PLANNING COMMISSION AGENDA

March 15, 2022 – 6:00 P.M.

LOCATION: Northville Community Center, 303 W. Main St., Northville, MI 48167, 248-449-9902 (the public may attend the meeting in-person or use the Zoom option below)

Zoom public participation option: Members of the public may participate electronically as if physically present at the meeting using the following links: https://us02web.zoom.us/j/83592963433, Or Telephone: +1 646 558 8656 or +1 301 715 8592 Webinar ID: 835 9296 3433

1. CALL TO ORDER

2 ROLL CALL

3. APPROVE MINUTES March 1, 2022

4. AUDIENCE COMMENTS (limited to brief presentations on matters not on the agenda)

5. REPORTS & CORRESPONDENCE

A. City Administration
B. Planning Commissioners
C. Other Community/Governmental Liaisons
D. Correspondence

6. APPROVE AGENDA

Consideration of agenda items generally will follow this order:

A. Introduction by Chair
B. Presentation by City Planner
C. Commission questions of City Planner
D. Presentation by Applicant (if any)
E. Commission questions of Applicant (if item has an applicant)
F. Public comment
G. Commission discussion & decision

7. PUBLIC HEARINGS

- The Downs Planned Unit Development - Preliminary Site Plan / Hunter Pasteur Northville LLC

[Vacant parcels on the south side of Cady St. (between S. Center & Griswold), the Northville Downs racetrack property south of Cady St. (between S. Center and River Streets), and two areas on the west side of S. Center St.]

8. SITE PLAN AND ZONING CHANGE APPLICATIONS

9. OTHER PLANNING COMMISSION BUSINESS

10. ADJOURN

CITY OF NORTHVILLE
Northville City Hall
215 W. Main Street, Northville MI
Planning Commission Meeting Minutes
March 1, 2022
7:00 PM

1. CALL TO ORDER:

Chair Tinberg called the meeting to order at 7:00 pm.

2. ROLL CALL:

Present: Paul DeBono
Jeff Gaines
David Hay
Steve Kirk
Carol Maise
William Salliotte, Jr.
Donna Tinberg
AnnaMaryLee Vollick

Absent: Thomas Barry (excused)

Also present: Sally Elmiger, Planning Consultant
Patrick Sullivan, City Manager
Brian Turnbull, Mayor
Barbara Moroski-Browne, Mayor Pro-Tem

Approximately 3 audience

3. APPROVE MINUTES: February 15, 2022

MOTION by Vollick, support by Hay, to correct and approve the February 15, 2022 meeting minutes as follows:

- Page 1, under Also Present: Lori ~~Price~~ *Ward*

Motion carried unanimously by voice vote.

4. AUDIENCE COMMENTS: (limited to brief presentations on matters not on the agenda)

None

5. REPORTS & CORRESPONDENCE

A. CITY ADMINISTRATION:

City Manager Sullivan
No report.

Mayor Turnbull
City Council strategic planning meeting scheduled for Friday morning, March 4, 10:00 am.

B. PLANNING COMMISSIONERS:

Commissioner Gaines, Historic District Commission
HDC met February 16:

- The Tuscan façade had to be removed due to issues discovered after construction had started. The façade will be rebuilt to the approved elevation drawings, which allowed the upper windows to be larger than the original.
- Hunter Pasteur presented the portion of The Downs proposal that was in the Historic District for conceptual review, and received feedback from the HDC.

Commissioner Hay, Brownfield Redevelopment Authority

- Brownfield Redevelopment Authority has rescheduled their meeting to Wednesday, March 30, 7:00 pm. Meetings will normally be 4th Wednesdays, as needed.

Commissioner Vollick
Sustainability Team:

- Next meeting scheduled for March 14.

Rouge Restoration Task Force:

- Next meeting scheduled for March 10.
- A proposal to develop the design of the River Park has been received from Grissim Metz Andriese; the Task Force hopes to start public input process this spring.

Chair Tinberg: Board of Zoning Appeals

- Next meeting scheduled for March 2, with 4 cases on the agenda.

C. OTHER COMMUNITY/GOVERNMENTAL LIAISONS:

None.

D. CORRESPONDENCE:

Chair Tinberg reviewed and summarized the following correspondence regarding The Downs development application:

- February 14, 2022 letter from Hunter Pasteur to James Koster, in response to his concerns regarding the development.
- February 16, 2022 letter from James Koster, 204 St. Lawrence Blvd, responding to the Gibbs Planning Group February 1 presentation on walkability.
- February 16, 2022 email from Reef Morse, 39900 Stoneleigh St., Northville, asking that Johnson Drain be renamed Northville Creek.
- February 22, 2022 letter from Hunter Pasteur to Judy Hurley, in response to Ms. Hurley's concerns regarding the development.
- February 25, 2022 letter from Steven Kaplan, Charter Township of West Bloomfield Supervisor, offering a positive reference for Hunter Pasteur Homes, based on development in West Bloomfield.
- February 26, 2022 letter from Marcia Booth, opposing the development.
- February 28, 2022 email from Bill Evasic, The Garage restaurant, supporting the development.
- February 28, 2022 email from Nancy Riegner opposing the development.

- March 1, 2022 email from Coleen Borgia, City of Northville resident, in support of the development.
- March 1, 2022 letter from Hunter Pasteur to Bill Poulos, in response to Mr. Poulos' concerns regarding the development.

6. APPROVE AGENDA

MOTION by Kirk, support by DeBono, to amend and approve the agenda as follows:

- Under **8. Site Plan and Zoning Change Applications**, remove due to the applicant's request to postpone: ~~318 S. Main St./A&N Summers Real Estate Holdings, LLC, Preliminary Site Plan Review for Medical Office Building Parking Lot Expansion~~.

Motion carried unanimously by voice vote.

Consideration of agenda items generally will follow this order:

A. Introduction by Chair
B. Presentation by City Planner
C. Commission questions of City Planner
D. Presentation by Applicant (if any)
E. Commission questions of Applicant (if item has an applicant)
F. Public comment
G. Commission discussion & decision

7. PUBLIC HEARINGS:

None.

8. SITE PLAN AND ZONING CHANGE APPLICATIONS

318 S. Main St. / A&N Summers Real Estate Holdings, LLC
Preliminary Site Plan Review for Medical Office Building Parking Lot Expansion

As noted above, this item was postponed at the applicant's request, and removed from the agenda.

9. OTHER PLANNING COMMISSION BUSINESS

Proposed Downs Site Plan Review Process

Chair Tinburg led a discussion regarding the document *Proposed Downs Site Plan Review Process, DRAFT February 22, 2022, For consideration by the Planning Commission on March 1, 2022* (the Document).

The Downs had qualified for a PUD in the fall of 2021, and the site plan application was reviewed and found to be complete on February 1, 2022. The next step is to hold a public hearing, which has been scheduled for March 15, 2022. The third phase of site plan review is for the Planning Commission to deliberate about the content of the application, referencing the Planning Consultant review, input from the city team, the applicant, and from the public hearing. The Commission will then reach a conclusion as to whether the plan meets design standards in Article 20 of the Zoning Ordinance, and will make a recommendation to City Council that the application for PUD preliminary site plan be approved, approved with modifications, postponed, or denied.

The Document presented key questions to be considered when deliberating on 6 topics:

1. Roads, pathways, connections, and parking
2. Residential/commercial land uses and locations
3. Parks, public spaces, and the Farmers Market
4. Architecture, landscaping and aesthetics
5. Infrastructure, financials and phasing
6. Summative review and recommendation to Council

The process for each topic included dialogue among Commissioners, the Planning Consultant and the Applicant, when necessary. Multiple meetings may be required to review aspects of the site plan due to its size and scope.

The public will have the opportunity to comment during the public hearing on March 15, which is being held per Article 20 of the Zoning Ordinance, and the Planning Commission's deliberations will be informed by the public hearing. Planning Commission Bylaws also provide opportunities for public comment at each meeting, but after the public hearing the emphasis will be on Commission deliberations.

Commission discussion:

In general, the Commission supported the process and topics as outlined in the provided document. Commission discussion was wide-ranging, and the following topics – listed in no specific order – were discussed:

General discussion

- Under Topic 1, add ***east/west vehicular connections*** as a sub-topic.
- The applicant had presented a lot of detail to the Commission. Focusing on details could detract from focusing on the overall planning objectives.
- It might be difficult to make a decision regarding the project based on the categories listed this evening, although laying out the categories provided important structure in reviewing the project. However, ultimately the decision will be based on a *review in totality*.
- Commissioner Barry, who was absent this evening, had requested that in advance of discussing each topic, the Commission should identify information (visuals, data, etc.) it needed from the City or others to help with their discussion.
- The process should include identifying who ultimately holds the decision-making authority for specific elements of the plan, including other regulatory bodies such as Wayne County or EGLE (Michigan Department of Environment, Great Lakes, and Energy). This should be clear for each topic under discussion.
- On the other hand, there might be elements over which the Commission has no control, and yet can still not delegate discussion and ultimate recommendation to someone else.
- Commissioner Salliotte said that after the City and developer agreed on the best way forward, in his experience it was the developer's responsibility to work things out with other legislative and regulatory bodies, and to report back if issues could not be resolved. Or if there was an identified off-site improvement, the developer needed to figure out how to get that improvement accomplished, and bring the solution to the City. This was a collaborative process, and 100% satisfaction was impossible.
- Commissioner Salliotte said that suggested plan modifications needed to be drawn on the site plans before knowing whether or not a requested modification would work. In terms of moving forward on the topics presented this evening, would it be best to get a response from the developers after each topic's discussion, including an amended site plan, before moving forward

to the next topic? This response should be more than: "We will look into that," or "We can do that."

- Commissioner Gaines was concerned that the Commission would require things that would not be allowed by Wayne County or EGLE.
- Commissioner Maise said it was up to the City's engineer to steer the Commission away from making recommendations that are not possible. On the other hand, if a site plan was only acceptable if certain approvals were granted from other agencies, it was up to the developer to explore those options, or alternatively the developer could say they were withdrawing the application to rethink the site plan, etc.
- Commissioner Salliotte pointed out that it was the developer's responsibility to know where and what the problems are. The developers should already be meeting with Wayne County, EGLE, or any other deciding entity.

Scheduling meetings:

- How would Commission meetings be scheduled in terms of discussing each of the 6 topics? One suggestion was to schedule one meeting at a time, with the underlying understanding that the Commission was following a known schedule.
- The Commission should manage expectations for the applicant and the public as to how long the review process will take. One approach is to hold the public hearing, deliberate the issues based on public feedback, and then pinpoint issues before offering a timeline. This approach took into consideration some Commissioners' views that a timeline could not be projected until after the public hearing.

Finding common ground:

- Finding common ground with the developer would be via facilitated conversations at public meetings. This could be done for each topic.
- How did the Planning Commission find its own common ground and then communicate that to the developer? One suggestion was that individual Commissioners funnel their points of view through the Chair, if possible.
- Did administrative staff itself have common ground regarding certain major topics, such as traffic? City administration, the Planning Consultant, the Traffic Consultant, the Walkability Expert, and task force groups all had to address issues regarding traffic, including whether to support a roundabout, whether there needed to be another bridge crossing, and so on. Wayne County was often the final arbiter of what could be done, so the County had to be in the conversation also. Often Wayne County wanted to hear first from the City what was wanted, and the City needed to speak with a unified voice.
- Elements of some topics are impacted by elements of other topics, so things agreed upon as common ground can change as the discussion continues. The review has to work holistically, and earlier topics will probably have to be re-visited during the process.

Making a recommendation to City Council

- The Commission needs to do its best work so the City Council can do its best work in terms of the decision they will ultimately make.

Discussion regarding whether it is the City's vision that needs to be implemented, or the developer's.

- Chair Tinburg felt it was the Planning Commission's responsibility to give direction based on everything they had heard. If the developer and Commission ultimately cannot agree, it is the developer's responsibility to develop a plan that the Commission either approves or does not approve.

Regarding traffic (City Manager Sullivan):

- Two years ago Wayne County had supported a roundabout at Seven Mile and Center.
- The Ordinance required a traffic impact study when projects reached a certain size, and required a developer to mitigate the impacts of the additional traffic on the City's existing traffic network. The first application in 2018-2019 would have made poor levels of service worse. The City's traffic engineer then proposed looking at a roundabout, and the new traffic analysis showed a roundabout would improve the level of service at every leg of the intersection of Seven Mile and Center – not just mitigate the impact of the new development. At that point the developer's engineers, the City engineer and Wayne County all agreed that a roundabout was the best solution.
- Subsequent to that discussion there were concerns regarding pedestrian safety, and a walkability expert had commented on that. Having seen the walkability expert's opinion, the Planning Commission needed to make a decision as to whether the roundabout solution was acceptable as part of the site plan.
- Planning Consultant Elmiger was organizing a meeting among all stakeholders regarding traffic and walkability, including the mobility team, the City's traffic engineer, the Rouge River Restoration task force, and the Mobility Expert to see if agreement could be reached among this group as to what was being requested.
- Regarding a new bridge crossing at Hines and Seven Mile Road, was it the City's responsibility to conduct a new traffic impact study and determine how that intersection will work? In any event, projected traffic counts had to be taken to Wayne County so that Wayne County could make a decision.
- There were many months of review to go through with EGLE (Michigan Department of Environment, Great Lakes and Energy) for a river crossing at Johnson Creek. If that is the direction the Commission is going, then perhaps the Commission needs to say the current plan is insufficient, that traffic isn't dispersed enough and another bridge crossing is needed, providing another arterial collector to take traffic in and out of the development.
- The County won't give approval without a certain level of work that has to be done either by the developer or the City, to provide answers regarding these types of questions.
- The intersection at Seven Mile and Northville Rd./S. Main Street has a worse level of service than Seven Mile and Center. The plan proposes at Seven Mile and S. Main a basic boulevard with Michigan left hand turns that eliminates the jog at Seven Mile and South Main. However, there was no funding for that in any of the proposals so far.
- In other words, there are unfunded traffic improvements needed to properly handle the traffic that haven't been addressed yet.

PUD Process

- Could a recommendation for approval be conditioned on another body, such as Wayne County, giving approval for some element? This type of condition is appropriate and possible. However, City Council could remove the condition.
- Regarding the "key question" *Is the proposal compliant with the Master Plan and Zoning Ordinance?*, a Planned Unit Development by its nature allows for some deviation from the Zoning Ordinance, and encourages creativity and flexibility.
- Regarding the desire of residents to have a new development that "looks like Northville," the problem was a historic town could not be built with a modern zoning ordinance.
- Planning Consultant Elmiger further explained that the Commission would need to go through the standards (which are general in nature) in the ordinance for a preliminary site plan approval, and will need to determine if the end result for this project meets ordinance standards. After making that determination, the Planning Commission can send the project to City Council, as stated in Article 20.Section 20.06.2:

Following the Public Hearing, the Planning Commission shall report its conclusions, determine a basis for its recommendation, and transmit its recommendation and summary comments received at the Public Hearing to the City Council. The Planning Commission shall review the Preliminary Plan and shall take one (1) of the following actions: . . .

- If the PUD is approved by City Council, the final site plan will come to the Commission for approval.

Discussion of public hearing on March 15:

- Commission will hear comments and questions without comment.
- The applicant will be able to make a brief presentation.
- Chair Tinburg recognized audience member Jim Long, who asked that the public be able to make longer comments than normal, especially since the applicant had been allowed in past meetings to make long presentations.

Regarding public input/comment:

- Commissioner Gaines said that he appreciated the diversity of public comment, and was in favor of allowing public comment throughout the review process, perhaps earlier in the meetings "before exhaustion set in."
- In general, the Commission supported finding ways for the public to have meaningful opportunities to comment throughout the process.

Other:

Planning Consultant Elmiger made the following points:

- In Michigan, under the Open Meetings Act, Planning Commissioners cannot meet with a developer independently. All negotiation has to happen in a public meeting with the full body.
- The Planning Commission's role is *to decide*. The Commission has heard and will hear many different opinions, and may have differing opinions among themselves. For complex issues, such as traffic, Planning Consultant Elmiger always recommended listening to the experts, but after listening, the Commission has to decide on a recommendation, even if there is not a unanimous vote.

City Manager Sullivan made the following points:

- While City Council can and will take their own action after receiving a recommendation by the Planning Commission, it was critical for the Commission to look at all the issues and all the criteria.
- Traffic may be a difficult question to resolve, but it would be more difficult to reopen that question before City Council, bringing the process back to square one. On all issues, the Planning Commission should offer its best recommendation to Council.

Chair Tinburg made the following points:

- The process as outlined in the Document is a way to work through understanding what is in the site plan, and to end up with the best site plan possible. When the deliberations are finished, the Commission will decide whether the final product meets the design standards in the ordinance, and based on that decision will make a recommendation to City Council.
- The next motion the Commission makes regarding The Downs will be after the Commission has finished its deliberations and is ready to make a recommendation to City Council.

Chair Tinburg closed discussion on this item.

2021 Annual Report to City Council on Planning Commission Activities

Chair Tinburg explained that a Planning Commission Annual Report to City Council is required by the Michigan Planning Enabling Act.

Planning Consultant Elmiger had prepared the Planning Commission Annual Report for 2021, as submitted in tonight's packets, and she asked the Commission to review the Report and let her know by March 9 if amendments were needed, so that the Report can be adopted at the March 15 meeting and forwarded to City Council.

Commissioner Maise noted that this report needed to be completed as part of the requirements to be an MEDC (Michigan Economic Development Corporation) Redevelopment-Ready Community.

Other Discussion
Commissioner Kirk thanked Chair Tinburg for her leadership through The Downs review process.

Next meeting will be March 15, 6:00 pm, at the Community Center.

10. ADJOURN

MOTION by Maise, support by Hay, to adjourn the meeting at 8:54 pm.

Motion carried unanimously by voice vote.

Respectfully submitted,
Cheryl McGuire
Recording Secretary

NORTHVILLE DOWNS
TRAFFIC IMPACT STUDY

NORTHVILLE, MICHIGAN

DECEMBER 14, 2021
REVISED FEBRUARY 20, 2022

PREPARED BY:

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

27725 STANSBURY BLVD., SUITE 195
FARMINGTON HILLS, MI 48334

F&V JN 852320
© February 2022

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I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Michigan.

Digitally signed by Julie M. Kroll
Date: 2022.02.20 14:36:14 -05'00'

Agency Review	Date	Comments
City/OHM	12/30/21	Provided in Review letter
City/OHM	1/13/22	Provided in Review letter
City/OHM	1/26/22	Provided in Review letter

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References

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Executive Summary

This report presents the results of a Traffic Impact Study (TIS) for the proposed development in the City of Northville, Michigan. The project site is located generally in the northeast quadrant of the Center Street and Hines Drive/Seven Mile Road intersection on the property that is currently occupied by Northville Downs, as shown on **Figure E1**. The proposed development includes the construction of mixed-use, with various residential unit types and commercial. The development includes site access to Cady Street, Griswold Street, Beal Street, Fairbrook Street, and Center Street.

Figure E1: Site Location

The scope of this study was developed based on Fleis & VandenBrink's (F&V) knowledge of the study area, understanding of the development program, accepted traffic engineering practice and information published by the Institute of Transportation Engineers (ITE). In addition, the City of Northville and their traffic engineering consultant OHM and planning consultant Carlisle Wortman provided input regarding the scope of work included herein. The study includes the evaluation of study roadway network based upon pre-COVID operations.

Background Data

- Traffic volume data was collected at the study intersections by F&V subconsultants Traffic Data Collection Inc. (TDC) on May 15, 2018, and October 18, 2018, and by Gewalt Hamilton Associates, Inc (GHA) on October 19, 2021, during the weekday AM (7:00 AM-9:00 AM) and PM (4:00 PM-6:00 PM) peak periods.
- The analysis includes the evaluation of 28 off-site intersections in the City of Northville adjacent to the project site and six (6) new site driveway intersections for a total of 34 study intersection.
- An annual 0.2% background growth was determined from SEMCOG data to calculate the projected implicit background traffic growth to the site buildout year in 2028.
- In addition to background growth, the following developments were identified by the City of Northville to include as background traffic: Cady Project – 6-unit condominium (South side of Cady Street, east of Center Street), 355 E. Cady St. - 3-story mixed-use building; first floor Retail, office above, 455 E. Cady St "Hanger Building"- office space, and Foundry Flask – 78 Multi-Family Units, corner store specialty market.

TRIP GENERATION

The proposed development includes single family, attached housing, multi-family units and commercial uses. The following ITE Trip Generation Manual land uses were determined to be the best fit for the proposed development.

Single-Family Detached Housing (LUC 210)

- A single-family detached housing site includes any single-family detached home on an individual lot.

Single-Family Attached Housing (LUC 215)

- Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space. Includes duplexes and townhouses/rowhouses, joined side-by-side in a row and each with an outside entrance.

Mid-Rise Multi-Family Home (LUC 221)

- Mid-rise multifamily housing includes apartments and condominiums located in a building that has between four and 10 floors of living space. Access to individual dwelling units is through an outside building entrance, a lobby, elevator, and a set of hallways.

Strip Retail Plaza <40k SF (LUC 822)

- A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA).

The number of AM and PM peak hour vehicle trips that would be generated by the proposed development was forecast based on data published by ITE in the *Trip Generation Manual, 11th Edition*.

Table E1: Trip Generation Summary

Land Use	ITE Code	Amount	Units	Average Daily Traffic (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
					In	Out	Total	In	Out	Total
Single-Family Detached Housing	210	39	DU	424	8	24	32	26	15	41
Single-Family Attached Housing	215	259	DU	1,923	40	89	129	86	65	151
Multi-Family Home (Mid-Rise)	221	174	DU	784	15	50	65	41	27	68
Total Trips				3,131	63	163	226	153	107	260
Internal Capture				*190*	*1*	*2*	*3*	*14*	*5*	*19*
New Trips				2,941	62	161	223	139	102	241
Strip Retail Plaza (<40k SF)	822	17,374	SF	963	25	16	41	58	57	115
Internal Capture				*190*	*2*	*1*	*3*	*5*	*14*	*19*
Pass-By (34%)				*327*	*8*	*5*	*13*	*16*	*16*	*32*
New Trips				446	15	10	25	37	27	64
Total Trips				4,094	88	179	267	211	164	375
Total Internal Capture				*380*	*3*	*3*	*6*	*19*	*19*	*38*
Total Pass-By				*327*	*8*	*5*	*13*	*16*	*16*	*32*
Total New Trips				3,387	77	171	248	176	129	305

Site Trip Distribution

- The vehicular trips that would be generated by the proposed development were assigned to the study roads based on existing peak hour traffic patterns in the adjacent roadway network and the methodologies published by ITE.
- The global trip generation is based on trips in the AM going from the residential development exiting the study network and returning to the study network in the PM. The vehicular traffic volumes were distributed to the roadway network according to the global traffic distribution.
- The proposed development plan has multiple site access points to the adjacent roadway network; therefore, the impact of the development is dispersed throughout the area study intersections.

Operational Analysis Summary

- The recommended improvements identified for existing and background conditions were found to mitigate the future intersection delays at the study intersections with the additional of the site generated traffic volumes.
- No additional mitigation measures were identified with the additional site generated traffic in the Future conditions.
- The results of this analysis concludes that the majority of intersections within the City of Northville will experience a negligible increase in traffic volumes associated with the Northville Downs development. Additionally, alternatives for mitigating existing delays are recommended which will also support the projected increases in traffic volumes generated by the proposed development. Furthermore, the recommendations included herein are consistent with the recommendations identified by the City's Mobility Task Force.

Table E2: Analysis and Mitigation Summary

Intersection		Existing Conditions Recommendation	Background Conditions Recommendation	Future Conditions Recommendations
2	Randolph Street & Center Street	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*
8	Main Street & Hutton Street	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended
9	Main Street & Griswold Street	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended
12	Cady Street & Center Street	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*
21	Fairbrook Street & Center Street	*n/a*	*n/a*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*
22	Seven Mile Road & Wing Street / St. Lawrence	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*
23	Seven Mile Road & Sheldon Avenue / Center Street	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout
24	Seven Mile & Hines Drive	n/a	n/a	*Delays on the NB approach are due to impacts/queue lengths extending from Seven Mile Road & Sheldon Avenue / Center Street intersection.*
26/ 27	Northville Road & N. Seven Mile Road	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.
28	Northville Road & S. Seven Mile Road	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended
32	Center Street & Beal St. (Proposed)	*n/a*	*n/a*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*

* Details of the proposed signal timing optimization are included in Appendix F

FIGURE E2: INTERSECTION MITIGATION SUMMARY

1 INTRODUCTION

This report presents the results of a Traffic Impact Study (TIS) for the proposed development in the City of Northville, Michigan. The project site is located adjacent to the south side of Cady Street, between Center Street and Griswold Street on the property that was previously occupied by Northville Downs as shown on **Figure 1**. The proposed development includes the construction of mixed-use commercial and multi-family residential units. The City has required a Traffic Impact Study (TIS) for the project as part of the site plan approval process.

FIGURE 1: SITE LOCATION

The scope of this study was developed based on Fleis & VandenBrink's (F&V) knowledge of the study area, understanding of the development program, accepted traffic engineering practice and information published by the Institute of Transportation Engineers (ITE). In addition, the City of Northville and their traffic engineering consultant OHM and planning consultant Carlisle Wortman provided input regarding the scope of work included herein.

The study analyses were completed using Synchro/SimTraffic (Version 11) and Rodel traffic analysis software Sources of data for this study include traffic counts conducted by F&V subconsultants Traffic Data Collection, Inc. (TDC) and Gewalt Hamilton Associates (GHA), City of Northville, Wayne County Department of Public Services (WCDPS), and ITE. All background information is provided in **Appendix A**.

The study will include the evaluation of pre-COVID operations in Northville, assuming all roadway open and pre-COVID traffic volumes grown to 2021.

Baseline Operations (Pre-COVID)	
Section 3	
Existing Conditions	Pre-COVID 2018 traffic volumes grown to 2021
Section 4	
Background Conditions	Baseline + Growth Rate + Background Developments
Section 6	
Site Traffic Volumes	Site Generated Traffic
Section 7	
Future Conditions	Background Conditions + Site Generated Traffic

2 BACKGROUND DATA

2.1 STUDY ROADWAY NETWORK

Vehicle transportation for the proposed development is provided via Center Street, Cady Street, and Beal Street. Regional transportation is provided via I-96, I-275, and M-14; with access to these routes within 5 miles of the project site location. The lane use and traffic control at the study intersections are shown on **Figure 2** and the study roadways are further described below. For the purposes of this study, all minor streets and driveways are assumed to have an operating speed of 25 miles per hour (mph).

Center Street / Sheldon Avenue

- Functional Classification: Other Principal Arterial
- Runs in the north and south directions, generally adjacent to the west side of the project site.
- North of Hines Drive/7 Mile Road: Center Street, Average Annual Daily Traffic (AADT) volume of 14,175 vehicles per day (SEMCOG 2018), under the jurisdiction of the City of Northville.
- South of Hines Drive/7 Mile Road: Regional Name Sheldon Road and is under the jurisdiction of WCDPS.
- North of Cady: 25 mph, on-street parking
- South of Cady Street: 35 mph, bike lanes
- The roadway is a typical two-lane cross-section, with one lane in each direction.
- At the intersection with Hines Drive/7 Mile Road, the roadway is striped as a single shared lane for northbound and southbound traffic. However, vehicles on the northbound and southbound approaches utilize the available pavement width as a short left-turn lane and a shared through/right-turn lane.

Northville Road

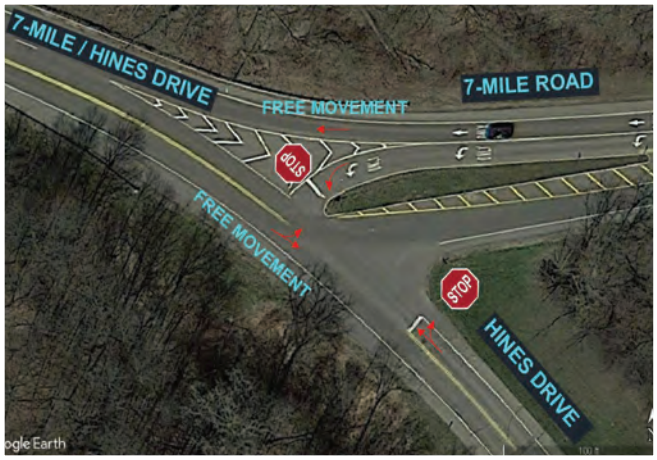
- Functional Classification: Minor Arterial.
- Under the jurisdiction of WCDPS
- Runs in the north and south directions, generally east side of the project site.
- Average Annual Daily Traffic (AADT) volume of 17,000 vehicles per day (MDOT 2019),
- Speed Limit varies 25 mph to 40 mph
- North of 7 Mile Road: Four-lane cross-section with two lanes in each direction
- South of 7 Mile Road: Tow-lane cross section with one lane each direction.
- Undivided south of 7 Mile Road (south)
- Median divided at 7 Mile Road (north)

Main Street

- Functional Classification: Minor Arterial
- Runs in the east and west directions, north of the project site.
- Average Annual Daily Traffic (AADT) volume of 8,175 vehicles per day (SEMCOG 2018), under the jurisdiction of the City of Northville.
- South of 7 Mile Road: Regional name is Northville Road and is under the jurisdiction of WCDPS.
- Speed Limit 25 mph
- On-street parking provided on both sides of the roadway.
- The roadway is a typical two-lane cross-section, with one lane in each direction.
- On-street parking typically ends prior to an intersection, in order to provide short (25-50 ft typical) right-turn lanes at the intersections..
- The section of roadway east of Griswold Street becomes S. Main Street; for the purposes of this study S. Main Street is labeled Northville Road, specifically at the intersection with Beal Street.

7 Mile Road

- Functional Classification: Minor Arterial.
- Under the jurisdiction of WCDPS
- Runs in the east and west directions, adjacent to the south site of the project site..
- Average Annual Daily Traffic (AADT) volume of 8,155 vehicles per day (SEMCOG 2019),
- Speed Limit 35 mph
- The study section of 7 Mile Road is split at Northville Road for the purposes of this study:West of Northville Road referred to as N. 7 Mile Road , East of Northville Road referred to as S. 7 Mile Road
- The study section of roadway (N. 7 Mile Road) is a typical two-lane cross-section, with one lane in each direction. However, there is intermittent right-/left-turn auxiliary lane.



Edward N. Hines Drive

- Functional Classification: Other Principal Arterial.
- Under the jurisdiction of WCDPS
- Runs in the east/southeast and west/northwest directions south side of the project site..
- South of 7 Mile Road Average Annual Daily Traffic (AADT) volume of 3,800 vehicles per day (MDOT 2019),
- Speed Limit 35 mph to 40 mph
- The roadway is a typical two-lane cross-section with one lane in each direction.
- The adjacent exhibit further depicts the unique intersection geometry and operations of the Edward N. Hines Drive and 7 Mile Road intersection.

Cady Street

- Functional Classification: Local Road
- Under the jurisdiction of City of Northville
- Runs in the east and west directions, adjacent to the north side of the project site..
- Speed Limit 25 mph
- The roadway has a typical two-lane cross-section with one lane in each direction and has on-street parking on both sides of the road between Hutton Street and Griswold Street.

Griswold Street

- North of Main Street under the jurisdiction of WCDPS north of Main Street and a Minor Arterial functional classification:
- South of Main Street under the jurisdiction of the City of Northville and a Local Road functional classification:
- Runs in the north and south directions, generally east of the project site.
- Average Annual Daily Traffic (AADT) volume of 7,500 vehicles per day (MDOT 2019)
- Speed Limit 35 mph
- Two-lane cross-section with one lane in each direction
- On-street parking south of Main Street adjacent to the west side of the road

Hutton Street

- Functional Classification: Local Road
- Under the jurisdiction of the City of Northville :
- Runs in the north and south directions, generally north of the project site.
- Speed Limit 25 mph
- Two-lane cross-section with one lane in each direction
- On-street parking north of Main Street on both sides of the roadway.

Wing Street

- Functional Classification: Local Road
- Under the jurisdiction of the City of Northville :
- Runs in the north and south directions, west of the project site.
- Parrell route to Center Street between Randoph St. and 7 Mile Road.
- Speed Limit 25 mph
- Two-lane cross-section with one lane in each direction
- On-street parking on both sides of the roadway (with a few exceptions along the roadway)

Randolph Street

- Functional Classification: Major Collector
- Under the jurisdiction of City of Northville
- Runs in the east and west directions, north of the project site.
- Average Annual Daily Traffic (AADT) volume of 4,120 vehicles per day (SEMCOG 2019)
- Speed Limit 25 mph
- The roadway has a typical two-lane cross-section with one lane in each direction

Dunlap Street

- Functional Classification: Local Road
- Under the jurisdiction of City of Northville
- Runs in the east and west directions, north of the project site.
- Speed Limit 25 mph
- The roadway has a typical two-lane cross-section with one lane in each direction

Fairbrook Street

- Functional Classification: Local Road
- Under the jurisdiction of City of Northville
- Runs in the east and west directions, west of the project site.
- Speed Limit 25 mph
- The roadway has a typical two-lane cross-section with one lane in each direction and has on-street parking on both sides of the roadway.

Beal Street

- Functional Classification: Local Road
- Under the jurisdiction of City of Northville
- Runs in the east and west directions, adjacent to the west side of the project site.
- Speed Limit 25 mph
- The roadway has a typical two-lane cross-section with one lane in each direction

River Street

- Functional Classification: Local Road
- Under the jurisdiction of the City of Northville :
- Runs in the north and south directions, adjacent to the east side of the project site.
- Speed Limit 25 mph
- Two-lane cross-section with one lane in each direction

2.2 TRAFFIC VOLUME DATA

Traffic volume data was collected at the study intersections by F&V subconsultants, Traffic Data Collection Inc. (TDC) on May 15, 2018, and October 18, 2018, and by Gewalt Hamilton Associates, Inc (GHA) on October 19, 2021, during the weekday AM (7:00 AM-9:00 AM) and PM (4:00 PM-6:00 PM) peak periods. The data collection performed is summarized below and the raw traffic volume data are included in **Appendix A**.

The data collection was intentionally performed on a day with no live events at the Northville Downs racetrack to avoid any additional traffic generated by the peak existing operations. During collection of the manual intersection turning movement counts, pedestrian data and commercial truck percentages were recorded and used in the traffic analysis. Peak Hour Factors (PHFs) were also calculated for each study intersection approach.

Data Collection May 15, 2018 (TDC) October 19, 2021 (GHA)	Data Collection October 1, 2018 (TDC) October 19, 2021 (GHA)	Data Collection October 19, 2021 (GHA)
• Main Street & Center Street • Main Street & Hutton Street • Main Street & Griswold Street • Main Street & Cady Street • Cady Street & Center Street • Cady Street & Hutton Street • Cady Street & Church Street • Cady Street & Griswold Street • Beal Street & Griswold Street • Beal Street & River Street • Seven Mile Road & First Street / Fairbrook • Fairbrook Street & Center Street • Seven Mile Road & Sheldon Avenue / Center Street • Seven Mile Road & Hines Drive • Seven Mile Road & River Street	• Beal Street & Northville Road • SB Northville Road & N. Seven Mile Road • NB Northville Road & N. Seven Mile Road • Northville Road & S. Seven Mile Road	• Randolph Street & Wing Street • Randolph Street & Center Street • Dunlap Street & Wing Street • Center Street & Dunlap Street • Dunlap Street & Hutton Street • Main Street & Wing Street • Cady Street & Wing Street • Fairbrook Street & Wing Street • Seven Mile Road & Wing Street / St. Lawrence Blvd

3 EXISTING CONDITIONS ANALYSIS (2021)

Existing Baseline Operations (Pre-COVID)	
Existing Conditions	• Pre-COVID 2018 traffic volumes grown to 2021 • Pre-COVID intersection operations

The existing conditions analysis performed an evaluation of the pre-COVID intersection operations and the 2018 data collection grown to 2021. The existing AM and PM peak hour vehicle delays and Levels of Service (LOS) were calculated at the study intersections using Synchro (Version 11) traffic analysis software.

There are several study intersections where the traffic control used are not supported by the HCM 6th Edition analysis methodology; therefore, HCM2000 and SimTraffic simulation delays were determined to be more appropriate for use at these intersections. All remaining study intersections and driveways were analyzed using the HCM 6th Edition methodology. These intersections are summarized below:

- *Griswold Street & Beal Street:* The two-way stop control on the eastbound and southbound approaches at the T-intersection is not supported by the HCM. Therefore, SimTraffic delays were utilized.
- *Seven Mile Road & First Street/Fairbrook:* The stop control for southbound First Street and westbound Fairbrook Street is not supported by the HCM. Therefore, SimTraffic delays were utilized.
- *Seven Mile Road & Hines Drive:* The stop control for northbound Hines Drive and the westbound left-turn movement for Seven Mile Road is not supported by the HCM. Therefore, SimTraffic delays were utilized.
- *Northville Road & N. Seven Mile Road*: The yield control at the median crossover at the intersection is not supported by HCM 6th edition. Therefore, HCM 2000 analysis was utilized.

Descriptions of LOS "A" through "F" as defined in the HCM are provided in **Appendix B** for signalized and unsignalized intersections. Typically, LOS D is considered acceptable, with LOS A representing minimal delay, and LOS F indicating failing conditions.

3.1 EXISTING OPERATIONS

The traffic volumes for this analysis utilized the existing 2018 (Pre-COVID) turning movement counts collected at the study intersections. A background growth rate of 0.2% provided by SEMCOG was applied to the 2018 traffic counts to calculate the baseline 2021 traffic volumes. There are several intersections which were added into the scope of work for this study, and therefore did not have 2018 traffic volume data. In order to evaluate these intersections under the Pre-COVID conditions the traffic volumes were adjusted and balanced with the adjacent roadway network considering the reductions in traffic volumes due to COVID and the redistribution of traffic associated with the current downtown street closures on Center Street and Main Street. The peak hour volumes for each intersection were utilized and the volumes were balanced upward through the study network. At locations where access is provided between study intersections, "dummy" intersections were used to account for sink and source volumes, and through volumes were carried along the main study roadways. The results of the existing conditions analysis were based on the lane use and traffic control shown on **Figure 2 in Appendix A** and the traffic volumes shown on **Figure 3 in Appendix B.**

Additional Study Intersections Collected October 2021
• Randolph Street & Wing Street
• Randolph Street & Center Street
• Dunlap Street & Wing Street
• Center Street & Dunlap Street
• Dunlap Street & Hutton Street
• Main Street & Wing Street
• Cady Street & Wing Street
• Fairbrook Street & Wing Street
• Seven Mile Road & Wing Street / St. Lawrence Blvd

The results of the existing conditions analysis summarized in **Table 3.1** and are presented in **Appendix B.** The results of the existing conditions analysis indicate that all study intersection approaches and movements currently operate acceptably at a LOS D or better, with the exception of those highlighted.

Table 3.1: Existing Conditions Analysis Summary

Intersection		Control	Approach	AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS
1	Randolph Street & Wing Street	Stop (Minor)	EB	Free			
			WBL	7.8	A	8.2	A
			NB	11.9	B	18.9	C
2	Randolph Street & Center Street	Stop (Minor)	EB	39.5	E	265.4	F
			WB	34.3	D	154.6	F
			NBL	9.3	A	9.3	A
			SBL	8.5	A	9.0	A
3	Dunlap Street & Wing Street	Stop (All-Way)	EB	8.6	A	9.7	A
			WB	9.0	A	12.1	B
			NB	8.5	A	11.4	B
			SB	8.9	A	10.3	B
			Overall	8.8	A	11.2	B
4	Center Street & Dunlap Street	Signalized	EBL	21.4	C	25.1	C
			EBTR	18.7	B	19.2	B
			WBL	19.1	B	17.4	B
			WBTR	19.7	B	20.3	C
			NBL	1.6	A	3.5	A
			NBTR	1.3	A	2.0	A
			SBL	6.3	A	5.9	A
			SBTR	8.0	A	10.1	B
			Overall	7.6	A	9.3	A
5	Dunlap Street & Hutton Street	Stop (Minor)	EBL	7.6	A	8.1	A
			WB	Free			
			SB	10.6	B	13.8	B
6	Main Street & Wing Street	Stop (All-Way)	EB	10.0	A	10.9	B
			WB	8.9	A	9.9	A
			NB	8.9	A	11.3	B
			SB	9.9	A	10.3	B
			Overall	9.6	A	10.7	B
7	Main Street & Center Street	Signalized	EB	20.0	B	20.1	C
			WB	19.2	B	19.7	B
			NB	9.8	A	10.0	B
			SB	1.1	A	1.8	A
			Overall	9.6	A	10.1	B
8	Main Street & Hutton Street	Signalized	EBTL	0.3	A	0.3	A
			EBR	0.0	A	0.0	A
			WBTL	12.7	B	7.6	A
			WBR	13.5	B	9.2	A
			NB	17.2	B	19.1	B
			SBTL	21.3	C	70.2	E
			SBR	16.5	B	16.5	B
			Overall	12.6	B	22.1	C

Intersection		Control	Approach	AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS
9	Main Street & Griswold Street	Signalized	EBTL	12.0	B	24.1	C
			EBTR	10.1	B	17.8	B
			WBTL	10.1	B	11.8	B
			WBTR	10.5	B	12.5	B
			NB	15.3	B	16.4	B
			SB	17.0	B	32.3	C
			Overall	12.9	B	20.2	C
10	Main Street & Cady Street	Stop (Minor)	EB	Free			
			WBL	7.9	A	8.6	A
			NB	9.7	A	13.3	B
11	Cady Street & Wing Street	Stop (All-Way)	EB	8.5	A	8.9	A
			WB	8.0	A	8.6	A
			NB	8.1	A	9.3	A
			SB	8.9	B	9.4	A
			Overall	8.5	A	9.1	A
12	Cady Street & Center Street	Stop (Minor)	EB	19.5	C	37.7	E
			WB	44.9	E	132.3	F
			NBL	8.4	A	9.2	A
			SBL	9.0	A	8.9	A
13	Cady Street & Hutton Street	Stop (Minor)	EBL	7.8	A	7.6	A
			WB	Free			
			SB	11.5	B	10.2	B
14	Cady Street & Church Street	Stop (Minor)	EB	Free			
			WB	Free			
			SB	10.3	B	9.9	A
15	Cady Street & Griswold Street	Stop (Minor)	EB	11.0	B	13.9	B
			WB	9.5	A	11.0	B
			NBL	7.4	A	7.6	A
			SBL	7.3	A	7.4	A
16	Beal Street & Griswold Street	Stop (EB & SB)	EB	0.0*	A	0.0*	A
			WB	Free			
			SB	0.0**	A	3.9**	A
17	Beal Street & River Street	Stop (Minor)	EB	Free			
			WBL	7.3	A	7.4	A
			NB	9.1	A	9.8	A
18	Beal Street & Northville Road	Stop (Minor)	EB	10.5	B	12.6	B
			NBL	8.0	A	8.6	A
			SB	Free			
19	Seven Mile Road & First Street / Fairbrook Street	Stop (Minor)	EBL	1.7**	A	6.7**	A
			WB	Free			
			SB	10.0**	B	27.9**	D
			SW	6.8**	A	12.1**	B

Intersection		Control	Approach	AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS
20	Fairbrook Street & Wing Street	Stop (All-Way)	EB	7.5	A	8.1	A
			WB	6.8	A	7.9	A
			NB	7.5	A	8.5	A
			SB	7.5	A	8.3	A
			Overall	7.4	A	8.2	A
21	Fairbrook Street & Center Street	Stop (Minor)	EB	22.6	C	23.2	C
			NBL	8.5	A	10.1	B
			SB	Free			
22	Seven Mile Road & Wing Street / St. Lawrence Blvd	Stop (Minor)	EBL	7.7	A	9.2	A
			WBL	8.8	A	8.4	A
			NB	15.3	C	22.3	C
			SB	17.4	C	39.4	E
23	Seven Mile Road & Sheldon Avenue / Center Street	Signalized	EBL	20.6	C	33.1	C
			EBTR	33.3	C	26.7	C
			WBL	37.6	D	39.4	D
			WBT	18.3	B	27.8	C
			WBR	17.4	B	18.4	B
			NBL	19.9	B	40.0	D
			NBTR	21.6	C	27.5	C
			SBL	33.3	C	43.0	D
			SBTR	15.4	B	21.7	C
			Overall	23.6	C	27.1	C
24	Seven Mile Road & Hines Drive	Stop (NB Hines & WBL 7 Mile)	WBL	13.1**	B	22.4**	C
			WBR	Free			
			NB	17.0**	C	31.1**	D
			SBL	4.7**	A	4.0**	A
25	Seven Mile Road & River Street	Stop (Minor)	EBL	7.7	A	8.7	A
			WB	Free			
			SB	11.0	B	13.7	B
26	SB Northville Road & N. Seven Mile Road	Stop/Yield (Minor)	EBT	11.5	B	14.4	B
			EBR	12.2	B	13.7	B
			WB	13.9	B	69.2	F
			SB	Free			
27	NB Northville Road & N. Seven Mile Road	Yield (Minor)	EBL	14.5	B	32.2	D
			NBTL	4.9	A	5.9	A
			NBT	Free			
28	Northville Road & S. Seven Mile Road	Signalized	WBL	21.5	C	22.3	C
			WBR	9.9	A	15.3	B
			NBT	40.0	D	129.2	F
			NBTR	58.8	E	131.7	F
			SBL	57.4	E	44.1	D
			SBT	11.3	B	12.2	B
			Overall	37.1	D	58.7	E

3.1.1 Signal Warrant Analyses

In order to improve traffic operations to a LOS D or better for all intersection approaches and movements, signal warrant analyses were performed at the following intersections to determine if a traffic signal is warranted and recommended to mitigate existing delays.

