173	435
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	388	1155	154	114	763	103	142	141	137	182	188	473
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	442	1310	174	243	1019	138	314	177	172	279	378	582
Arrive On Green	0.16	0.42	0.42	0.07	0.32	0.32	0.08	0.20	0.20	0.08	0.20	0.20
Sat Flow, veh/h	1781	3153	419	1781	3146	425	1781	871	847	1781	1870	1585
Grp Volume(v), veh/h	388	650	659	114	431	435	142	0	278	182	188	473
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	1777	1794	1781	0	1718	1781	1870	1585
Q Serve(g_s), s	12.3	30.3	30.5	3.7	19.5	19.5	5.6	0.0	13.8	7.3	8.0	18.2
Cycle Q Clear(g_c), s	12.3	30.3	30.5	3.7	19.5	19.5	5.6	0.0	13.8	7.3	8.0	18.2
Prop In Lane	1.00		0.23	1.00		0.24	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	442	738	746	243	576	581	314	0	349	279	378	582
V/C Ratio(X)	0.88	0.88	0.88	0.47	0.75	0.75	0.45	0.00	0.80	0.65	0.50	0.81
Avail Cap(c_a), veh/h	531	738	746	253	576	581	351	0	349	279	378	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	24.2	24.3	21.2	27.1	27.1	25.5	0.0	34.1	27.1	31.9	25.7
Incr Delay (d2), s/veh	13.5	14.1	14.4	1.4	8.6	8.6	1.0	0.0	17.0	5.3	4.6	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	14.7	15.0	1.5	9.2	9.3	2.4	0.0	7.4	3.4	4.0	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	38.4	38.7	22.6	35.8	35.7	26.5	0.0	51.0	32.4	36.5	37.5
LnGrp LOS	C	D	D	C	D	D	C	A	D	C	D	D
Approach Vol, veh/h		1697			980			420			843	
Approach Delay, s/veh		37.0			34.2			42.7			36.2	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	42.5	12.0	23.2	20.5	34.3	12.1	23.1
Change Period (Y+Rc), s	* 5.7	5.1	* 4.7	4.9	* 5.7	5.1	* 4.7	4.9
Max Green Setting (Gmax), s	* 7.1	36.9	* 7.3	18.3	* 19	24.7	* 9.3	16.3
Max Q Clear Time (g_c+I1), s	5.7	32.5	9.3	15.8	14.3	21.5	7.6	20.2
Green Ext Time (p_c), s	0.0	3.0	0.0	0.4	0.6	1.6	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

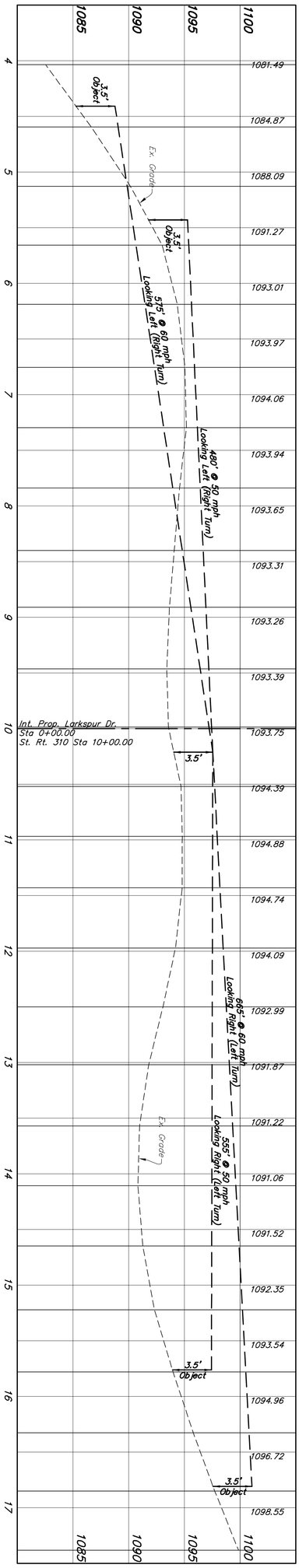
Notes

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

Appendix G
Sight Distance Analysis

CARPENTER MARTY transportation

Appendix G



GRAPHIC SCALE

1 inch = 50 ft.

Date: April 5, 2021	LICKING COUNTY, OHIO I.S.D. EXHIBIT FOR: FOREST RIDGE INTERSECTION SITE DISTANCE ST. RT. 310 & LARKSPUR DR.	Prepared By: WATCON CONSULTING ENGINEERS & SURVEYORS 83 Shull Avenue Ph. Gahanna, Ohio 43230 (614) 414-7979		REV. NUM.	REVISION DESCRIPTION	SHEET(S)	INITIAL	DATE
Scale: 1"=50' H; 1"=5' V								
1/1	DRFT CKD CAB JTW							

02 of 2