- Center Street & Randolph Street
- Center Street & Cady Street
- Northville Road & 7-Mile Road

The signal warrant analysis was conducted in accordance with the requirements outlined in the Michigan Manual of Uniform Traffic Control Devices (MMUTCD). The existing traffic volumes at the study intersections of Center Street & Randolph Street, Center Street & Cady Street, and Northville Road & 7-Mile Road were utilized to evaluate the MMUTCD warranting criteria. F&V only collected 4-hour turning movement count data at the study intersections, with the exception of the Northville Road & 7-Mile Road intersection; therefore, if the Warrants for 1A or 1B are not met for all 4 hours of evaluation, higher volumes are not expected during the off-peak hours, indicating the full Warrant 1A and/or 1B would not be met.

Warrant 1 (8-Hour Vehicular Volume)

According to the MMUTCD, Warrant 1, Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal. Condition B is intended for application where Condition A is not satisfied and where the traffic volume on the major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. It is intended that Warrant 1 be treated as a single warrant, where Warrant 1 is satisfied if either Conditions A or B are met. Additionally, in applying each condition, the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Warrant 2 (4-Hour Vehicular Volume)

The Four-Hour signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The need for a traffic signal shall be considered if, for each of any four hours of an average day, the approach volumes fall above the applicable curve on Figure 4C-1.

Warrant 3 (Peak-Hour Vehicular Volume)

The Peak Hour signal warrant conditions is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. The need for a signal shall be considered if on any hour of an average day, the approach volumes fall above the applicable curve on Figure 4C-3.

Warrant 4 (Pedestrian Volumes)

The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street. The need for a traffic signal shall be considered if, for each of any four hours of an average day, the vehicular and pedestrian volumes fall above the applicable curve on Figure 4C-5 **OR** if on any hour of an average day, the vehicular and pedestrian volumes fall above the applicable curve on Figure 4C-7.

Warrant 5 (School Crossing)

The School Crossing signal warrant is intended for application where the fact that schoolchildren cross the major street is the principal reason to consider installing a traffic control signal. For the purposes of this warrant, the word "schoolchildren" includes elementary through high school students. None of the study intersections evaluated are within close proximity to a school; therefore, this warrant is not applicable.

Warrant 6 (Coordinated Signal System)

Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles. The study intersections evaluated are not part of a coordinated network focused on platooning and progression of vehicles, encouraging throughput; therefore, this warrant is not applicable.

Warrant 7 (Crash Experience)

The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal. The need for a signal shall be considered if five or more reported crashes of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash **AND** Warrant 1A and/or Warrant 1B are met to 80 percent of the required volumes.

Warrant 8 (Roadway Network)

Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network. The need for a traffic signal shall be considered at location of two or more major routes, in addition to volume criteria. The study intersections evaluated each contain at least one minor route; therefore, this warrant is not applicable.

Warrant 9 (Intersection Near a Grade Crossing)

The Intersection Near a Grade Crossing signal warrant is intended for use at a location where none of the conditions described in the other eight traffic signal warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic control signal. None of the study intersections evaluated are within close proximity to a grade crossing; therefore, this warrant is not applicable.

Table 3.2: Existing Signal Warrant Analysis Summary

Study Intersection		Center Street & Randolph Street	Center Street & Cady Street	Northville Road & 7-Mile Road
Warrant 1: Eight Hour		NO	NO	YES
Condition A	*Hours Met*	1	0	8
	Warrant Met	NO	NO	YES
Condition B	*Hours Met*	1	2	5
	Warrant Met	NO	NO	NO
Warrant 2: Four-Hour	*Hours Met*	1	1	7
	Warrant Met	NO	NO	YES
Warrant 3: Peak-Hour	*Hours Met*	0	0	3
	Warrant Met	NO	NO	YES
Warrant 4: Pedestrian Volume	*Hours Met*	0	0	0
	Warrant Met	NO	NO	NO
Warrant 5: School Crossing		N/A	N/A	N/A
Warrant 6: Coordinated Signal System		N/A	N/A	N/A
Warrant 7: Crash Experience	*Crashes*	4	4	4
	Warrant Met	NO	NO	NO
Warrant 8: Roadway Network		N/A	N/A	N/A
Warrant 9: Intersection Near Grade Crossing		N/A	N/A	N/A

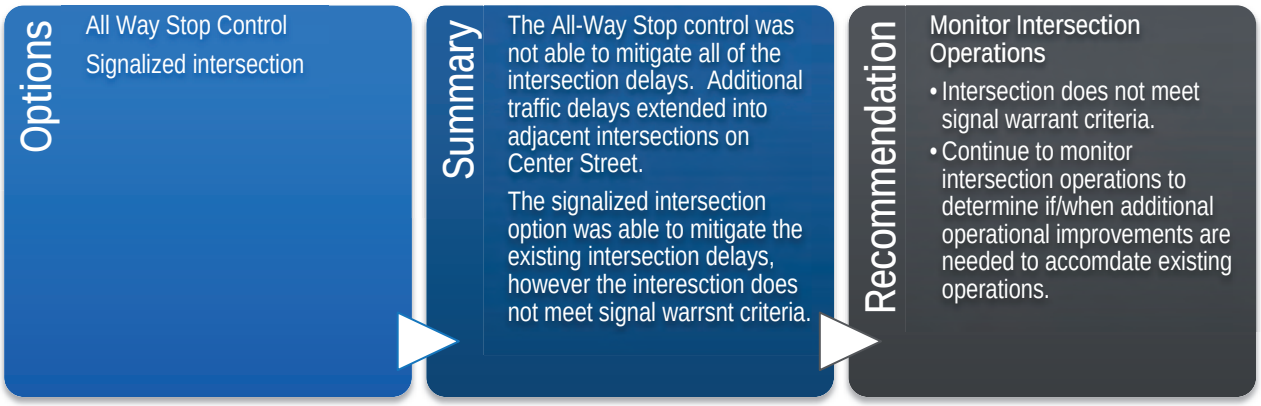
The results of the existing conditions signal warrant analyses shows that signal is warranted at the following intersection:

- Northville Road & 7-Mile Road meets Warrant 1A, 2, and 3.

The analysis shows that the Center Street & Randolph Street and Center Street & Cady Street do not meet the signal warrants. Therefore, these intersections should be monitored to determine if/when signals or additional traffic control is warranted or recommended.

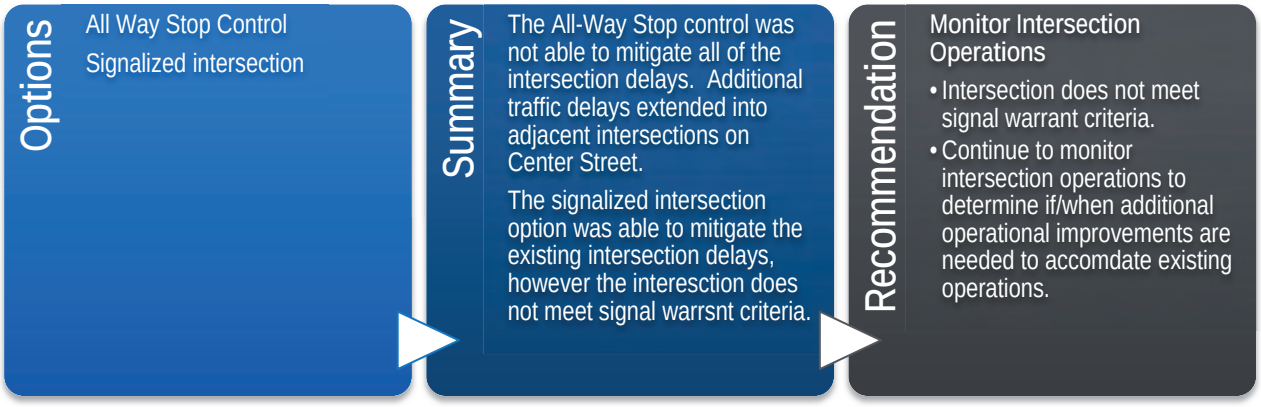
3.1.2 Center Street and Randolph Street

Mitigation measures were identified at this intersection in order to address the intersection delays and vehicle queueing as summarized below.



3.1.3 Center Street and Cady Street

Mitigation measures were identified at this intersection in order to address the intersection delays and vehicle queueing as summarized below.



3.1.4 Northville Road (S. Main Street) and N. Seven Mile Road

Several mitigation measures were identified at this intersection in order to address the intersection delays and vehicle queueing identified. These alternatives are summarized below.

Table 3.3: Existing Conditions with Mitigation Analysis Summary

Intersection		Control	Approach	AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS
8	Main Street & Hutton Street	Signalized	EBTL	No Change		20.6	C
			EBR			17.8	B
			WBTL			17.0	B
			WBR			23.4	C
			NB			8.6	A
			SBTL			11.2	B
			SBR			8.3	A
			Overall			17.5	B
9	Main Street & Griswold Street	Signalized	EBTL	No Change		32.8	C
			EBTR			22.4	C
			WBTL			17.5	B
			WBTR			19.2	B
			NB			11.2	B
			SB			17.5	B
			Overall			19.0	B
26	SB Northville Road & N. Seven Mile Road	Signalized	EBL	24.6	C	37.0	D
			EBR	15.5	B	16.6	B
			NBL	6.8	A	4.9	A
			NBT	0.2	A	0.2	A
			SB	24.2	C	25.0	C
			Overall	12.7	B	11.8	B
28	Northville Road & S. Seven Mile Road	Signalized	WBL	34.9	C	33.2	C
			WBR	13.0	B	22.6	C
			NBT	29.0	C	41.9	D
			NBTR	34.1	C	43.2	D
			SBL	35.3	D	32.7	C
			SBT	14.0	B	4.2	A
			Overall	28.5	C	29.3	C

3.1.5 Sheldon Avenue/Center Street and Seven Mile Road/Hines Drive

The LOS at this intersection showed acceptable intersection delays; however, review of the Sim Traffic simulations showed long vehicles queues for several movements. Therefore, mitigation measures were investigated at this intersection in order to address the vehicle queuing and subsequent intersection delays. The mitigation measures options evaluated are summarized below and the results of the operations for each option in **Table 3.4**.

Option 1: Signalization Improvements

- Upgrade to a fully actuated, 2-phase traffic signal.
- Restripe the NB approach to provide a left-turn lane Note: length would be limited by existing geometric constraints of the bridge.
- Restripe the SB approach to provide an exclusive left-turn lane.
- Impacts to existing bike lane on Center Street, ~350 feet storage length required at intersection

Option 2: Bridge Replacement

- Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500- ft of storage length.
- Restripe the SB approach to provide an exclusive left-turn lane.
- Impacts to existing bike lane on Center Street, ~350 feet storage length required at intersection.

Option 2A:Signal Improvements + Bridge Replacement

Option 3: Roundabout

- Additional ROW required, in order to accommodate a roundabout.
- Potential wetland mitigation may be needed.
- Grading west of the intersection
- Will require special design consideration for pedestrians and bicycles.

Option 3A: Roundabout + Bridge Replacement

Summary

- The results of the analysis showed that increasing the left-turn storage (Option 2) provided the highest reduction in vehicle queueing.
- However, the construction of a roundabout (Option 3) may also be considered to reduce delays and improve vehicle queueing
- Option 1 (Signal upgrade) is expected to provide minimal improvement over existing conditions, unless installed in conjunction with Option 2; therefore, Option 1 is not receommended for this intersection.

Table 3.4: Center St. and Seven Mile Rd. Intersection Mitigation Summary (Existing)

Peak Period	Approach	Existing Conditions				Option 1 Signalization Improvements				Option 2 Bridge Replacement				Option 3 Roundabout			
		Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)	Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)	Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)	Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)
AM	EBL	20.6	C	25	60	23.3	C	30	144	20.6	C	26	84	8.4	A	180	372
	EBTR	33.3	C	163	266	50.4	D	223	371	33.3	C	197	340				
	WBL	37.6	D	20	51	28.6	C	21	43	37.6	D	21	52	4.7	A	27	60
	WBT	18.3	B	47	94	27.5	C	66	117	18.3	B	50	106				
	WBR	17.4	B	13	40	23.2	C	13	35	17.4	B	16	47				
	NBL	19.9	B	27	63	21.0	C	27	61	19.9	B	22	59	11.5	B	1653	3147
	NBT	21.6	C	257	451	50.3	D	415	781	18.6	B	224	414				
	NBR									11.3	B	30	85				
	SBL	33.3	C	57	121	28.4	C	38	72	28.1	C	52	107	5.2	A	78	164
	SBTR	15.4	B	113	202	27.8	C	145	258	15.4	B	123	207				
	Overall	23.6	C	N/A	N/A	40.3	D	N/A	N/A	22.3	C	N/A	N/A	8.1	A	N/A	N/A
PM	EBL	33.1	C	26	68	31.7	C	16	44	33.1	C	26	65	10.3	B	192	454
	EBTR	26.7	C	150	243	54.6	D	227	363	26.7	C	144	237				
	WBL	39.4	D	83	188	36.8	D	107	261	39.4	D	92	216	8.6	A	599	785
	WBT	27.8	C	186	292	52.4	D	249	401	27.8	C	206	354				
	WBR	18.4	B	65	174	27.5	C	88	252	18.4	B	76	241				
	NBL	40.0	D	50	75	28.0	C	47	73	40.0	D	171	374	15.9	C	5631	12659
	NBT	27.5	C	2844	5931	54.4	D	2631	4614	20.6	C	304	531				
	NBR									11.6	B	33	85				
	SBL	43.0	D	77	184	29.1	C	81	243	31.8	C	74	179	13.6	B	519	531
	SBTR	21.7	C	223	354	37.3	D	323	509	21.7	C	239	375				
	Overall	27.1	C	N/A	N/A	46.0	D	N/A	N/A	24.6	C	N/A	N/A	12.3	B	N/A	N/A

3.2 EXISTING CONDITIONS ANALYSIS SUMMARY

The results of the existing conditions analysis provides the following mitigation measures for consideration to improve the existing baseline operations (pre-COVID).

Table 3.5: Existing Conditions Mitigation Summary

Intersection		Recommendation
2	Randolph Street & Center Street	*Continue to monitor intersection operations*
8	Main Street & Hutton Street	Signal Timing Optimization Recommended
9	Main Street & Griswold Street	Signal Timing Optimization Recommended
12	Cady Street & Center Street	*Continue to monitor intersection operations*
22	Seven Mile Road & Wing Street / St. Lawrence	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*
23	Seven Mile Road & Sheldon Avenue / Center Street	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout
26/ 27	Northville Road & N. Seven Mile Road	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.
28	Northville Road & S. Seven Mile Road	Signal Timing Optimization Recommended

* Details of the proposed signal timing optimization are included in Appendix F

4 BACKGROUND CONDITIONS ANALYSIS (2028)

The proposed development is expected to have an opening day in 2024 with the first dwelling units occupied, with a full buildout of the site in 2028. Therefore, the background conditions analysis evaluated the projected operations in 2028 ***without the proposed development***.

Background Baseline Operations (Pre-COVID)	
Background Conditions	• Existing Baseline Traffic Volume + • Growth Rate to 2028 • Background Developments • Pre-COVID intersection operations

A background growth was determined to calculate the projected implicit background traffic growth to the site buildout year in 2028. Population and employment data were used in order to determine the applicable growth rate for the existing traffic volumes to the project build-out year of 2028. The SEMCOG community profile for the City of Northville was reviewed and showed an average annual growth rate of 0.20% population growth and a 0.07% employment growth from 2020 to 2045. Therefore, an annual growth rate of 0.20% per year was applied to the existing baseline traffic volumes.

In addition to background growth, it is important to account for traffic that will be generated by approved and/or proposed developments within the vicinity of the study area that have yet to be constructed or are currently under construction. The following developments were identified by the City of Northville:

- Cady Project – 6-unit condominium (South side of Cady Street, east of Center Street)
- 355 E. Cady St. - 3-story mixed-use building; first floor retail, office above
- 455 E. Cady St "Hanger Building"- office space
- Foundry Flask – 78 Multi-Family Units, corner store specialty market

The number of AM and PM peak hour vehicle trips that would be generated by these proposed developments were forecast based on data published by ITE in the *Trip Generation Manual, 10th Edition*[1] and the ITE *Trip Generation Handbook, 3rd Edition*. The trip distribution that was determined for the proposed Northville Downs development was used to distribute the trip projections for these developments.

4.1 BACKGROUND OPERATIONS

The traffic volumes for this analysis utilized the baseline 2021 traffic volumes shown on Figure 3. A 0.2% annual background growth rate was applied to these traffic volumes and the trips generated by the adjacent developments were added into the study network to calculate the background conditions traffic volumes. The results of the background conditions analysis were based on the lane use and traffic control shown on **Figure 2** the traffic volumes shown on **Figure 4 in Appendix C.**

The results of the background conditions analysis are summarized in **Table 4.1** and are presented in **Appendix C.** The results of the analysis indicate that all study intersection approaches and movements are expected to operate similar to background conditions with the following delays, highlighted in **Table 4.1**.

Table 4.1: Background Conditions Analysis Summary

Intersection		Control	Approach	AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS
1	Randolph Street & Wing Street	Stop (Minor)	EB	Free			
			WBL	7.8	A	8.3	A
			NB	12.0	B	19.9	C
2	Randolph Street & Center Street	Stop (Minor)	EB	42.6	E	308.9	F
			WB	36.4	E	188.3	F
			NBL	9.3	A	9.4	A
			SBL	8.6	A	9.1	A

[1]The ITE Trip Generation 11th edition was published in October 2021. The trip generation analysis performed for these land uses was performed before the release of this publication, therefore the 10th Edition data was utilized for these developments

Intersection		Control	Approach	AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS
3	Dunlap Street & Wing Street	Stop (All-Way)	EB	8.6	A	9.9	A
			WB	9.1	A	12.6	B
			NB	8.6	A	11.8	B
			SB	8.9	A	10.5	B
			Overall	8.8	A	11.6	B
4	Center Street & Dunlap Street	Signalized	EBL	21.6	C	25.9	C
			EBTR	18.8	B	19.4	B
			WBL	19.1	B	17.5	B
			WBTR	19.9	B	20.9	C
			NBL	1.6	A	3.6	A
			NBTR	1.3	A	2.1	A
			SBL	6.4	A	6.0	A
			SBTR	8.0	A	10.2	B
			Overall	7.7	A	9.6	A
5	Dunlap Street & Hutton Street	Stop (Minor)	EBL	7.6	A	8.2	A
			WB	Free			
			SB	10.8	B	14.4	B
6	Main Street & Wing Street	Stop (All-Way)	EB	10.1	B	11.3	B
			WB	9.0	A	10.2	B
			NB	9.0	A	11.6	B
			SB	10.0	B	10.7	B
			Overall	9.7	A	11.0	B
7	Main Street & Center Street	Signalized	EB	20.2	B	20.5	C
			WB	19.4	B	20.8	C
			NB	9.9	A	10.1	B
			SB	1.1	A	1.9	A
			Overall	9.8	A	10.6	B
8	Main Street & Hutton Street	Signalized	EBTL	0.3	A	0.3	A
			EBR	0.0	A	0.0	A
			WBTL	12.8	B	4.6	A
			WBR	13.7	B	5.9	A
			NB	17.2	B	19.1	B
			SBTL	21.6	C	86.3	F
			SBR	16.5	B	16.5	B
			Overall	12.7	B	24.0	C
9	Main Street & Griswold Street	Signalized	EBTL	12.1	B	25.0	C
			EBTR	10.2	B	18.3	B
			WBTL	10.2	B	12.1	B
			WBTR	10.5	B	12.9	B
			NB	15.6	B	17.5	B
			SB	17.2	B	44.9	D
			Overall	13.1	B	24.1	C
10	Main Street & Cady Street	Stop (Minor)	EB	Free			
			WBL	7.9	A	8.9	A
			NB	10.0	B	20.3	C

Intersection		Control	Approach	AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS
11	Cady Street & Wing Street	Stop (All-Way)	EB	8.5	A	8.9	A
			WB	8.1	A	8.7	A
			NB	8.2	A	9.4	A
			SB	8.9	B	9.5	A
			Overall	8.6	A	9.2	A
12	Cady Street & Center Street	Stop (Minor)	EB	19.9	C	41.3	E
			WB	48.7	E	184.1	F
			NBL	8.4	A	9.2	A
			SBL	9.1	A	9.0	A
13	Cady Street & Hutton Street	Stop (Minor)	EBL	7.8	A	7.6	A
			WB	Free			
			SB	11.6	B	10.3	B
14	Cady Street & Church Street	Stop (Minor)	EB	Free			
			WB	Free			
			SB	10.4	B	10.0	B
15	Cady Street & Griswold Street	Stop (Minor)	EB	11.7	B	16.1	C
			WB	9.1	A	11.2	B
			NBL	7.4	A	7.6	A
			SBL	7.3	A	7.5	A
16	Beal Street & Griswold Street	Stop (EB & SB)	EB	0.0*	A	0.0*	A
			WB	Free			
			SB	3.8**	A	3.9**	A
17	Beal Street & River Street	Stop (Minor)	EB	Free			
			WBL	7.3	A	7.5	A
			NB	9.1	A	9.9	A
18	Beal Street & Northville Road	Stop (Minor)	EB	10.6	B	13.0	B
			NBL	8.1	A	8.7	A
			SB	Free			
19	Seven Mile Road & First Street / Fairbrook Street	Stop (Minor)	EBL	1.5**	A	11.2**	B
			WB	Free			
			SB	12.7**	B	29.4**	D
			SW	10.2**	B	13.2**	B
20	Fairbrook Street & Wing Street	Stop (All-Way)	EB	7.5	A	8.1	A
			WB	6.8	A	7.9	A
			NB	7.5	A	8.5	A
			SB	7.5	A	8.3	A
			Overall	7.4	A	8.2	A
21	Fairbrook Street & Center Street	Stop (Minor)	EB	23.2	C	24.3	C
			NBL	8.5	A	10.2	B
			SB	Free			
22	Seven Mile Road & Wing Street / St. Lawrence Blvd	Stop (Minor)	EBL	7.8	A	9.3	A
			WBL	8.9	A	8.4	A
			NB	15.5	C	22.5	C
			SB	17.9	C	41.9	E

Intersection		Control	Approach	AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS
23	Seven Mile Road & Sheldon Avenue / Center Street	Signalized	EBL	20.7	C	33.5	C
			EBTR	34.1	C	27.0	C
			WBL	38.3	D	40.5	D
			WBT	18.3	B	28.1	C
			WBR	17.4	B	18.5	B
			NBL	20.2	C	43.0	D
			NBTR	22.2	C	28.9	C
			SBL	34.8	C	45.8	D
			SBTR	15.6	B	22.4	C
			Overall	24.2	C	28.0	C
24	Seven Mile Road & Hines Drive	Stop (NB Hines & WBL 7 Mile)	WBL	14.7**	B	22.0**	C
			WBR	Free			
			NB	17.2**	C	33.3**	D
			SBL	4.9**	A	4.0**	A
25	Seven Mile Road & River Street	Stop (Minor)	EBL	7.7	A	8.8	A
			WB	Free			
			SB	11.0	B	13.8	B
26	SB Northville Road & N. Seven Mile Road	Stop/Yield (Minor)	EBT	11.7	B	15.1	C
			EBR	12.4	B	14.3	B
			WB	14.2	B	91.3	F
			SB	Free			
27	NB Northville Road & N. Seven Mile Road	Yield (Minor)	EBL	14.8	B	33.8	D
			NBTL	4.8	A	5.9	A
			NBT	Free			
28	Northville Road & S. Seven Mile Road	Signalized	WBL	21.6	C	22.5	C
			WBR	10.0	B	16.0	B
			NBT	41.7	D	142.7	F
			NBTR	60.7	E	144.8	F
			SBL	62.7	E	49.3	D
			SBT	11.3	B	12.3	B
			Overall	39.0	D	63.9	E

4.1.1 Signal Warrant Analyses

In order to improve traffic operations to a LOS D or better for all intersection approaches and movements, signal warrant analyses were performed at the following intersections to determine if a traffic signal is warranted and recommended to mitigate background condition delays.

- Center Street & Randolph Street
- Center Street & Cady Street
- Northville Road & 7-Mile Road

The results of the existing conditions signal warrant analyses are summarized in Table 4.2 and shows that signal is warranted at the following intersection:

- Northville Road & 7-Mile Road meets Warrant 1A, 2, and 3.

The analysis shows that the Center Street & Randolph Street and Center Street & Cady Street do not meet the signal warrants. Therefore, these intersections should be monitored to determine if/when signals or additional traffic control is warranted or recommended.

Table 4.2: Background Signal Warrant Analysis Summary

Study Intersection		Center Street &	Center Street	Northville Road &
Warrant 1: Eight Hour		NO	NO	YES
Condition A	*Hours Met*	1	0	8
	Warrant Met	NO	NO	YES
Condition B	*Hours Met*	1	3	5
	Warrant Met	NO	NO	NO
Warrant 2: Four-Hour	*Hours Met*	1	3	7
	Warrant Met	NO	NO	YES
Warrant 3: Peak-Hour	*Hours Met*	0	0	3
	Warrant Met	NO	NO	YES
Warrant 4: Pedestrian Volume	*Hours Met*	0	0	0
	Warrant Met	NO	NO	NO

4.2 Background Conditions Analysis Summary

In order to improve traffic operations to a LOS D or better for all intersection approaches and movements in the background conditions, the mitigation measures evaluated in the existing conditions analyses were investigated in addition to mitigation measures identified as necessary to accommodate the additional projected background traffic volumes. The recommended mitigation measures are summarized in **Table 4.3** and the results of the analysis with the recommendations is summarized in **Tables 4.4 and 4.5**.

Table 4.3: Background Intersection Mitigation Summary

Intersection		Existing Conditions Recommendation	Background Conditions Recommendation
2	Randolph Street & Center Street	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*
8	Main Street & Hutton Street	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended
9	Main Street & Griswold Street	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended
12	Cady Street & Center Street	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*
22	Seven Mile Road & Wing Street / St. Lawrence	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*
23	Seven Mile Road & Sheldon Avenue / Center Street	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout
26/ 27	Northville Road & N. Seven Mile Road	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.
28	Northville Road & S. Seven Mile Road	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended

* Details of the proposed signal timing optimization are included in Appendix F

Table 4.4: Background Conditions with Mitigation Analysis Summary

Intersection		Control	Approach	AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS
8	Main Street & Hutton Street	Signalized	EBTL	No Change		20.9	C
			EBR			17.8	B
			WBTL			17.4	B
			WBR			25.1	C
			NB			8.6	A
			SBTL			11.5	B
			SBR			8.3	A
			Overall			18.2	B
9	Main Street & Griswold Street	Signalized	EBTL	No Change		35.1	D
			EBTR			23.1	C
			WBTL			18.2	B
			WBTR			20.1	C
			NB			11.8	B
			SB			19.4	B
			Overall			20.0	C
26	SB Northville Road & N. Seven Mile Road	Signalized	EBL	31.5	C	26.9	C
			EBR	14.8	B	13.7	B
			NBL	3.3	A	9.8	A
			NBT	0.1	A	0.3	A
			SB	25.4	C	31.8	C
			Overall	12.6	B	14.1	B
28	Northville Road & S. Seven Mile Road	Signalized	WBL	35.2	D	33.5	C
			WBR	13.2	B	23.9	C
			NBT	29.6	C	44.5	D
			NBTR	34.5	C	45.8	D
			SBL	32.9	C	30.3	C
			SBT	10.2	B	0.2	A
			Overall	27.6	C	29.4	C

Table 4.5: Center St. and Seven Mile Rd. Intersection Mitigation Summary (Background)

Peak Period	Approach	Existing Conditions				Option 1 Signalization Improvements				Option 2 Bridge Replacement				Option 3 Roundabout			
		Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)	Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)	Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)	Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)
AM	EBL	20.7	C	23	59	23.8	C	23	52	20.7	C	19	45	8.7	A	212	407
	EBTR	34.1	C	184	301	52.9	D	207	331	34.1	C	174	289				
	WBL	38.3	D	23	57	29.4	C	23	54	38.3	D	21	56	4.7	A	33	62
	WBT	18.3	B	49	108	28.1	C	65	119	18.3	B	51	105				
	WBR	17.4	B	15	42	23.6	C	14	37	17.4	B	11	34				
	NBL	20.2	B	27	62	21.4	C	28	64	20.2	C	25	62	12.5	B	2004	3555
	NBT	22.2	C	282	505	53.9	D	416	653	19.0	B	218	406				
	NBR									11.3	B	33	68				
	SBL	34.8	C	62	135	30.1	C	46	79	29.1	C	57	130	5.2	A	100	228
	SBTR	15.6	B	127	212	28.4	C	177	278	15.6	B	124	204				
	Overall	24.2	C	N/A	N/A	42.4	D	N/A	N/A	22.6	C	N/A	N/A	8.6	A	N/A	N/A
PM	EBL	33.5	C	21	61	32.0	C	24	92	33.5	C	24	64	10.8	B	61	165
	EBTR	27.0	C	151	245	55.9	E	222	355	27.0	C	160	263				
	WBL	40.5	D	77	175	38.2	D	102	251	40.5	D	116	255	9.1	A	262	713
	WBT	28.1	C	180	296	53.7	D	236	372	28.1	C	277	504				
	WBR	18.5	B	64	180	27.7	C	84	221	18.5	B	143	422				
	NBL	43.0	D	51	73	30.9	C	48	74	43.0	D	144	288	18.0	C	4507	8002
	NBT	28.9	C	3384	6126	59.7	E	3472	6322	21.2	C	306	515				
	NBR									11.6	B	38	93				
	SBL	45.8	D	81	187	30.9	C	102	279	33.0	C	87	215	14.9	B	517	535
	SBTR	22.4	C	222	346	39.5	D	374	568	22.4	C	245	387				
	Overall	28.0	C	N/A	N/A	48.6	D	N/A	N/A	25.2	C	N/A	N/A	13.5	B	N/A	N/A

5 SITE TRIP GENERATION

The number of AM and PM peak hour vehicle trips that would be generated by the proposed development was forecast based on data published by ITE in the *Trip Generation Manual, 11th Edition*. The proposed development includes single family, attached housing, multi-family units and commercial uses. The following ITE Trip Generation Manual land uses were determined to be the best fit for the proposed development.

Single-Family Detached Housing (LUC 210)

- A single-family detached housing site includes any single-family detached home on an individual lot.

Single-Family Attached Housing (LUC 215)

- Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space. Includes duplexes and townhouses/rowhouses, joined side-by-side in a row and each with an outside entrance.

Mid-Rise Multi-Family Home (LUC 221)

- Mid-rise multifamily housing includes apartments and condominiums located in a building that has between four and 10 floors of living space. Access to individual dwelling units is through an outside building entrance, a lobby, elevator, and a set of hallways.

Strip Retail Plaza <40k SF (LUC 822)

- A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA).

Internal trip capture is the portion of trips generated by a mixed-used development that would begin and end within the development; resulting in no additional trips added to the adjacent road network. The internal trip capture spreadsheet for the proposed development is provided in **Appendix A.** Additionally, a portion of the site-generated commercial trips are already present on the adjacent road network and are interrupted to visit the site. These trips are known as "pass-by" trips and result in turning movements at the site driveways, but do not increase traffic volumes on the adjacent road network. The percentage of pass-by trips was determined based on the rates published by in ITE Trip Generation, 11th Edition.

Table 5.1: Trip Generation Summary

Land Use	ITE Code	Amount	Units	Average Daily Traffic (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
					In	Out	Total	In	Out	Total
Single-Family Detached Housing	210	39	DU	424	8	24	32	26	15	41
Single-Family Attached Housing	215	259	DU	1,923	40	89	129	86	65	151
Multi-Family Home (Mid-Rise)	221	174	DU	784	15	50	65	41	27	68
Total Trips				3,131	63	163	226	153	107	260
Internal Capture				*190*	*1*	*2*	*3*	*14*	*5*	*19*
New Trips				2,941	62	161	223	139	102	241
Strip Retail Plaza (<40k SF)	822	17,374	SF	963	25	16	41	58	57	115
Internal Capture				*190*	*2*	*1*	*3*	*5*	*14*	*19*
Pass-By (34%)				*327*	*8*	*5*	*13*	*16*	*16*	*32*
New Trips				446	15	10	25	37	27	64
Total Trips				4,094	88	179	267	211	164	375
Total Internal Capture				*380*	*3*	*3*	*6*	*19*	*19*	*38*
Total Pass-By				*327*	*8*	*5*	*13*	*16*	*16*	*32*
Total New Trips				3,387	77	171	248	176	129	305

6 Site Trip Distribution

The vehicular trips that would be generated by the proposed development were assigned to the study roads based on existing peak hour traffic patterns in the adjacent roadway network and the methodologies published by ITE.

The adjacent street traffic volumes were used to develop the global traffic distribution. To determine trips distribution for residential developments using the adjacent street traffic it is assumed that the trips in the AM are home-to-work based trips, and in the PM are work-to-home based trips. Therefore, the global trip generation is based on trips in the AM going from the residential development exiting the study network and returning to the study network in the PM. The ITE trip distribution methodology assumes that new trips will return to their direction of origin, while pass-by trips enter and exit the development in their original direction of travel. The global site trip distributions used in the analysis are summarized in **Table 6.1**.

Table 6.1: Site Generated Traffic Distribution

New Trips					
Residential				Commercial	
AM	PM	To/From	Via	AM	PM
15%	9%	North	Center Street	13%	13%
2%	2%		Hutton Street	2%	2%
11%	9%		Griswold Street	7%	11%
16%	16%	South	Sheldon Avenue	18%	16%
5%	6%		Hines Drive	3%	5%
14%	16%		Northville Road	16%	15%
19%	18%	East	7-Mile Road	13%	15%
5%	7%	West	Randolph Street	7%	6%
2%	2%		Dunlap Street	2%	2%
2%	4%		Main Street	5%	2%
2%	2%		Cady Street	2%	1%
7%	9%		Seven Mile Road	12%	12%
100%	100%	Total		100%	100%

Commercial Pass-by Trips			
From / To	Via	AM	PM
North to South	Center Street	43%	40%
South to North	Center Street	30%	36%
East to West	Cady Street	13%	13%
West to East	Cady Street	14%	11%
Total		100%	100%

The vehicular traffic volumes shown in **Table 5.1** were distributed to the roadway network according to the global traffic distribution shown in **Table 6.1**. The proposed development plan has multiple site access points to the adjacent roadway network; therefore, the impact of the development is dispersed throughout the area study intersections.

7 FUTURE CONDITIONS (2028)

The future conditions analysis evaluated the projected operations in 2028 ***with the proposed development***.

Future Baseline Operations (Pre-COVID)	
Future Conditions	• Existing Baseline Traffic Volume + • Growth Rate to 2028 • Background Developments • Pre-COVID intersection operations • Site Generated Traffic

The traffic volumes for this analysis utilized the site generated traffic volumes shown on Figure 5 which were added to the background 2028 traffic volumes shown on Figure 4 to calculate the future traffic volumes shown on Figure 6. The results of the 0future conditions analysis were based on the lane use and traffic control shown on **Figure 2** the traffic volumes shown on **Figure 6** in **Appendix D.**

7.1 FUTURE OPERATIONS

The results of the future conditions analysis are summarized in **Table 7.1** and are presented in **Appendix D.** The results of the analysis indicate that all study intersection approaches and movements are expected to operate similar to background conditions with the following delays, highlighted in **Table 7.1**.

Table 7.1: Future Conditions Analysis Summary

Intersection		Control	Approach	Background Conditions				Future Conditions				Difference			
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
1	Randolph Street & Wing Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	7.8	A	8.3	A	7.8	A	8.3	A	0.0	-	0.0	-
			NB	12.0	B	19.9	C	12.2	B	21.0	C	0.2	-	1.1	-
2	Randolph Street & Center Street	Stop (Minor)	EB	42.6	E	308.9	F	48.3	E	367.5	F	5.7	-	58.6	-
			WB	36.4	E	188.3	F	39.7	E	257.3	F	3.3	-	69.0	-
			NBL	9.3	A	9.4	A	9.4	A	9.5	A	0.1	-	0.1	-
			SBL	8.6	A	9.1	A	8.6	A	9.2	A	0.0	-	0.1	-
3	Dunlap Street & Wing Street	Stop (All-Way)	EB	8.6	A	9.9	A	8.7	A	10.1	B	0.1	-	0.2	A→B
			WB	9.1	A	12.6	B	9.2	A	13.0	B	0.1	-	0.4	-
			NB	8.6	A	11.8	B	8.7	A	12.0	B	0.1	-	0.2	-
			SB	8.9	A	10.5	B	9.0	A	10.7	B	0.1	-	0.2	-
			Overall	8.8	A	11.6	B	8.9	A	11.8	B	0.1	-	0.2	-
4	Center Street & Dunlap Street	Signalized	EBL	21.6	C	25.9	C	22.1	C	26.4	C	0.5	-	0.5	-
			EBTR	18.8	B	19.4	B	18.9	B	19.5	B	0.1	-	0.1	-
			WBL	19.1	B	17.5	B	19.2	B	17.6	B	0.1	-	0.1	-
			WBTR	19.9	B	20.9	C	20.4	C	21.5	C	0.5	B→C	0.6	-
			NBL	1.6	A	3.6	A	1.7	A	4.0	A	0.1	-	0.4	-
			NBTR	1.3	A	2.1	A	1.4	A	2.2	A	0.1	-	0.1	-
			SBL	6.4	A	6.0	A	6.6	A	6.3	A	0.2	-	0.3	-
			SBTR	8.0	A	10.2	B	8.2	A	10.6	B	0.2	-	0.4	-
			Overall	7.7	A	9.6	A	7.9	A	9.9	A	0.2	-	0.3	-

Intersection		Control	Approach	Background Conditions				Future Conditions				Difference			
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
5	Dunlap Street & Hutton Street	Stop (Minor)	EBL	7.6	A	8.2	A	7.7	A	8.2	A	0.1	-	0.0	-
			WB	Free				Free				Free			
			SB	10.8	B	14.4	B	11.0	B	15.0	C	0.2	-	0.6	B→C
6	Main Street & Wing Street	Stop (All-Way)	EB	10.1	B	11.3	B	10.2	B	11.6	B	0.1	-	0.3	-
			WB	9.0	A	10.2	B	9.1	A	10.4	B	0.1	-	0.2	-
			NB	9.0	A	11.6	B	9.0	A	11.8	B	0.0	-	0.2	-
			SB	10.0	B	10.7	B	10.1	B	10.8	B	0.1	-	0.1	-
			Overall	9.7	A	11.0	B	9.8	A	11.2	B	0.1	-	0.2	-
7	Main Street & Center Street	Signalized	EB	20.2	B	20.5	C	20.2	B	20.7	C	0.0	-	0.2	-
			WB	19.4	B	20.8	C	19.5	B	21.0	C	0.1	-	0.2	-
			NB	9.9	A	10.1	B	10.2	B	10.4	B	0.3	A→B	0.3	-
			SB	1.1	A	1.9	A	1.2	A	2.0	A	0.1	-	0.1	-
			Overall	9.8	A	10.6	B	9.9	A	10.7	B	0.1	-	0.1	-
8	Main Street & Hutton Street	Signalized	EBTL	0.3	A	0.3	A	0.3	A	0.3	A	0.0	-	0.0	-
			EBR	0.0	A	0.0	A	0.0	A	0.1	A	0.0	-	0.1	-
			WBTL	12.8	B	4.6	A	12.8	B	4.6	A	0.0	-	0.0	-
			WBR	13.7	B	5.9	A	13.7	B	5.9	A	0.0	-	0.0	-
			NB	17.2	B	19.1	B	17.6	B	19.8	B	0.4	-	0.7	-
			SBTL	21.6	C	86.3	F	21.8	C	106.8	F	0.2	-	20.5	-
			SBR	16.5	B	16.5	B	16.5	B	16.5	B	0.0	-	0.0	-
			Overall	12.7	B	24.0	C	12.9	B	29.7	C	0.2	-	5.7	-
9	Main Street & Griswold Street	Signalized	EBTL	12.1	B	25.0	C	12.1	B	25.1	C	0.0	-	0.1	-
			EBTR	10.2	B	18.3	B	10.2	B	18.3	B	0.0	-	0.0	-
			WBTL	10.2	B	12.1	B	10.2	B	12.1	B	0.0	-	0.0	-
			WBTR	10.5	B	12.9	B	10.5	B	12.9	B	0.0	-	0.0	-
			NB	15.6	B	17.5	B	15.9	B	17.8	B	0.3	-	0.3	-
			SB	17.2	B	44.9	D	17.3	B	51.9	D	0.1	-	7.0	-
			Overall	13.1	B	24.1	C	13.2	B	26.3	C	0.1	-	2.2	-
10	Main Street & Cady Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	7.9	A	8.9	A	7.9	A	8.9	A	0.0	-	0.0	-
			NB	10.0	B	20.3	C	10.0	B	20.3	C	0.0	-	0.0	-
11	Cady Street & Wing Street	Stop (All-Way)	EB	8.5	A	8.9	A	8.5	A	9.0	A	0.0	-	0.1	-
			WB	8.1	A	8.7	A	8.1	A	8.7	A	0.0	-	0.0	-
			NB	8.2	A	9.4	A	8.2	A	9.4	A	0.0	-	0.0	-
			SB	8.9	B	9.5	A	8.9	B	9.5	A	0.0	-	0.0	-
			Overall	8.6	A	9.2	A	8.6	A	9.2	A	0.0	-	0.0	-

Intersection		Control	Approach	Background Conditions				Future Conditions				Difference			
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
12	Cady Street & Center Street	Stop (Minor)	EB	19.9	C	41.3	E	21.6	C	47.7	E	1.7	-	6.4	-
			WB	48.7	E	184.1	F	58.4	F	258.2	F	9.7	E→F	74.1	-
			NBL	8.4	A	9.2	A	8.4	A	9.3	A	0.0	-	0.1	-
			SBL	9.1	A	9.0	A	9.2	A	9.1	A	0.1	-	0.1	-
13	Cady Street & Hutton Street / N. Site Drive	Stop (Minor)	EBL	7.8	A	7.6	A	7.8	A	7.6	A	0.0	-	0.0	-
			WBL	Free				7.6	A	7.5	A	N/A			
			NB	Free				12.1	B	11.8	B	N/A			
			SB	11.6	B	10.3	B	12.9	B	11.9	B	1.3	-	1.6	-
14	Cady Street & Church Street	Stop (Minor)	EB	Free				Free				Free			
			WB	Free				Free				Free			
			SB	10.4	B	10.0	B	10.5	B	10.0	B	0.1	-	0.0	-
15	Cady Street & Griswold Street	Stop (Minor)	EB	11.7	B	16.1	C	12.2	B	17.3	C	0.5	-	1.2	-
			WB	9.1	A	11.2	B	9.1	A	11.4	B	0.0	-	0.2	-
			NBL	7.4	A	7.6	A	7.4	A	7.6	A	0.0	-	0.0	-
			SBL	7.3	A	7.5	A	7.3	A	7.5	A	0.0	-	0.0	-
16	Beal Street & Griswold Street	Stop (EB & SB)	EB	0.0*	A	0.0*	A	4.9**	A	4.8**	A	4.9**	-	4.8**	-
			WB	Free				Free				Free			
			SB	3.8**	A	3.9**	A	4.1**	A	4.2**	A	0.3**	-	0.3**	-
17	Beal Street & River Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	7.3	A	7.5	A	7.5	A	7.6	A	0.2	-	0.1	-
			NB	9.1	A	9.9	A	9.7	A	10.7	B	0.6	-	0.8	A→B
18	Beal Street & Northville Road	Stop (Minor)	EB	10.6	B	13.0	B	10.7	B	13.3	B	0.1	-	0.3	-
			NBL	8.1	A	8.7	A	8.1	A	8.9	A	0.0	-	0.2	-
			SB	Free				Free				Free			
19	Seven Mile Road & First Street / Fairbrook	Stop (Minor)	EBL	1.5**	A	11.2**	B	1.8**	A	3.6**	A	0.3**	-	-7.6 **	B→A
			WB	Free				Free				Free			
			SB	12.7**	B	29.4**	D	14.5**	B	29.6**	D	1.8**	-	0.2**	-
			SW	10.2**	B	13.2**	B	6.4**	A	11.8**	B	-3.8**	B→A	-1.4**	-
20	Fairbrook Street & Wing Street	Stop (All-Way)	EB	7.5	A	8.1	A	7.5	A	8.3	A	0.0	-	0.2	-
			WB	6.8	A	7.9	A	7.0	A	8.1	A	0.2	-	0.2	-
			NB	7.5	A	8.5	A	7.6	A	8.6	A	0.1	-	0.1	-
			SB	7.5	A	8.3	A	7.6	A	8.4	A	0.1	-	0.1	-
			Overall	7.4	A	8.2	A	7.5	A	8.4	A	0.1	-	0.2	-
21	Fairbrook Street & Center Street	Stop (Minor)	EB	23.2	C	24.3	C	33.6	D	133.2	F	10.4	C→D	108.9	C→F
			WB	Free				37.3	E	134.8	F	N/A			
			NBL	8.5	A	10.2	B	8.6	A	10.3	B	0.1	-	0.1	-
			SBL	Free	0.0	0.0	0.0	9.4	A	9.5	A	N/A			

Intersection		Control	Approach	Background Conditions				Future Conditions				Difference			
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
22	Seven Mile Road & Wing Street / St. Lawrence Blvd	Stop (Minor)	EBL	7.8	A	9.3	A	7.8	A	9.3	A	0.0	-	0.0	-
			WBL	8.9	A	8.4	A	8.9	A	8.4	A	0.0	-	0.0	-
			NB	15.5	C	22.5	C	15.6	C	22.9	C	0.1	-	0.4	-
			SB	17.9	C	41.9	E	18.4	C	44.4	E	0.5	-	2.5	-
23	Seven Mile Road & Sheldon Avenue / Center Street	Signalized	EBL	20.7	C	33.5	C	20.8	C	33.8	C	0.1	-	0.3	-
			EBTR	34.1	C	27.0	C	34.3	C	27.1	C	0.2	-	0.1	-
			WBL	38.3	D	40.5	D	38.4	D	40.9	D	0.1	-	0.4	-
			WBT	18.3	B	28.1	C	18.3	B	28.4	C	0.0	-	0.3	-
			WBR	17.4	B	18.5	B	17.6	B	19.0	B	0.2	-	0.5	-
			NBL	20.2	C	43.0	D	21.5	C	47.4	D	1.3	-	4.4	-
			NBTR	22.2	C	28.9	C	22.9	C	32.0	C	0.7	-	3.1	-
			SBL	34.8	C	45.8	D	38.3	D	53.7	D	3.5	C→D	7.9	-
			SBTR	15.6	B	22.4	C	16.2	B	23.7	C	0.6	-	1.3	-
			Overall	**24.2**	**C**	**28.0**	**C**	**24.6**	**C**	**29.5**	**C**	**0.4**	**-**	**1.5**	**-**
24	Seven Mile Road & Hines Drive	Stop (NB Hines & WBL 7 Mile)	WBL	14.7**	B	22.0**	C	20.2**	C	21.8**	C	5.5**	B→C	-0.2**	-
			WBR	Free				Free				Free			
			NB	17.2**	C	33.3**	D	18.5**	C	49.8**	E	1.3**	-	16.5**	D→E
			SBL	4.9**	A	4.0**	A	5.1**	A	4.0**	A	0.2**	-	0.0**	-
25	Seven Mile Road & River Street	Stop (Minor)	EBL	7.7	A	8.8	A	7.8	A	8.9	A	0.1	-	0.1	-
			WB	Free				Free				Free			
			SB	11.0	B	13.8	B	12.0	B	15.7	C	1.0	-	1.9	B→C
26	SB Northville Road & N. Seven Mile Road	Stop/Yield (Minor)	EBT	11.7	B	15.1	C	12.1	B	15.6	C	0.4	-	0.5	-
			EBR	12.4	B	14.3	B	13.2	B	15.0	C	0.8	-	0.7	B→C
			WB	14.2	B	91.3	F	15.4	C	135.0	F	1.2	B→C	43.7	-
			SB	Free				Free				Free			
27	NB Northville Road & N. Seven Mile Road	Yield (Minor)	EBL	14.8	B	33.8	D	15.5	C	41.0	E	0.7	B→C	0.0	D→E
			NBTL	4.8	A	5.9	A	4.9	A	6.0	A	0.1	-	0.0	-
			NBT	Free				Free				Free			
28	Northville Road & S. Seven Mile Road	Signalized	WBL	21.6	C	22.5	C	21.6	C	22.5	C	0.0	-	0.0	-
			WBR	10.0	B	16.0	B	10.2	B	16.9	B	0.2	-	0.9	-
			NBT	41.7	D	142.7	F	43.6	D	157.3	F	1.9	-	14.6	-
			NBTR	60.7	E	144.8	F	60.7	E	158.9	F	0.0	-	14.1	-
			SBL	62.7	E	49.3	D	82.4	F	56.4	E	19.7	E→F	7.1	D→E
			SBT	11.3	B	12.3	B	11.4	B	12.4	B	0.1	-	0.1	-
			Overall	**39.0**	**D**	**63.9**	**E**	**44.3**	**D**	**69.7**	**E**	**5.3**	**-**	**5.8**	**-**

** Indicates no vehicle volume present ** Indicates SimTraffic delay was utilized*

7.1.1 Signal Warrant Analyses

In order to improve traffic operations to a LOS D or better for all intersection approaches and movements, signal warrant analyses were performed at the following intersections to determine if a traffic signal is warranted and recommended to mitigate background condition delays.

- Center Street & Randolph Street
- Center Street & Cady Street
- Northville Road & 7-Mile Road

Table 7.2: Future Signal Warrant Analysis Summary

Future		Center Street & Randolph Street	Center Street & Cady Street	Northville Road & 7-Mile Road
Warrant 1: Eight Hour		NO	NO	YES
Condition A	*Hours Met*	2	0	8
	Warrant Met	NO	NO	YES
Condition B	*Hours Met*	2	3	5
	Warrant Met	NO	NO	NO
Warrant 2: Four-Hour	*Hours Met*	2	3	7
	Warrant Met	NO	NO	YES
Warrant 3: Peak-Hour	*Hours Met*	0	0	3
	Warrant Met	NO	NO	YES
Warrant 4: Pedestrian Volume	*Hours Met*	0	0	0
	Warrant Met	NO	NO	NO

The results of the existing conditions signal warrant analyses shows that signal is warranted at the following intersection:

- Northville Road & 7-Mile Road meets Warrant 1A, 2, and 3.

The analysis shows that the Center Street & Randolph Street and Center Street & Cady Street do not meet the signal warrants. Therefore, these intersections should be monitored to determine if/when signals or additional traffic control is warranted or recommended.

7.2 Future Conditions Analysis Summary

In order to improve traffic operations to a LOS D or better for all intersection approaches and movements in the future conditions, the mitigation measures evaluated in the existing and background conditions analyses were investigated in addition to mitigation measures identified as necessary to accommodate the projected site traffic volumes. The recommended mitigation measures are summarized in **Table 7.3** and the results of the analysis with the recommendations is summarized in **Table 7.3**. A comparison between the results of background and future traffic condition analysis is provided in **Appendix F**. Additionally, a figure is provided in **Appendix F** depicting the proportional impact of trip generation at the study intersections of concern.

Table 7.3: Future Intersection Mitigation Summary

Intersection		Existing Conditions Recommendation	Background Conditions Recommendation	Future Conditions Recommendations
2	Randolph Street & Center Street	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*
8	Main Street & Hutton Street	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended
9	Main Street & Griswold Street	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended
12	Cady Street & Center Street	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*
21	Fairbrook Street & Center Street	*n/a*	*n/a*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*
22	Seven Mile Road & Wing Street / St. Lawrence	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*
23	Seven Mile Road & Sheldon Avenue / Center Street	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout
24	Seven Mile & Hines Drive	n/a	n/a	*Delays on the NB approach are due to impacts/queue lengths extending from Seven Mile Road & Sheldon Avenue / Center Street intersection.*
26/ 27	Northville Road & N. Seven Mile Road	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.
28	Northville Road & S. Seven Mile Road	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended
32	Center Street & Beal St. (Proposed)	*n/a*	*n/a*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*

* Details of the proposed signal timing optimization are included in Appendix F

Table 7.4: Future Conditions with Mitigation Analysis Summary

Intersection		Control	Approach	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
8	Main Street & Hutton Street	Signalized	EBTL	No Change		20.9	C	No Change				No Change			
			EBR			18.0	B								
			WBTL			17.4	B								
			WBR			25.1	C								
			NB			8.7	A								
			SBTL			11.8	B								
			SBR			8.3	A								
			Overall			18.0	B								
9	Main Street & Griswold Street	Signalized	EBTL	No Change		35.3	D	No Change		15.6	B	No Change		15.6	B
			EBTR			23.1	C			15.3	B			15.3	B
			WBTL			18.2	B			16.7	B			16.7	B
			WBTR			20.1	C			18.7	B			18.7	B
			NB			12.0	B			12.2	B			11.7	B
			SB			20.4	C			17.3	B			15.8	B
			Overall			20.3	C			16.0	B			15.6	B
26	SB Northville Road & N. Seven Mile Road	Signalized	EBL	32.7	C	37.1	D	32.8	C	35.9	D	32.8	C	35.9	D
			EBR	16.0	B	16.9	B	13.9	B	16.8	B	13.9	B	16.8	B
			NBL	3.2	A	5.7	A	3.2	A	5.7	A	3.2	A	5.7	A
			NBT	0.1	A	0.3	A	0.1	A	0.2	A	0.1	A	0.2	A
			SB	25.0	C	26.4	C	25.0	C	25.8	C	25.0	C	25.8	C
			Overall	13.0	B	12.4	B	12.0	B	12.6	B	12.0	B	12.6	B
28	Northville Road & S. Seven Mile Road	Signalized	WBL	35.2	D	33.5	C	35.2	D	42.4	D	35.2	D	42.4	D
			WBR	13.4	B	26.0	C	12.9	B	24.7	C	12.9	B	24.7	C
			NBT	30.1	C	47.7	D	33.7	C	42.7	D	33.7	C	42.7	D
			NBTR	34.5	C	49.0	D	36.7	D	44.1	D	36.7	D	44.1	D
			SBL	35.4	D	40.4	D	30.7	C	34.7	C	30.7	C	34.7	C
			SBT	10.3	B	4.3	A	10.3	B	4.2	A	10.3	B	4.2	A
			Overall	28.1	C	33.0	C	28.1	C	31.6	C	28.1	C	31.6	C

Table 7.5: Center St. and Seven Mile Rd. Intersection Mitigation Summary (Future)

Peak Period	Approach	Existing Conditions				Option 1 Signalization Improvements				Option 2 Bridge Replacement				Option 3 Roundabout			
		Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)	Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)	Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)	Delay (s/veh)	LOS	Avg. (ft)	95th % (ft)
AM	EBL	20.8	C	22	50	23.9	C	24	54	20.8	C	26	84	9.3	A	219	435
	EBTR	34.3	C	191	306	53.6	D	209	365	34.3	C	195	327				
	WBL	38.4	D	21	52	29.6	C	20	46	38.4	D	21	53	5.1	A	35	78
	WBT	18.3	B	49	99	28.3	C	52	117	18.3	B	49	102				
	WBR	17.6	B	17	47	23.8	C	14	38	17.6	B	14	44				
	NBL	21.5	B	27	63	22.1	C	18	43	21.5	C	19	48	13.8	B	2174	3787
	NBT	22.9	C	301	527	54.9	D	466	831	19.4	B	225	421				
	NBR									11.3	B	33	88				
	SBL	38.3	D	81	161	33.7	C	61	108	31.4	C	64	129	5.6	A	144	308
	SBTR	16.2	B	127	235	29.8	C	144	234	16.2	B	135	229				
	Overall	24.6	C	N/A	N/A	43.0	D	N/A	N/A	23.0	C	N/A	N/A	9.2	A	N/A	N/A
PM	EBL	33.8	C	21	50	31.6	C	25	95	33.8	C	37	94	11.4	B	112	271
	EBTR	27.1	C	150	237	54.1	D	213	331	27.1	C	158	267				
	WBL	40.9	D	80	182	37.4	D	90	235	40.9	D	110	239	10.7	B	422	774
	WBT	28.4	C	193	308	52.3	D	252	420	28.4	C	216	387				
	WBR	19.0	B	65	182	27.7	C	121	318	19.0	B	100	293				
	NBL	47.4	D	53	73	36.7	D	46	73	47.4	D	219	479	22.2	C	5215	9441
	NBT	32.0	C	3986	7609	72.9	F	3639	6264	22.4	C	361	650				
	NBR									11.6	B	44	99				
	SBL	53.7	D	94	207	33.7	C	109	294	36.4	D	113	250	17.1	C	444	744
	SBTR	23.7	C	250	407	45.0	D	355	557	23.7	C	241	381				
	Overall	29.5	C	N/A	N/A	53.1	D	N/A	N/A	26.1	C	N/A	N/A	15.8	C	N/A	N/A

8 CONCLUSIONS

- The recommended improvements identified for existing and background conditions were found to mitigate the future intersection delays at the study intersections with the additional of the site generated traffic volumes.
- No additional mitigation measures were identified with the additional site generated traffic in the Future conditions.
- The results of this analysis concludes that the majority of intersections within the City of Northville will experience a negligible increase in traffic volumes associated with the Northville Downs development. Additionally, alternatives for mitigating existing delays are recommended which will also support the projected increases in traffic volumes generated by the proposed development. Furthermore, the recommendations included herein are consistent with the recommendations identified by the City's Mobility Task Force.

Table 8.1: Analysis and Mitigation Summary

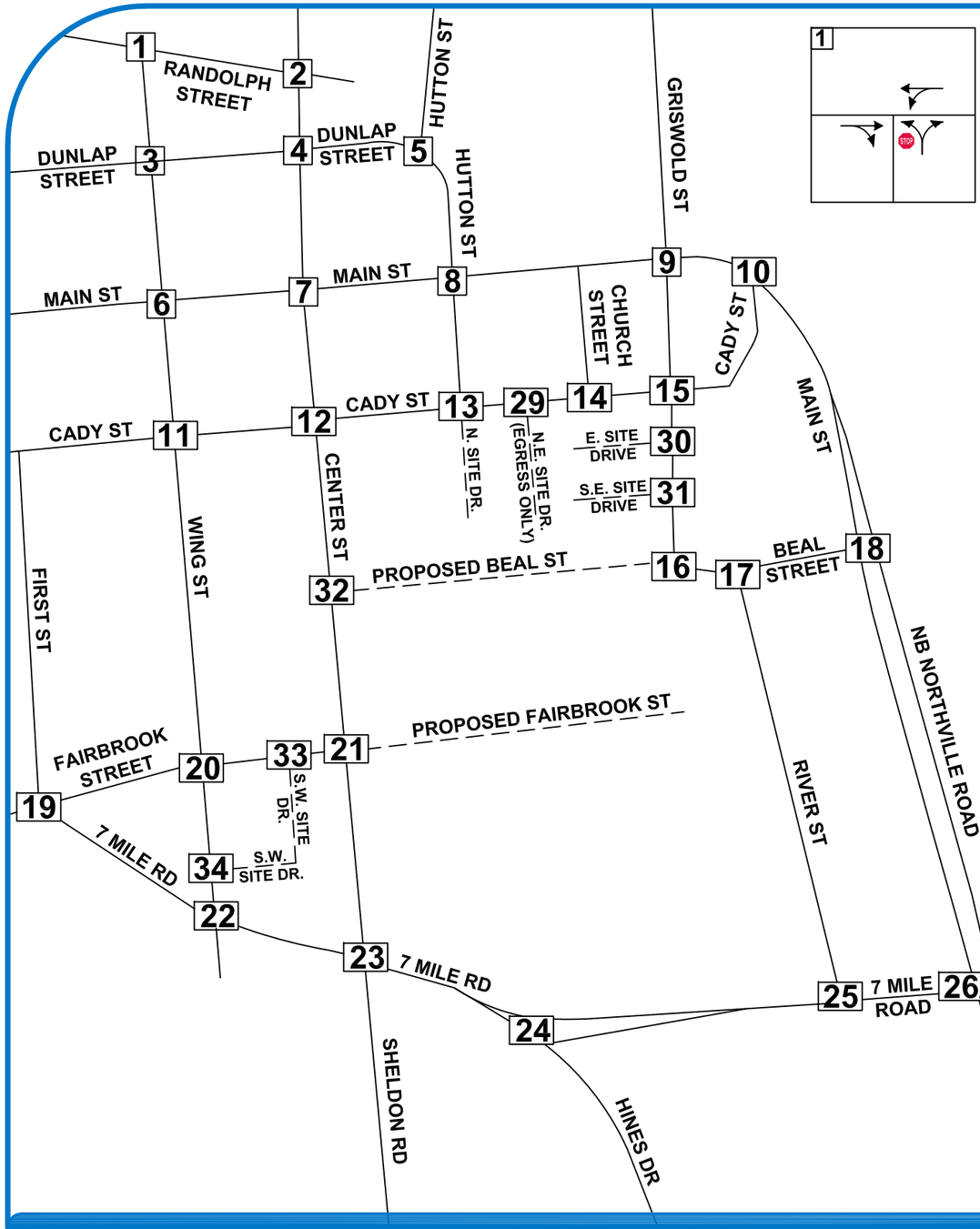
Intersection		Existing Conditions Recommendation	Background Conditions Recommendation	Future Conditions Recommendations
2	Randolph Street & Center Street	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*
8	Main Street & Hutton Street	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended
9	Main Street & Griswold Street	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended
12	Cady Street & Center Street	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*	*Continue to monitor intersection operations*
21	Fairbrook Street & Center Street	*n/a*	*n/a*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*
22	Seven Mile Road & Wing Street / St. Lawrence	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*
23	Seven Mile Road & Sheldon Avenue / Center Street	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout	Option 2/2A: Replace bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500-ft of storage length. AND/OR Option 3/3A: Roundabout
24	Seven Mile & Hines Drive	n/a	n/a	*Delays on the NB approach are due to impacts/queue lengths extending from Seven Mile Road & Sheldon Avenue / Center Street intersection.*
26/ 27	Northville Road & N. Seven Mile Road	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.	Signal Recommended Delays for WB Stop control approach, northbound left-turn sight distance limitations.
28	Northville Road & S. Seven Mile Road	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended	Signal Timing Optimization Recommended
32	Center Street & Beal St. (Proposed)	*n/a*	*n/a*	*A review of network simulations indicates acceptable operations. Queue lengths were minimal and vehicles were able to find gaps in traffic.*

* Details of the proposed signal timing optimization are included in Appendix F

EXHIBIT 1: INTERSECTION MITIGATION SUMMARY

Appendix A

BACKGROUND INFORMATION



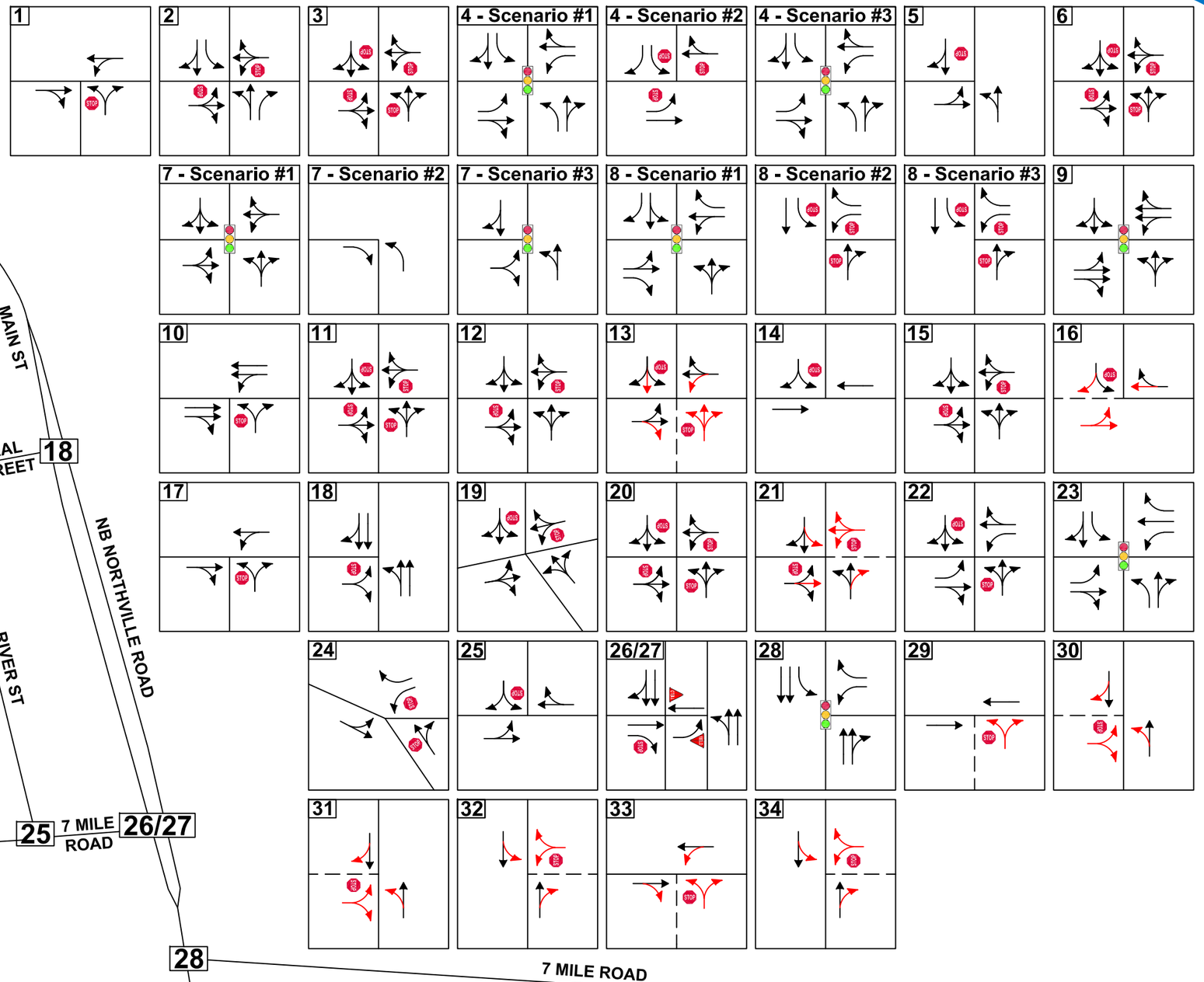


FIGURE 2
LANE USE AND TRAFFIC CONTROL

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION
- EXISTING LANE USE
- PROPOSED LANE USE

NORTH

SCALE: NOT TO SCALE

F&V

Traffic Data Collection, LLC
www:tdccounts.com
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 5RA SW

File Name : TMC_1 Main & Center_5-15-18
Site Code : TMC_1
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

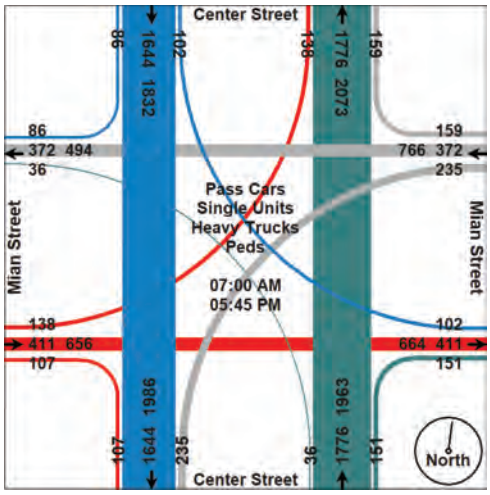
	Center Street Southbound					Mian Street Westbound					Center Street Northbound					Mian Street Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	126	7	5	139	2	9	8	0	19	8	57	1	0	66	11	18	4	1	34	258
07:15 AM	3	81	3	2	89	4	18	7	1	30	7	96	1	1	105	5	25	5	0	35	259
07:30 AM	1	86	7	2	96	3	14	12	1	30	9	115	0	2	126	9	22	9	0	40	292
07:45 AM	5	98	5	3	111	5	15	12	1	33	6	132	2	2	142	4	22	8	0	34	320
Total	10	391	22	12	435	14	56	39	3	112	30	400	4	5	439	29	87	26	1	143	1129
08:00 AM	7	82	13	1	103	7	15	7	0	29	7	96	1	2	106	5	34	8	2	49	287
08:15 AM	7	72	6	0	85	8	15	13	0	36	7	89	2	0	98	3	26	20	0	49	268
08:30 AM	5	82	6	3	96	6	15	12	0	33	8	106	0	1	115	3	32	9	3	47	291
08:45 AM	5	80	7	2	94	6	21	12	1	40	10	104	5	5	124	6	25	9	3	43	301
Total	24	316	32	6	378	27	66	44	1	138	32	395	8	8	443	17	117	46	8	188	1147
*** BREAK ***																					
04:00 PM	10	76	6	9	101	19	27	11	7	64	24	100	2	7	133	7	27	7	9	50	348
04:15 PM	7	105	6	4	122	9	37	11	2	59	11	122	4	5	142	5	32	9	11	57	380
04:30 PM	8	118	4	8	138	11	32	17	1	61	16	116	3	9	144	10	19	9	12	50	393
04:45 PM	4	123	6	4	137	20	39	18	4	81	10	120	2	6	138	6	21	8	5	40	396
Total	29	422	22	25	498	59	135	57	14	265	61	458	11	27	557	28	99	33	37	197	1517
05:00 PM	9	130	7	8	154	9	36	23	7	75	6	141	2	7	156	7	30	13	1	51	436
05:15 PM	7	134	5	12	158	13	24	26	7	70	6	131	4	11	152	10	28	7	9	54	434
05:30 PM	6	137	6	9	158	16	23	20	6	65	8	133	1	10	152	9	35	4	8	56	431
05:45 PM	1	114	8	12	135	21	32	26	4	83	8	118	6	16	148	7	15	9	8	39	405
Total	23	515	26	41	605	59	115	95	24	293	28	523	13	44	608	33	108	33	26	200	1706
Grand Total	86	1644	102	84	1916	159	372	235	42	808	151	1776	36	84	2047	107	411	138	72	728	5499
Apprch %	4.5	85.8	5.3	4.4		19.7	46	29.1	5.2		7.4	86.8	1.8	4.1		14.7	56.5	19	9.9		
Total %	1.6	29.9	1.9	1.5	34.8	2.9	6.8	4.3	0.8	14.7	2.7	32.3	0.7	1.5	37.2	1.9	7.5	2.5	1.3	13.2	
Pass Cars	86	1612	101	0	1799	159	367	234	0	760	150	1740	35	0	1925	106	407	136	0	649	5133
% Pass Cars	100	98.1	99	0	93.9	100	98.7	99.6	0	94.1	99.3	98	97.2	0	94	99.1	99	98.6	0	89.1	93.3
Single Units	0	32	1	0	33	0	5	1	0	6	1	34	1	0	36	1	3	2	0	6	81
% Single Units	0	1.9	1	0	1.7	0	1.3	0.4	0	0.7	0.7	1.9	2.8	0	1.8	0.9	0.7	1.4	0	0.8	1.5
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0	0.2	0	0	0.1	0.1
Peds	0	0	0	84	84	0	0	0	42	42	0	0	0	84	84	0	0	0	72	72	282
% Peds	0	0	0	100	4.4	0	0	0	100	5.2	0	0	0	100	4.1	0	0	0	100	9.9	5.1

TDC Traffic Comments: Signalized intersection with ped. signals for all quadrants. No push buttons. Video VCU camera was located within SW intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC
www:tdccounts.com
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 5RA SW

File Name : TMC_1 Main & Center_5-15-18
Site Code : TMC_1
Start Date : 5/15/2018
Page No : 2



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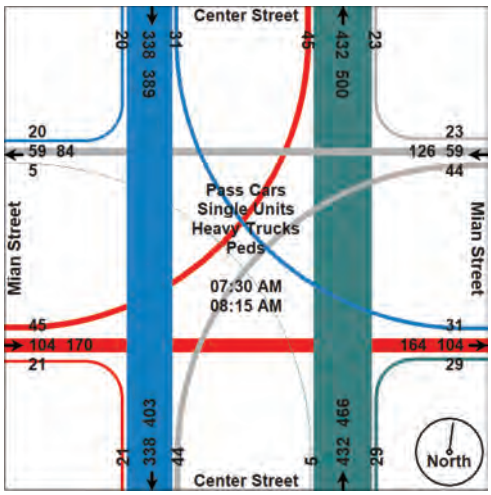
Count By Miovision Video VCU 5RA SW

File Name : TMC_1 Main & Center_5-15-18
Site Code : TMC_1
Start Date : 5/15/2018
Page No : 3

	Center Street Southbound				Mian Street Westbound				Center Street Northbound				Mian Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	86	7	94	3	14	12	29	**9**	115	0	124	**9**	22	9	40	287
07:45 AM	5	**98**	5	**108**	5	**15**	12	32	6	**132**	**2**	**140**	4	22	8	34	**314**
08:00 AM	**7**	82	**13**	102	7	15	7	29	7	96	1	104	5	**34**	8	47	282
08:15 AM	7	72	6	85	**8**	15	**13**	**36**	7	89	2	98	3	26	**20**	**49**	268
Total Volume	20	338	31	389	23	59	44	126	29	432	5	466	21	104	45	170	1151
% App. Total	5.1	86.9	8		18.3	46.8	34.9		6.2	92.7	1.1		12.4	61.2	26.5		
PHF	.714	.862	.596	.900	.719	.983	.846	.875	.806	.818	.625	.832	.583	.765	.563	.867	.916
Pass Cars	20	326	31	377	23	57	44	124	29	417	5	451	21	103	44	168	1120
% Pass Cars	100	96.4	100	96.9	100	96.6	100	98.4	100	96.5	100	96.8	100	99.0	97.8	98.8	97.3
Single Units	0	12	0	12	0	2	0	2	0	15	0	15	0	1	1	2	31
% Single Units	0	3.6	0	3.1	0	3.4	0	1.6	0	3.5	0	3.2	0	1.0	2.2	1.2	2.7
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

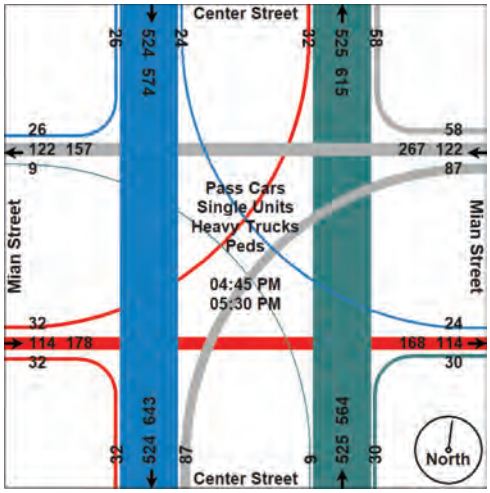


Traffic Data Collection, LLC
www:tdccounts.com
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 5RA SW

File Name : TMC_1 Main & Center_5-15-18
Site Code : TMC_1
Start Date : 5/15/2018
Page No : 4

	Center Street Southbound				Mian Street Westbound				Center Street Northbound				Mian Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	4	123	6	133	**20**	**39**	18	**77**	**10**	120	2	132	6	21	8	35	377
05:00 PM	**9**	130	**7**	146	9	36	23	68	6	**141**	2	**149**	7	30	**13**	**50**	**413**
05:15 PM	7	134	5	146	13	24	**26**	63	6	131	**4**	141	**10**	28	7	45	395
05:30 PM	6	**137**	6	**149**	16	23	20	59	8	133	1	142	9	**35**	4	48	398
Total Volume	26	524	24	574	58	122	87	267	30	525	9	564	32	114	32	178	1583
% App. Total	4.5	91.3	4.2		21.7	45.7	32.6		5.3	93.1	1.6		18	64	18		
PHF	.722	.956	.857	.963	.725	.782	.837	.867	.750	.931	.563	.946	.800	.814	.615	.890	.958
Pass Cars	26	521	24	571	58	122	87	267	30	525	9	564	32	112	32	176	1578
% Pass Cars	100	99.4	100	99.5	100	100	100	100	100	100	100	100	100	98.2	100	98.9	99.7
Single Units	0	3	0	3	0	0	0	0	0	0	0	0	0	2	0	2	5
% Single Units	0	0.6	0	0.5	0	0	0	0	0	0	0	0	0	1.8	0	1.1	0.3
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 5DV SW

File Name : TMC_2 Main & Hutton_5-15-18
Site Code : TMC_2
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Hutton Street Southbound					Main Street Westbound					Hutton Street Northbound					Main Street Eastbound					
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
07:00 AM	3	0	27	1	31	12	18	0	0	30	2	3	0	1	6	0	31	0	0	31	98
07:15 AM	1	2	29	4	36	16	21	1	1	39	8	2	2	0	12	1	32	1	0	34	121
07:30 AM	0	0	41	1	42	37	27	1	0	65	6	2	2	2	12	1	33	1	0	35	154
07:45 AM	2	2	40	0	44	22	30	3	0	55	5	8	2	0	15	1	38	0	0	39	153
Total	6	4	137	6	153	87	96	5	1	189	21	15	6	3	45	3	134	2	0	139	526
08:00 AM	2	2	40	1	45	24	27	1	2	54	3	2	0	5	10	1	45	2	1	49	158
08:15 AM	5	2	38	0	45	27	29	3	0	59	6	2	1	2	11	1	35	1	0	37	152
08:30 AM	2	3	41	2	48	39	32	1	2	74	11	2	1	2	16	2	38	3	0	43	181
08:45 AM	4	2	50	6	62	39	32	2	0	73	6	6	4	5	21	4	30	1	0	35	191
Total	13	9	169	9	200	129	120	7	4	260	26	12	6	14	58	8	148	7	1	164	682
*** BREAK ***																					
04:00 PM	5	0	50	6	61	63	60	3	7	133	4	10	0	7	21	1	43	10	3	57	272
04:15 PM	3	3	41	3	50	52	49	0	1	102	1	10	2	3	16	5	40	8	4	57	225
04:30 PM	5	5	39	2	51	65	53	4	2	124	3	8	1	1	13	10	26	4	3	43	231
04:45 PM	4	4	62	3	73	81	73	3	6	163	4	7	3	5	19	1	34	1	7	43	298
Total	17	12	192	14	235	261	235	10	16	522	12	35	6	16	69	17	143	23	17	200	1026
05:00 PM	2	4	66	2	74	74	65	1	1	141	4	9	3	3	19	4	36	4	4	48	282
05:15 PM	4	3	45	6	58	64	58	2	1	125	3	6	1	5	15	1	36	1	7	45	243
05:30 PM	4	0	65	4	73	68	55	4	0	127	4	4	2	10	20	5	43	1	6	55	275
05:45 PM	10	5	57	5	77	67	68	3	0	138	2	3	3	11	19	2	29	5	2	38	272
Total	20	12	233	17	282	273	246	10	2	531	13	22	9	29	73	12	144	11	19	186	1072
Grand Total	56	37	731	46	870	750	697	32	23	1502	72	84	27	62	245	40	569	43	37	689	3306
Apprch %	6.4	4.3	84	5.3		49.9	46.4	2.1	1.5		29.4	34.3	11	25.3		5.8	82.6	6.2	5.4		
Total %	1.7	1.1	22.1	1.4	26.3	22.7	21.1	1	0.7	45.4	2.2	2.5	0.8	1.9	7.4	1.2	17.2	1.3	1.1	20.8	
Pass Cars	56	33	727	0	816	742	693	32	0	1467	71	84	27	0	182	40	566	43	0	649	3114
% Pass Cars	100	89.2	99.5	0	93.8	98.9	99.4	100	0	97.7	98.6	100	100	0	74.3	100	99.5	100	0	94.2	94.2
Single Units	0	4	4	0	8	8	4	0	0	12	1	0	0	0	1	0	3	0	0	3	24
% Single Units	0	10.8	0.5	0	0.9	1.1	0.6	0	0	0.8	1.4	0	0	0	0.4	0	0.5	0	0	0.4	0.7
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	46	46	0	0	0	23	23	0	0	0	62	62	0	0	0	37	37	168
% Peds	0	0	0	100	5.3	0	0	0	100	1.5	0	0	0	100	25.3	0	0	0	100	5.4	5.1

TDC Traffic Comments: Signalized intersection with ped. signals for all quadrants. No push buttons. Video VCU camera was located within SW intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC
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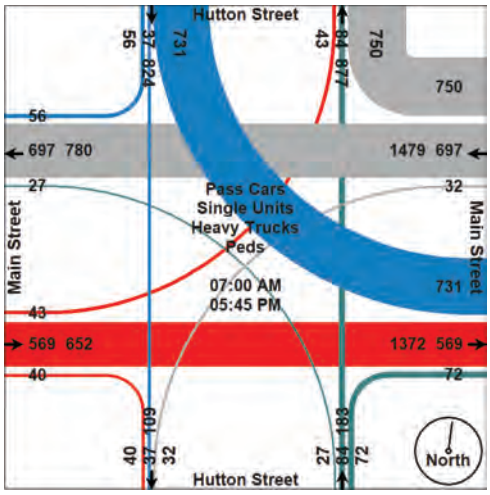
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 5DV SW

File Name : TMC_2 Main & Hutton_5-15-18
Site Code : TMC_2
Start Date : 5/15/2018
Page No : 2



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Traffic Study Performed For:
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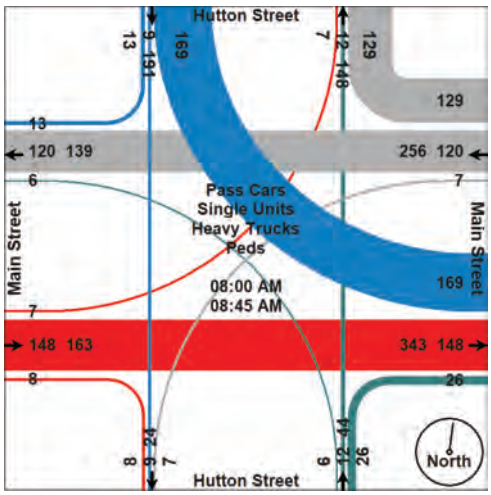
Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 5DV SW

File Name : TMC_2 Main & Hutton_5-15-18
Site Code : TMC_2
Start Date : 5/15/2018
Page No : 3

	Hutton Street Southbound				Main Street Westbound				Hutton Street Northbound				Main Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	2	40	44	24	27	1	52	3	2	0	5	1	**45**	2	**48**	149
08:15 AM	**5**	2	38	45	27	29	**3**	59	6	2	1	9	1	35	1	37	150
08:30 AM	2	**3**	41	46	**39**	**32**	1	72	**11**	2	1	14	2	38	**3**	43	175
08:45 AM	4	2	**50**	**56**	39	32	2	**73**	6	**6**	**4**	**16**	**4**	30	1	35	**180**
Total Volume	13	9	169	191	129	120	7	256	26	12	6	44	8	148	7	163	654
% App. Total	6.8	4.7	88.5	0	50.4	46.9	2.7	0	59.1	27.3	13.6	0	4.9	90.8	4.3	0	0
PHF	.650	.750	.845	.853	.827	.938	.583	.877	.591	.500	.375	.688	.500	.822	.583	.849	.908
Pass Cars	13	8	166	187	126	118	7	251	26	12	6	44	8	148	7	163	645
% Pass Cars	100	88.9	98.2	97.9	97.7	98.3	100	98.0	100	100	100	100	100	100	100	100	98.6
Single Units	0	1	3	4	3	2	0	5	0	0	0	0	0	0	0	0	9
% Single Units	0	11.1	1.8	2.1	2.3	1.7	0	2.0	0	0	0	0	0	0	0	0	1.4
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC
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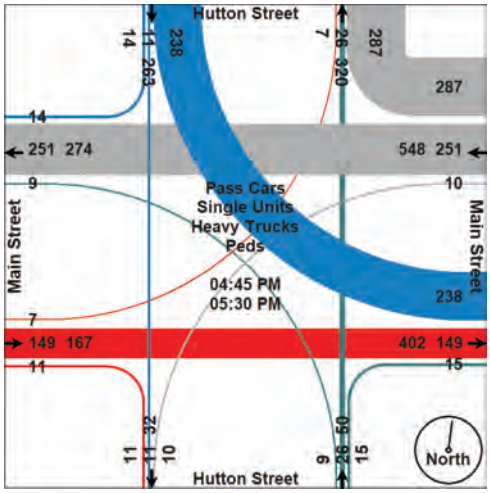
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 5DV SW

File Name : TMC_2 Main & Hutton_5-15-18
Site Code : TMC_2
Start Date : 5/15/2018
Page No : 4

	Hutton Street Southbound				Main Street Westbound				Hutton Street Northbound				Main Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**4**	**4**	62	70	**81**	**73**	3	**157**	**4**	7	**3**	14	1	34	1	36	**277**
05:00 PM	2	4	**66**	**72**	74	65	1	140	4	**9**	3	**16**	4	36	**4**	44	272
05:15 PM	4	3	45	52	64	58	2	124	3	6	1	10	1	36	1	38	224
05:30 PM	4	0	65	69	68	55	**4**	127	4	4	2	10	**5**	**43**	1	**49**	255
Total Volume	14	11	238	263	287	251	10	548	15	26	9	50	11	149	7	167	1028
% App. Total	5.3	4.2	90.5		52.4	45.8	1.8		30	52	18		6.6	89.2	4.2		
PHF	.875	.688	.902	.913	.886	.860	.625	.873	.938	.722	.750	.781	.550	.866	.438	.852	.928
Pass Cars	14	11	238	263	285	251	10	546	15	26	9	50	11	149	7	167	1026
% Pass Cars	100	100	100	100	99.3	100	100	99.6	100	100	100	100	100	100	100	100	99.8
Single Units	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
% Single Units	0	0	0	0	0.7	0	0	0.4	0	0	0	0	0	0	0	0	0.2
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 24L NE

File Name : TMC_3 Main & Griswold_5-15-18
Site Code : TMC_3
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Griswold Street Southbound					Main Street Westbound					Griswold Street Northbound					Main Street Eastbound					
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
07:00 AM	17	10	13	0	40	15	22	0	0	37	3	16	2	3	24	0	26	12	2	40	141
07:15 AM	23	13	21	0	57	18	28	1	0	47	1	21	3	3	28	0	36	20	4	60	192
07:30 AM	30	8	23	0	61	21	34	0	0	55	0	42	6	2	50	2	33	19	2	56	222
07:45 AM	29	17	21	0	67	33	35	0	0	68	1	36	3	1	41	1	44	14	2	61	237
Total	99	48	78	0	225	87	119	1	0	207	5	115	14	9	143	3	139	65	10	217	792
08:00 AM	22	10	18	1	51	28	41	0	0	69	3	43	1	1	48	3	46	21	0	70	238
08:15 AM	28	9	14	0	51	27	39	1	0	67	1	40	0	0	41	0	36	23	2	61	220
08:30 AM	30	11	19	0	60	29	46	0	1	76	3	38	2	0	43	2	32	16	1	51	230
08:45 AM	24	10	28	0	62	32	59	0	0	91	3	31	1	0	35	5	48	26	1	80	268
Total	104	40	79	1	224	116	185	1	1	303	10	152	4	1	167	10	162	86	4	262	956
*** BREAK ***																					
04:00 PM	31	15	35	0	81	42	96	3	0	141	2	23	9	3	37	5	63	19	2	89	348
04:15 PM	29	15	41	0	85	49	67	1	0	117	3	31	7	0	41	4	47	25	0	76	319
04:30 PM	38	10	37	0	85	55	89	4	0	148	7	46	5	3	61	2	44	14	1	61	355
04:45 PM	44	16	49	0	109	52	101	0	4	157	5	34	10	3	52	2	63	22	4	91	409
Total	142	56	162	0	360	198	353	8	4	563	17	134	31	9	191	13	217	80	7	317	1431
05:00 PM	53	18	40	0	111	57	96	0	1	154	3	55	9	2	69	9	68	23	1	101	435
05:15 PM	47	21	46	0	114	76	81	2	0	159	2	56	8	0	66	1	54	20	0	75	414
05:30 PM	39	27	57	2	125	70	92	0	0	162	6	47	6	3	62	4	71	32	4	111	460
05:45 PM	54	30	42	2	128	72	84	0	1	157	0	45	10	2	57	4	54	23	1	82	424
Total	193	96	185	4	478	275	353	2	2	632	11	203	33	7	254	18	247	98	6	369	1733
Grand Total	538	240	504	5	1287	676	1010	12	7	1705	43	604	82	26	755	44	765	329	27	1165	4912
Apprch %	41.8	18.6	39.2	0.4		39.6	59.2	0.7	0.4		5.7	80	10.9	3.4		3.8	65.7	28.2	2.3		
Total %	11	4.9	10.3	0.1	26.2	13.8	20.6	0.2	0.1	34.7	0.9	12.3	1.7	0.5	15.4	0.9	15.6	6.7	0.5	23.7	
Pass Cars	533	237	491	0	1261	649	1003	12	0	1664	43	599	82	0	724	44	759	324	0	1127	4776
% Pass Cars	99.1	98.8	97.4	0	98	96	99.3	100	0	97.6	100	99.2	100	0	95.9	100	99.2	98.5	0	96.7	97.2
Single Units	5	3	11	0	19	26	7	0	0	33	0	4	0	0	4	0	6	5	0	11	67
% Single Units	0.9	1.2	2.2	0	1.5	3.8	0.7	0	0	1.9	0	0.7	0	0	0.5	0	0.8	1.5	0	0.9	1.4
Heavy Trucks	0	0	2	0	2	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	4
% Heavy Trucks	0	0	0.4	0	0.2	0.1	0	0	0	0.1	0	0.2	0	0	0.1	0	0	0	0	0	0.1
Peds	0	0	0	5	5	0	0	0	7	7	0	0	0	26	26	0	0	0	27	27	65
% Peds	0	0	0	100	0.4	0	0	0	100	0.4	0	0	0	100	3.4	0	0	0	100	2.3	1.3

TDC Traffic Comments: Signalized intersection with push button ped. signals for all quadrants. Video VCU camera was located within SE intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC
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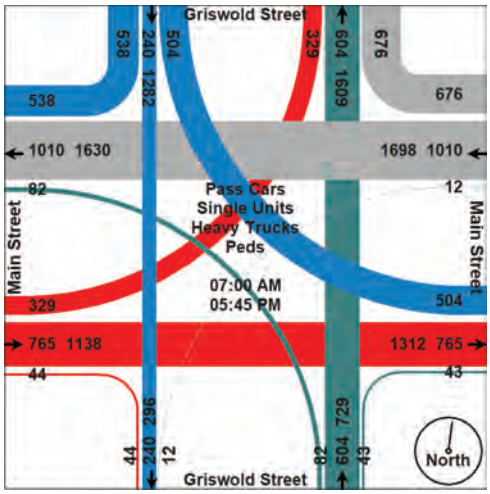
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 24L NE

File Name : TMC_3 Main & Griswold_5-15-18
Site Code : TMC_3
Start Date : 5/15/2018
Page No : 2



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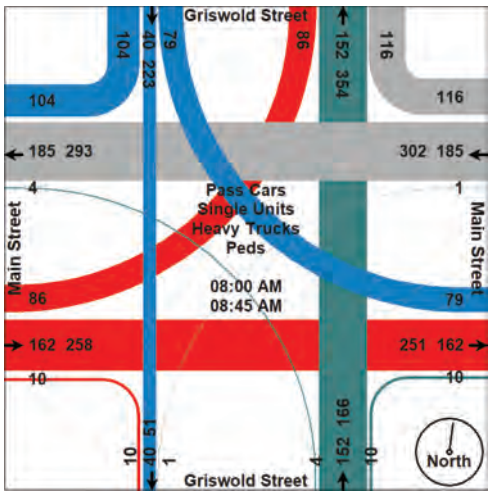
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 24L NE

File Name : TMC_3 Main & Griswold_5-15-18
Site Code : TMC_3
Start Date : 5/15/2018
Page No : 3

	Griswold Street Southbound				Main Street Westbound				Griswold Street Northbound				Main Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	22	10	18	50	28	41	0	69	**3**	**43**	1	**47**	3	46	21	70	236
08:15 AM	28	9	14	51	27	39	**1**	67	1	40	0	41	0	36	23	59	218
08:30 AM	**30**	**11**	19	60	29	46	0	75	3	38	**2**	43	2	32	16	50	228
08:45 AM	24	10	**28**	**62**	**32**	**59**	0	**91**	3	31	1	35	**5**	**48**	**26**	**79**	**267**
Total Volume	104	40	79	223	116	185	1	302	10	152	4	166	10	162	86	258	949
% App. Total	46.6	17.9	35.4		38.4	61.3	0.3		6	91.6	2.4		3.9	62.8	33.3		
PHF	.867	.909	.705	.899	.906	.784	.250	.830	.833	.884	.500	.883	.500	.844	.827	.816	.889
Pass Cars	102	38	76	216	108	182	1	291	10	151	4	165	10	160	85	255	927
% Pass Cars	98.1	95.0	96.2	96.9	93.1	98.4	100	96.4	100	99.3	100	99.4	100	98.8	98.8	98.8	97.7
Single Units	2	2	3	7	8	3	0	11	0	1	0	1	0	2	1	3	22
% Single Units	1.9	5.0	3.8	3.1	6.9	1.6	0	3.6	0	0.7	0	0.6	0	1.2	1.2	1.2	2.3
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

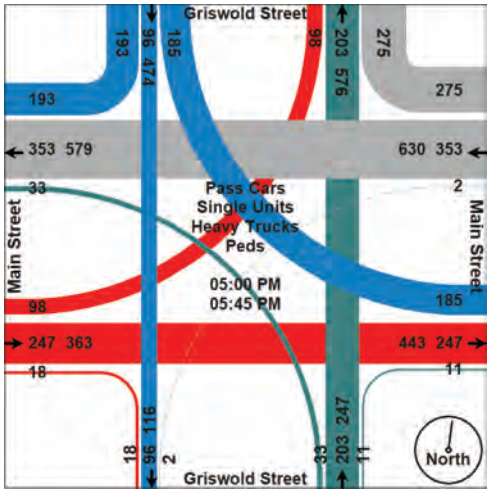


Traffic Data Collection, LLC
www:tdccounts.com
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 24L NE

File Name : TMC_3 Main & Griswold_5-15-18
Site Code : TMC_3
Start Date : 5/15/2018
Page No : 4

	Griswold Street Southbound				Main Street Westbound				Griswold Street Northbound				Main Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	53	18	40	111	57	**96**	0	153	3	55	9	**67**	**9**	68	23	100	431
05:15 PM	47	21	46	114	**76**	81	**2**	159	2	**56**	8	66	1	54	20	75	414
05:30 PM	39	27	**57**	123	70	92	0	**162**	**6**	47	6	59	4	**71**	**32**	**107**	**451**
05:45 PM	**54**	**30**	42	**126**	72	84	0	156	0	45	**10**	55	4	54	23	81	418
Total Volume	193	96	185	474	275	353	2	630	11	203	33	247	18	247	98	363	1714
% App. Total	40.7	20.3	39		43.7	56	0.3		4.5	82.2	13.4		5	68	27		
PHF	.894	.800	.811	.940	.905	.919	.250	.972	.458	.906	.825	.922	.500	.870	.766	.848	.950
Pass Cars	192	96	182	470	272	352	2	626	11	201	33	245	18	244	97	359	1700
% Pass Cars	99.5	100	98.4	99.2	98.9	99.7	100	99.4	100	99.0	100	99.2	100	98.8	99.0	98.9	99.2
Single Units	1	0	3	4	3	1	0	4	0	2	0	2	0	3	1	4	14
% Single Units	0.5	0	1.6	0.8	1.1	0.3	0	0.6	0	1.0	0	0.8	0	1.2	1.0	1.1	0.8
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 61E SE

File Name : TMC_4 Cady & Center_5-15-18
Site Code : TMC_4
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Center Street Southbound					Cady Street Westbound					Center Street Northbound					Cady Street Eastbound					
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
07:00 AM	3	143	1	0	147	4	1	21	0	26	17	64	2	0	83	1	1	0	0	2	258
07:15 AM	1	93	3	0	97	3	5	9	0	17	24	107	4	0	135	3	1	0	0	4	253
07:30 AM	1	103	0	2	106	1	6	14	0	21	43	119	6	1	169	2	0	0	0	2	298
07:45 AM	2	112	1	0	115	1	4	15	0	20	36	140	6	0	182	1	2	1	1	5	322
Total	7	451	5	2	465	9	16	59	0	84	120	430	18	1	569	7	4	1	1	13	1131
08:00 AM	1	93	1	0	95	1	4	6	0	11	51	107	11	0	169	6	5	0	0	11	286
08:15 AM	5	77	5	0	87	1	2	8	1	12	40	96	3	0	139	2	5	0	0	7	245
08:30 AM	4	94	1	0	99	3	5	11	1	20	37	104	10	0	151	6	3	2	6	17	287
08:45 AM	4	82	12	2	100	5	3	9	0	17	45	113	5	0	163	2	6	2	4	14	294
Total	14	346	19	2	381	10	14	34	2	60	173	420	29	0	622	16	19	4	10	49	1112
*** BREAK ***																					
04:00 PM	8	81	8	4	101	3	6	8	0	17	13	116	6	0	135	11	2	3	4	20	273
04:15 PM	7	113	4	2	126	4	3	11	0	18	19	127	4	2	152	6	1	1	2	10	306
04:30 PM	13	139	5	5	162	9	4	10	1	24	33	117	6	2	158	12	9	4	4	29	373
04:45 PM	8	143	5	0	156	3	3	10	1	17	20	125	8	1	154	9	6	0	3	18	345
Total	36	476	22	11	545	19	16	39	2	76	85	485	24	5	599	38	18	8	13	77	1297
05:00 PM	15	149	3	7	174	8	3	11	0	22	34	131	2	0	167	11	4	3	3	21	384
05:15 PM	3	165	1	4	173	3	3	14	1	21	30	134	8	0	172	5	4	1	0	10	376
05:30 PM	13	154	3	11	181	2	1	14	0	17	28	128	8	0	164	7	5	5	10	27	389
05:45 PM	6	142	2	1	151	6	4	18	0	28	29	119	7	2	157	6	3	2	0	11	347
Total	37	610	9	23	679	19	11	57	1	88	121	512	25	2	660	29	16	11	13	69	1496
Grand Total	94	1883	55	38	2070	57	57	189	5	308	499	1847	96	8	2450	90	57	24	37	208	5036
Apprch %	4.5	91	2.7	1.8		18.5	18.5	61.4	1.6		20.4	75.4	3.9	0.3		43.3	27.4	11.5	17.8		
Total %	1.9	37.4	1.1	0.8	41.1	1.1	1.1	3.8	0.1	6.1	9.9	36.7	1.9	0.2	48.6	1.8	1.1	0.5	0.7	4.1	
Pass Cars	93	1847	52	0	1992	57	57	188	0	302	495	1804	92	0	2391	86	57	24	0	167	4852
% Pass Cars	98.9	98.1	94.5	0	96.2	100	100	99.5	0	98.1	99.2	97.7	95.8	0	97.6	95.6	100	100	0	80.3	96.3
Single Units	1	36	2	0	39	0	0	1	0	1	3	40	4	0	47	3	0	0	0	3	90
% Single Units	1.1	1.9	3.6	0	1.9	0	0	0.5	0	0.3	0.6	2.2	4.2	0	1.9	3.3	0	0	0	1.4	1.8
Heavy Trucks	0	0	1	0	1	0	0	0	0	0	1	3	0	0	4	1	0	0	0	1	6
% Heavy Trucks	0	0	1.8	0	0	0	0	0	0	0	0.2	0.2	0	0	0.2	1.1	0	0	0	0.5	0.1
Peds	0	0	0	38	38	0	0	0	5	5	0	0	0	8	8	0	0	0	37	37	88
% Peds	0	0	0	100	1.8	0	0	0	100	1.6	0	0	0	100	0.3	0	0	0	100	17.8	1.7

TDC Traffic Comments: Nons-signalized intersection, Cady St. is all-way stop controlled for Center St. Video VCU camera was located within SE intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC
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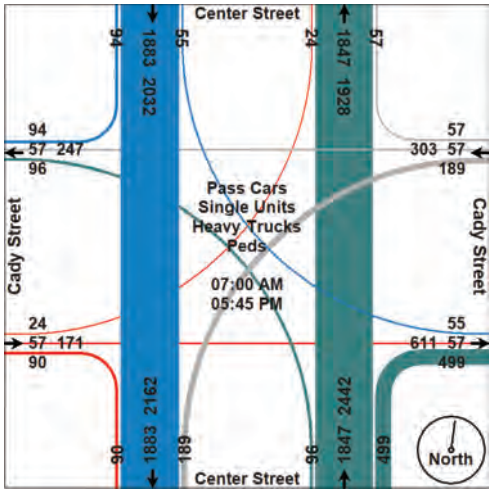
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 61E SE

File Name : TMC_4 Cady & Center_5-15-18
Site Code : TMC_4
Start Date : 5/15/2018
Page No : 2



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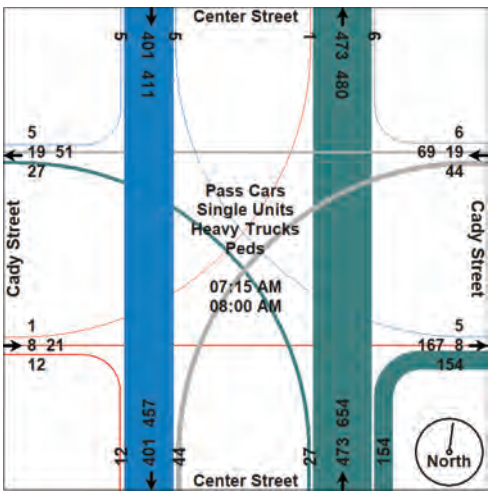
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 61E SE

File Name : TMC_4 Cady & Center_5-15-18
Site Code : TMC_4
Start Date : 5/15/2018
Page No : 3

	Center Street Southbound				Cady Street Westbound				Center Street Northbound				Cady Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	93	**3**	97	**3**	5	9	17	24	107	4	135	3	1	0	4	253
07:30 AM	1	103	0	104	1	**6**	14	**21**	43	119	6	168	2	0	0	2	295
07:45 AM	**2**	**112**	1	**115**	1	4	**15**	20	36	**140**	6	**182**	1	2	**1**	4	**321**
08:00 AM	1	93	1	95	1	4	6	11	**51**	107	**11**	169	**6**	**5**	0	**11**	286
Total Volume	5	401	5	411	6	19	44	69	154	473	27	654	12	8	1	21	1155
% App. Total	1.2	97.6	1.2		8.7	27.5	63.8		23.5	72.3	4.1		57.1	38.1	4.8		
PHF	.625	.895	.417	.893	.500	.792	.733	.821	.755	.845	.614	.898	.500	.400	.250	.477	.900
Pass Cars	5	392	4	401	6	19	44	69	153	458	26	637	12	8	1	21	1128
% Pass Cars	100	97.8	80.0	97.6	100	100	100	100	99.4	96.8	96.3	97.4	100	100	100	100	97.7
Single Units	0	9	0	9	0	0	0	0	0	15	1	16	0	0	0	0	25
% Single Units	0	2.2	0	2.2	0	0	0	0	0	3.2	3.7	2.4	0	0	0	0	2.2
Heavy Trucks	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	2
% Heavy Trucks	0	0	20.0	0.2	0	0	0	0	0.6	0	0	0.2	0	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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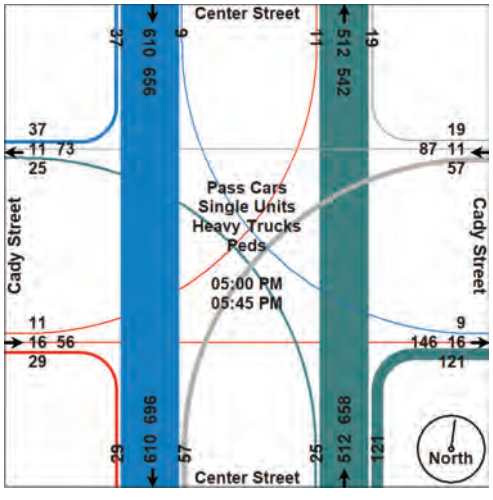
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 61E SE

File Name : TMC_4 Cady & Center_5-15-18
Site Code : TMC_4
Start Date : 5/15/2018
Page No : 4

	Center Street Southbound				Cady Street Westbound				Center Street Northbound				Cady Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**15**	149	**3**	167	**8**	3	11	22	**34**	131	2	167	**11**	4	3	**18**	**374**
05:15 PM	3	**165**	1	169	3	3	14	20	30	**134**	**8**	**172**	5	4	1	10	371
05:30 PM	13	154	3	**170**	2	1	14	17	28	128	8	164	7	**5**	**5**	17	368
05:45 PM	6	142	2	150	6	**4**	**18**	**28**	29	119	7	155	6	3	2	11	344
Total Volume	37	610	9	656	19	11	57	87	121	512	25	658	29	16	11	56	1457
% App. Total	5.6	93	1.4		21.8	12.6	65.5		18.4	77.8	3.8		51.8	28.6	19.6		
PHF	.617	.924	.750	.965	.594	.688	.792	.777	.890	.955	.781	.956	.659	.800	.550	.778	.974
Pass Cars	37	608	9	654	19	11	57	87	119	510	23	652	27	16	11	54	1447
% Pass Cars	100	99.7	100	99.7	100	100	100	100	98.3	99.6	92.0	99.1	93.1	100	100	96.4	99.3
Single Units	0	2	0	2	0	0	0	0	2	2	2	6	2	0	0	2	10
% Single Units	0	0.3	0	0.3	0	0	0	0	1.7	0.4	8.0	0.9	6.9	0	0	3.6	0.7
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_5 Cady & Hutton_5-15-18
Site Code : TMC_5
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Hutton Street Southbound				Cady Street Westbound				Cady Street Eastbound				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	4	25	0	29	13	3	0	16	45
07:15 AM	2	0	0	2	5	17	0	22	17	9	0	26	50
07:30 AM	1	0	2	3	6	21	0	27	35	9	0	44	74
07:45 AM	2	1	0	3	7	18	0	25	30	8	0	38	66
Total	5	1	2	8	22	81	0	103	95	29	0	124	235
08:00 AM	1	2	1	4	0	11	1	12	42	11	1	54	70
08:15 AM	0	1	2	3	2	12	0	14	33	7	0	40	57
08:30 AM	1	1	0	2	6	21	1	28	30	9	0	39	69
08:45 AM	2	1	1	4	8	24	1	33	37	19	0	56	93
Total	4	5	4	13	16	68	3	87	142	46	1	189	289
*** BREAK ***													
04:00 PM	2	0	2	4	9	14	0	23	22	7	0	29	56
04:15 PM	0	1	1	2	5	15	1	21	28	7	0	35	58
04:30 PM	4	2	4	10	6	20	0	26	36	10	0	46	82
04:45 PM	2	0	1	3	8	19	0	27	32	4	0	36	66
Total	8	3	8	19	28	68	1	97	118	28	0	146	262
05:00 PM	5	1	0	6	8	20	0	28	36	11	0	47	81
05:15 PM	0	4	1	5	6	17	0	23	36	7	2	45	73
05:30 PM	2	1	2	5	10	21	0	31	32	6	0	38	74
05:45 PM	3	4	0	7	9	26	0	35	28	12	0	40	82
Total	10	10	3	23	33	84	0	117	132	36	2	170	310
Grand Total	27	19	17	63	99	301	4	404	487	139	3	629	1096
Apprch %	42.9	30.2	27		24.5	74.5	1		77.4	22.1	0.5		
Total %	2.5	1.7	1.6	5.7	9	27.5	0.4	36.9	44.4	12.7	0.3	57.4	
Pass Cars	26	19	0	45	99	300	0	399	482	137	0	619	1063
% Pass Cars	96.3	100	0	71.4	100	99.7	0	98.8	99	98.6	0	98.4	97
Single Units	1	0	0	1	0	1	0	1	3	2	0	5	7
% Single Units	3.7	0	0	1.6	0	0.3	0	0.2	0.6	1.4	0	0.8	0.6
Heavy Trucks	0	0	0	0	0	0	0	0	2	0	0	2	2
% Heavy Trucks	0	0	0	0	0	0	0	0	0.4	0	0	0.3	0.2
Peds	0	0	17	17	0	0	4	4	0	0	3	3	24
% Peds	0	0	100	27	0	0	100	1	0	0	100	0.5	2.2

TDC Traffic Comments: Non-signalized "T" intersection. Hutton St. is stop controll for Cady St. Video VCU camera was located within SW intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC

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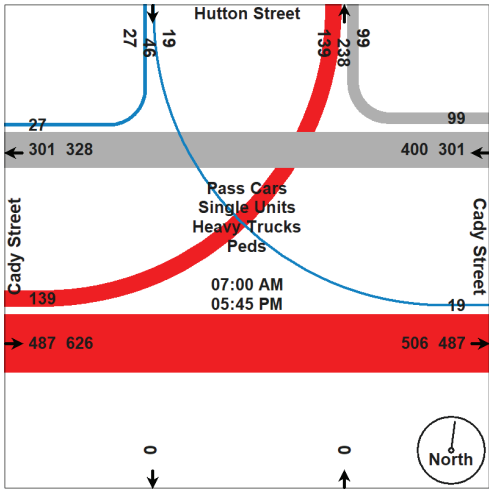
Phone: 586.786-5407

Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_5 Cady & Hutton_5-15-18
Site Code : TMC_5
Start Date : 5/15/2018
Page No : 2



Traffic Data Collection, LLC

www.tdccounts.com

Phone: 586.786-5407

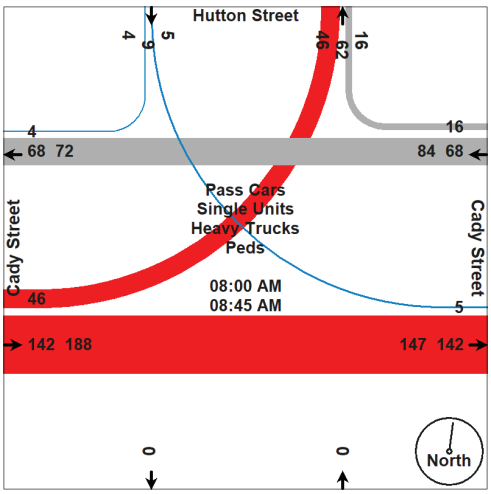
Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_5 Cady & Hutton_5-15-18
Site Code : TMC_5
Start Date : 5/15/2018
Page No : 3

	Hutton Street Southbound			Cady Street Westbound			Cady Street Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	1	**2**	**3**	0	11	11	**42**	11	53	67
08:15 AM	0	1	1	2	12	14	33	7	40	55
08:30 AM	1	1	2	6	21	27	30	9	39	68
08:45 AM	**2**	1	3	**8**	**24**	**32**	37	**19**	**56**	**91**
Total Volume	4	5	9	16	68	84	142	46	188	281
% App. Total	44.4	55.6		19	81		75.5	24.5		
PHF	.500	.625	.750	.500	.708	.656	.845	.605	.839	.772
Pass Cars	3	5	8	16	67	83	141	45	186	277
% Pass Cars	75.0	100	88.9	100	98.5	98.8	99.3	97.8	98.9	98.6
Single Units	1	0	1	0	1	1	1	1	2	4
% Single Units	25.0	0	11.1	0	1.5	1.2	0.7	2.2	1.1	1.4
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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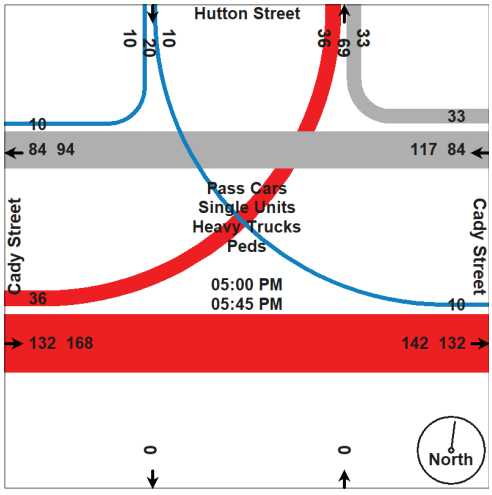
Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_5 Cady & Hutton_5-15-18
Site Code : TMC_5
Start Date : 5/15/2018
Page No : 4

	Hutton Street Southbound			Cady Street Westbound			Cady Street Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**5**	1	6	8	20	28	**36**	11	**47**	81
05:15 PM	0	**4**	4	6	17	23	36	7	43	70
05:30 PM	2	1	3	**10**	21	31	32	6	38	72
05:45 PM	3	4	**7**	9	**26**	**35**	28	**12**	40	**82**
Total Volume	10	10	20	33	84	117	132	36	168	305
% App. Total	50	50		28.2	71.8		78.6	21.4		
PHF	.500	.625	.714	.825	.808	.836	.917	.750	.894	.930
Pass Cars	10	10	20	33	84	117	130	36	166	303
% Pass Cars	100	100	100	100	100	100	98.5	100	98.8	99.3
Single Units	0	0	0	0	0	0	0	0	0	0
% Single Units	0	0	0	0	0	0	0	0	0	0
Heavy Trucks	0	0	0	0	0	0	2	0	2	2
% Heavy Trucks	0	0	0	0	0	0	1.5	0	1.2	0.7
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 4SY NW

File Name : TMC_6 Cady & Griswold_5-15-18
Site Code : TMC_6
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Griswold Street Southbound					Cady Street Westbound					Griswold Street Northbound					Cady Street Eastbound					
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
07:00 AM	8	1	1	0	10	0	0	0	0	0	0	7	2	0	9	2	4	11	1	18	37
07:15 AM	8	5	0	0	13	0	1	1	0	2	0	5	1	0	6	6	2	21	0	29	50
07:30 AM	5	4	0	0	9	0	0	0	1	1	0	9	2	0	11	6	1	39	0	46	67
07:45 AM	10	3	0	0	13	0	0	0	0	0	0	4	2	0	6	6	5	35	1	47	66
Total	31	13	1	0	45	0	1	1	1	3	0	25	7	0	32	20	12	106	2	140	220
08:00 AM	6	9	1	0	16	1	2	0	0	3	0	4	3	0	7	6	4	41	1	52	78
08:15 AM	7	0	1	4	12	0	1	0	0	1	1	8	1	0	10	5	2	35	0	42	65
08:30 AM	11	2	0	1	14	1	1	0	0	2	2	3	7	0	12	4	3	39	1	47	75
08:45 AM	13	5	0	0	18	0	0	0	0	0	3	3	6	0	12	4	9	34	1	48	78
Total	37	16	2	5	60	2	4	0	0	6	6	18	17	0	41	19	18	149	3	189	296
*** BREAK ***																					
04:00 PM	7	11	0	0	18	1	3	0	0	4	1	9	6	0	16	9	2	16	0	27	65
04:15 PM	11	12	2	0	25	2	2	1	0	5	2	18	2	0	22	8	5	17	0	30	82
04:30 PM	9	13	1	0	23	2	3	0	0	5	0	24	4	0	28	9	3	31	1	44	100
04:45 PM	7	12	2	0	21	1	4	1	0	6	0	15	7	0	22	7	5	30	1	43	92
Total	34	48	5	0	87	6	12	2	0	20	3	66	19	0	88	33	15	94	2	144	339
05:00 PM	13	18	0	0	31	2	1	0	0	3	0	26	4	0	30	12	3	34	0	49	113
05:15 PM	11	16	2	0	29	3	1	3	0	7	1	30	5	0	36	7	2	30	0	39	111
05:30 PM	17	22	1	0	40	2	2	0	0	4	2	21	8	0	31	7	2	32	0	41	116
05:45 PM	16	15	1	0	32	3	2	0	0	5	0	23	7	0	30	5	2	26	3	36	103
Total	57	71	4	0	132	10	6	3	0	19	3	100	24	0	127	31	9	122	3	165	443
Grand Total	159	148	12	5	324	18	23	6	1	48	12	209	67	0	288	103	54	471	10	638	1298
Apprch %	49.1	45.7	3.7	1.5		37.5	47.9	12.5	2.1		4.2	72.6	23.3	0		16.1	8.5	73.8	1.6		
Total %	12.2	11.4	0.9	0.4	25	1.4	1.8	0.5	0.1	3.7	0.9	16.1	5.2	0	22.2	7.9	4.2	36.3	0.8	49.2	
Pass Cars	158	146	12	0	316	18	23	5	0	46	12	209	67	0	288	103	54	466	0	623	1273
% Pass Cars	99.4	98.6	100	0	97.5	100	100	83.3	0	95.8	100	100	100	0	100	100	100	98.9	0	97.6	98.1
Single Units	1	2	0	0	3	0	0	1	0	1	0	0	0	0	0	0	0	5	0	5	9
% Single Units	0.6	1.4	0	0	0.9	0	0	16.7	0	2.1	0	0	0	0	0	0	0	1.1	0	0.8	0.7
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	5	5	0	0	0	1	1	0	0	0	0	0	0	0	0	10	10	16
% Peds	0	0	0	100	1.5	0	0	0	100	2.1	0	0	0	0	0	0	0	0	100	1.6	1.2

TDC Traffic Comments: Non-signalized intersection. Cady St. is stop controlled for Griswold St. Video VCU camera was located within NW intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC

www:tdccounts.com

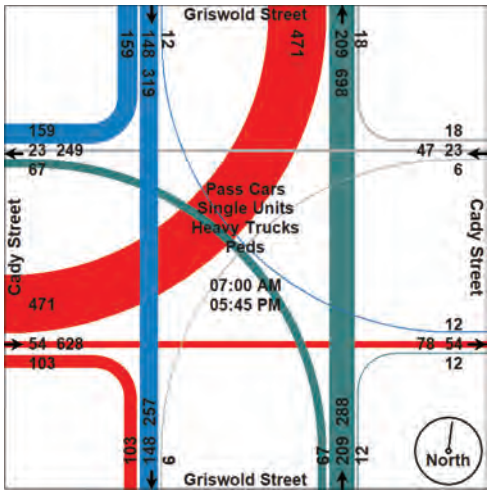
Phone: 586.786-5407

Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 4SY NW

File Name : TMC_6 Cady & Griswold_5-15-18
Site Code : TMC_6
Start Date : 5/15/2018
Page No : 2



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Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 4SY NW

File Name : TMC_6 Cady & Griswold_5-15-18
Site Code : TMC_6
Start Date : 5/15/2018
Page No : 3

	Griswold Street Southbound				Cady Street Westbound				Griswold Street Northbound				Cady Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	6	**9**	**1**	16	**1**	**2**	0	**3**	0	4	3	7	**6**	4	**41**	**51**	**77**
08:15 AM	7	0	1	8	0	1	0	1	**1**	**8**	1	10	5	2	35	42	61
08:30 AM	11	2	0	13	1	1	0	2	2	3	**7**	**12**	4	3	39	46	73
08:45 AM	**13**	5	0	**18**	0	0	0	0	**3**	3	6	12	4	**9**	34	47	77
Total Volume	37	16	2	55	2	4	0	6	6	18	17	41	19	18	149	186	288
% App. Total	67.3	29.1	3.6		33.3	66.7	0		14.6	43.9	41.5		10.2	9.7	80.1	0	
PHF	.712	.444	.500	.764	.500	.500	.000	.500	.500	.563	.607	.854	.792	.500	.909	.912	.935
Pass Cars	36	15	2	53	2	4	0	6	6	18	17	41	19	18	148	185	285
% Pass Cars	97.3	93.8	100	96.4	100	100	0	100	100	100	100	100	100	100	99.3	99.5	99.0
Single Units	1	1	0	2	0	0	0	0	0	0	0	0	0	0	1	1	3
% Single Units	2.7	6.3	0	3.6	0	0	0	0	0	0	0	0	0	0	0.7	0.5	1.0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Phone: 586.786-5407

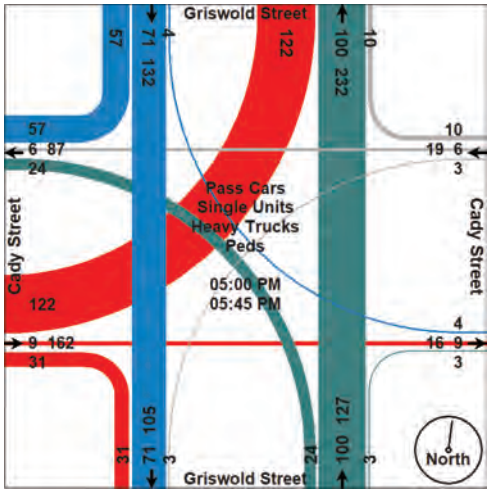
Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 4SY NW

File Name : TMC_6 Cady & Griswold_5-15-18
Site Code : TMC_6
Start Date : 5/15/2018
Page No : 4

	Griswold Street Southbound				Cady Street Westbound				Griswold Street Northbound				Cady Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	13	18	0	31	2	1	0	3	0	26	4	30	**12**	**3**	**34**	**49**	113
05:15 PM	11	16	**2**	29	**3**	1	**3**	**7**	1	**30**	5	**36**	7	2	30	39	111
05:30 PM	**17**	**22**	1	**40**	2	**2**	0	4	**2**	21	**8**	31	7	2	32	41	**116**
05:45 PM	16	15	1	32	3	2	0	5	0	23	7	30	5	2	26	33	100
Total Volume	57	71	4	132	10	6	3	19	3	100	24	127	31	9	122	162	440
% App. Total	43.2	53.8	3		52.6	31.6	15.8		2.4	78.7	18.9		19.1	5.6	75.3		
PHF	.838	.807	.500	.825	.833	.750	.250	.679	.375	.833	.750	.882	.646	.750	.897	.827	.948
Pass Cars	57	71	4	132	10	6	3	19	3	100	24	127	31	9	120	160	438
% Pass Cars	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98.4	98.8	99.5
Single Units	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
% Single Units	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.6	1.2	0.5
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 2Z4 NE

File Name : TMC_7 Beal & Griswold_5-15-18
Site Code : TMC_7
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Griswold Street Southbound				Beal Street Westbound				Beal Street Eastbound				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	3	1	4	7	0	0	7	0	0	0	0	11
07:15 AM	0	12	0	12	5	1	0	6	0	1	0	1	19
07:30 AM	0	10	0	10	11	0	0	11	0	0	0	0	21
07:45 AM	0	9	1	10	4	0	0	4	0	1	0	1	15
Total	0	34	2	36	27	1	0	28	0	2	0	2	66
08:00 AM	2	13	1	16	6	0	0	6	1	1	0	2	24
08:15 AM	0	5	0	5	9	3	0	12	1	1	0	2	19
08:30 AM	0	6	1	7	11	1	0	12	1	1	1	3	22
08:45 AM	0	9	1	10	11	0	0	11	0	1	0	1	22
Total	2	33	3	38	37	4	0	41	3	4	1	8	87
*** BREAK ***													
04:00 PM	3	16	3	22	12	0	0	12	1	5	0	6	40
04:15 PM	2	19	3	24	18	2	0	20	6	6	0	12	56
04:30 PM	3	20	3	26	19	2	0	21	4	8	0	12	59
04:45 PM	5	13	3	21	18	0	0	18	3	5	0	8	47
Total	13	68	12	93	67	4	0	71	14	24	0	38	202
05:00 PM	4	26	3	33	26	1	0	27	4	5	0	9	69
05:15 PM	0	26	0	26	27	1	0	28	3	7	0	10	64
05:30 PM	5	24	0	29	27	1	0	28	5	4	0	9	66
05:45 PM	3	18	0	21	23	0	0	23	6	5	0	11	55
Total	12	94	3	109	103	3	0	106	18	21	0	39	254
Grand Total	27	229	20	276	234	12	0	246	35	51	1	87	609
Apprch %	9.8	83	7.2		95.1	4.9	0		40.2	58.6	1.1		
Total %	4.4	37.6	3.3	45.3	38.4	2	0	40.4	5.7	8.4	0.2	14.3	
Pass Cars	27	226	0	253	234	11	0	245	34	51	0	85	583
% Pass Cars	100	98.7	0	91.7	100	91.7	0	99.6	97.1	100	0	97.7	95.7
Single Units	0	3	0	3	0	1	0	1	1	0	0	1	5
% Single Units	0	1.3	0	1.1	0	8.3	0	0.4	2.9	0	0	1.1	0.8
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	20	20	0	0	0	0	0	0	1	1	21
% Peds	0	0	100	7.2	0	0	0	0	0	0	100	1.1	3.4

TDC Traffic Comments: Non-signalized "T" intersection. Griswold St. is stop controlled for Beal St. Video VCU camera was located within NE intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC

www:tdccounts.com

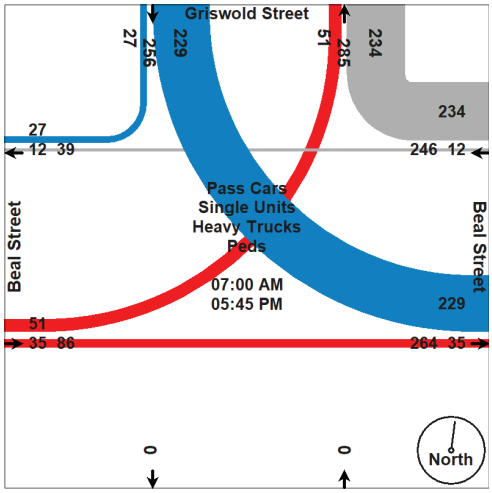
Phone: 586.786-5407

Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 2Z4 NE

File Name : TMC_7 Beal & Griswold_5-15-18
Site Code : TMC_7
Start Date : 5/15/2018
Page No : 2



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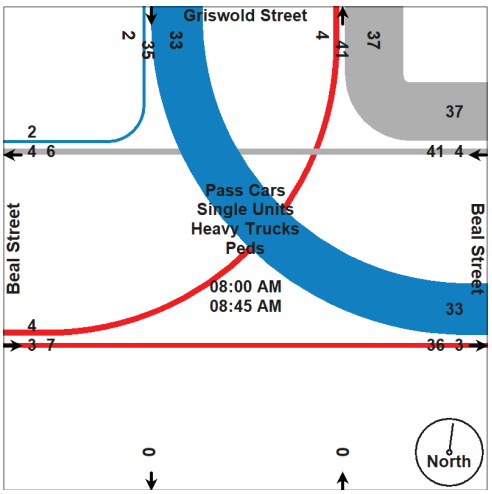
Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 2Z4 NE

File Name : TMC_7 Beal & Griswold_5-15-18
Site Code : TMC_7
Start Date : 5/15/2018
Page No : 3

	Griswold Street Southbound			Beal Street Westbound			Beal Street Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**2**	**13**	**15**	6	0	6	**1**	**1**	**2**	**23**
08:15 AM	0	5	5	9	**3**	**12**	1	1	2	19
08:30 AM	0	6	6	**11**	1	12	1	1	2	20
08:45 AM	0	9	9	11	0	11	0	1	1	21
Total Volume	2	33	35	37	4	41	3	4	7	83
% App. Total	5.7	94.3		90.2	9.8		42.9	57.1		
PHF	.250	.635	.583	.841	.333	.854	.750	1.00	.875	.902
Pass Cars	2	32	34	37	4	41	2	4	6	81
% Pass Cars	100	97.0	97.1	100	100	100	66.7	100	85.7	97.6
Single Units	0	1	1	0	0	0	1	0	1	2
% Single Units	0	3.0	2.9	0	0	0	33.3	0	14.3	2.4
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

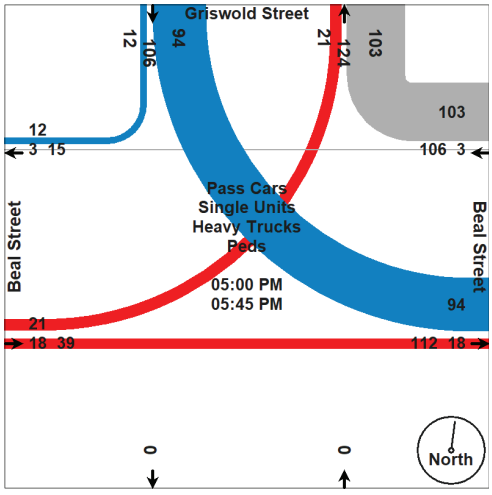
Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 2Z4 NE

File Name : TMC_7 Beal & Griswold_5-15-18
Site Code : TMC_7
Start Date : 5/15/2018
Page No : 4

	Griswold Street Southbound			Beal Street Westbound			Beal Street Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	4	**26**	**30**	26	**1**	27	4	5	9	**66**
05:15 PM	0	26	26	**27**	1	**28**	3	**7**	10	64
05:30 PM	**5**	24	29	27	1	28	5	4	9	66
05:45 PM	3	18	21	23	0	23	**6**	5	**11**	55
Total Volume	12	94	106	103	3	106	18	21	39	251
% App. Total	11.3	88.7		97.2	2.8		46.2	53.8		
PHF	.600	.904	.883	.954	.750	.946	.750	.750	.886	.951
Pass Cars	12	94	106	103	3	106	18	21	39	251
% Pass Cars	100	100	100	100	100	100	100	100	100	100
Single Units	0	0	0	0	0	0	0	0	0	0
% Single Units	0	0	0	0	0	0	0	0	0	0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3CU NW

File Name : TMC_8 Beal & River_5-15-18
Site Code : TMC_8
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Beal Street Westbound				River Street Northbound				Beal Street Eastbound				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
07:00 AM	2	0	0	2	1	6	0	7	0	3	0	3	12
07:15 AM	2	1	0	3	1	4	0	5	7	5	0	12	20
07:30 AM	6	1	0	7	1	5	0	6	1	9	0	10	23
07:45 AM	3	0	0	3	1	2	1	4	2	6	0	8	15
Total	13	2	0	15	4	17	1	22	10	23	0	33	70
08:00 AM	2	0	0	2	3	4	0	7	6	9	1	16	25
08:15 AM	7	2	0	9	1	5	0	6	2	4	0	6	21
08:30 AM	6	3	0	9	4	6	0	10	4	3	0	7	26
08:45 AM	5	1	1	7	0	5	0	5	3	6	0	9	21
Total	20	6	1	27	8	20	0	28	15	22	1	38	93
*** BREAK ***													
04:00 PM	5	2	0	7	2	7	0	9	7	11	0	18	34
04:15 PM	6	2	0	8	1	11	1	13	10	15	2	27	48
04:30 PM	5	1	1	7	1	16	1	18	9	15	0	24	49
04:45 PM	5	0	3	8	0	13	0	13	9	7	0	16	37
Total	21	5	4	30	4	47	2	53	35	48	2	85	168
05:00 PM	3	1	3	7	4	24	0	28	14	16	0	30	65
05:15 PM	4	2	0	6	1	25	0	26	18	11	0	29	61
05:30 PM	3	1	0	4	2	24	0	26	13	14	0	27	57
05:45 PM	5	0	3	8	2	18	1	21	17	9	0	26	55
Total	15	4	6	25	9	91	1	101	62	50	0	112	238
*** BREAK ***													
Grand Total	69	17	11	97	25	175	4	204	122	143	3	268	569
Apprch %	71.1	17.5	11.3		12.3	85.8	2		45.5	53.4	1.1		
Total %	12.1	3	1.9	17	4.4	30.8	0.7	35.9	21.4	25.1	0.5	47.1	
Pass Cars	68	17	0	85	24	174	0	198	120	141	0	261	544
% Pass Cars	98.6	100	0	87.6	96	99.4	0	97.1	98.4	98.6	0	97.4	95.6
Single Units	1	0	0	1	1	1	0	2	2	2	0	4	7
% Single Units	1.4	0	0	1	4	0.6	0	1	1.6	1.4	0	1.5	1.2
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	11	11	0	0	4	4	0	0	3	3	18
% Peds	0	0	100	11.3	0	0	100	2	0	0	100	1.1	3.2

TDC Traffic Comments: Non-signalized "T" intersection. River St.is stop controlled for Beal St. Video VCU camera was located within NW intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC
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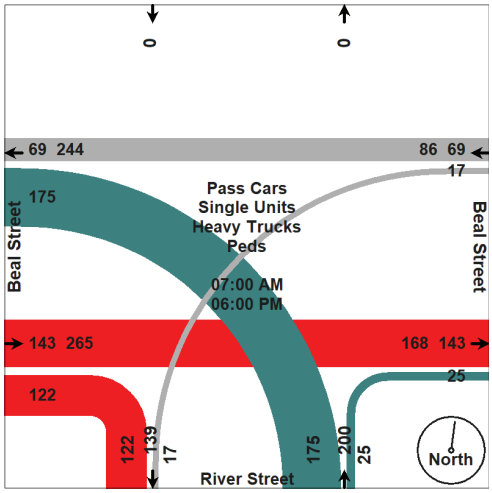
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3CU NW

File Name : TMC_8 Beal & River_5-15-18
Site Code : TMC_8
Start Date : 5/15/2018
Page No : 2



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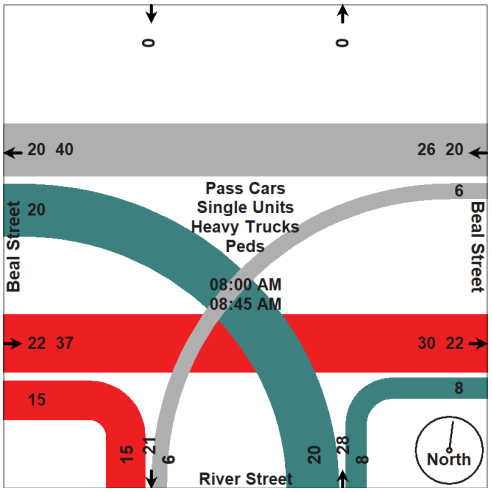
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3CU NW

File Name : TMC_8 Beal & River_5-15-18
Site Code : TMC_8
Start Date : 5/15/2018
Page No : 3

	Beal Street Westbound			River Street Northbound			Beal Street Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	2	0	2	3	4	7	**6**	**9**	**15**	24
08:15 AM	**7**	2	**9**	1	5	6	2	4	6	21
08:30 AM	6	**3**	9	**4**	**6**	**10**	4	3	7	**26**
08:45 AM	5	1	6	0	5	5	3	6	9	20
Total Volume	20	6	26	8	20	28	15	22	37	91
% App. Total	76.9	23.1		28.6	71.4		40.5	59.5		
PHF	.714	.500	.722	.500	.833	.700	.625	.611	.617	.875
Pass Cars	20	6	26	7	19	26	14	21	35	87
% Pass Cars	100	100	100	87.5	95.0	92.9	93.3	95.5	94.6	95.6
Single Units	0	0	0	1	1	2	1	1	2	4
% Single Units	0	0	0	12.5	5.0	7.1	6.7	4.5	5.4	4.4
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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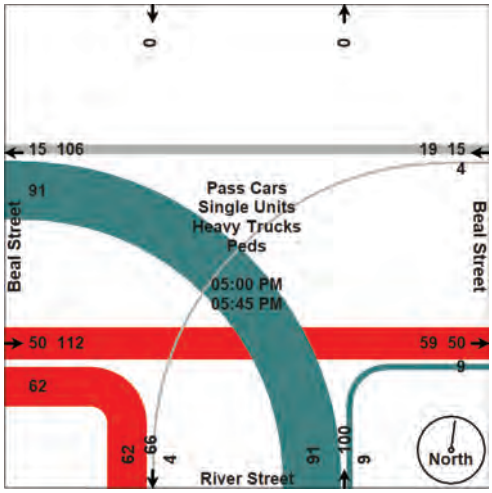
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3CU NW

File Name : TMC_8 Beal & River_5-15-18
Site Code : TMC_8
Start Date : 5/15/2018
Page No : 4

	Beal Street Westbound			River Street Northbound			Beal Street Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	3	1	4	**4**	24	**28**	14	**16**	**30**	**62**
05:15 PM	4	**2**	**6**	1	**25**	26	**18**	11	29	61
05:30 PM	3	1	4	2	24	26	13	14	27	57
05:45 PM	**5**	0	5	2	18	20	17	9	26	51
Total Volume	15	4	19	9	91	100	62	50	112	231
% App. Total	78.9	21.1		9	91		55.4	44.6		
PHF	.750	.500	.792	.563	.910	.893	.861	.781	.933	.931
Pass Cars	15	4	19	9	91	100	62	50	112	231
% Pass Cars	100	100	100	100	100	100	100	100	100	100
Single Units	0	0	0	0	0	0	0	0	0	0
% Single Units	0	0	0	0	0	0	0	0	0	0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 2Z4 NW

File Name : TMC_9 Center & Fairbrook_5-15-18
Site Code : TMC_9
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Center Street Southbound				Center Street Northbound				Fairbrook Street Eastbound				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
07:00 AM	1	167	0	168	79	1	0	80	10	2	0	12	260
07:15 AM	0	102	0	102	141	4	0	145	1	1	0	2	249
07:30 AM	0	117	0	117	173	2	0	175	3	1	0	4	296
07:45 AM	0	130	0	130	186	4	0	190	3	4	0	7	327
Total	1	516	0	517	579	11	0	590	17	8	0	25	1132
08:00 AM	2	104	0	106	173	3	0	176	5	3	0	8	290
08:15 AM	1	89	0	90	136	4	0	140	7	2	0	9	239
08:30 AM	2	112	0	114	156	0	0	156	3	0	1	4	274
08:45 AM	0	96	0	96	168	4	0	172	3	2	2	7	275
Total	5	401	0	406	633	11	0	644	18	7	3	28	1078
*** BREAK ***													
04:00 PM	3	115	0	118	149	11	0	160	6	3	1	10	288
04:15 PM	3	126	0	129	168	23	0	191	6	1	2	9	329
04:30 PM	4	164	0	168	177	42	0	219	4	1	2	7	394
04:45 PM	1	162	1	164	173	27	0	200	3	1	1	5	369
Total	11	567	1	579	667	103	0	770	19	6	6	31	1380
05:00 PM	3	173	0	176	179	31	0	210	7	0	0	7	393
05:15 PM	0	192	0	192	173	20	0	193	5	2	1	8	393
05:30 PM	1	173	0	174	173	17	0	190	3	1	0	4	368
05:45 PM	7	166	0	173	178	27	0	205	9	1	2	12	390
Total	11	704	0	715	703	95	0	798	24	4	3	31	1544
Grand Total	28	2188	1	2217	2582	220	0	2802	78	25	12	115	5134
Apprch %	1.3	98.7	0		92.1	7.9	0		67.8	21.7	10.4		
Total %	0.5	42.6	0	43.2	50.3	4.3	0	54.6	1.5	0.5	0.2	2.2	
Pass Cars	27	2149	0	2176	2541	218	0	2759	78	24	0	102	5037
% Pass Cars	96.4	98.2	0	98.2	98.4	99.1	0	98.5	100	96	0	88.7	98.1
Single Units	0	38	0	38	38	2	0	40	0	1	0	1	79
% Single Units	0	1.7	0	1.7	1.5	0.9	0	1.4	0	4	0	0.9	1.5
Heavy Trucks	1	1	0	2	3	0	0	3	0	0	0	0	5
% Heavy Trucks	3.6	0	0	0.1	0.1	0	0	0.1	0	0	0	0	0.1
Peds	0	0	1	1	0	0	0	0	0	0	12	12	13
% Peds	0	0	100	0	0	0	0	0	0	0	100	10.4	0.3

TDC Traffic Comments: Non-signalized "T" intersection. Fairbrook St. is stop controlled for Center St.. Video VCU camera was located within SW intersection quadrant. Note: Peds. are excluded from peak hour reports.

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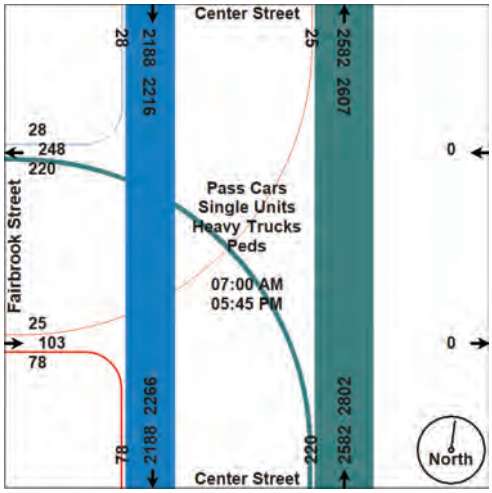
Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 2Z4 NW

File Name : TMC_9 Center & Fairbrook_5-15-18
Site Code : TMC_9
Start Date : 5/15/2018
Page No : 2



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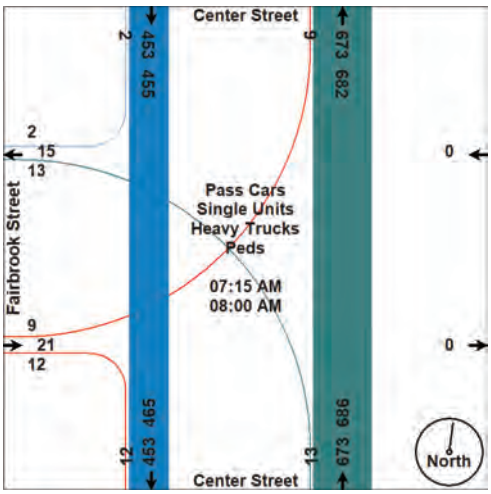
Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 2Z4 NW

File Name : TMC_9 Center & Fairbrook_5-15-18
Site Code : TMC_9
Start Date : 5/15/2018
Page No : 3

	Center Street Southbound			Center Street Northbound			Fairbrook Street Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	102	102	141	**4**	145	1	1	2	249
07:30 AM	0	117	117	173	2	175	3	1	4	296
07:45 AM	0	**130**	**130**	**186**	4	**190**	3	**4**	7	**327**
08:00 AM	**2**	104	106	173	3	176	**5**	3	**8**	290
Total Volume	2	453	455	673	13	686	12	9	21	1162
% App. Total	0.4	99.6		98.1	1.9		57.1	42.9		
PHF	.250	.871	.875	.905	.813	.903	.600	.563	.656	.888
Pass Cars	2	444	446	658	12	670	12	8	20	1136
% Pass Cars	100	98.0	98.0	97.8	92.3	97.7	100	88.9	95.2	97.8
Single Units	0	9	9	14	1	15	0	1	1	25
% Single Units	0	2.0	2.0	2.1	7.7	2.2	0	11.1	4.8	2.2
Heavy Trucks	0	0	0	1	0	1	0	0	0	1
% Heavy Trucks	0	0	0	0.1	0	0.1	0	0	0	0.1
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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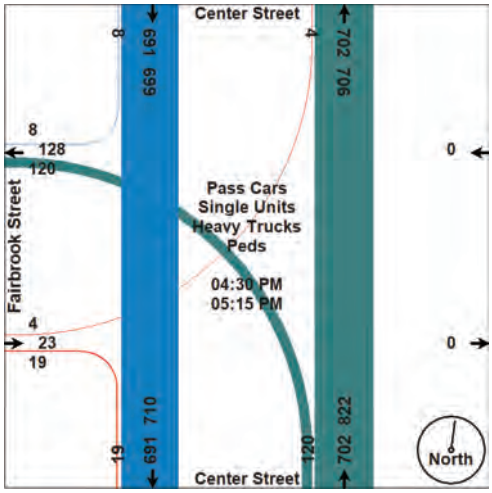
Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 2Z4 NW

File Name : TMC_9 Center & Fairbrook_5-15-18
Site Code : TMC_9
Start Date : 5/15/2018
Page No : 4

	Center Street Southbound			Center Street Northbound			Fairbrook Street Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**4**	164	168	177	**42**	**219**	4	1	5	392
04:45 PM	1	162	163	173	27	200	3	1	4	367
05:00 PM	3	173	176	**179**	31	210	**7**	0	**7**	**393**
05:15 PM	0	**192**	**192**	173	20	193	5	**2**	7	392
Total Volume	8	691	699	702	120	822	19	4	23	1544
% App. Total	1.1	98.9		85.4	14.6		82.6	17.4		
PHF	.500	.900	.910	.980	.714	.938	.679	.500	.821	.982
Pass Cars	8	688	696	697	120	817	19	4	23	1536
% Pass Cars	100	99.6	99.6	99.3	100	99.4	100	100	100	99.5
Single Units	0	2	2	4	0	4	0	0	0	6
% Single Units	0	0.3	0.3	0.6	0	0.5	0	0	0	0.4
Heavy Trucks	0	1	1	1	0	1	0	0	0	2
% Heavy Trucks	0	0.1	0.1	0.1	0	0.1	0	0	0	0.1
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 4PU SW

File Name : TMC_10 7Mile & Center_Sheldon_5-15-18
Site Code : TMC_10
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

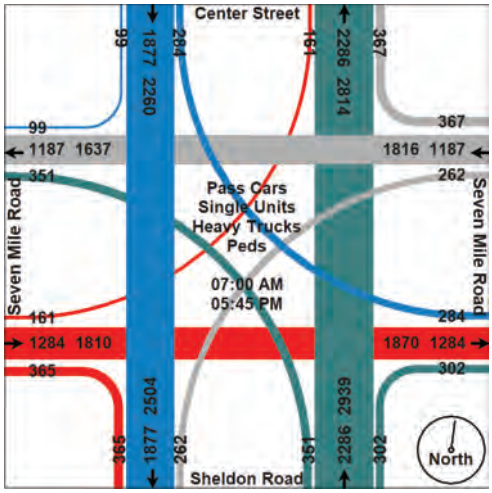
	Center Street Southbound					Seven Mile Road Westbound					Sheldon Road Northbound					Seven Mile Road Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	159	11	0	171	5	36	19	0	60	7	67	6	0	80	47	81	6	0	134	445
07:15 AM	3	84	16	0	103	15	28	12	0	55	22	124	17	0	163	14	90	6	0	110	431
07:30 AM	6	97	18	0	121	23	31	13	0	67	21	140	10	1	172	14	92	12	0	118	478
07:45 AM	0	112	24	0	136	18	44	5	0	67	17	161	10	0	188	32	106	12	0	150	541
Total	10	452	69	0	531	61	139	49	0	249	67	492	43	1	603	107	369	36	0	512	1895
08:00 AM	6	82	18	0	106	21	45	5	1	72	12	139	20	0	171	12	130	15	0	157	506
08:15 AM	4	76	15	0	95	17	31	9	0	57	17	110	10	0	137	21	99	12	0	132	421
08:30 AM	7	88	19	0	114	17	43	7	0	67	21	136	12	0	169	14	77	9	1	101	451
08:45 AM	3	85	13	0	101	24	36	6	0	66	12	127	17	1	157	20	74	16	2	112	436
Total	20	331	65	0	416	79	155	27	1	262	62	512	59	1	634	67	380	52	3	502	1814
*** BREAK ***																					
04:00 PM	6	95	9	0	110	23	82	16	0	121	15	128	30	0	173	15	52	12	0	79	483
04:15 PM	11	109	19	0	139	22	91	20	0	133	16	161	29	0	206	15	57	11	0	83	561
04:30 PM	7	134	17	0	158	25	111	21	0	157	16	189	29	1	235	19	51	8	0	78	628
04:45 PM	10	139	31	0	180	29	109	22	0	160	21	159	39	0	219	29	65	10	0	104	663
Total	34	477	76	0	587	99	393	79	0	571	68	637	127	1	833	78	225	41	0	344	2335
05:00 PM	8	155	10	0	173	35	129	27	0	191	28	166	28	0	222	21	77	10	0	108	694
05:15 PM	9	160	25	0	194	34	131	29	1	195	25	154	28	0	207	32	82	7	0	121	717
05:30 PM	9	155	19	0	183	21	116	26	1	164	34	166	24	0	224	37	84	6	0	127	698
05:45 PM	9	147	20	1	177	38	124	25	1	188	18	159	42	0	219	23	67	9	0	99	683
Total	35	617	74	1	727	128	500	107	3	738	105	645	122	0	872	113	310	32	0	455	2792
Grand Total	99	1877	284	1	2261	367	1187	262	4	1820	302	2286	351	3	2942	365	1284	161	3	1813	8836
Apprch %	4.4	83	12.6	0		20.2	65.2	14.4	0.2		10.3	77.7	11.9	0.1		20.1	70.8	8.9	0.2		
Total %	1.1	21.2	3.2	0	25.6	4.2	13.4	3	0	20.6	3.4	25.9	4	0	33.3	4.1	14.5	1.8	0	20.5	
Pass Cars	97	1857	269	0	2223	355	1172	259	0	1786	296	2252	345	0	2893	359	1265	160	0	1784	8686
% Pass Cars	98	98.9	94.7	0	98.3	96.7	98.7	98.9	0	98.1	98	98.5	98.3	0	98.3	98.4	98.5	99.4	0	98.4	98.3
Single Units	2	20	15	0	37	11	14	2	0	27	5	32	5	0	42	5	15	0	0	20	126
% Single Units	2	1.1	5.3	0	1.6	3	1.2	0.8	0	1.5	1.7	1.4	1.4	0	1.4	1.4	1.2	0	0	1.1	1.4
Heavy Trucks	0	0	0	0	0	1	1	1	0	3	1	2	1	0	4	1	4	1	0	6	13
% Heavy Trucks	0	0	0	0	0	0.3	0.1	0.4	0	0.2	0.3	0.1	0.3	0	0.1	0.3	0.3	0.6	0	0.3	0.1
Peds	0	0	0	1	1	0	0	0	4	4	0	0	0	3	3	0	0	0	3	3	11
% Peds	0	0	0	100	0	0	0	0	100	0.2	0	0	0	100	0.1	0	0	0	100	0.2	0.1

TDC Traffic Comments: Skewed signalized intersection with ped. signals for all quadrants, no push buttons. Trail X-ing for NB approach leg. Video VCU camera was located within SW intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC
www:tdccounts.com
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 4PU SW

File Name : TMC_10 7Mile & Center_Sheldon_5-15-18
Site Code : TMC_10
Start Date : 5/15/2018
Page No : 2



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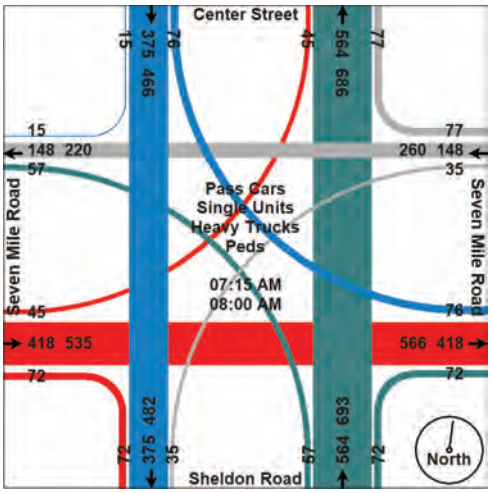
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 4PU SW

File Name : TMC_10 7Mile & Center_Sheldon_5-15-18
Site Code : TMC_10
Start Date : 5/15/2018
Page No : 3

	Center Street Southbound				Seven Mile Road Westbound				Sheldon Road Northbound				Seven Mile Road Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	3	84	16	103	15	28	12	55	**22**	124	17	163	14	90	6	110	431
07:30 AM	**6**	97	18	121	**23**	31	**13**	67	21	140	10	171	14	92	12	118	477
07:45 AM	0	**112**	**24**	**136**	18	44	5	67	17	**161**	10	**188**	**32**	106	12	150	**541**
08:00 AM	6	82	18	106	21	**45**	5	**71**	12	139	**20**	171	12	**130**	**15**	**157**	505
Total Volume	15	375	76	466	77	148	35	260	72	564	57	693	72	418	45	535	1954
% App. Total	3.2	80.5	16.3		29.6	56.9	13.5		10.4	81.4	8.2		13.5	78.1	8.4		
PHF	.625	.837	.792	.857	.837	.822	.673	.915	.818	.876	.713	.922	.563	.804	.750	.852	.903
Pass Cars	14	369	74	457	73	144	34	251	70	550	56	676	71	412	45	528	1912
% Pass Cars	93.3	98.4	97.4	98.1	94.8	97.3	97.1	96.5	97.2	97.5	98.2	97.5	98.6	98.6	100	98.7	97.9
Single Units	1	6	2	9	4	4	1	9	1	14	1	16	1	4	0	5	39
% Single Units	6.7	1.6	2.6	1.9	5.2	2.7	2.9	3.5	1.4	2.5	1.8	2.3	1.4	1.0	0	0.9	2.0
Heavy Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	2	3
% Heavy Trucks	0	0	0	0	0	0	0	0	1.4	0	0	0.1	0	0.5	0	0.4	0.2
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC
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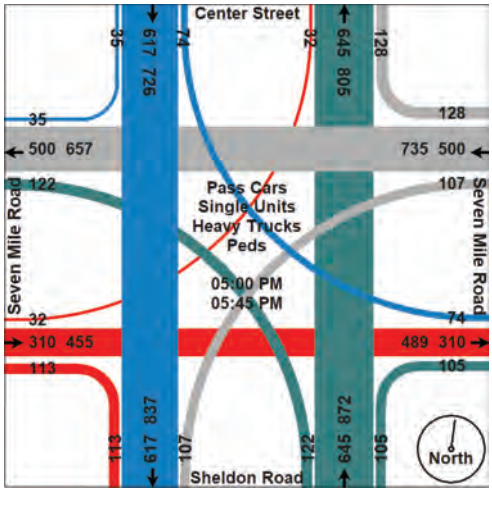
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 4PU SW

File Name : TMC_10 7Mile & Center_Sheldon_5-15-18
Site Code : TMC_10
Start Date : 5/15/2018
Page No : 4

	Center Street Southbound				Seven Mile Road Westbound				Sheldon Road Northbound				Seven Mile Road Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	8	155	10	173	35	129	27	191	28	**166**	28	222	21	77	**10**	108	694
05:15 PM	**9**	**160**	**25**	**194**	34	**131**	**29**	**194**	25	154	28	207	32	82	7	121	**716**
05:30 PM	9	155	19	183	21	116	26	163	**34**	166	24	**224**	**37**	**84**	6	**127**	697
05:45 PM	9	147	20	176	**38**	124	25	187	18	159	**42**	219	23	67	9	99	681
Total Volume	35	617	74	726	128	500	107	735	105	645	122	872	113	310	32	455	2788
% App. Total	4.8	85	10.2		17.4	68	14.6		12	74	14		24.8	68.1	7		
PHF	.972	.964	.740	.936	.842	.954	.922	.947	.772	.971	.726	.973	.764	.923	.800	.896	.973
Pass Cars	35	614	73	722	128	498	107	733	103	643	120	866	112	306	31	449	2770
% Pass Cars	100	99.5	98.6	99.4	100	99.6	100	99.7	98.1	99.7	98.4	99.3	99.1	98.7	96.9	98.7	99.4
Single Units	0	3	1	4	0	2	0	2	2	2	1	5	1	3	0	4	15
% Single Units	0	0.5	1.4	0.6	0	0.4	0	0.3	1.9	0.3	0.8	0.6	0.9	1.0	0	0.9	0.5
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	2	3
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0.8	0.1	0	0.3	3.1	0.4	0.1
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC
www:tdccounts.com
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 1US NE

File Name : TMC_11 7Mile & Hines_5-15-18
Site Code : TMC_11
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Seven Mile Road Southbound				Seven Mile Road Westbound				Edward Hines Drive Northbound				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
07:00 AM	40	58	0	98	44	0	0	44	1	14	0	15	157
07:15 AM	43	86	0	129	38	4	0	42	5	15	0	20	191
07:30 AM	52	79	0	131	45	2	0	47	2	27	0	29	207
07:45 AM	51	95	0	146	43	3	0	46	6	25	0	31	223
Total	186	318	0	504	170	9	0	179	14	81	0	95	778
08:00 AM	57	102	0	159	41	2	0	43	5	26	0	31	233
08:15 AM	40	91	0	131	34	1	0	35	1	23	0	24	190
08:30 AM	36	80	0	116	50	2	0	52	2	21	0	23	191
08:45 AM	28	71	0	99	42	4	0	46	3	22	0	25	170
Total	161	344	0	505	167	9	0	176	11	92	0	103	784
*** BREAK ***													
04:00 PM	15	66	0	81	79	4	0	83	4	39	0	43	207
04:15 PM	32	65	0	97	106	4	0	110	9	41	0	50	257
04:30 PM	18	61	0	79	118	11	0	129	12	58	0	70	278
04:45 PM	45	72	0	117	99	9	0	108	11	59	5	75	300
Total	110	264	0	374	402	28	0	430	36	197	5	238	1042
05:00 PM	36	80	0	116	124	7	0	131	15	79	0	94	341
05:15 PM	58	73	0	131	101	17	0	118	18	82	0	100	349
05:30 PM	55	82	0	137	96	20	0	116	17	72	0	89	342
05:45 PM	30	75	0	105	121	6	0	127	14	71	0	85	317
Total	179	310	0	489	442	50	0	492	64	304	0	368	1349
Grand Total	636	1236	0	1872	1181	96	0	1277	125	674	5	804	3953
Apprch %	34	66	0		92.5	7.5	0		15.5	83.8	0.6		
Total %	16.1	31.3	0	47.4	29.9	2.4	0	32.3	3.2	17.1	0.1	20.3	
Pass Cars	627	1210	0	1837	1154	96	0	1250	125	671	0	796	3883
% Pass Cars	98.6	97.9	0	98.1	97.7	100	0	97.9	100	99.6	0	99	98.2
Single Units	9	22	0	31	24	0	0	24	0	3	0	3	58
% Single Units	1.4	1.8	0	1.7	2	0	0	1.9	0	0.4	0	0.4	1.5
Heavy Trucks	0	4	0	4	3	0	0	3	0	0	0	0	7
% Heavy Trucks	0	0.3	0	0.2	0.3	0	0	0.2	0	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0	5	5	5
% Peds	0	0	0	0	0	0	0	0	0	0	100	0.6	0.1

TDC Traffic Comments: Non-signalized skewed intersection. NB Hines Drive is stop controlled & WB Seven Mile to go SB is also stop controlled. Video VCU camera was located within NE intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC
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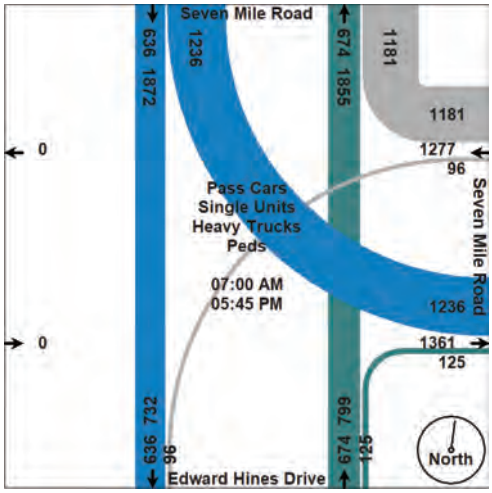
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 1US NE

File Name : TMC_11 7Mile & Hines_5-15-18
Site Code : TMC_11
Start Date : 5/15/2018
Page No : 2



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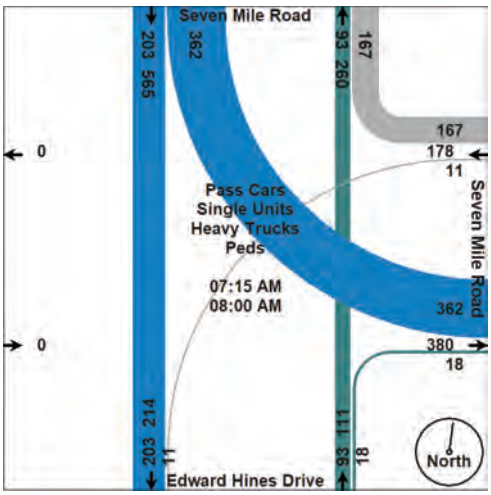
Phone: 586.786-5407
Traffic Study Performed For:
Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 1US NE

File Name : TMC_11 7Mile & Hines_5-15-18
Site Code : TMC_11
Start Date : 5/15/2018
Page No : 3

	Seven Mile Road Southbound			Seven Mile Road Westbound			Edward Hines Drive Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	43	86	129	38	**4**	42	5	15	20	191
07:30 AM	52	79	131	**45**	2	**47**	2	**27**	29	207
07:45 AM	51	95	146	43	3	46	**6**	25	**31**	223
08:00 AM	**57**	**102**	**159**	41	2	43	5	26	31	**233**
Total Volume	203	362	565	167	11	178	18	93	111	854
% App. Total	35.9	64.1		93.8	6.2		16.2	83.8		
PHF	.890	.887	.888	.928	.688	.947	.750	.861	.895	.916
Pass Cars	203	354	557	160	11	171	18	90	108	836
% Pass Cars	100	97.8	98.6	95.8	100	96.1	100	96.8	97.3	97.9
Single Units	0	6	6	6	0	6	0	3	3	15
% Single Units	0	1.7	1.1	3.6	0	3.4	0	3.2	2.7	1.8
Heavy Trucks	0	2	2	1	0	1	0	0	0	3
% Heavy Trucks	0	0.6	0.4	0.6	0	0.6	0	0	0	0.4
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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Traffic Study Performed For:
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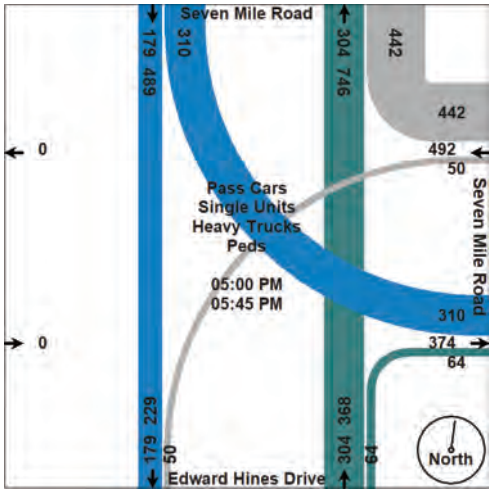
Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 1US NE

File Name : TMC_11 7Mile & Hines_5-15-18
Site Code : TMC_11
Start Date : 5/15/2018
Page No : 4

	Seven Mile Road Southbound			Seven Mile Road Westbound			Edward Hines Drive Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	36	80	116	**124**	7	**131**	15	79	94	341
05:15 PM	**58**	73	131	101	17	118	**18**	**82**	**100**	**349**
05:30 PM	55	**82**	**137**	96	**20**	116	17	72	89	342
05:45 PM	30	75	105	121	6	127	14	71	85	317
Total Volume	179	310	489	442	50	492	64	304	368	1349
% App. Total	36.6	63.4		89.8	10.2		17.4	82.6		
PHF	.772	.945	.892	.891	.625	.939	.889	.927	.920	.966
Pass Cars	179	305	484	440	50	490	64	304	368	1342
% Pass Cars	100	98.4	99.0	99.5	100	99.6	100	100	100	99.5
Single Units	0	5	5	2	0	2	0	0	0	7
% Single Units	0	1.6	1.0	0.5	0	0.4	0	0	0	0.5
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3HT SE

File Name : TMC_12 7Mile & River_5-15-18
Site Code : TMC_12
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	River Street Southbound				Seven Mile Road Westbound				Seven Mile Road Eastbound				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	0	0	1	3	48	0	51	50	4	2	56	108
07:15 AM	7	1	0	8	2	30	0	32	89	7	0	96	136
07:30 AM	6	0	1	7	4	41	0	45	77	4	2	83	135
07:45 AM	2	1	0	3	0	44	0	44	95	7	0	102	149
Total	16	2	1	19	9	163	0	172	311	22	4	337	528
08:00 AM	3	3	0	6	1	41	0	42	98	8	0	106	154
08:15 AM	2	0	0	2	3	33	3	39	88	4	2	94	135
08:30 AM	4	2	3	9	4	49	0	53	80	4	0	84	146
08:45 AM	4	1	2	7	0	40	1	41	68	6	3	77	125
Total	13	6	5	24	8	163	4	175	334	22	5	361	560
*** BREAK ***													
04:00 PM	4	5	1	10	4	78	0	82	63	6	0	69	161
04:15 PM	8	3	1	12	4	105	0	109	62	13	1	76	197
04:30 PM	5	7	0	12	5	124	0	129	57	15	2	74	215
04:45 PM	8	3	3	14	4	102	0	106	71	11	5	87	207
Total	25	18	5	48	17	409	0	426	253	45	8	306	780
05:00 PM	15	2	0	17	7	116	0	123	69	25	0	94	234
05:15 PM	18	1	0	19	5	102	0	107	65	22	0	87	213
05:30 PM	12	2	0	14	9	100	0	109	80	22	1	103	226
05:45 PM	13	4	0	17	4	116	0	120	73	15	0	88	225
Total	58	9	0	67	25	434	0	459	287	84	1	372	898
Grand Total	112	35	11	158	59	1169	4	1232	1185	173	18	1376	2766
Apprch %	70.9	22.2	7		4.8	94.9	0.3		86.1	12.6	1.3		
Total %	4	1.3	0.4	5.7	2.1	42.3	0.1	44.5	42.8	6.3	0.7	49.7	
Pass Cars	109	35	0	144	57	1143	0	1200	1158	171	0	1329	2673
% Pass Cars	97.3	100	0	91.1	96.6	97.8	0	97.4	97.7	98.8	0	96.6	96.6
Single Units	3	0	0	3	2	22	0	24	22	2	0	24	51
% Single Units	2.7	0	0	1.9	3.4	1.9	0	1.9	1.9	1.2	0	1.7	1.8
Heavy Trucks	0	0	0	0	0	4	0	4	5	0	0	5	9
% Heavy Trucks	0	0	0	0	0	0.3	0	0.3	0.4	0	0	0.4	0.3
Peds	0	0	11	11	0	0	4	4	0	0	18	18	33
% Peds	0	0	100	7	0	0	100	0.3	0	0	100	1.3	1.2

TDC Traffic Comments: Non-signalized "T intersection. River St. is stop controllled for Seven Mile Road. Trail Xing at west leg of intersection. Video VCU camera was located within SE intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC

www:tdccounts.com

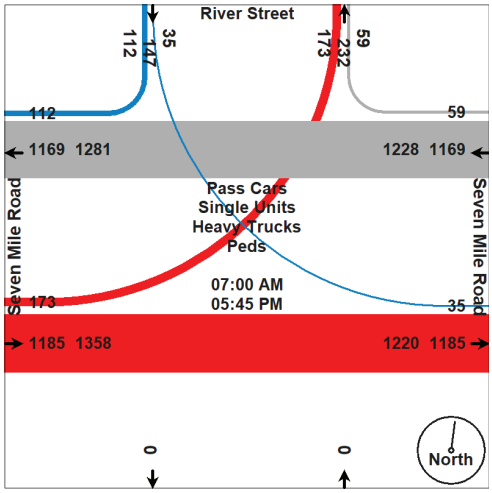
Phone: 586.786-5407

Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3HT SE

File Name : TMC_12 7Mile & River_5-15-18
Site Code : TMC_12
Start Date : 5/15/2018
Page No : 2



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

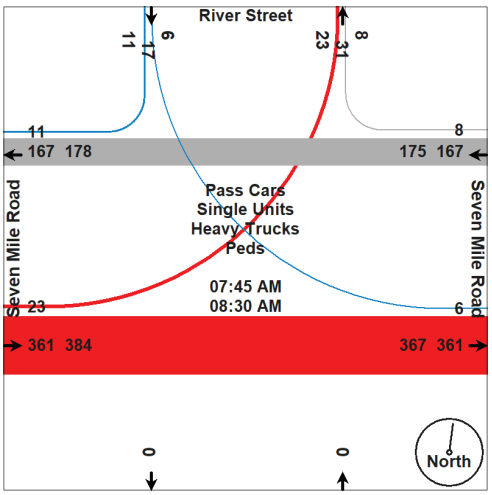
Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3HT SE

File Name : TMC_12 7Mile & River_5-15-18
Site Code : TMC_12
Start Date : 5/15/2018
Page No : 3

	River Street Southbound			Seven Mile Road Westbound			Seven Mile Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	2	1	3	0	44	44	95	7	102	149
08:00 AM	3	**3**	**6**	1	41	42	**98**	**8**	**106**	**154**
08:15 AM	2	0	2	3	33	36	88	4	92	130
08:30 AM	**4**	2	6	**4**	**49**	**53**	80	4	84	143
Total Volume	11	6	17	8	167	175	361	23	384	576
% App. Total	64.7	35.3		4.6	95.4		94	6		
PHF	.688	.500	.708	.500	.852	.825	.921	.719	.906	.935
Pass Cars	10	6	16	7	159	166	355	23	378	560
% Pass Cars	90.9	100	94.1	87.5	95.2	94.9	98.3	100	98.4	97.2
Single Units	1	0	1	1	7	8	6	0	6	15
% Single Units	9.1	0	5.9	12.5	4.2	4.6	1.7	0	1.6	2.6
Heavy Trucks	0	0	0	0	1	1	0	0	0	1
% Heavy Trucks	0	0	0	0	0.6	0.6	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

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Phone: 586.786-5407

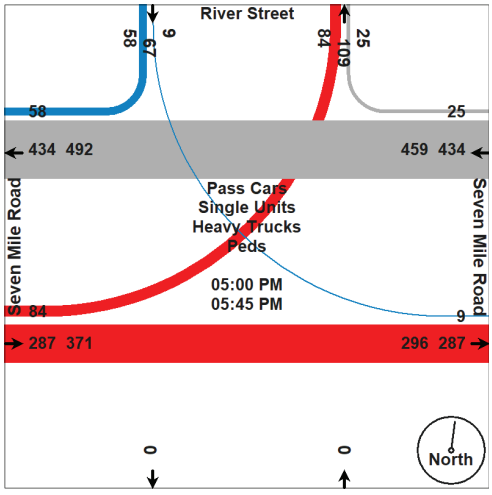
Traffic Study Performed For:

Fleis &VandenBrink

Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3HT SE

File Name : TMC_12 7Mile & River_5-15-18
Site Code : TMC_12
Start Date : 5/15/2018
Page No : 4

	River Street Southbound			Seven Mile Road Westbound			Seven Mile Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	15	2	17	7	**116**	**123**	69	**25**	94	**234**
05:15 PM	**18**	1	**19**	5	102	107	65	22	87	213
05:30 PM	12	2	14	**9**	100	109	**80**	22	**102**	225
05:45 PM	13	**4**	17	4	116	120	73	15	88	225
Total Volume	58	9	67	25	434	459	287	84	371	897
% App. Total	86.6	13.4		5.4	94.6		77.4	22.6		
PHF	.806	.563	.882	.694	.935	.933	.897	.840	.909	.958
Pass Cars	58	9	67	24	431	455	282	83	365	887
% Pass Cars	100	100	100	96.0	99.3	99.1	98.3	98.8	98.4	98.9
Single Units	0	0	0	1	3	4	5	1	6	10
% Single Units	0	0	0	4.0	0.7	0.9	1.7	1.2	1.6	1.1
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Northville & Beal_10-18-18
Site Code : TMC_1
Start Date : 10/18/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Northville Road Southbound				Northville Road Northbound				7 Mile Road Eastbound				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
07:00 AM	4	62	0	66	34	0	0	34	2	0	0	2	102
07:15 AM	3	52	0	55	50	2	0	52	6	2	0	8	115
07:30 AM	2	58	0	60	55	1	0	56	7	0	0	7	123
07:45 AM	0	66	0	66	81	3	0	84	6	1	0	7	157
Total	9	238	0	247	220	6	0	226	21	3	0	24	497
08:00 AM	2	63	0	65	67	2	0	69	3	1	0	4	138
08:15 AM	1	74	0	75	79	2	0	81	5	1	0	6	162
08:30 AM	2	71	0	73	87	4	0	91	7	4	0	11	175
08:45 AM	0	81	0	81	93	3	0	96	6	0	0	6	183
Total	5	289	0	294	326	11	0	337	21	6	0	27	658
*** BREAK ***													
04:00 PM	3	96	0	99	137	5	0	142	12	0	3	15	256
04:15 PM	1	86	0	87	155	1	0	156	10	1	0	11	254
04:30 PM	1	93	0	94	170	2	0	172	10	1	1	12	278
04:45 PM	3	124	0	127	156	4	0	160	8	1	1	10	297
Total	8	399	0	407	618	12	0	630	40	3	5	48	1085
05:00 PM	1	126	0	127	156	3	0	159	12	2	1	15	301
05:15 PM	1	123	0	124	181	4	0	185	12	4	1	17	326
05:30 PM	1	118	0	119	172	1	0	173	12	2	0	14	306
05:45 PM	1	110	0	111	170	0	0	170	0	0	0	0	281
Total	4	477	0	481	679	8	0	687	36	8	2	46	1214
Grand Total	26	1403	0	1429	1843	37	0	1880	118	20	7	145	3454
Apprch %	1.8	98.2	0		98	2	0		81.4	13.8	4.8		
Total %	0.8	40.6	0	41.4	53.4	1.1	0	54.4	3.4	0.6	0.2	4.2	
Pass Cars	26	1390	0	1416	1815	37	0	1852	117	19	0	136	3404
% Pass Cars	100	99.1	0	99.1	98.5	100	0	98.5	99.2	95	0	93.8	98.6
Single Units	0	11	0	11	22	0	0	22	1	1	0	2	35
% Single Units	0	0.8	0	0.8	1.2	0	0	1.2	0.8	5	0	1.4	1
Heavy Trucks	0	2	0	2	6	0	0	6	0	0	0	0	8
% Heavy Trucks	0	0.1	0	0.1	0.3	0	0	0.3	0	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0	7	7	7
% Peds	0	0	0	0	0	0	0	0	0	0	100	4.8	0.2

TDC Traffic Comments: Non-signalized intersection. Northville Road is a divided roadway. Video VCU camera was located within SE intersection quadrant. Note: Peds. are excluded from peak hour reports. Traffic study was performed for Northville Traffic Impact Study for Fleis & Vandenbrink.

Traffic Data Collection, LLC

www:tdccounts.com

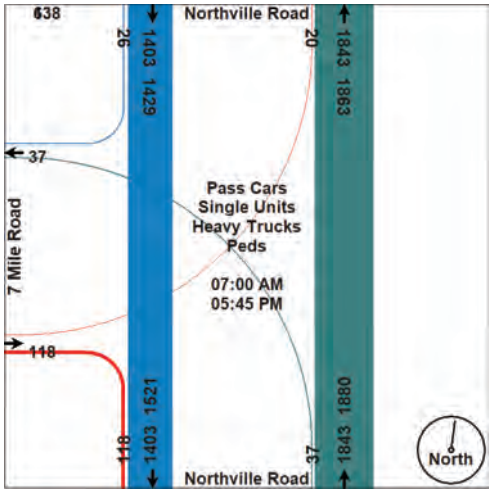
Phone: 586.786-5407

Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Northville & Beal_10-18-18
Site Code : TMC_1
Start Date : 10/18/2018
Page No : 2



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

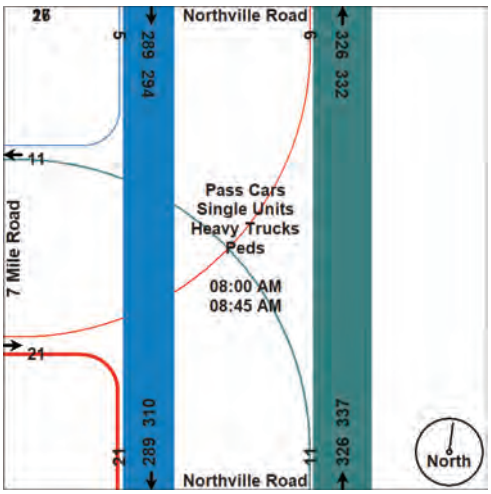
Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Northville & Beal_10-18-18
Site Code : TMC_1
Start Date : 10/18/2018
Page No : 3

	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**2**	63	65	67	2	69	3	1	4	138
08:15 AM	1	74	75	79	2	81	5	1	6	162
08:30 AM	2	71	73	87	**4**	91	**7**	**4**	**11**	175
08:45 AM	0	**81**	**81**	**93**	3	**96**	6	0	6	**183**
Total Volume	5	289	294	326	11	337	21	6	27	658
% App. Total	1.7	98.3		96.7	3.3		77.8	22.2		
PHF	.625	.892	.907	.876	.688	.878	.750	.375	.614	.899
Pass Cars	5	284	289	316	11	327	21	5	26	642
% Pass Cars	100	98.3	98.3	96.9	100	97.0	100	83.3	96.3	97.6
Single Units	0	5	5	9	0	9	0	1	1	15
% Single Units	0	1.7	1.7	2.8	0	2.7	0	16.7	3.7	2.3
Heavy Trucks	0	0	0	1	0	1	0	0	0	1
% Heavy Trucks	0	0	0	0.3	0	0.3	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

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Phone: 586.786-5407

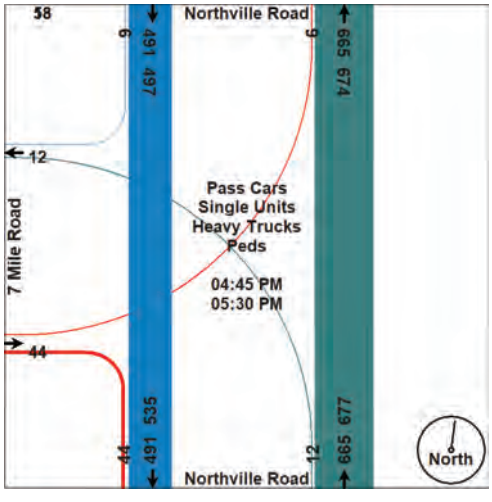
Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Northville & Beal_10-18-18
Site Code : TMC_1
Start Date : 10/18/2018
Page No : 4

	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**3**	124	**127**	156	**4**	160	8	1	9	296
05:00 PM	1	**126**	127	156	3	159	**12**	2	14	300
05:15 PM	1	123	124	**181**	4	**185**	12	**4**	**16**	**325**
05:30 PM	1	118	119	172	1	173	12	2	14	306
Total Volume	6	491	497	665	12	677	44	9	53	1227
% App. Total	1.2	98.8		98.2	1.8		83	17		
PHF	.500	.974	.978	.919	.750	.915	.917	.563	.828	.944
Pass Cars	6	486	492	660	12	672	44	9	53	1217
% Pass Cars	100	99.0	99.0	99.2	100	99.3	100	100	100	99.2
Single Units	0	3	3	4	0	4	0	0	0	7
% Single Units	0	0.6	0.6	0.6	0	0.6	0	0	0	0.6
Heavy Trucks	0	2	2	1	0	1	0	0	0	3
% Heavy Trucks	0	0.4	0.4	0.2	0	0.1	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

www.tdccounts.com

Phone: 586.786-5407

Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_2 Northville & 7Mile_N_10-18-18
Site Code : TMC_2
Start Date : 10/18/2018
Page No : 1

8 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning, 11:00 AM - 1:00 PM mid-day & 2:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Northville Road Southbound				Northville Road Northbound				7 Mile Road Eastbound				
Start Time	Right	Thru	U-Turns	App. Total	Thru	Left	U-Turns	App. Total	Right	Left	Peds	App. Total	Int. Total
07:00 AM	13	57	2	72	28	31	0	59	54	6	0	60	191
07:15 AM	9	52	1	62	43	25	0	68	54	5	0	59	189
07:30 AM	8	61	3	72	53	29	1	83	67	5	0	72	227
07:45 AM	9	67	1	77	71	43	0	114	72	9	0	81	272
Total	39	237	7	283	195	128	1	324	247	25	0	272	879
08:00 AM	12	60	0	72	63	37	1	101	64	9	0	73	246
08:15 AM	10	70	0	80	67	50	0	117	86	14	0	100	297
08:30 AM	15	66	3	84	79	33	0	112	71	14	0	85	281
08:45 AM	15	68	1	84	98	32	1	131	62	5	0	67	282
Total	52	264	4	320	307	152	2	461	283	42	0	325	1106
*** BREAK ***													
11:00 AM	9	76	2	87	78	47	1	126	68	8	0	76	289
11:15 AM	9	65	0	74	92	48	1	141	44	9	0	53	268
11:30 AM	12	61	1	74	89	49	1	139	53	7	0	60	273
11:45 AM	16	72	4	92	84	57	0	141	58	11	0	69	302
Total	46	274	7	327	343	201	3	547	223	35	0	258	1132
12:00 PM	12	81	1	94	74	52	0	126	68	9	0	77	297
12:15 PM	19	58	0	77	81	68	1	150	68	13	0	81	308
12:30 PM	19	87	0	106	83	62	2	147	56	6	0	62	315
12:45 PM	14	82	0	96	105	56	1	162	62	16	0	78	336
Total	64	308	1	373	343	238	4	585	254	44	0	298	1256
*** BREAK ***													
02:00 PM	8	77	2	87	74	62	0	136	51	2	0	53	276
02:15 PM	11	71	1	83	72	47	1	120	50	14	0	64	267
02:30 PM	12	93	2	107	87	66	1	154	48	11	0	59	320
02:45 PM	13	94	1	108	100	71	0	171	57	12	0	69	348
Total	44	335	6	385	333	246	2	581	206	39	0	245	1211
03:00 PM	20	78	1	99	128	74	0	202	62	10	0	72	373
03:15 PM	14	93	2	109	130	83	0	213	48	4	0	52	374
03:30 PM	6	94	1	101	117	58	0	175	68	18	0	86	362
03:45 PM	23	84	0	107	129	78	0	207	60	9	0	69	383
Total	63	349	4	416	504	293	0	797	238	41	0	279	1492
04:00 PM	18	93	1	112	135	92	1	228	46	10	0	56	396
04:15 PM	22	80	1	103	127	83	0	210	60	20	0	80	393
04:30 PM	22	91	2	115	155	88	0	243	63	17	0	80	438
04:45 PM	25	96	3	124	156	102	0	258	66	11	0	77	459
Total	87	360	7	454	573	365	1	939	235	58	0	293	1686
05:00 PM	32	116	0	148	160	114	1	275	70	13	0	83	506
05:15 PM	27	116	1	144	169	99	0	268	64	15	0	79	491
05:30 PM	29	109	0	138	163	86	3	252	57	17	0	74	464
05:45 PM	22	111	2	135	168	85	0	253	71	17	0	88	476
Total	110	452	3	565	660	384	4	1048	262	62	0	324	1937
Grand Total	505	2579	39	3123	3258	2007	17	5282	1948	346	0	2294	10699
Apprch %	16.2	82.6	1.2		61.7	38	0.3		84.9	15.1	0		
Total %	4.7	24.1	0.4	29.2	30.5	18.8	0.2	49.4	18.2	3.2	0	21.4	

Traffic Data Collection, LLC

www.tdccounts.com

Phone: 586.786-5407

Traffic Study Performed For:

Fleis & Vandenbrink

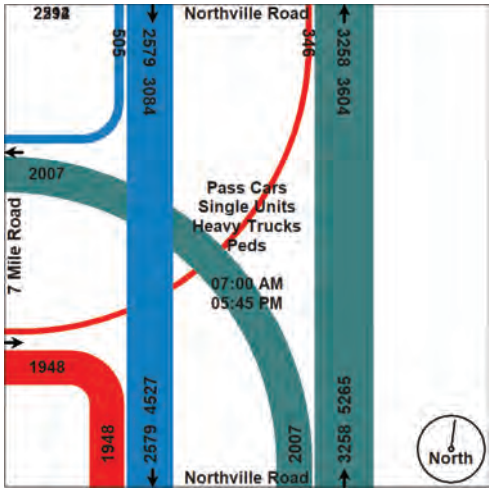
Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_2 Northville & 7Mile_N_10-18-18
Site Code : TMC_2
Start Date : 10/18/2018
Page No : 2

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Northville Road Southbound				Northville Road Northbound				7 Mile Road Eastbound				
	Right	Thru	U-Turns	App. Total	Thru	Left	U-Turns	App. Total	Right	Left	Peds	App. Total	Int. Total
Pass Cars	499	2542	39	3080	3201	1956	17	5174	1895	334	0	2229	10483
% Pass Cars	98.8	98.6	100	98.6	98.3	97.5	100	98	97.3	96.5	0	97.2	98
Single Units	6	30	0	36	50	41	0	91	34	10	0	44	171
% Single Units	1.2	1.2	0	1.2	1.5	2	0	1.7	1.7	2.9	0	1.9	1.6
Heavy Trucks	0	7	0	7	7	10	0	17	19	2	0	21	45
% Heavy Trucks	0	0.3	0	0.2	0.2	0.5	0	0.3	1	0.6	0	0.9	0.4
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0

TDC Traffic Comments: Non-signalized intersection. Video VCU camera was located within SW intersection quadrant. Note: Peds. are excluded from peak hour reports. Traffic study was performed for Northville Traffic Impact Study for Fleis & Vandenbrink.



Traffic Data Collection, LLC

www.tdccounts.com

Phone: 586.786-5407

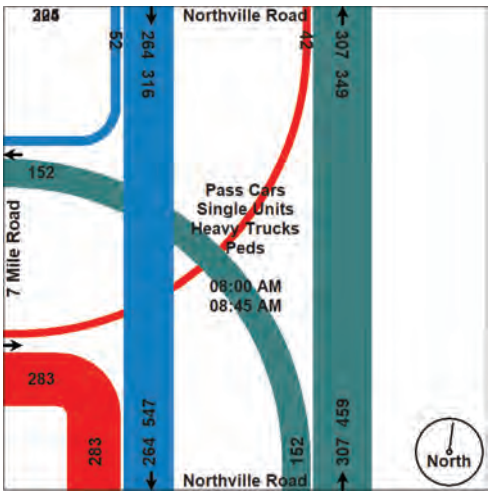
Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_2 Northville & 7Mile_N_10-18-18
Site Code : TMC_2
Start Date : 10/18/2018
Page No : 3

	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	12	60	72	63	37	100	64	9	73	245
08:15 AM	10	**70**	80	67	**50**	117	**86**	**14**	**100**	**297**
08:30 AM	**15**	66	81	79	33	112	71	14	85	278
08:45 AM	15	68	**83**	**98**	32	**130**	62	5	67	280
Total Volume	52	264	316	307	152	459	283	42	325	1100
% App. Total	16.5	83.5		66.9	33.1		87.1	12.9		
PHF	.867	.943	.952	.783	.760	.883	.823	.750	.813	.926
Pass Cars	52	260	312	299	139	438	279	40	319	1069
% Pass Cars	100	98.5	98.7	97.4	91.4	95.4	98.6	95.2	98.2	97.2
Single Units	0	3	3	7	11	18	2	1	3	24
% Single Units	0	1.1	0.9	2.3	7.2	3.9	0.7	2.4	0.9	2.2
Heavy Trucks	0	1	1	1	2	3	2	1	3	7
% Heavy Trucks	0	0.4	0.3	0.3	1.3	0.7	0.7	2.4	0.9	0.6
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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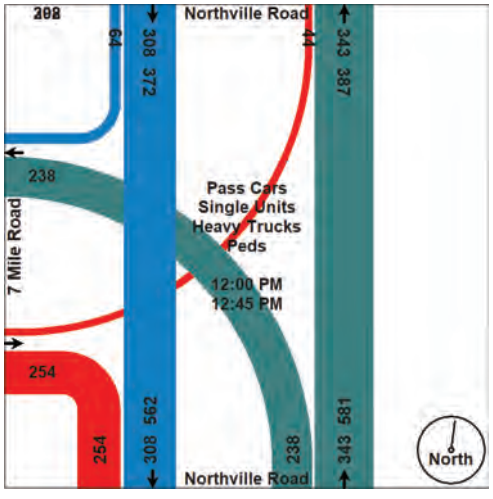
Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_2 Northville & 7Mile_N_10-18-18
Site Code : TMC_2
Start Date : 10/18/2018
Page No : 4

	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	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	12	81	93	74	52	126	**68**	9	77	296
12:15 PM	**19**	58	77	81	**68**	149	68	13	**81**	307
12:30 PM	19	**87**	**106**	83	62	145	56	6	62	313
12:45 PM	14	82	96	**105**	56	**161**	62	**16**	78	**335**
Total Volume	64	308	372	343	238	581	254	44	298	1251
% App. Total	17.2	82.8		59	41		85.2	14.8		
PHF	.842	.885	.877	.817	.875	.902	.934	.688	.920	.934
Pass Cars	62	304	366	339	235	574	247	43	290	1230
% Pass Cars	96.9	98.7	98.4	98.8	98.7	98.8	97.2	97.7	97.3	98.3
Single Units	2	3	5	3	3	6	5	0	5	16
% Single Units	3.1	1.0	1.3	0.9	1.3	1.0	2.0	0	1.7	1.3
Heavy Trucks	0	1	1	1	0	1	2	1	3	5
% Heavy Trucks	0	0.3	0.3	0.3	0	0.2	0.8	2.3	1.0	0.4
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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Traffic Study Performed For:

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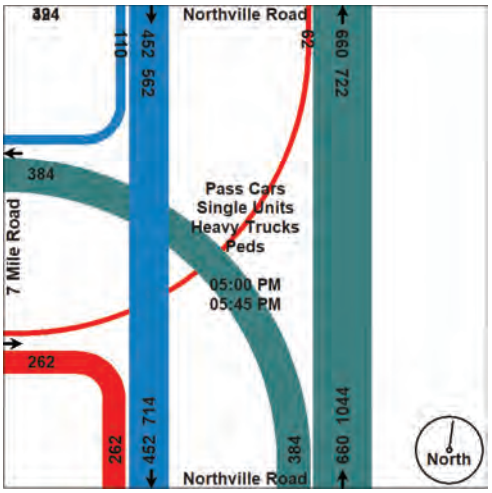
Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_2 Northville & 7Mile_N_10-18-18
Site Code : TMC_2
Start Date : 10/18/2018
Page No : 5

	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**32**	**116**	**148**	160	**114**	**274**	70	13	83	**505**
05:15 PM	27	116	143	**169**	99	268	64	15	79	490
05:30 PM	29	109	138	163	86	249	57	**17**	74	461
05:45 PM	22	111	133	168	85	253	**71**	17	**88**	474
Total Volume	110	452	562	660	384	1044	262	62	324	1930
% App. Total	19.6	80.4		63.2	36.8		80.9	19.1		
PHF	.859	.974	.949	976	.842	.953	923	.912	.920	.955
Pass Cars	109	448	557	654	380	1034	257	61	318	1909
% Pass Cars	99.1	99.1	99.1	99.1	99.0	99.0	98.1	98.4	98.1	98.9
Single Units	1	3	4	6	3	9	3	1	4	17
% Single Units	0.9	0.7	0.7	0.9	0.8	0.9	1.1	1.6	1.2	0.9
Heavy Trucks	0	1	1	0	1	1	2	0	2	4
% Heavy Trucks	0	0.2	0.2	0	0.3	0.1	0.8	0	0.6	0.2
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 5DW SE

File Name : TMC_3 Northville & 7Mile_S_10-18-18
Site Code : TMC_3
Start Date : 10/18/2018
Page No : 1

8 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning, 11:00 AM - 1:00 PM mid-day & 2:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Northville Road Southbound					7 Mile Road Westbound					Northville Road Northbound					Monro Brakes Dw. Eastbound					
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
07:00 AM	1	39	65	0	105	37	0	39	0	76	41	29	0	0	70	0	0	0	0	0	251
07:15 AM	1	42	71	0	114	29	0	32	0	61	42	41	0	0	83	0	0	0	0	0	258
07:30 AM	1	44	78	0	123	36	1	61	0	98	49	44	0	0	93	1	0	0	0	1	315
07:45 AM	0	42	91	0	133	55	1	75	0	131	70	61	0	0	131	0	0	0	0	0	395
Total	3	167	305	0	475	157	2	207	0	366	202	175	0	0	377	1	0	0	0	1	1219
08:00 AM	2	36	87	0	125	40	2	48	0	90	73	61	0	0	134	0	1	0	0	1	350
08:15 AM	1	49	108	0	158	61	0	63	0	124	72	56	0	0	128	2	0	0	0	2	412
08:30 AM	1	42	91	0	134	47	0	57	0	104	68	64	0	0	132	0	0	0	0	0	370
08:45 AM	0	57	77	0	134	52	0	43	0	95	60	77	0	0	137	0	0	0	0	0	366
Total	4	184	363	0	551	200	2	211	0	413	273	258	0	0	531	2	1	0	0	3	1498
*** BREAK ***																					
11:00 AM	1	56	94	0	151	76	0	39	0	115	42	53	0	0	95	0	0	0	0	0	361
11:15 AM	0	30	80	0	110	60	0	40	0	100	49	80	0	0	129	0	0	0	0	0	339
11:30 AM	0	44	71	0	115	77	1	35	0	113	38	63	0	0	101	0	0	0	0	0	329
11:45 AM	0	49	75	0	124	83	0	33	0	116	41	52	0	0	93	0	0	0	0	0	333
Total	1	179	320	0	500	296	1	147	0	444	170	248	0	0	418	0	0	0	0	0	1362
12:00 PM	0	56	86	0	142	81	0	40	0	121	67	47	0	0	114	0	0	0	0	0	377
12:15 PM	0	49	87	0	136	93	0	45	0	138	54	51	0	0	105	0	0	0	0	0	379
12:30 PM	0	46	96	0	142	98	0	40	0	138	49	53	0	0	102	0	0	0	0	0	382
12:45 PM	1	49	90	0	140	93	0	60	0	153	52	69	0	0	121	1	0	0	0	1	415
Total	1	200	359	0	560	365	0	185	0	550	222	220	0	0	442	1	0	0	0	1	1553
*** BREAK ***																					
02:00 PM	0	55	73	0	128	79	0	52	0	131	45	63	0	0	108	1	0	0	0	1	368
02:15 PM	2	52	75	0	129	84	0	39	0	123	48	37	0	0	85	0	0	0	0	0	337
02:30 PM	0	61	74	0	135	95	0	56	0	151	59	62	0	0	121	0	0	0	0	0	407
02:45 PM	1	67	81	0	149	106	0	50	0	156	43	64	0	0	107	0	0	0	0	0	412
Total	3	235	303	0	541	364	0	197	0	561	195	226	0	0	421	1	0	0	0	1	1524
03:00 PM	0	61	80	0	141	119	0	53	0	172	53	84	1	0	138	0	0	1	0	1	452
03:15 PM	1	63	72	0	136	89	0	52	0	141	65	126	0	0	191	0	0	0	0	0	468
03:30 PM	1	77	83	0	161	92	0	54	0	146	60	81	0	0	141	0	0	0	0	0	448
03:45 PM	0	60	72	0	132	121	0	55	0	176	67	81	0	0	148	0	0	0	0	0	456
Total	2	261	307	0	570	421	0	214	0	635	245	372	1	0	618	0	0	1	0	1	1824
04:00 PM	0	69	72	0	141	119	0	70	0	189	59	111	0	0	170	0	0	0	0	0	500
04:15 PM	1	61	77	0	139	115	0	62	0	177	73	93	1	0	167	0	0	0	0	0	483
04:30 PM	0	69	98	0	167	141	1	83	0	225	76	105	0	0	181	3	0	0	0	3	576
04:45 PM	1	77	80	0	158	133	0	73	0	206	75	123	0	0	198	1	0	0	0	1	563
Total	2	276	327	0	605	508	1	288	0	797	283	432	1	0	716	4	0	0	0	4	2122
05:00 PM	2	98	88	0	188	136	0	81	0	217	75	130	0	0	205	0	0	1	0	1	611
05:15 PM	0	93	84	0	177	133	1	65	0	199	89	122	0	0	211	0	0	0	0	0	587
05:30 PM	2	87	76	0	165	120	0	77	0	197	88	113	0	0	201	6	0	0	0	6	569
05:45 PM	0	83	91	0	174	121	0	75	0	196	85	113	0	0	198	0	0	0	0	0	568
Total	4	361	339	0	704	510	1	298	0	809	337	478	0	0	815	6	0	1	0	7	2335
Grand Total	20	1863	2623	0	4506	2821	7	1747	0	4575	1927	2409	2	0	4338	15	1	2	0	18	13437
Approch %	0.4	41.3	58.2	0		61.7	0.2	38.2	0		44.4	55.5	0	0		83.3	5.6	11.1	0		
Total %	0.1	13.9	19.5	0	33.5	21	0.1	13	0	34	14.3	17.9	0	0	32.3	0.1	0	0	0	0.1	

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Phone: 586.786-5407

Traffic Study Performed For:

Fleis & Vandenbrink

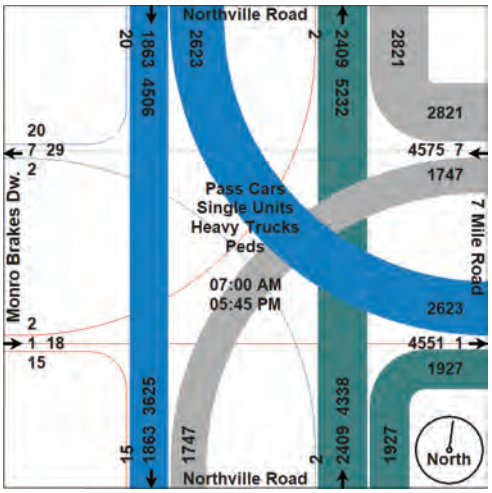
Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 5DW SE

File Name : TMC_3 Northville & 7Mile_S_10-18-18
Site Code : TMC_3
Start Date : 10/18/2018
Page No : 2

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Northville Road Southbound					7 Mile Road Westbound					Northville Road Northbound					Monro Brakes Dw. Eastbound					
	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
Pass Cars	19	1831	2569	0	4419	2771	6	1706	0	4483	1875	2351	2	0	4228	15	1	2	0	18	13148
% Pass Cars	95	98.3	97.9	0	98.1	98.2	85.7	97.7	0	98	97.3	97.6	100	0	97.5	100	100	100	0	100	97.8
Single Units	1	26	38	0	65	37	1	24	0	62	42	52	0	0	94	0	0	0	0	0	221
% Single Units	5	1.4	1.4	0	1.4	1.3	14.3	1.4	0	1.4	2.2	2.2	0	0	2.2	0	0	0	0	0	1.6
Heavy Trucks	0	6	16	0	22	13	0	17	0	30	10	6	0	0	16	0	0	0	0	0	68
% Heavy Trucks	0	0.3	0.6	0	0.5	0.5	0	1	0	0.7	0.5	0.2	0	0	0.4	0	0	0	0	0	0.5
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TDC Traffic Comments: Signalized "T" intersection, no ped. signals. NTOR overhead case sign for NB approach. Video VCU camera was located within SE intersection quadrant. Note: Peds. are excluded from peak hour reports. Traffic study was performed for Northville Traffic Impact Study for Fleis & Vandenbrink.



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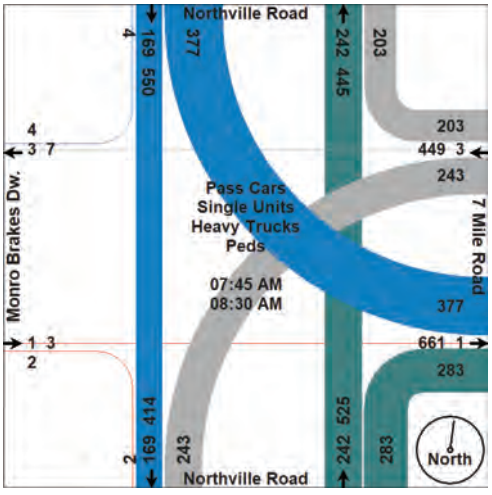
File Name : TMC_3 Northville & 7Mile_S_10-18-18
Site Code : TMC_3
Start Date : 10/18/2018
Page No : 3

	Northville Road Southbound				Northville Road Westbound				Northville Road Northbound				Monro Brakes Dw. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	42	91	133	55	1	**75**	**131**	70	61	0	131	0	0	0	0	395
08:00 AM	**2**	36	87	125	40	**2**	48	90	**73**	61	0	**134**	0	**1**	0	1	350
08:15 AM	1	**49**	**108**	**158**	**61**	0	63	124	72	56	0	128	**2**	0	0	**2**	**412**
08:30 AM	1	42	91	134	47	0	57	104	68	**64**	0	132	0	0	0	0	370
Total Volume	4	169	377	550	203	3	243	449	283	242	0	525	2	1	0	3	1527
% App. Total	0.7	30.7	68.5		45.2	0.7	54.1		53.9	46.1	0		66.7	33.3	0		
PHF	.500	.862	.873	.870	.832	.375	.810	.857	.969	.945	.000	.979	.250	.250	.000	.375	.927
Pass Cars	4	167	375	546	198	3	236	437	274	232	0	506	2	1	0	3	1492
% Pass Cars	100	98.8	99.5	99.3	97.5	100	97.1	97.3	96.8	95.9	0	96.4	100	100	0	100	97.7
Single Units	0	2	2	4	1	0	4	5	7	7	0	14	0	0	0	0	23
% Single Units	0	1.2	0.5	0.7	0.5	0	1.6	1.1	2.5	2.9	0	2.7	0	0	0	0	1.5
Heavy Trucks	0	0	0	0	4	0	3	7	2	3	0	5	0	0	0	0	12
% Heavy Trucks	0	0	0	0	2.0	0	1.2	1.6	0.7	1.2	0	1.0	0	0	0	0	0.8
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Study:8 Hr. Video Turning Movement Count
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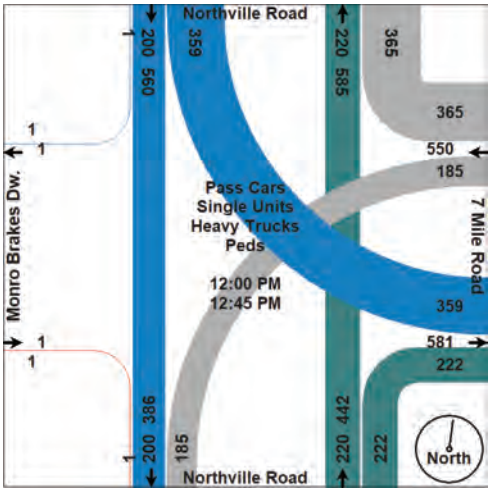
Count By Miovision Video VCU 5DW SE

File Name : TMC_3 Northville & 7Mile_S_10-18-18
Site Code : TMC_3
Start Date : 10/18/2018
Page No : 4

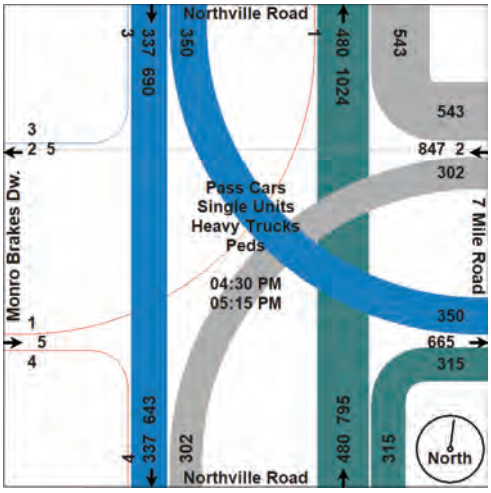
	Northville Road Southbound				7 Mile Road Westbound				Northville Road Northbound				Monro Brakes Dw. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	**56**	86	**142**	81	0	40	121	**67**	47	0	114	0	0	0	0	377
12:15 PM	0	49	87	136	93	0	45	138	54	51	0	105	0	0	0	0	379
12:30 PM	0	46	**96**	142	**98**	0	40	138	49	53	0	102	0	0	0	0	382
12:45 PM	**1**	49	90	140	93	0	**60**	**153**	52	**69**	0	**121**	**1**	0	0	**1**	**415**
Total Volume	1	200	359	560	365	0	185	550	222	220	0	442	1	0	0	1	1553
% App. Total	0.2	35.7	64.1		66.4	0	33.6		50.2	49.8	0		100	0	0		
PHF	.250	.893	.935	.986	.931	.000	.771	.899	.828	.797	.000	.913	.250	.000	.000	.250	.936
Pass Cars	1	198	351	550	361	0	179	540	214	217	0	431	1	0	0	1	1522
% Pass Cars	100	99.0	97.8	98.2	98.9	0	96.8	98.2	96.4	98.6	0	97.5	100	0	0	100	98.0
Single Units	0	1	6	7	3	0	4	7	5	2	0	7	0	0	0	0	21
% Single Units	0	0.5	1.7	1.3	0.8	0	2.2	1.3	2.3	0.9	0	1.6	0	0	0	0	1.4
Heavy Trucks	0	1	2	3	1	0	2	3	3	1	0	4	0	0	0	0	10
% Heavy Trucks	0	0.5	0.6	0.5	0.3	0	1.1	0.5	1.4	0.5	0	0.9	0	0	0	0	0.6
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 5DW SE

File Name : TMC_3 Northville & 7Mile_S_10-18-18
Site Code : TMC_3
Start Date : 10/18/2018
Page No : 5

	Northville Road Southbound				7 Mile Road Westbound				Northville Road Northbound				Monro Brakes Dw. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	69	**98**	167	**141**	**1**	**83**	**225**	76	105	0	181	**3**	0	0	**3**	576
04:45 PM	1	77	80	158	133	0	73	206	75	123	0	198	1	0	0	1	563
05:00 PM	**2**	**98**	88	**188**	136	0	81	217	75	**130**	0	205	0	0	**1**	1	**611**
05:15 PM	0	93	84	177	133	1	65	199	**89**	122	0	**211**	0	0	0	0	587
Total Volume	3	337	350	690	543	2	302	847	315	480	0	795	4	0	1	5	2337
% App. Total	0.4	48.8	50.7		64.1	0.2	35.7		39.6	60.4	0		80	0	20		
PHF	.375	.860	.893	.918	.963	.500	.910	.941	.885	.923	.000	.942	.333	.000	.250	.417	.956
Pass Cars	3	332	343	678	537	2	302	841	311	473	0	784	4	0	1	5	2308
% Pass Cars	100	98.5	98.0	98.3	98.9	100	100	99.3	98.7	98.5	0	98.6	100	0	100	100	98.8
Single Units	0	3	4	7	4	0	0	4	4	7	0	11	0	0	0	0	22
% Single Units	0	0.9	1.1	1.0	0.7	0	0	0.5	1.3	1.5	0	1.4	0	0	0	0	0.9
Heavy Trucks	0	2	3	5	2	0	0	2	0	0	0	0	0	0	0	0	7
% Heavy Trucks	0	0.6	0.9	0.7	0.4	0	0	0.2	0	0	0	0	0	0	0	0	0.3
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Wing & Randolph - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886942, Location: 42.433, -83.484894

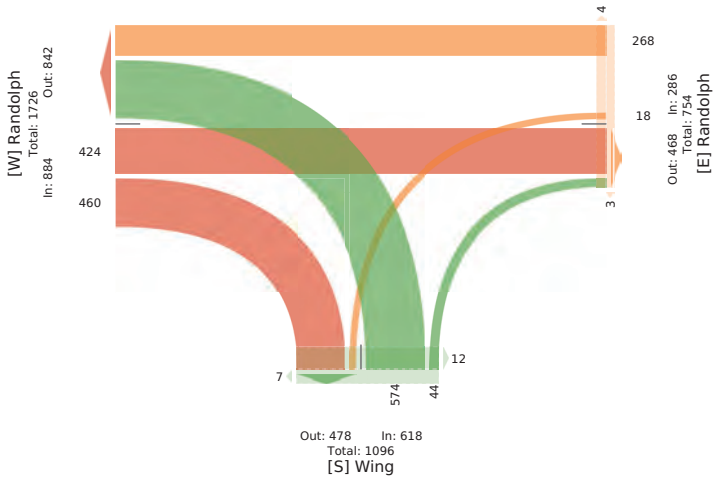
GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Randolph Eastbound					Randolph Westbound					Wing Northbound					
Time	T	R	U	App	Ped*	L	T	U	App	Ped*	L	R	U	App	Ped*	Int
2021-10-19 7:00AM	6	17	0	**23**	0	1	4	0	**5**	0	22	1	0	**23**	1	**51**
7:15AM	17	19	0	**36**	0	0	8	0	**8**	0	24	2	0	**26**	0	**70**
7:30AM	14	19	0	**33**	0	0	7	0	**7**	1	33	0	0	**33**	2	**73**
7:45AM	23	32	0	**55**	0	3	22	0	**25**	0	30	1	0	**31**	0	**111**
Hourly Total	60	87	0	**147**	0	4	41	0	**45**	1	109	4	0	**113**	3	**305**
8:00AM	13	35	0	**48**	0	1	26	0	**27**	0	17	3	0	**20**	0	**95**
8:15AM	22	34	0	**56**	0	0	3	0	**3**	0	18	2	0	**20**	0	**79**
8:30AM	35	22	0	**57**	0	1	5	0	**6**	0	22	2	0	**24**	0	**87**
8:45AM	30	27	0	**57**	0	0	14	0	**14**	0	20	5	0	**25**	0	**96**
Hourly Total	100	118	0	**218**	0	2	48	0	**50**	0	77	12	0	**89**	0	**357**
4:00PM	26	16	0	**42**	0	2	29	0	**31**	0	37	5	0	**42**	2	**115**
4:15PM	20	19	0	**39**	0	3	14	0	**17**	0	35	7	0	**42**	0	**98**
4:30PM	16	16	0	**32**	0	2	21	0	**23**	0	60	0	0	**60**	1	**115**
4:45PM	49	47	0	**96**	0	1	23	0	**24**	0	66	4	0	**70**	0	**190**
Hourly Total	111	98	0	**209**	0	8	87	0	**95**	0	198	16	0	**214**	3	**518**
5:00PM	47	35	0	**82**	0	1	29	0	**30**	0	54	1	0	**55**	4	**167**
5:15PM	39	54	0	**93**	0	0	26	0	**26**	2	52	5	0	**57**	1	**176**
5:30PM	37	28	0	**65**	0	2	17	0	**19**	2	37	1	0	**38**	6	**122**
5:45PM	30	40	0	**70**	0	1	20	0	**21**	2	47	5	0	**52**	2	**143**
Hourly Total	153	157	0	**310**	0	4	92	0	**96**	6	190	12	0	**202**	13	**608**
Total	424	460	0	**884**	0	18	268	0	**286**	7	574	44	0	**618**	19	**1788**
% Approach	48.0%	52.0%	0%	-	-	6.3%	93.7%	0%	-	-	92.9%	7.1%	0%	-	-	-
% Total	23.7%	25.7%	0%	**49.4%**	-	1.0%	15.0%	0%	**16.0%**	-	32.1%	2.5%	0%	**34.6%**	-	-
Lights	423	450	0	**873**	-	18	263	0	**281**	-	562	41	0	**603**	-	1757
% Lights	99.8%	97.8%	0%	**98.8%**	-	100%	98.1%	0%	**98.3%**	-	97.9%	93.2%	0%	**97.6%**	-	98.3%
Single-Unit Trucks	0	2	0	**2**	-	0	1	0	**1**	-	3	1	0	**4**	-	7
% Single-Unit Trucks	0%	0.4%	0%	**0.2%**	-	0%	0.4%	0%	**0.3%**	-	0.5%	2.3%	0%	**0.6%**	-	0.4%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	1	5	0	**6**	-	0	1	0	**1**	-	4	2	0	**6**	-	13
% Buses	0.2%	1.1%	0%	**0.7%**	-	0%	0.4%	0%	**0.3%**	-	0.7%	4.5%	0%	**1.0%**	-	0.7%
Bicycles on Road	0	3	0	**3**	-	0	3	0	**3**	-	5	0	0	**5**	-	11
% Bicycles on Road	0%	0.7%	0%	**0.3%**	-	0%	1.1%	0%	**1.0%**	-	0.9%	0%	0%	**0.8%**	-	0.6%
Pedestrians	-	-	-	-	0	-	-	-	-	7	-	-	-	-	17	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	89.5%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	10.5%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Wing & Randolph - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886942, Location: 42.433, -83.484894

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



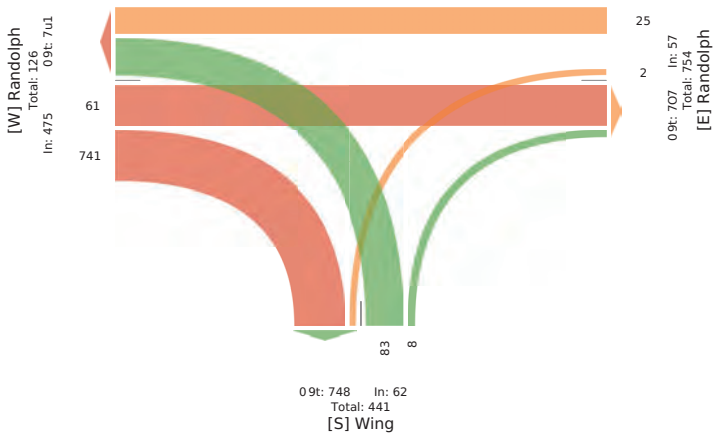
GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev nfi HnI s6tRr F CCRcsnteCDrc.
82M5RdeCl EBi e : dsne, VedrRr Hs6tC, Da , 80081, k U

a ei : sdectsRr	wnr BRhpS EnCDbRur B					wnr BRhpS WeCDbRur B					Wsr i NRttSbRur B					
Tsl e	T	w	k	**F pp**	LeB*	a	T	k	**F pp**	LeB*	a	w	k	**F pp**	LeB*	**Dt**
2021-10-19 (7AMF l	23	32	0	**MM**	0	3	22	0	**2M**	0	30	1	0	**31**	0	**111**
47D0F l	13	3M	0	**A4**	0	1	28	0	**2(**	0	1(	3	0	**20**	0	**9M**
47LMF l	22	3A	0	**M8**	0	0	3	0	**3**	0	14	2	0	**20**	0	**(9**
4730F l	3M	22	0	**Mj**	0	1	M	0	**8**	0	22	2	0	**2A**	0	**4(**
TRtn6	93	123	0	**218**	0	M	M8	0	**81**	0	4(	4	0	**9M**	0	**3(2**
% F ppRncS	A3.1%	M8.9%	0%	**-**	-	4.2%	91.4%	0%	**-**	-	91.8%	4.A%	0%	**-**	-	-
% TRtn6	2M0%	33.1%	0%	**M.1%**	-	1.3%	1M1%	0%	**18.A%**	-	23.A%	2.2%	0%	**2MM%**	-	-
LH5	0.88A	0.4(9	-	**0.9A(**	-	0.A1 (	0.M4	-	**0.MM**	-	0.(2M	0.88(	-	**0.(88**	-	0.434
a si StC	92	114	0	**210**	-	M	MM	0	**80**	-	43	4	0	**91**	-	381
% a si StC	94.9%	9M5%	0%	**9(_2%**	-	100%	94.2%	0%	**94.A%**	-	9MA%	100%	0%	**9M4%**	-	9(_0%
Usr i 6e-k r st TducgC	0	0	0	**0**	-	0	0	0	**0**	-	1	0	0	**1**	-	1
% Usr i 6e-k r st TducgC	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	1.1%	0%	0%	**1.1%**	-	0.3%
F dscu6nteB TducgC	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% F dscu6nteB TducgC	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
y uCeC	1	M	0	**8**	-	0	1	0	**1**	-	3	0	0	**3**	-	10
% y uCeC	1.1%	A1%	0%	**2.4%**	-	0%	1.4%	0%	**1.8%**	-	3.A%	0%	0%	**3.2%**	-	2.(%
y scoc6eCRr wRnB	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% y scoc6eCRr wRnB	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
LeBeCdcnr C	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% LeBeCdcnr C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
y scoc6eCRr) dRCCv nfg	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% y scoc6eCRr) dRCCv nfg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*LeBeCdcnr Cnr B y scoc6eCRr) dRCCv nfg. a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

Wing & Randolph - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC,
LeBeCdcnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP
F 6l l RmeI er tC
D 74489A2, a RcntsRr 7A2.A33, -43.A4A49A

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev nfi HnI s6tRr F CCRcsnteCDrc.
82M5RdeCl EBi e : dsne, VedrRr Hs6tC, Da , 80081, k U



Wing & Randolph - TMC
Tue Oct 19, 2021
Fl FeLn gh(h7 Fl A7(h7 Fl MAO- e4LPFeLn 6) u4
CPPa Flsses gl SLr ts, k5lLUe/Bds St T4ucns, C4tScuRtey T4ucns, o uses,
Feyest4Slds, o StRc!es) d w) Ly, o StRc!es) d a 4) ssv LPhM
CPPl) - emedts
ID(: : 89h2, i) cLrS) d(h2.h33, A 3.h: h: 9h

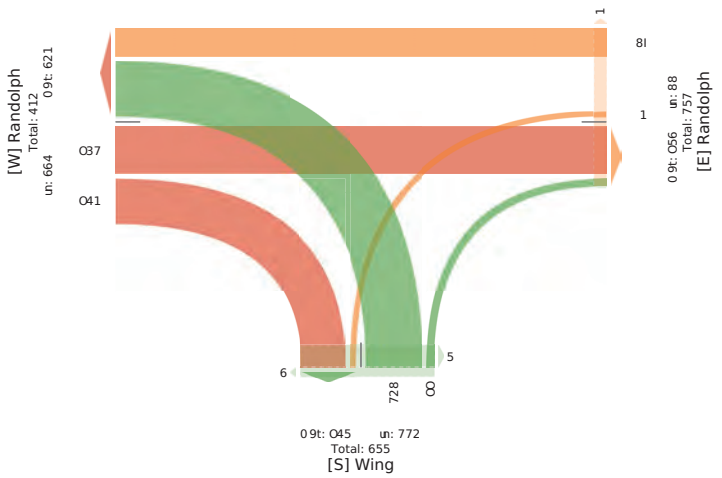
GEWALT HAMILTON ASSOCIATES, INC.
F4) - Syey bR(Gev LPt 6 LmSPt) d Css) cSLes Idc.
827 H) 4est 5yUe D4Se, E e4l) d 6 SPB, Ii , 80081, B k

i eU DSlectSyd	wLdy) PAr 5 Lstb) udy					wLdy) PAr p estb) udy					p SlU W) 4r b) udy					
TSne	T	w	B	**CW**	FeyN	i	T	B	**CW**	FeyN	i	w	B	**CW**	FeyN	**Idt**
2021A10A19 h(h7Fl	h9	h*	0	**98**	0	1	23	0	**2h**	0	88	h	0	***0**	0	**190**
7(00Fl	h*	37	0	**: 2**	0	1	29	0	**30**	0	7h	1	0	**77**	h	**18***
7(17Fl	39	7h	0	**93**	0	0	28	0	**28**	2	72	7	0	**7***	1	**1*8**
7(30Fl	3*	2:	0	**87**	0	2	1*	0	**19**	2	3*	1	0	**3:**	8	**122**
T) tLP	1*2	18h	0	**338**	0	h	97	0	**99**	h	209	11	0	**220**	11	**877**
% CVWlj Lcr	71.2%	h: .: %	0%	**A**	A	h.0%	98.0%	0%	**A**	A	97.0%	7.0%	0%	**A**	A	A
% T) tLP	28.3%	27.0%	0%	**71.3%**	A	0.8%	1h.7%	0%	**17.1%**	A	31.9%	1.*%	0%	**33.8%**	A	A
F6 H	0.: *:	0.*79	A	**0.: 8***	A	0.700	0.: 02	A	**0.: 0:**	A	0.*: h	0.770	A	**0.**9**	A	0.: 73
i SLr ts	1*2	180	0	**332**	A	h	93	0	**9***	A	208	10	0	**218**	A	8h7
% i SLr ts	100%	9*.8%	0%	**9: .: %**	A	100%	9*.9%	0%	**9: .0%**	A	9: .8%	90.9%	0%	**9: .2%**	A	9: .7%
kSlLUe/Bds St T4ucns	0	1	0	**1**	A	0	0	0	**0**	A	1	0	0	**1**	A	2
% kSlLUe/Bds St T4ucns	0%	0.8%	0%	**0.3%**	A	0%	0%	0%	**0%**	A	0.7%	0%	0%	**0.7%**	A	0.3%
C4tScuRtey T4ucns	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% C4tScuRtey T4ucns	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
o uses	0	0	0	**0**	A	0	0	0	**0**	A	0	1	0	**1**	A	1
% o uses	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	9.1%	0%	**0.7%**	A	0.2%
o StRc!es) d w) Ly	0	3	0	**3**	A	0	2	0	**2**	A	2	0	0	**2**	A	*
% o StRc!es) d w) Ly	0%	1.: %	0%	**0.9%**	A	0%	2.1%	0%	**2.0%**	A	1.0%	0%	0%	**0.9%**	A	1.1%
Feyest4Slds	A	A	A	A	0	A	A	A	A	h	A	A	A	A	10	
% Feyest4Slds	A	A	A	A	A	A	A	A	A	100%	A	A	A	A	90.9%	A
o StRc!es) d a 4) ssv LIh	A	A	A	A	0	A	A	A	A	0	A	A	A	A	1	
% o StRc!es) d a 4) ssv LIh	A	A	A	A	A	A	A	A	A	0%	A	A	A	A	9.1%	A

NFeyest4Slds Ldy o StRc!es) d a 4) ssv LIh. i (i eft, w(wSLr t, T(Tr 4u, B(BAFu4d

Wing & Randolph - TMC
Tue Oct 19, 2021
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886942, Location: 42.433, -83.484894

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Randolph & Center - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 88694. , Location: 4234. 2774, -8. 348. 249

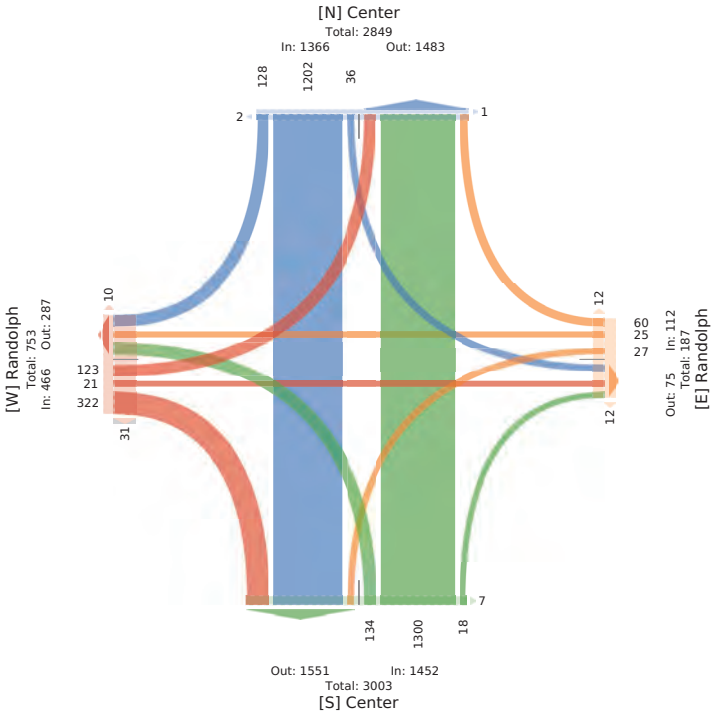
Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Randolph Eastbound							Randolph Westbound							Center Northbound							Center Southbound							
Time	L	T	R	U	App	Ped*	Int	L	T	R	U	App	Ped*	Int	L	T	R	U	App	Ped*	Int	L	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	2	0	5	0	7	0	91	0	0	0	0	0	0		.	. 9	1	0	4.	0		1	.8	2	0	41	0	
7:15AM	6	0	12	0	18	0	112	0	0	0	0	0	0		5	47	0	0	52	0		0	. 9	.	0	42	0	
7:. 0AM	.	0	12	0	15	0	14.	0	0	0	0	0	0		.	56	1	0	60	2		2	62	4	0	68	0	
7:45AM	6	0	18	0	24	0	254	0	0	2	0	2	0		2	87	0	0	89	0		1	116	22	0	1. 9	0	
Hourly Total	17	0	47	0	64	0	600	0	0	2	0	2	0		1.	229	2	0	244	2		4	255	. 1	0	290	0	
8:00AM	6	0	9	0	15	1	249	1	0	0	0	1	1		7	75	0	0	82	0		1	1. 1	19	0	151	0	
8:15AM	1	0	21	0	22	2	189	2	0	1	0	.	1		2	85	1	0	88	0		1	74	1	0	76	0	
8:. 0AM	7	2	28	0	.7	2	155	1	0	2	0	.	2		4	60	0	0	64	0		2	47	2	0	51	0	
8:45AM	10	1	24	0	.5	4	19.	2	2	2	0	6	1		10	58	1	0	69	0		.	76	4	0	8.	0	
Hourly Total	24	.	82	0	109	9	786	6	2	5	0	1.	5		2.	278	2	0	. 0.	0		7	.28	.26	0	. 61	0	
4:00PM	12	1	18	0	. 1	7	280	1	5	9	0	15	5		16	116	2	0	1. 4	0		2	88	10	0	100	1	
4:15PM	9	.	17	0	29		225	1	2	5	0	8	1		7	78	1	0	86	0		.	91	8	0	102	0	
4:. 0PM	2	0	15	0	17	6	242	5	.	5	0	1.	1		15	98	2	0	115	0		4	84	9	0	97	0	
4:45PM	19	2	. 1	0	52	1	252	1	0	9	0	10	0		1.	108	1	0	122	0		0	55	1.	0	68	0	
Hourly Total	42	6	81	0	129	17	999	8	10	28	0	46	7		51	400	6	0	457	0		9	.18	40	0	. 67	1	
5:00PM	14	.	. 2	0	49	4	221	4	.	7	0	14	2		15	85	2	0	102	1		2	46	8	0	56	0	
5:15PM	11	2	. 1	0	44	2	249	.	5	5	0	1.	.		10	117	1	0	128	0		2	52	10	0	64	0	
5:. 0PM	7	7	2.	0	.7	6	270	4	1	6	0	11	4		10	99	.	0	112	4		5	96	9	0	110	2	
5:45PM	8	0	26	0	. 4		271	2	4	7	0	1.	.		12	92	2	0	106	0		7	107	4	0	118	0	
Hourly Total	40	12	112	0	164	15	1011	1.	1.	25	0	51	12		47	. 9.	8	0	448	5		16	. 01	. 1	0	. 48	2	
Total	12.	21	. 22	0	466	41	. . 96	27	25	60	0	112	24		1. 4	1. 00	18	0	1452	7		. 6	1202	128	0	1. 66		
% Approach	26.8%	4.5%	69.3%	0%	-			24.3%	22.3 %	5. 6%	0%	-			92.9%	89.5%	1.2%	0%	-			2.6%	88.0%	9.4%	0%	-		
% Total	. 6%	0.6%	9.3%	0%	1. 3%			0.8%	0.7%	1.8%	0%	. 3 %			.9%	. 83 %	0.5%	0%	42.8%			1.3%	. 5.8%	. 8%	0%	40.2%		
Lights	120	21	21	0	462			26	25	60	0	111			1. 1	1279	18	0	1428			. 6	1185	125	0	1. 46		
% Lights	97.6%	100%	99.3%	0%	99.1%			96.3 %	100%	100%	0%	99.1%			97.8%	98.8%	100%	0%	98.3 %			100%	98.6%	97.7%	0%	98.5%		
Single-Unit Trucks	1	0	0	0	1			0	0	0	0	0			1	11	0	0	12			0	8	1	0	9		
% Single-Unit Trucks	0.8%	0%	0%	0%	0.2%			0%	0%	0%	0%	0%			0.7%	0.8%	0%	0%	0.8%			0%	0.7%	0.8%	0%	0.7%		
Articulated Trucks	0	0	0	0	0			0	0	0	0	0			0	0	0	0	0			0	0	0	0	0		
% Articulated Trucks	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%			0%	0%	0%	0%	0%			0%	0%	0%	0%	0%		
Buses	2	0	1	0	.			1	0	0	0	1			1	4	0	0	5			0	4	0	0	4		
% Buses	1.6%	0%	0.3 %	0%	0.6%			.3%	0%	0%	0%	0.3%			0.7%	0.3 %	0%	0%	0.1%			0%	0.3 %	0%	0%	0.3 %		
Bicycles on Road	0	0	0	0	0			0	0	0	0	0			1	6	0	0	7			0	5	2	0	7		
% Bicycles on Road	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%			0.7%	0.5%	0%	0%	0.5%			0%	0.8%	1.6%	0%	0.5%		
Pedestrians	-	-	-	-	-	. .		-	-	-	-	-	2.		-	-	-	-	-	6		-	-	-	-	-	-	
% Pedestrians	-	-	-	-	- 80.5%			-	-	-	-	- 95.8%			-	-	-	-	- 85.7%			-	-	-	-	- 100%		
Bicycles on Crosswalk	-	-	-	-	-	8		-	-	-	-	-	1		-	-	-	-	-	1		-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	- 19.5%			-	-	-	-	- 42.9%			-	-	-	-	- 14.3 %			-	-	-	-	-	0%	

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Randolph & Center - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 88694. , Location: 4234. 2774, -8. 348. 249

Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Randolph & Center - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC, LeBeCtdnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP
F 6fi l Rnne l er tC,
D 74489A , a RcntsRr 7A23A 2((A, -4. 3¼4. 2A9

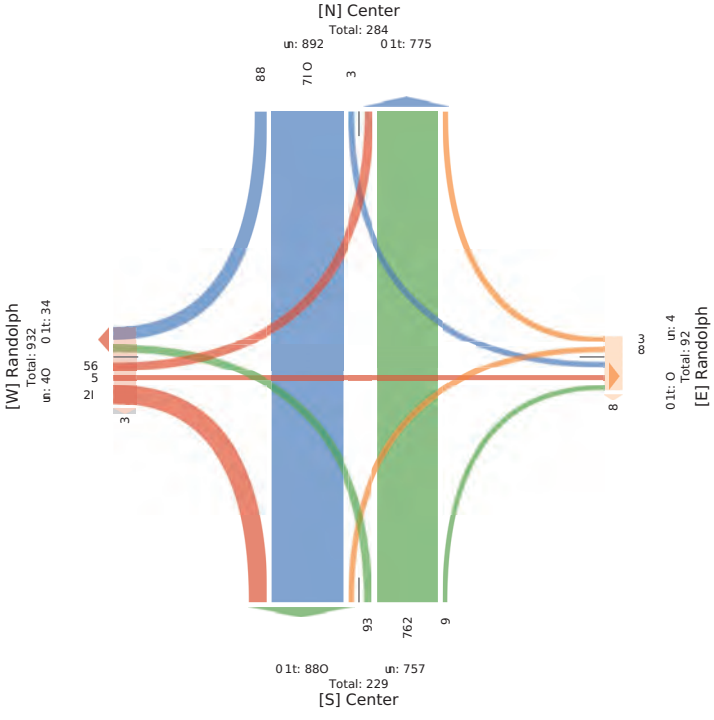
LdRmsBeB bo7Gev n6 Hnl s6fRr F CCRcsnteCDc3
82M5 ReCt EBi e : dsne, Ved Rr Hs6fC, Da , 80081, k U

a ei : sdectsRr	wnr B6tpS EnCtbRur B							wnr B6tpS WeCtbRur B							) er ted NRdSbRur B							) er ted URutSbRur B							
Tsi e	a	T	w	k	F pp	LeB*	D t	a	T	w	k	F pp	LeB*		a	T	w	k	F pp	LeB*		a	T	w	k	F pp	LeB*	D t
2021-10-19 (7AMF l	8	0	14	0	2A	0		0	0	2	0	2	0		2	4(	0	0	49	0		1	118	22	0	1. 9	0	2MA
4700F l	8	0	9	0	1M	1		1	0	0	0	1	1		(	(M	0	0	42	0		1	1. 1	19	0	1M	0	2A9
47.MF l	1	0	21	0	22	2		2	0	1	0	.	1		2	4M	1	0	44	0		1	(A	1	0	(8	0	149
47. 0F l	(	2	24	0	. (	2		1	0	2	0	.	2		A	80	0	0	8A	0		2	A(	2	0	M	0	1MA
TRn6	20	2	(8	0	94	M		A	0	M	0	9	A		1M	. 0(	1	0	. 2.	0		M	. 84	AA	0	Al(	0	4A(
% F ppdRnCS	20.8%	2.0%	((8%	0%	-			AA.8%	0%	M.8%	0%	-			A8%	9M.0%	03 %	0%	-			13.2%	44.2%	10.8%	0%	-		
% TRn6	23%	0.2%	9.0%	0%	11.8%			0.3M%	0%	0.8%	0%	1.3%			13.1%	. 8.2%	0.2 %	0%	. 4.3 %			0.8%	A 3%	M2%	0%	A9.2%		
LH5	0(1A 0	2M	0	0	3(9	- 0.8	82	0.3M	0	- 0.8	2M	- 0.1M			0.3M	8 0	3.4	2	0M	- 0.9	0(	0.8	2M	0	0	3M	0	- 0.8	49	0.8
a si StC	20	2	(M	0	9(			A	0	M	0	9			1A	. 01	1	0	. 18			M	. 80	AA	0	A09			4. 1
% a si StC	100%	100%	94.1 %	0%	99.0%			100%	0%	100%	0%	100%			9. 3 %	94.0%	100%	0%	9(1.8%			100%	9(1.8%	100%	0%	94.1%			94.1%
Usr i 6e-k r st TducgC	0	0	0	0	0			0	0	0	0	0			0	M	0	0	M			0	A	0	0	A			9
% Usr i 6e-k r st TducgC	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%			0%	1.8%	0%	0%	1.M%			0%	1.1%	0%	0%	1.0%			1.1%
F dscu6nteB TducgC	0	0	0	0	0			0	0	0	0	0			0	0	0	0	0			0	0	0	0	0			0
% F dscu6nteB TducgC	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%			0%	0%	0%	0%	0%			0%	0%	0%	0%	0%			0%
y uCeC	0	0	1	0	1			0	0	0	0	0			1	1	0	0	2			0	.	0	0	.			8
% y uCeC	0%	0%	1.3 %	0%	1.0%			0%	0%	0%	0%	0%			8.3 %	0.3 %	0%	0%	0.8%			0%	0.3%	0%	0%	0.1 %			0.1 %
y scoc6eCRr wRnB	0	0	0	0	0			0	0	0	0	0			0	0	0	0	0			0	1	0	0	1			1
% y scoc6eCRr wRnB	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%			0%	0%	0%	0%	0%			0%	0.3 %	0%	0%	0.2%			0.1%
LeBeCtdnr C	-	-	-	-	-	A		-	-	-	-	-	A		-	-	-	-	-	0		-	-	-	-	-	0		
% LeBeCtdnr C	-	-	-	-	- 40.0%			-	-	-	-	- 100%			-	-	-	-	-			-	-	-	-	-			
y scoc6eCRr) dRCCv nfg	-	-	-	-	-	1		-	-	-	-	-	0		-	-	-	-	-	0		-	-	-	-	-	0		
% y scoc6eCRr) dRCCv nfg	-	-	-	-	- 20.0%			-	-	-	-	- 0%			-	-	-	-	-			-	-	-	-	-			

*LeBeCtdnr Cnr B y scoc6eCRr) dRCCv nfg3a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

Randolph & Center - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC, LeBeCtdnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP
F 6fi l Rnne l er tC
D 74489A , a RcntsRr 7A23A 2((A, -4. 3¼4. 2A9

LdRmsBeB bo7Gev n6 Hnl s6fRr F CCRcsnteCDc3
82M5 ReCt EBi e : dsne, Ved Rr Hs6fC, Da , 80081, k U



Randolph & Center - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4l FeLn P 6u-
) 4l C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteB T-ucna, y uaea, FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4hA
) 4l l 6Mev ekta
nh D : 798. , s 6cLti6kDB23B. 2bb8, (: . 3B: . 289

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeB GoD HewL4 P Lv i46k) aa6ciLtea nhc3
72h 56-eat EBSe I -iMv, Ve-k6k P i4a, ns , 70071, d r

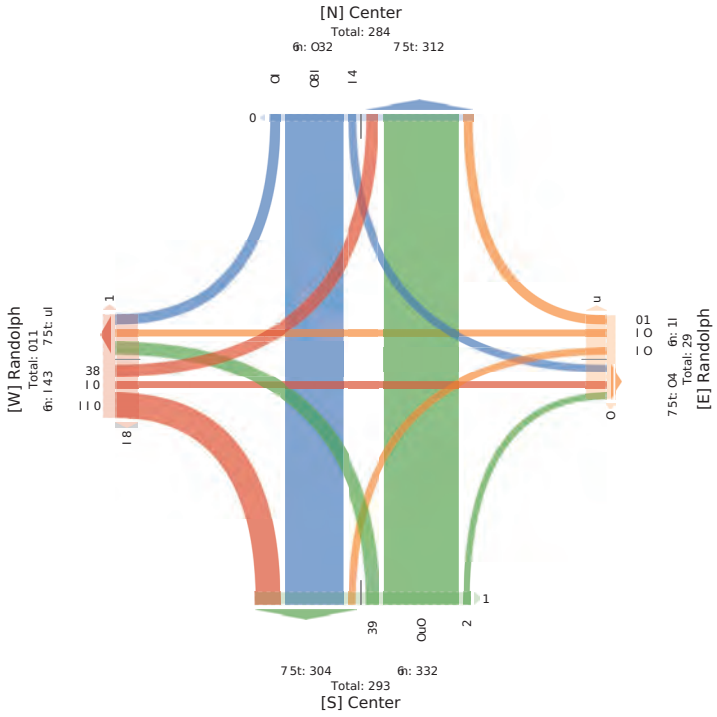
s eS I i-ectGk	R1LkB64pU ELatG6ukB						R1LkB64pU WeatG6ukB						Cekte- N6-tUG6ukB						Cekte- r 6utUG6ukB						
Tiv e	s	T	R	d	) pp	FeB*	s	T	R	d	) pp	FeB*	s	T	R	d	) pp	FeB*	s	T	R	d	) pp	FeB*	nkt
2021(10(19 h00F1	18	.	. 2	0	89	8	8	.	b	0	18	2	1h	: h	2	0	102	1	2	87	:	0	h7	0	221
h0hFl	11	2	. 1	0	88	2	.	h	h	0	1.	.	10	11b	1	0	12:	0	2	h2	10	0	78	0	289
h0O6Fl	b	b	2.	0	. b	7	8	1	7	0	11	8	10	99	.	0	112	8	h	97	9	0	110	2	2b0
h0BhFl	:	0	27	0	. 8		2	8	b	0	1.	.	12	92	2	0	107	0	b	10b	8	0	11:	0	2b1
T6tL4	80	12	112	0	178	1h	1.	1.	2h	0	h1	12	8b	. 9.	:	0	88:	h	17	. 01	. 1	0	. 8:	2	1011
%) pp-6LcU	28.8%	b3 %	7: 3 %	0%	(	(	2h.h%	2h.h%	89.0%	0%	(	(	103.h%	: b.h%	13 %	0%	(	(	83.7%	: 7.h%	: 3%	0%	(	(	(
% T6tL4	83.0%	1.2%	113.%	0%	173.%	(	13 %	13 %	2.h%	0%	h.0%	(	83.7%	. : 3%	03 %	0%	883 %	(	1.7%	293 %	. 3 %	0%	. 83.%	(	(
FP 5	03.b18	03.29	03 hh		(03 . b	(	03 1.	03.h0	03 9.		(03.911	(	03.b7b	03 29	03.77b		(03 b0	(	03.hb1	03.797	03 . .		(03.b29	(	03.92.
s iSUta	80	12	112	0	178	(	1.	1.	2h	0	h1	(	87	. : :	:	0	882	(	17	29h	. 0	0	. 81	(	99:
% s iSUta	100%	100%	100%	0%	100%	(	100%	100%	100%	0%	100%	(	9h.9%	9: 3.%	100%	0%	9: 3.%	(	100%	9: 10%	973 %	0%	9: 3.%	(	9: 3.%
r ikS4e(d kit T-ucna	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0	.	0	0	.	(	.
% r ikS4e(d kit T-ucna	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	1.0%	0%	0%	0.9%	(	03 %
) -ticu4LteB T-ucna	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0
%) -ticu4LteB T-ucna	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%
y uaea	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0
% y uaea	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%
y icoc4ea 6k R6LB	0	0	0	0	0	(	0	0	0	0	0	(	1	h	0	0	7	(	0	.	1	0	8	(	10
% y icoc4ea 6k R6LB	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	23%	13 %	0%	0%	13 %	(	0%	1.0%	. 2%	0%	13%	(	1.0%
FeBeat-iLka	(	(	(	(	(	9	(	(	(	(	(	11	(	(	(	(	(	8	(	(	(	(	(	2	
% FeBeat-iLka	(	(	(	(	(7.0	0%	(	(	(	(	(91.	3%	(	(	(	(	(: 0.	0%	(	(	(	(	(100	%	(
y icoc4ea 6k C-6aawL4h	(	(	(	(	(	7	(	(	(	(	(	1	(	(	(	(	(	1	(	(	(	(	(	0	
% y icoc4ea 6k C-6aawL4h	(	(	(	(	(80.	0%	(	(	(	(	(: 3	%	(	(	(	(	(20.	0%	(	(	(	(	(	0%	(

*FeBeat-iLka IkB y icoc4ea 6k C-6aawL4h3s Ds eft, RDRiSU, TDTU-u, d Dtl (Tu-k

Randolph & Center - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4l FeLn P 6u-
) 4l C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteB T-ucna, y uaea, FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4hA
) 4l l 6Mev ekta
nh D : 798. , s 6cLti6kDB23B. 2bb8, (: . 3B: . 289

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeB GoD HewL4 P Lv i46k) aa6ciLtea nhc3
72h 56-eat EBSe I -iMv, Ve-k6k P i4a, ns , 70071, d r



Wing & Dunlap - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886941, Location: 42.432119, -83.484794

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

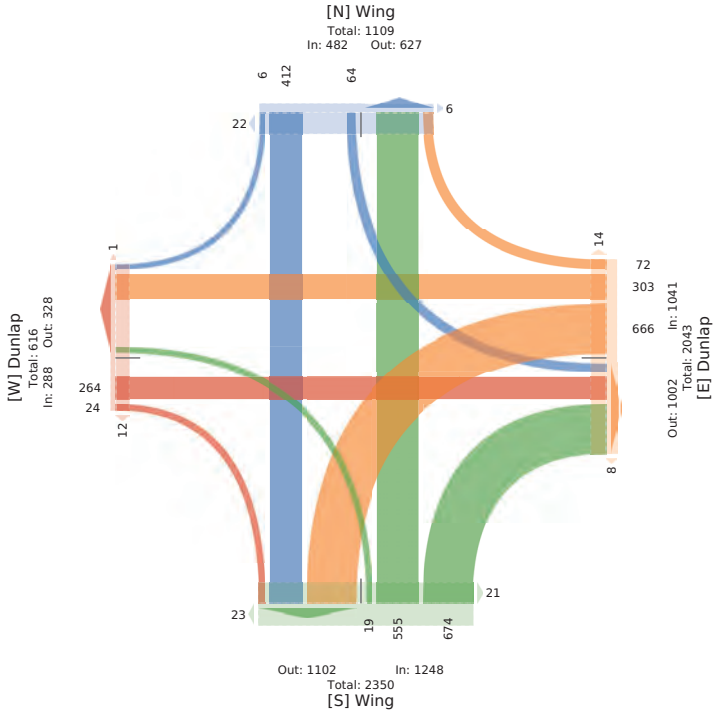
Leg Direction	Dunlap Eastbound						Dunlap Westbound						Wing Northbound						Wing Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	0	6	1	0	7	0	24	6	2	0	32	1	0	21	15	0	36	0	1	17	0	0	18	0	93
7:15AM	0	12	0	0	12	0	24	12	2	0	38	0	0	23	23	0	46	1	1	16	0	0	17	0	113
7:30AM	0	15	0	0	15	0	33	8	3	0	44	1	0	30	18	0	48	1	3	19	0	0	22	0	129
7:45AM	0	25	0	0	25	1	72	14	3	0	89	0	1	30	47	0	78	1	3	32	0	0	35	0	227
Hourly Total	0	58	1	0	59	1	153	40	10	0	203	2	1	104	103	0	208	3	8	84	0	0	92	0	562
8:00AM	0	17	1	0	18	0	66	25	3	0	94	0	2	16	46	0	64	2	3	33	0	0	36	0	212
8:15AM	0	20	0	0	20	0	35	12	2	0	49	0	1	19	50	0	70	1	3	31	0	0	34	0	173
8:30AM	0	15	0	0	15	0	28	13	4	0	45	1	2	19	30	0	51	1	4	18	0	0	22	1	133
8:45AM	0	17	2	0	19	1	39	20	3	0	62	2	1	24	32	0	57	0	5	23	0	0	28	3	166
Hourly Total	0	69	3	0	72	1	168	70	12	0	250	3	6	78	158	0	242	4	15	105	0	0	120	4	684
4:00PM	0	23	4	0	27	1	49	28	4	0	81	3	0	37	54	0	91	1	1	18	0	0	19	6	218
4:15PM	0	11	0	0	11	5	52	20	5	0	77	0	0	39	39	0	78	7	4	17	0	0	21	1	187
4:30PM	0	12	2	0	14	1	35	28	9	0	72	0	1	53	59	0	113	7	2	14	2	0	18	2	217
4:45PM	0	19	3	0	22	1	31	19	8	0	58	0	2	61	54	0	117	4	7	39	1	0	47	1	244
Hourly Total	0	65	9	0	74	8	167	95	26	0	288	3	3	190	206	0	399	19	14	88	3	0	105	10	866
5:00PM	0	16	1	0	17	0	31	17	5	0	53	5	4	51	49	0	104	0	3	33	2	0	38	4	212
5:15PM	0	21	6	0	27	2	40	28	6	0	74	4	2	52	61	0	115	9	8	48	0	0	56	4	272
5:30PM	0	18	2	0	20	0	47	25	2	0	74	2	3	37	47	0	87	4	4	26	1	0	31	3	212
5:45PM	0	17	2	0	19	1	60	28	11	0	99	3	0	43	50	0	93	5	12	28	0	0	40	3	251
Hourly Total	0	72	11	0	83	3	178	98	24	0	300	14	9	183	207	0	399	18	27	135	3	0	165	14	947
Total	0	264	24	0	288	13	666	303	72	0	1041	22	19	555	674	0	1248	44	64	412	6	0	482	28	3059
% Approach	0%	91.7%	8.3%	0%	-	-	64.0%	29.1%	6.9%	0%	-	-	1.5%	44.5%	54.0%	0%	-	-	13.3%	85.5%	1.2%	0%	-	-	-
% Total	0%	8.6%	0.8%	0%	9.4%	-	21.8%	9.9%	2.4%	0%	34.0%	-	0.6%	18.1%	22.0%	0%	40.8%	-	2.1%	13.5%	0.2%	0%	15.8%	-	-
Lights	0	261	23	0	284	-	662	299	72	0	1033	-	19	540	664	0	1223	-	64	400	6	0	470	-	3010
% Lights	0%	98.9%	95.8%	0%	98.6%	-	99.4%	98.7%	100%	0%	99.2%	-	100%	97.3%	98.5%	0%	98.0%	-	100%	97.1%	100%	0%	97.5%	-	98.4%
Single-Unit Trucks	0	0	0	0	0	-	2	1	0	0	3	-	0	3	7	0	10	-	0	2	0	0	2	-	15
% Single-Unit Trucks	0%	0%	0%	0%	0%	-	0.3%	0.3%	0%	0%	0.3%	-	0%	0.5%	1.0%	0%	0.8%	-	0%	0.5%	0%	0%	0.4%	-	0.5%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Buses	0	1	0	0	1	-	0	1	0	0	1	-	0	6	2	0	8	-	0	5	0	0	5	-	15
% Buses	0%	0.4%	0%	0%	0.3%	-	0%	0.3%	0%	0%	0.1%	-	0%	1.1%	0.3%	0%	0.6%	-	0%	1.2%	0%	0%	1.0%	-	0.5%
Bicycles on Road	0	2	1	0	3	-	2	2	0	0	4	-	0	6	1	0	7	-	0	5	0	0	5	-	19
% Bicycles on Road	0%	0.8%	4.2%	0%	1.0%	-	0.3%	0.7%	0%	0%	0.4%	-	0%	1.1%	0.1%	0%	0.6%	-	0%	1.2%	0%	0%	1.0%	-	0.6%
Pedestrians	-	-	-	-	-	13	-	-	-	-	-	22	-	-	-	-	-	44	-	-	-	-	-	25	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	89.3%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	10.7%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Wing & Dunlap - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886941, Location: 42.432119, -83.484794

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

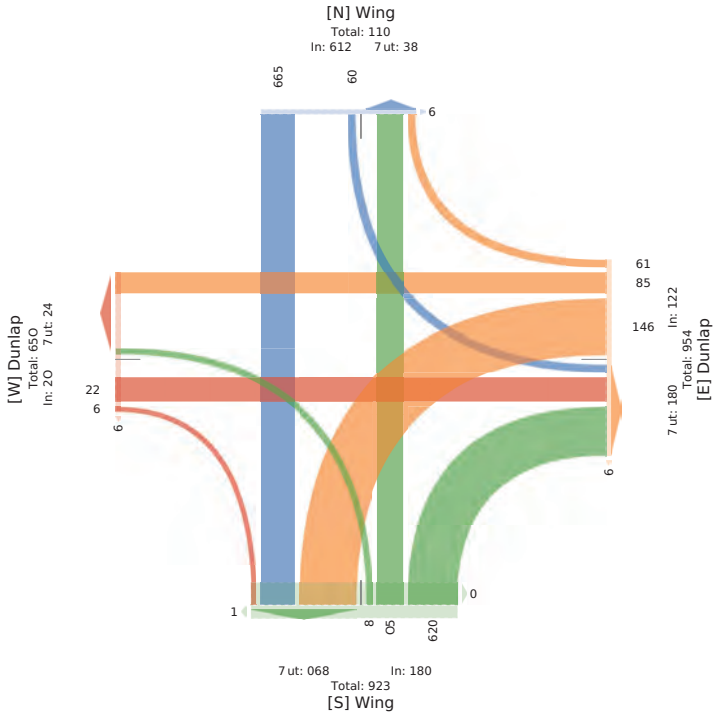


GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeBbo7Gev nfi Hnl sfiRr F CCRcsnteCDbc.
82M5RdeCl EBi e : dsne, Vedr Rr Hsf8C, Da , 80081, k U

a ei : sdectsRr	: ur 6ip EnfDbRur B					: ur 6ip WedDbRur B						Wsr i NRdtSbRur B						Wsr i URurtSbRur B						
Tsl e	a	T	w	k	**F pp**	LeB*	a	T	w	k	**F pp**	LeB*	a	T	w	k	**F pp**	LeB*	a	T	w	k	**F pp**	LeB*	**Dr t**
2021-10-19 (7AMF1	0	2M	0	0	**2M**	1	(2	1A	3	0	**49**	0	1	30	A(	0	**(4**	1	3	32	0	0	**3M**	0	**22(**
47D0F1	0	1(	1	0	**14**	0	88	2M	3	0	**9A**	0	2	18	A8	0	**8A**	2	3	33	0	0	**38**	0	**212**
47LMF1	0	20	0	0	**20**	0	3M	12	2	0	**A9**	0	1	19	M0	0	**(0**	1	3	31	0	0	**3A**	0	**1(3**
4730F1	0	1M	0	0	**1M**	0	24	13	A	0	**AM**	1	2	19	30	0	**M**	1	A	14	0	0	**22**	1	**133**
TRn6	0	((	1	0	**(4**	1	201	8A	12	0	**2((**	1	8	4A	1(3	0	**283**	M	13	11A	0	0	**12(**	1	**(AM**
% F ppdRnc S	0%	94.(%	1.3%	0%	**-**	-	(2.8%	23.1%	A3%	0%	**-**	-	2.3%	31.9%	8M4%	0%	**-**	-	10.2%	49.4%	0%	0%	**-**	-	-
% TRn6	0%	10.3%	0.1%	0%	**10.M6**	-	2(.0%	4.8%	1.8%	0%	**3(.2%**	-	0.4%	11.3%	23.2%	0%	**3M5%**	-	1.(%	1M3%	0%	0%	**1(.0%**	-	-
LH5	-	0.((0	0.2M	**-**	**0.(40**	-	0.894	0.830	0.(M	**-**	**0.(3A**	-	0.(M	0.(00	0.48M	**-**	**0.4A3**	-	0.413	0.48A	-	**-**	**0.442**	-	0.423
a si StC	0	((	1	0	**(4**	-	201	83	12	0	**2(8**	-	8	40	1(0	0	**2M8**	-	13	109	0	0	**122**	-	(32
% a si StC	0%	100%	100%	0%	**100%**	-	100%	94.A%	100%	0%	**99.8%**	-	100%	9M2%	94.3%	0%	**9(.3%**	-	100%	9M8%	0%	0%	**98.1%**	-	94.3%
Usr i 6e-k r st TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	3	0	**A**	-	0	0	0	0	**0**	-	A
% Usr i 6e-k r st TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	1.2%	1.(%	0%	**1.M6**	-	0%	0%	0%	0%	**0%**	-	0.M6
F dscu6nteB TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% F dscu6nteB TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
y uCeC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	3	0	0	**3**	-	0	M	0	0	**M**	-	4
% y uCeC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	3.8%	0%	0%	**1.1%**	-	0%	A.A%	0%	0%	**3.9%**	-	1.1%
y scoc6eCRr wRnB	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% y scoc6eCRr wRnB	0%	0%	0%	0%	**0%**	-	0%	1.8%	0%	0%	**0.A%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
LeBeCdcnr C	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	M	-	-	-	-	-	1	
% LeBeCdcnr C	-	-	-	-	- 100%		-	-	-	-	- 100%		-	-	-	-	- 100%		-	-	-	-	- 100%		-
y scoc6eCRr) dRCCv nfg	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% y scoc6eCRr) dRCCv nfg	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*LeBeCdcnr Cnr B y scoc6eCRr) dRCCv nfg. a 7a eft, w7wsi St, T7TSdi, k 7k -Tudr

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeBbo7Gev nfi Hnl sfiRr F CCRcsnteCDbc.
82M5RdeCl EBi e : dsne, Vedr Rr Hsf8C, Da , 80081, k U

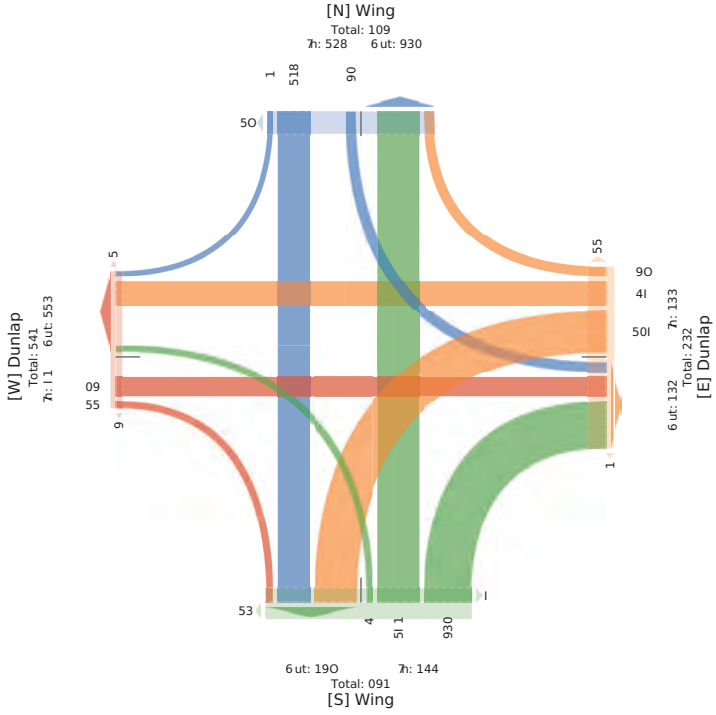


GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeB CoDDHewL4 P Lv i46k) aa6ciLtea nkc.
72h 56-eat EBSe I -iMt, Ve-k6k P i4h, ns , 70071, d r

s eS l i-ecti6k	I uk4p ElatGbukB						I uk4p WeatGbukB						WikS N6-tU0bukB						WikS r 6urU0bukB						
Tiv e	s	T	R	d	**) pp**	FeB*	s	T	R	d	**) pp**	FeB*	s	T	R	d	**) pp**	FeB*	s	T	R	d	**) pp**	FeB*	**nkt**
2021(10(19 h10OF1	0	17	1	0	**1b**	0	31	1b	h	0	**h3**	h	8	h1	89	0	**108**	0	3	33	2	0	**3:**	8	**212**
h1hFl	0	21	7	0	**2b**	2	80	2:	7	0	**b8**	8	2	h2	71	0	**11h**	9	:	8:	0	0	**h7**	8	**2h2**
h10OF1	0	1:	2	0	**20**	0	8b	2h	2	0	**b8**	2	3	3b	8b	0	**: b**	8	8	27	1	0	**31**	3	**212**
h1BhFl	0	1b	2	0	**19**	1	70	2:	11	0	**99**	3	0	83	h0	0	**93**	h	12	2:	0	0	**80**	3	**2h1**
T6tL4	0	b2	11	0	**: 3**	3	1b:	9:	28	0	**300**	18	9	1: 3	20b	0	**399**	1:	2b	13h	3	0	**17h**	18	**98h**
%) pp-6LcU	0%	: 7.h%	13.3%	0%	**(**	(	h9.3%	32.h%	: .0%	0%	**(**	(	2.3%	8h.9%	h1.9%	0%	**(**	(	17.8%	: 1.: %	1.: %	0%	**(**	(	(
% T6tL4	0%	b.7%	1.2%	0%	**: .: %**	(	1: .: %	10.3%	2.h%	0%	**31.h%**	(	1.0%	19.3%	21.9%	0%	**82.1%**	(	2.9%	18.3%	0.3%	0%	**1h.8%**	(	(
FP 5	(0.: hb	0.8h:		**(0.b79**	(	0.b33	0.: 77	0.h8h	**(0.bh0**	(	0.h73	0.: bb	0.: 8:	**(0.: 77**	(	0.h73	0.79b	0.3bh	**(0.b32**	(	0.: 7b				
s iSUa	0	b2	11	0	**: 3**	(	1hh	9b	28	0	**297**	(	9	1b:	20b	0	**398**	(	2b	130	3	0	**170**	(	933
% s iSUa	0%	100%	100%	0%	**100%**	(	9: .3%	99.0%	100%	0%	**9: .h%**	(	100%	9b.3%	100%	0%	**9: .h%**	(	100%	97.3%	100%	0%	**9h.0%**	(	9: .h%
r ikS4b(d kit T-ucna	0	0	0	0	**0**	(	1	0	0	0	**1**	(	0	1	0	0	**1**	(	0	1	0	0	**1**	(	3
% r ikS4b(d kit T-ucna	0%	0%	0%	0%	**0%**	(	0.7%	0%	0%	0%	**0.3%**	(	0%	0.h%	0%	0%	**0.3%**	(	0%	0.b%	0%	0%	**0.7%**	(	0.3%
) -ticu4LteB T-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
%) -ticu4LteB T-ucna	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%
y uaea	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
% y uaea	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	0	0	0	0	**0**	(	2	1	0	0	**3**	(	0	8	0	0	**8**	(	0	8	0	0	**8**	(	11
% y icoc4ea 6k R6LB	0%	0%	0%	0%	**0%**	(	1.1%	1.0%	0%	0%	**1.0%**	(	0%	2.2%	0%	0%	**1.0%**	(	0%	3.0%	0%	0%	**2.8%**	(	1.2%
FeBeat-iLka	(	(	(	(	(3		(	(	(	(	(18		(	(	(	(	(1:		(	(	(	(	(11		
% FeBeat-iLka	(	(	(	(	(100%		(	(	(	(	(100%		(	(	(	(	(100%		(	(	(	(	(b: .7%		(
y icoc4ea 6k C-6aawL4n	(	(	(	(	(0		(	(	(	(	(0		(	(	(	(	(0		(	(	(	(	(3		
% y icoc4ea 6k C-6aawL4n	(	(	(	(	0%		(	(	(	(	0%		(	(	(	(	0%		(	(	(	(	(21.8%		(

*FeBeat-iLka LkB y icoc4ea 6k C-6aawL4n. s Ds eft, RIDRiSUt, TDfU-u, d Dtl (Tu-k

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeB CoDDHewL4 P Lv i46k) aa6ciLtea nkc.
72h 56-eat EBSe I -iMt, Ve-k6k P i4h, ns , 70071, d r



Dunlap & Center - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886944, Location: 42.432191, -83.483249

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

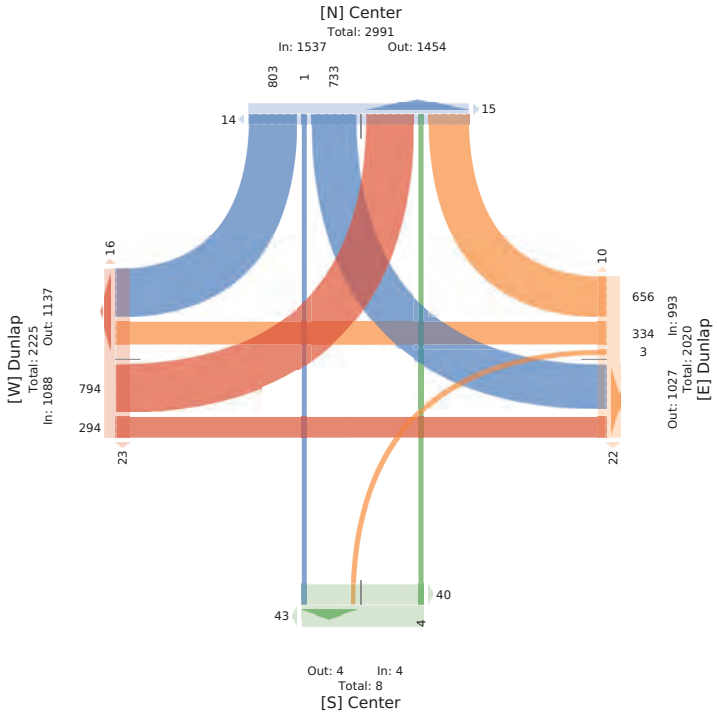
Leg / Direction	Dunlap Eastbound							Dunlap Westbound							Center Northbound							Center Southbound							
Time	L	T	R	U	App	Ped*	Int	L	T	R	U	App	Ped*	Int	L	T	R	U	App	Ped*	Int	L	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	19	5	0	0	24	0	99	0	8	25	0	33	0		0	0	0	0	0	2		18	0	24	0	42	0	
7:15AM	28	10	0	0	38	0	127	0	13	24	0	37	2		0	0	0	0	0	1		25	0	27	0	52	0	
7:30AM	30	7	0	0	37	0	147	0	10	30	0	40	0		0	0	0	0	0	1		29	0	41	0	70	0	
7:45AM	60	14	0	0	74	0	245	0	9	31	0	40	1		0	0	0	0	0	1		47	0	84	0	131	0	
Hourly Total	137	36	0	0	173	0	618	0	40	110	0	150	3		0	0	0	0	0	5		119	0	176	0	295	0	
8:00AM	50	17	0	0	67	1	251	0	10	31	0	41	1		0	0	0	0	0	0		54	0	89	0	143	0	
8:15AM	61	16	0	0	77	1	209	0	9	26	0	35	1		0	0	0	0	0	2		46	1	50	0	97	0	
8:30AM	35	18	0	0	53	1	177	0	18	30	0	48	1		0	0	0	0	0	1		44	0	32	0	76	1	
8:45AM	34	19	0	0	53	2	210	1	20	34	0	55	0		0	0	0	0	0	1		54	0	48	0	102	1	
Hourly Total	180	70	0	0	250	5	847	1	57	121	0	179	3		0	0	0	0	0	4		198	1	219	0	418	2	
4:00PM	70	25	0	0	95	4	304	2	35	64	0	101	6		0	0	0	0	0	13		55	0	53	0	108	4	
4:15PM	44	20	0	0	64	3	241	0	29	42	0	71	3		0	1	0	0	1	7		49	0	56	0	105	2	
4:30PM	60	24	0	0	84	4	267	0	28	54	0	82	2		0	0	0	0	0	7		53	0	48	0	101	1	
4:45PM	60	24	0	0	84	1	258	0	27	62	0	89	0		0	0	0	0	0	10		47	0	38	0	85	0	
Hourly Total	234	93	0	0	327	12	1070	2	119	222	0	343	11		0	1	0	0	1	37		204	0	195	0	399	7	
5:00PM	61	17	0	0	78	4	230	0	28	43	0	71	2		0	2	0	0	2	8		48	0	31	0	79	6	
5:15PM	69	27	0	0	96	3	271	0	31	55	0	86	3		0	1	0	0	1	5		38	0	50	0	88	2	
5:30PM	59	23	0	0	82	11	284	0	25	54	0	79	5		0	0	0	0	0	18		63	0	60	0	123	7	
5:45PM	54	28	0	0	82	4	302	0	34	51	0	85	5		0	0	0	0	0	6		63	0	72	0	135	5	
Hourly Total	243	95	0	0	338	22	1087	0	118	203	0	321	15		0	3	0	0	3	37		212	0	213	0	425	20	
Total	794	294	0	0	1088	39	3622	3	334	656	0	993	32		0	4	0	0	4	83		733	1	803	0	1537	29	
% Approach	73.0%	27.0%	0%	0%	-	-	-	0.3%	33.6%	66.1%	0%	-	-		0%	100%	0%	0%	-	-		47.7%	0.1%	52.2%	0%	-	-	-
% Total	21.9%	8.1%	0%	0%	30.0%	-	-	0.1%	9.2%	18.1%	0%	27.4%	-		0%	0.1%	0%	0%	0.1%	-		20.2%	0%	22.2%	0%	42.4%	-	-
Lights	783	290	0	0	1073	-	3570	0	330	647	0	977	-		0	0	0	0	0	-		723	0	797	0	1520	-	3570
% Lights	98.6%	98.6%	0%	0%	98.6%	-	98.6%	0%	98.8%	98.6%	0%	98.4%	-		0%	0%	0%	0%	0%	-		98.6%	0%	99.3%	0%	98.9%	-	98.6%
Single-Unit Trucks	8	1	0	0	9	-	23	0	2	5	0	7	-		0	0	0	0	0	-		4	0	3	0	7	-	23
% Single-Unit Trucks	1.0%	0.3%	0%	0%	0.8%	-	0.6%	0%	0.6%	0.8%	0%	0.7%	-		0%	0%	0%	0%	0%	-		0.5%	0%	0.4%	0%	0.5%	-	0.6%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	0	-		0	0	0	0	0	-		0	0	0	0	0	-	0
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-		0%	0%	0%	0%	0%	-		0%	0%	0%	0%	0%	-	0%
Buses	3	0	0	0	3	-	9	0	0	1	0	1	-		0	0	0	0	0	-		4	0	1	0	5	-	9
% Buses	0.4%	0%	0%	0%	0.3%	-	0.2%	0%	0%	0.2%	0%	0.1%	-		0%	0%	0%	0%	0%	-		0.5%	0%	0.1%	0%	0.3%	-	0.2%
Bicycles on Road	0	3	0	0	3	-	20	3	2	3	0	8	-		0	4	0	0	4	-		2	1	2	0	5	-	20
% Bicycles on Road	0%	1.0%	0%	0%	0.3%	-	0.6%	100%	0.6%	0.5%	0%	0.8%	-		0%	100%	0%	0%	100%	-		0.3%	100%	0.2%	0%	0.3%	-	0.6%
Pedestrians	-	-	-	-	-	35		-	-	-	-	-	31		-	-	-	-	-	71		-	-	-	-	-	24	
% Pedestrians	-	-	-	-	-	- 89.7%		-	-	-	-	-	- 96.9%		-	-	-	-	-	- 85.5%		-	-	-	-	-	- 82.8%	
Bicycles on Crosswalk	-	-	-	-	-	4		-	-	-	-	-	1		-	-	-	-	-	12		-	-	-	-	-	5	
% Bicycles on Crosswalk	-	-	-	-	-	- 10.3%		-	-	-	-	-	- 3.1%		-	-	-	-	-	- 14.5%		-	-	-	-	-	- 17.2%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Dunlap & Center - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886944, Location: 42.432191, -83.483249

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Dunlap & Center - TMC

Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r s: TducgC, F dscuGnteB TducgC, y uCeC,
LeBeCdcnr C, y scocfeCRr wRnB, y scocfeCRr) dRCCv nfg.P
F 6)l Rnel er tC
D 74489AA, a RcntsRr 7A2.A32191, -43.A432A9

LdRmsBeB bo7Gev n6 Hnl s6lRr F CCRcsnteCDc.
82M5RdeCl EBi e : dsne, Vedr Rr Hs6fC, Da , 80081, k U

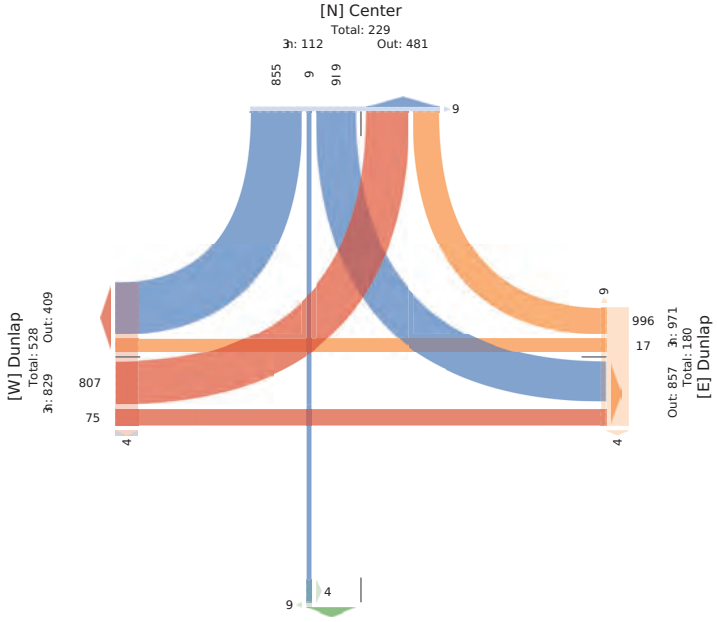
a ei / : sdectsRr	: ur 6np EnCbRur B							: ur 6np WeCbRur B							) er ted NRtSbRur B							) er ted URutSbRur B							
Tsl e	a	T	w	k	Fpp	LeB*	Dt	a	T	w	k	Fpp	LeB*		a	T	w	k	Fpp	LeB*		a	T	w	k	Fpp	LeB*	
2021-10-19 (7AMF1	80	1A	0	0	(A	0	2AM	0	9	31	0	A0	1		0	0	0	0	0	1		A(	0	4A	0	131	0	
4700F1	M	1(	0	0	8(	1	2M	0	10	31	0	Al	1		0	0	0	0	0	0		MA	0	49	0	1A3	0	
47tMF1	81	18	0	0	((	1	209	0	9	28	0	3M	1		0	0	0	0	0	2		A8	1	M	0	9(	0	
4730F1	3M	14	0	0	M	1	1((	0	14	30	0	A4	1		0	0	0	0	0	1		AA	0	32	0	(8	1	
TRn6	208	8M	0	0	2(1	3	442	0	A8	114	0	18A	A		0	0	0	0	0	A		191	1	2MA	0	AA(	1	
% FppRncS	(8.0%	2A0%	0%	0%	-	-	-	0%	24.0%	(2.0%	0%	-	-		0%	0%	0%	0%	-	-		A2.(%	M.0%	0%		-	-	-
% TRn6	23.A%	(.A%	0%	0%	30.(%	-	-	0%	M2%	13.A%	0%	14.8%	-		0%	0%	0%	0%	0%	-		21.(%	0.1%	24.9%	0%	M.(%	-	-
LH5	0.4AA	0.903	-	-	0.440	-	-	-	0.839	0.9N2	-	0.4MA	-		-	-	-	-	-	-		0.44A	-	0.(18	-	0.(40	-	0.4((
a si StC	203	8A	0	0	28(	-	48M	0	A8	11A	0	180	-		0	0	0	0	0	-		14A	0	2MA	0	A34	-	48M
% a si StC	94.M%	94.M%	0%	0%	94.M%	-	-	0%	100%	98.8%	0%	9(.8%	-		0%	0%	0%	0%	-	-		98.3%	0%	99.8%	0%	94.0%	-	94.1%
Usr i 6e-k r s: TducgC	3	1	0	0	A	-	11	0	0	3	0	3	-		0	0	0	0	0	-		3	0	1	0	A	-	11
% Usr i 6e-k r s: TducgC	1.M%	1.M%	0%	0%	1.M%	-	1.2%	0%	0%	2.M%	0%	1.4%	-		0%	0%	0%	0%	-	-		1.8%	0%	0.A%	0%	0.9%	-	1.2%
F dscuGnteB TducgC	0	0	0	0	0	-	0	0	0	0	0	0	-		0	0	0	0	0	-		0	0	0	0	0	-	0
% F dscuGnteB TducgC	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-		0%	0%	0%	0%	-	-		0%	0%	0%	0%	0%	-	0%
y uCeC	0	0	0	0	0	-	M	0	0	1	0	1	-		0	0	0	0	0	-		A	0	0	0	A	-	M
% y uCeC	0%	0%	0%	0%	0%	-	0.8%	0%	0%	0.4%	0%	0.8%	-		0%	0%	0%	0%	-	-		2.1%	0%	0%	0%	0.9%	-	0.8%
y scocfeCRr wRnB	0	0	0	0	0	-	1	0	0	0	0	0	-		0	0	0	0	0	-		0	1	0	0	1	-	1
% y scocfeCRr wRnB	0%	0%	0%	0%	0%	-	0.1%	0%	0%	0%	0%	0%	-		0%	0%	0%	0%	-	-		0%	100%	0%	0%	0.2%	-	0.1%
LeBeCdcnr C	-	-	-	-	-	3		-	-	-	-	-	A		-	-	-	-	-	3		-	-	-	-	-	1	
% LeBeCdcnr C	-	-	-	-	-	- 100%		-	-	-	-	-	- 100%		-	-	-	-	-	- (M0%		-	-	-	-	-	- 100%	-
y scocfeCRr) dRCCv nfg	-	-	-	-	-	0		-	-	-	-	-	0		-	-	-	-	-	1		-	-	-	-	-	0	
% y scocfeCRr) dRCCv nfg	-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	- 2M0%		-	-	-	-	-	0%	-

*LeBeCdcnr Cnr B y scocfeCRr) dRCCv nfg. a 7a eft, w7wsi St, T7T Sdu, k 7k -Tudr

Dunlap & Center - TMC

Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r s: TducgC, F dscuGnteB TducgC, y uCeC,
LeBeCdcnr C, y scocfeCRr wRnB, y scocfeCRr) dRCCv nfg.P
F 6)l Rnel er tC
D 74489AA, a RcntsRr 7A2.A32191, -43.A432A9

LdRmsBeB bo7Gev n6 Hnl s6lRr F CCRcsnteCDc.
82M5RdeCl EBi e : dsne, Vedr Rr Hs6fC, Da , 80081, k U



Dunlap & Center - TMC

Tue Oct 19, 2021

Fl FeLn gh Fl (7 Fl A(OM-L4tFeLn P 6u-
) 4tC4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4teBT-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 4tl 6M4v ekta
mh D: : 7988, s 6cIi16kD82.832191, (: 3.8: 3289

GEWALT HAMILTON ASSOCIATES, INC.

F-6MBeBboDGewL4 P Lv i46k) aa6ciLtea mkc.
72h H5-eat 5BSe I -iM4, E e-k6k P i44a, ns , 70071, d r

s eS l i-ect6k	l uk4LV 5Latb6ukB						l uk4LV p eatb6ukB						Cekte- W6-tUb6ukB						Cekte- r 6utUb6ukB						
Tiv e	s	T	R	d	) W	FeBN	s	T	R	d	) W	FeBN	s	T	R	d	) W	FeBN	s	T	R	d	) W	FeBN	int
2021(10(19 hl00Fl	71	1*	0	0	*:	8	0	2:	83	0	*1	2	0	2	0	0	2	:	8:	0	31	0	*9	7	230
hDhFl	79	2*	0	0	97	3	0	31	hh	0	: 7	3	0	1	0	0	1	h	3:	0	h0	0	: :	2	2*1
hl0Fl	h9	23	0	0	: 2	11	0	2h	h8	0	*9	h	0	0	0	0	0	1:	73	0	70	0	123	*	2: 8
hlhFl	h8	2:	0	0	: 2	8	0	38	h1	0	: h	h	0	0	0	0	0	7	73	0	*2	0	13h	h	302
T6tL4	283	9h	0	0	33:	22	0	11:	203	0	321	1h	0	3	0	0	3	3*	212	0	213	0	82h	20	10: *
%) W-6LtU	*1.9%	2: .1%	0%	0%	(	(	0%	37.: %	73.2%	0%	(	(	0%	100%	0%	0%	(	(	89.9%	0%	h0.1%	0%	(	(	(
% T6tL4	22.8%	: .*%	0%	0%	31.1%	(	0%	10.9%	1: .*%	0%	29.h%	(	0%	0.3%	0%	0%	0.3%	(	19.h%	0%	19.7%	0%	39.1%	(	(
FP H	0.: : 0	0.: 8:	(	(	0.: : 0	(	(0.: 70	0.909	(		0.922	(	(	(	(	(	(	(	0.: 3*	(	0.*33	(	0.*: 1	(	0.: 92
s iSUa	283	9h	0	0	33:	(	0	11*	200	0	31*	(	0	0	0	0	0	(	211	0	210	0	821	(	10*7
% s iSUa	100%	100%	0%	0%	100%	(	0%	99.2%	9: .h%	0%	9: .: %	(	0%	0%	0%	0%	0%	(	99.h%	0%	9: .7%	0%	99.1%	(	99.0%
r ikS4e(d kit T-ucna	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0	0	1	0	1	(	1
% r ikS4e(d kit T-ucna	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	0%	0.h%	0%	0.2%	(	0.1%
) -ticu4teBT-ucna	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0
%) -ticu4teBT-ucna	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%
y uaea	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0
% y uaea	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	0%
y icoc4ea 6k R6LB	0	0	0	0	0	(	0	1	3	0	8	(	0	3	0	0	3	(	1	0	2	0	3	(	10
% y icoc4ea 6k R6LB	0%	0%	0%	0%	0%	(	0%	0.: %	1.h%	0%	1.2%	(	0%	100%	0%	0%	100%	(	0.h%	0%	0.9%	0%	0.*%	(	0.9%
FeBeat-iLka	(	(	(	(	(	21	(	(	(	(	(	1h	(	(	(	(	(	32	(	(	(	(	(	1h	
% FeBeat-iLka	(	(	(	(	(9h.h%		(	(	(	(	(100%		(	(	(	(	(: 7.h%		(	(	(	(	(*h.0%		(
y icoc4ea 6k C-6aawL4n	(	(	(	(	(	1	(	(	(	(	(	0	(	(	(	(	(	h	(	(	(	(	(	h	
% y icoc4ea 6k C-6aawL4n	(	(	(	(	(8.h%		(	(	(	(	(0%		(	(	(	(	(13.h%		(	(	(	(	(2h.0%		(

Ne FeBeat-iLka LkB y icoc4ea 6k C-6aawL4n. s Ds eft, RDRiSUt, TDTU-u, d Dd (Tu-k

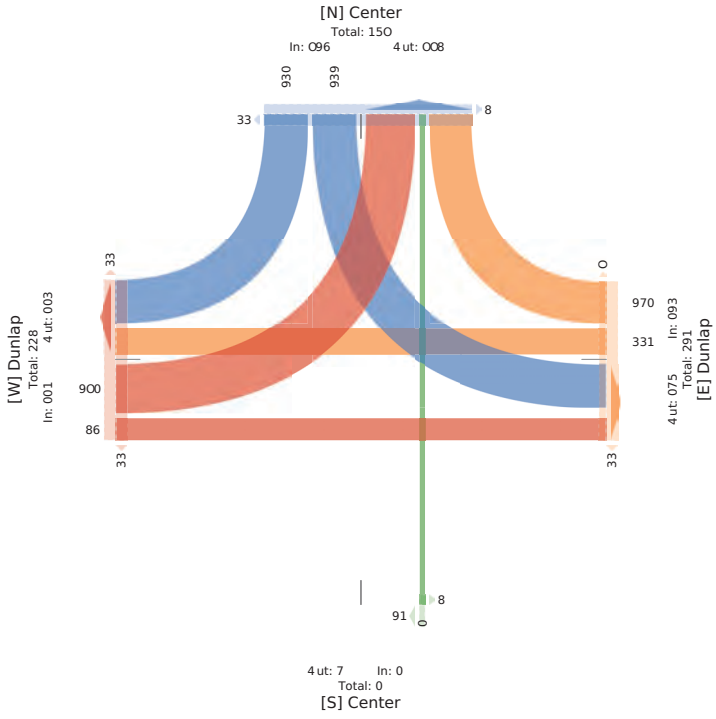
Dunlap & Center - TMC

Tue Oct 19, 2021

PM Peak (4 PM : 5 PM- : O) evarr Peak l Hnv
o rr AraCCeC(s li gtC, hlSi re:n Slt TvuckC, o vtlcurateUTvuckC, d uCeC,
PeUeCMaSC, d lcBcreCHS y HnU, d lcBcreCHS AvHCCRark-
o rr MHJ ewe StC
mh D885966, s HcatIHSD62.632191, :83.683269

GEWALT HAMILTON ASSOCIATES, INC.

PvhJ ILeUbBDGeRart l awIttHS o CCHelateCrSc.
524 FHeeCl EUi e I vl) e, VevSHS l lnrC, ns , 50051, n h



Hutton & Dunlap - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886949, Location: 42.432251, -83.48131

GEWALT HAMILTON ASSOCIATES, INC.

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Dunlap Eastbound					Dunlap Westbound					Hutton Southbound					
Time	L	T	U	App	Ped*	T	R	U	App	Ped*	L	R	U	App	Ped*	Int
2021-10-19 7:00AM	0	19	0	**19**	0	25	5	0	**30**	0	5	0	0	**5**	0	**54**
7:15AM	1	30	0	**31**	0	33	7	0	**40**	0	10	2	0	**12**	1	**83**
7:30AM	1	35	0	**36**	1	39	15	0	**54**	0	5	0	0	**5**	1	**95**
7:45AM	0	50	0	**50**	0	40	13	0	**53**	1	11	0	0	**11**	1	**114**
Hourly Total	2	134	0	**136**	1	137	40	0	**177**	1	31	2	0	**33**	3	**346**
8:00AM	2	59	0	**61**	0	40	14	0	**54**	0	10	0	0	**10**	0	**125**
8:15AM	1	60	0	**61**	2	33	12	0	**45**	2	9	2	0	**11**	0	**117**
8:30AM	1	54	0	**55**	2	54	10	0	**64**	2	13	2	0	**15**	0	**134**
8:45AM	0	65	0	**65**	1	48	21	0	**69**	1	16	3	0	**19**	0	**153**
Hourly Total	4	238	0	**242**	5	175	57	0	**232**	5	48	7	0	**55**	0	**529**
4:00PM	4	67	0	**71**	14	93	21	0	**114**	2	18	3	0	**21**	14	**206**
4:15PM	1	61	0	**62**	3	64	17	0	**81**	2	19	3	0	**22**	1	**165**
4:30PM	6	65	0	**71**	2	91	22	0	**113**	3	20	1	0	**21**	2	**205**
4:45PM	3	59	0	**62**	1	85	25	0	**110**	3	22	4	0	**26**	2	**198**
Hourly Total	14	252	0	**266**	20	333	85	0	**418**	10	79	11	0	**90**	19	**774**
5:00PM	3	54	0	**57**	0	69	33	0	**102**	1	16	4	0	**20**	8	**179**
5:15PM	2	57	0	**59**	4	82	27	0	**109**	4	17	2	0	**19**	2	**187**
5:30PM	1	70	0	**71**	11	74	19	0	**93**	3	27	6	0	**33**	4	**197**
5:45PM	4	76	0	**80**	8	83	18	0	**101**	0	17	2	0	**19**	6	**200**
Hourly Total	10	257	0	**267**	23	308	97	0	**405**	8	77	14	0	**91**	20	**763**
Total	30	881	0	**911**	49	953	279	0	**1232**	24	235	34	0	**269**	42	**2412**
% Approach	3.3%	96.7%	0%	-	-	77.4%	22.6%	0%	-	-	87.4%	12.6%	0%	-	-	-
% Total	1.2%	36.5%	0%	**37.8%**	-	39.5%	11.6%	0%	**51.1%**	-	9.7%	1.4%	0%	**11.2%**	-	-
Lights	28	869	0	**897**	-	941	276	0	**1217**	-	232	32	0	**264**	-	2378
% Lights	93.3%	98.6%	0%	**98.5%**	-	98.7%	98.9%	0%	**98.8%**	-	98.7%	94.1%	0%	**98.1%**	-	98.6%
Single-Unit Trucks	0	4	0	**4**	-	7	2	0	**9**	-	1	0	0	**1**	-	14
% Single-Unit Trucks	0%	0.5%	0%	**0.4%**	-	0.7%	0.7%	0%	**0.7%**	-	0.4%	0%	0%	**0.4%**	-	0.6%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	0	4	0	**4**	-	1	0	0	**1**	-	0	0	0	**0**	-	5
% Buses	0%	0.5%	0%	**0.4%**	-	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	**0%**	-	0.2%
Bicycles on Road	2	4	0	**6**	-	4	1	0	**5**	-	2	2	0	**4**	-	15
% Bicycles on Road	6.7%	0.5%	0%	**0.7%**	-	0.4%	0.4%	0%	**0.4%**	-	0.9%	5.9%	0%	**1.5%**	-	0.6%
Pedestrians	-	-	-	-	42	-	-	-	-	20	-	-	-	-	36	
% Pedestrians	-	-	-	-	85.7%	-	-	-	-	83.3%	-	-	-	-	85.7%	-
Bicycles on Crosswalk	-	-	-	-	7	-	-	-	-	4	-	-	-	-	6	
% Bicycles on Crosswalk	-	-	-	-	14.3%	-	-	-	-	16.7%	-	-	-	-	14.3%	-

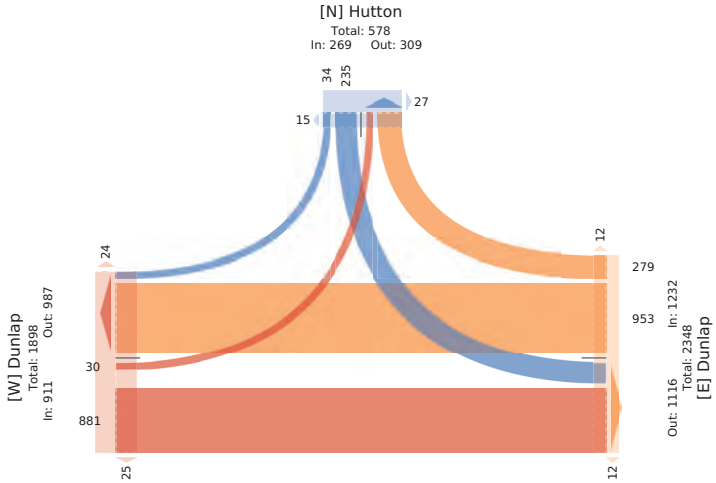
*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hutton & Dunlap - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886949, Location: 42.4322b1, -83.48131

GEWALT HAMILTON ASSOCIATES, INC.

Provided Gy: Hewalt 5 amilton Associates Inc.
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Hutton & Dunlap - TMC

Tue Oct 19, 2021

F1 Leng h(F1 79 F1 A

F Wtt Mt4e4 hPQ C4, a 6) M7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSins 4, r 6ckcMd ds BdnU, r 6ckcMd ds - Sl44y nMA
F Wtt doeR est4
w m((I 9D9, Pdcnt6ls mD2:D822. 1, 7(8:D(181

GEWALT HAMILTON ASSOCIATES, INC.

LSIoGLeU3km5 ey nMb nR6tds F44dc6nte4 wc:
I2. GdSe4t HU) e v S6oe, E eSs ds b6Wt, vP, I 00I 1, i a

Pe) v 6ect6ds	v us MV Hs4t3dus U				v us MV p e4t3dus U				b uttds a dutC3dus U				
T6tLe	P	T	i	F W	LeUw	T	B	i	F W	LeUw	P	B	i	F W	LeUw	wt
2021(10(19 (nl0F1	2	. 9	0	**1 1**	0	D0	1D	0	**. D**	0	10	0	0	**10**	0	**12.**
(nl. F1	1	1 0	0	**1 1**	2	88	12	0	**D**	2	9	2	0	**11**	0	**11***
(nl0F1	1	. D	0	**. .**	2	. D	10	0	**1 D**	2	18	2	0	**1.**	0	**18D**
(nl F1	0	I.	0	**1.**	1	D(	21	0	**19**	1	1I	8	0	**19**	0	**1. 8**
TdmM	D	28(	0	**2D2**	.	1*.	. *	0	**282**	.	D(	*	0	**. .**	0	**. 29**
% F W6lncC	1:*%	9(:8%	0%	**7**	7	*. :D%	2D1 %	0%	**7**	7	(*:8%	12:*%	0%	**7**	7	7
% TdmM	0:(%	D :0%	0%	**D :*%**	7	88:1%	10:(%	0%	**D8:9%**	7	9:1%	1:8%	0%	**10:D%**	7	7
Lb G	0:. 00	0:91.	7	**0:981**	7	0:(10	0:1 *9	7	**0:(D1**	7	0:*. 0	0:12.	7	**0:*81**	7	0:(1 *
P6 C4	D	281	0	**28.**	7	1*0	. *	0	**22***	7	D(	.	0	**. 8**	7	. 1.
% P6 C4	100%	9*:1%	0%	**9*:1%**	7	9*:1%	100%	0%	**9*:(%**	7	100%	*1:D%	0%	**91 :D%**	7	9*:D%
a6) M1 s 6 TSucg4	0	8	0	**8**	7	D	0	0	**D**	7	0	0	0	**0**	7	*
% a6) M1 s 6 TSucg4	0%	1:8%	0%	**1:2%**	7	2:8%	0%	0%	**1:*%**	7	0%	0%	0%	**0%**	7	1:8%
F St6cuMteUTSucg4	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% F St6cuMteUTSucg4	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
r u4e4	0	D	0	**D**	7	1	0	0	**1**	7	0	0	0	**0**	7	.
% r u4e4	0%	1:*%	0%	**1:*%**	7	0:1 %	0%	0%	**0:D%**	7	0%	0%	0%	**0%**	7	0:9%
r 6ckcMd ds BdnU	0	0	0	**0**	7	0	0	0	**0**	7	0	2	0	**2**	7	2
% r 6ckcMd ds BdnU	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	2(:1 %	0%	**8:1%**	7	0:D%
LeUe4tSins 4	7	7	7	7	D	7	7	7	7	.	7	7	7	7	0	
% LeUe4tSins 4	7	7	7	7	(0:0%	7	7	7	7	100%	7	7	7	7	7	7
r 6ckcMd ds - Sl44y nMf	7	7	7	7	1	7	7	7	7	0	7	7	7	7	0	
% r 6ckcMd ds - Sl44y nMf	7	7	7	7	20:0%	7	7	7	7	0%	7	7	7	7	7	7

W LeUe4tSins 4 ns Ur 6ckcMd ds - Sl44y nMf: PmPeft, BmB9 Ct, TmTCSu, i mi 7TuSs

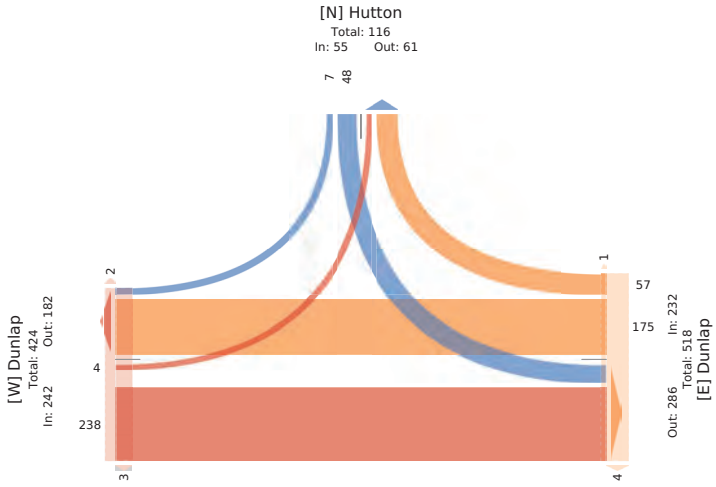
Hutton & Dunlap - TMC

Tue Oct 19, 2021

P M aek(4: P M 59 P M-
P)) v)krrer 4l hAAr, CHo)e5L s hTiuc(r, P ithfu)kteg Tiuc(r, h urer,
a egertiHsr, h HSc)er ns Unkg, h HSc)er ns v inrrd k)(-
P)) MnBey estr
Rwm : 19D9, l nckthls mD2:D622. 1, 5: 6HD 161

GEWALT HAMILTON ASSOCIATES, INC.

a inBgeg 3Snb ed k)t Gky Bins P rrnc Hter Bc8
I2. Fniert Egoe wiHBe, Veis ns GH)r, R , I 00I 1, L C



Hutton & Dunlap - TMC

Tue Oct 19, 2021

Fl FeLn gh Fl (7 Fl A(OMd-L44FeLn P 6u-
) 44C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 441 6Mev ekta
nh D: : 89h9, s 6cLri6kDh2.h32271, (: 3.h: 131

GEWALT HAMILTON ASSOCIATES, INC.

F-6MBeB5oDb ewL4 P Lv i46k) aa6ciLtea nkc.
827 G6-eat HBSe I -iMt, E e-k6k P i4tn, ns , 80081, d r

s eS I i-ect6k	I uk4LV HLat56ukB					I uk4LV p eat56ukB					P urt6k r 6utU56ukB					
Tiv e	s	T	d	) W	FeBW	T	R	d	) W	FeBW	s	R	d	) W	FeBW	kt
2021(10(19 hlD0Fl	h	8*	0	***1**	1h	93	21	0	**11h**	2	1:	3	0	**21**	1h	**208**
hlD7Fl	1	81	0	**82**	3	8h	1*	0	**: 1**	2	19	3	0	**22**	1	**187**
hlD0Fl	8	87	0	***1**	2	91	22	0	**113**	3	20	1	0	**21**	2	**207**
hlD7Fl	3	79	0	**82**	1	: 7	27	0	**110**	3	22	h	0	**28**	2	**19:**
T6tL4	1h	272	0	**288**	20	333	: 7	0	**h1:**	10	*9	11	0	**90**	19	****h**
%) W-6LcU	7.3%	9h.*%	0%	**(**	(	*9.*%	20.3%	0%	**(**	(	: *. %	12.2%	0%	**(**	(	(
% T6tL4	1.: %	32.8%	0%	**3h.h%**	(	h3.0%	11.0%	0%	**7h.0%**	(	10.2%	1.h%	0%	**11.8%**	(	(
FP G	0.700	0.9h*	(	**0.923**	(	0.: 97	0.: 70	(	**0.91***	(	0.929	0.8: :	(	**0.: 90**	(	0.93:
s iSUa	12	2h9	0	**281**	(	332	: 3	0	**h17**	(	**	11	0	**: :**	(	*8h
% s iSUa	: 7.*%	9: .: %	0%	**9: .1%**	(	99.*%	9*.8%	0%	**99.3%**	(	9*.7%	100%	0%	**9*.: %**	(	9: .*%
r ikS4e(d kit T-ucna	0	1	0	**1**	(	1	2	0	**3**	(	1	0	0	**1**	(	7
% r ikS4e(d kit T-ucna	0%	0.h%	0%	**0.h%**	(	0.3%	2.h%	0%	**0.*%**	(	1.3%	0%	0%	**1.1%**	(	0.8%
) -ticu4LteBT-ucna	0	0	0	**0**	(	0	0	0	**0**	(	0	0	0	**0**	(	0
%) -ticu4LteBT-ucna	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%
y uaea	0	0	0	**0**	(	0	0	0	**0**	(	0	0	0	**0**	(	0
% y uaea	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	2	2	0	**h**	(	0	0	0	**0**	(	1	0	0	**1**	(	7
% y icoc4ea 6k R6LB	1h.3%	0.: %	0%	**1.7%**	(	0%	0%	0%	**0%**	(	1.3%	0%	0%	**1.1%**	(	0.8%
FeBeat-iLka	(	(	(	(	19	(	(	(	(	*	(	(	(	(	1:	
% FeBeat-iLka	(	(	(	(	97.0%	(	(	(	(	*0.0%	(	(	(	(	9h.*%	(
y icoc4ea 6k C-6aawL4h	(	(	(	(	1	(	(	(	(	3	(	(	(	(	1	
% y icoc4ea 6k C-6aawL4h	(	(	(	(	7.0%	(	(	(	(	30.0%	(	(	(	(	7.3%	(

W FeBeat-iLka IkB y icoc4ea 6k C-6aawL4n. s Ds eft, RDRiSUi, TDfU-u, d Dtl (Tu-k

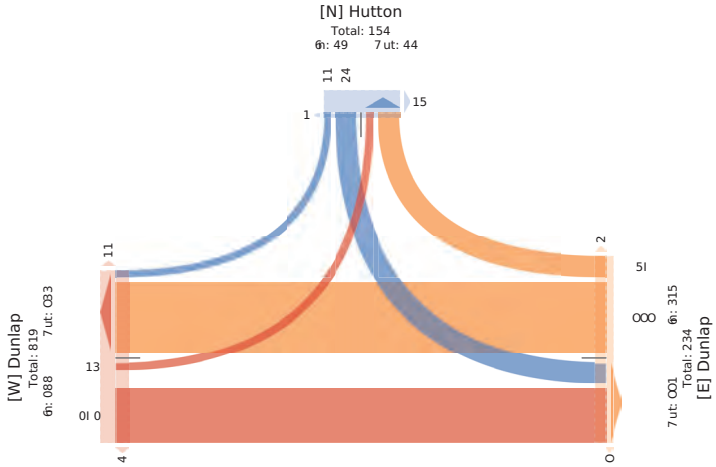
Hutton & Dunlap - TMC

Tue Oct 19, 2021

PM Peak (4 PM : 5 PM- : O) evam Peak l Hnv
o rr AraCGeC(s li gtC, hlSi re:n Sli TvuckC, o vtlcurateUTvuckC, d uGeC,
PeLeCGlaSC, d lcBcreCHS y HnU, d lcBcreCHS AvHCCRark-
o rr MHj ewe StC
nh D886949, s HcatIHSD42.432251, :83.48131

GEWALT HAMILTON ASSOCIATES, INC.

P vH) ILeUbBDGeRart l awIttHS o CCHelateCrnSc.
625 FHveCi EUi e I vl) e, VevSHS l InC, ns , 60061, n h



Wing & Center - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886940, Location: 42.431021, -83.48468b

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cy: Hewalt 5 amilton Associates Inc.
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

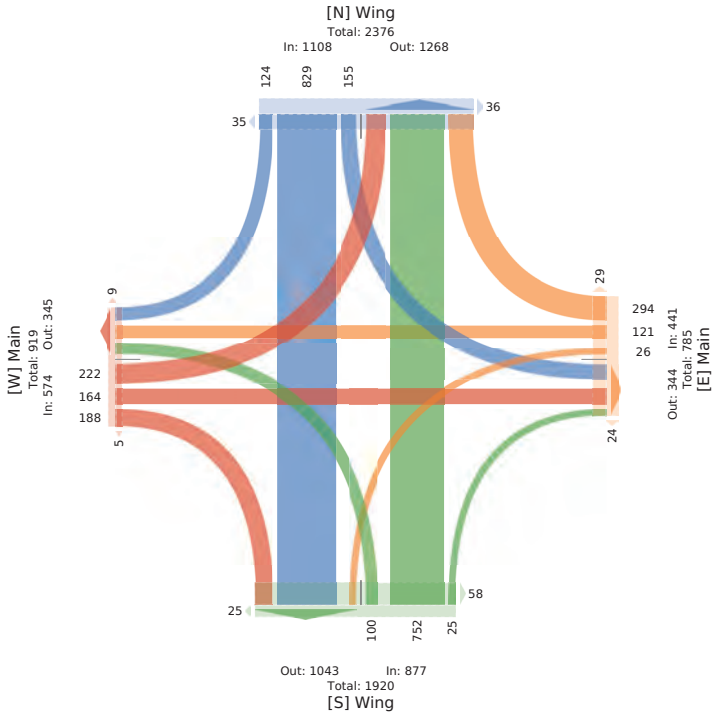
Leg Direction	Main EastGound						Main p estGound						p ing WorthGound						p ing SouthGound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	4	10	4	0	**18**	0	0	2	8	0	**10**	1	2	24	1	0	**27**	1	6	33	4	0	**43**	2	**98**
7:1bAM	6	b	2	0	**13**	1	0	4	8	0	**12**	0	2	33	2	0	**37**	2	4	36	2	0	**42**	3	**104**
7:30AM	9	4	3	0	**16**	0	2	8	10	0	**20**	1	b	30	1	0	**36**	4	6	41	4	0	**b1**	2	**123**
7:4bAM	18	7	10	0	**3b**	0	1	b	2b	0	**31**	0	2	38	2	0	**42**	4	1b	71	14	0	**100**	0	**208**
5 ourly Total	37	26	19	0	**82**	1	3	19	b1	0	**73**	2	11	12b	6	0	**142**	11	31	1ff1	24	0	**236**	7	**b33**
8:00AM	24	1b	16	0	**bb**	0	0	13	12	0	**2b**	0	1	33	0	0	**34**	3	13	72	16	0	**101**	0	**21b**
8:1bAM	21	17	10	0	**48**	1	0	7	18	0	**2b**	0	4	33	1	0	**38**	3	11	49	7	0	**67**	2	**178**
8:30AM	14	14	13	0	**41**	2	1	4	8	0	**13**	0	7	34	1	0	**42**	1	7	38	1	0	**46**	7	**142**
8:4bAM	11	9	13	0	**33**	0	0	4	20	0	**24**	3	b	29	1	0	**3b**	3	9	4b	9	0	**63**	2	**1bb**
5 ourly Total	70	bb	b2	0	**177**	3	1	28	b8	0	**87**	3	17	129	3	0	**149**	10	40	204	33	0	**277**	11	**690**
4:00PM	16	8	11	0	**3b**	0	2	7	22	0	**31**	b	10	b2	3	0	**6b**	7	10	b7	3	0	**70**	4	**201**
4:1bPM	7	12	10	0	**29**	2	4	9	22	0	**3b**	4	6	48	2	0	**b6**	b	11	b6	7	0	**74**	1	**194**
4:30PM	16	9	16	0	**41**	1	b	8	19	0	**32**	2	10	81	1	0	**92**	2	8	38	8	0	**b4**	3	**219**
4:4bPM	13	9	20	0	**42**	1	1	b	3b	0	**41**	3	8	73	1	0	**82**	9	b	b8	11	0	**74**	8	**239**
5 ourly Total	b2	38	b7	0	**147**	4	12	29	98	0	**139**	14	34	2b4	7	0	**29b**	23	34	209	29	0	**272**	16	**8b3**
b:00PM	16	1b	2b	0	**b6**	1	3	10	18	0	**31**	9	6	63	4	0	**73**	8	9	48	b	0	**62**	3	**222**
b:1bPM	19	10	10	0	**39**	2	4	14	30	0	**48**	6	13	70	0	0	**83**	8	11	77	8	0	**96**	10	**266**
b:30PM	17	10	14	0	**41**	3	1	13	14	0	**28**	4	6	b6	b	0	**67**	13	18	42	14	0	**74**	16	**210**
b:4bPM	11	10	11	0	**32**	0	2	8	2b	0	**3b**	1b	13	bb	0	0	**68**	10	12	68	11	0	**91**	8	**226**
5 ourly Total	63	4b	60	0	**168**	6	10	4b	87	0	**142**	34	38	244	9	0	**291**	39	b0	23b	38	0	**323**	37	**924**
Total	222	164	188	0	**b74**	14	26	121	294	0	**441**	b3	100	7b2	2b	0	**877**	83	1bb	829	124	0	**1108**	71	**3000**
% ANNtoach	38.7%	28.6%	32.8%	0%	**-**	-	b.9%	27.4%	66.7%	0%	**-**	-	11.4%	8b.7%	2.9%	0%	**-**	-	14.0%	74.8%	11.2%	0%	**-**	-	-
% Total	7.4%	b.b%	6.3%	0%	**19.1%**	-	0.9%	4.0%	9.8%	0%	**14.7%**	-	3.3%	2b.1%	0.8%	0%	**29.2%**	-	b.2%	27.6%	4.1%	0%	**36.9%**	-	-
Lights	220	1b6	18b	0	**b61**	-	26	11b	290	0	**431**	-	99	732	24	0	**8bb**	-	1b3	814	122	0	**1089**	-	2936
% Lights	99.1%	9b.1%	98.4%	0%	**97.7%**	-	100%	9b.0%	98.6%	0%	**97.7%**	-	99.0%	97.3%	96.0%	0%	**97.b%**	-	98.7%	98.2%	98.4%	0%	**98.3%**	-	97.9%
Single-Unit Trucks	1	0	0	0	**1**	-	0	2	3	0	**b**	-	0	6	0	0	**6**	-	1	2	2	0	**b**	-	17
% Single-Unit Trucks	0.b%	0%	0%	0%	**0.2%**	-	0%	1.7%	1.0%	0%	**1.1%**	-	0%	0.8%	0%	0%	**0.7%**	-	0.6%	0.2%	1.6%	0%	**0.b%**	-	0.6%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses	0	b	1	0	**6**	-	0	2	1	0	**3**	-	1	7	0	0	**8**	-	0	6	0	0	**6**	-	23
% Buses	0%	3.0%	0.b%	0%	**1.0%**	-	0%	1.7%	0.3%	0%	**0.7%**	-	1.0%	0.9%	0%	0%	**0.9%**	-	0%	0.7%	0%	0%	**0.b%**	-	0.8%
Bicycles on Road	1	3	2	0	**6**	-	0	2	0	0	**2**	-	0	6	1	0	**7**	-	1	7	0	0	**8**	-	23
% Bicycles on Road	0.b%	1.8%	1.1%	0%	**1.0%**	-	0%	1.7%	0%	0%	**0.b%**	-	0%	0.8%	4.0%	0%	**0.8%**	-	0.6%	0.8%	0%	0%	**0.7%**	-	0.8%
Pedestrians	-	-	-	-	-	14	-	-	-	-	-	46	-	-	-	-	-	77	-	-	-	-	-	69	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	86.8%	-	-	-	-	-	92.8%	-	-	-	-	-	97.2%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	7	-	-	-	-	-	6	-	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	13.2%	-	-	-	-	-	7.2%	-	-	-	-	-	2.8%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Wing & Center - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886940, Location: 42.431021, -83.48468b

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cy: Hewalt 5 amilton Associates Inc.
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Wing & Center - TMC

Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r st TducgC, F dscu6niteB TducgC, y uCeC, LeBeCdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP
F 6l Rne l er tC
D 74489A0, a RcntsRr 7A2.A31021, -43.A4A84M

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 Hnl s6lRr F CCRcsnteCDc.
82M5RdeCt EBi e : dsne, Vedr Rr HsfiC, Da, 80081, k U

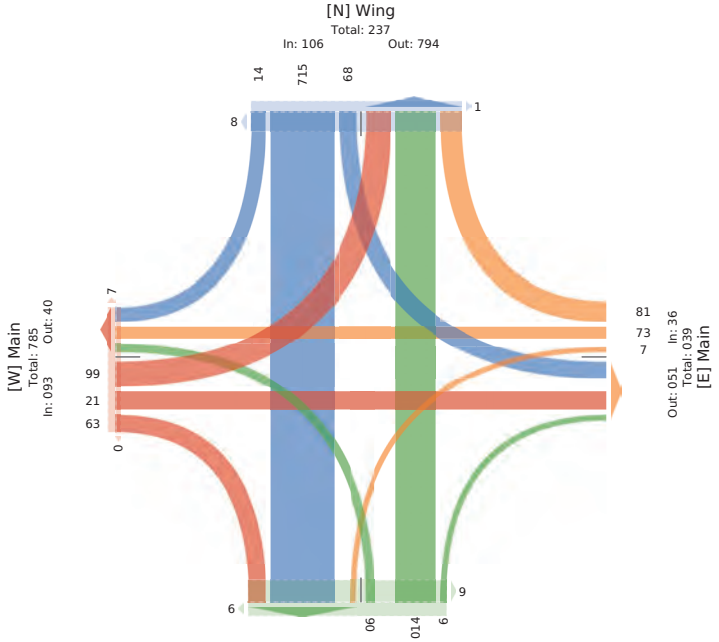
a ei : sdectsRr	l nsr EnCdbRur B						l nsr p eCdbRur B						p sr i WRdtSbRur B						p sr i URutSbRur B						
Tsl e	a	T	w	k	F NN	LeP*	a	T	w	k	F NN	LeP*	a	T	w	k	F NN	LeP*	a	T	w	k	F NN	LeP*	Dt
2021-10-19 (7AMF l	14	(	10	0	**3M**	0	1	M	2M	0	**31**	0	2	34	2	0	**A2**	A	1M	(1	1A	0	**100**	0	**204**
4700F l	2A	1M	18	0	**MM**	0	0	13	12	0	**2M**	0	1	33	0	0	**3A**	3	13	(2	18	0	**101**	0	**21M**
47AMF l	21	1(	10	0	**A4**	1	0	(	14	0	**2M**	0	A	33	1	0	**34**	3	11	A9	(	0	**8(**	2	**1(4**
4750F l	1A	1A	13	0	**Al**	2	1	A	4	0	**13**	0	(	3A	1	0	**A2**	1	(	34	1	0	**A8**	(	**1A2**
TRnnG	((	M8	A9	0	**1(9**	3	2	29	83	0	**9A**	0	1A	134	A	0	**1M8**	11	A8	230	34	0	**31A**	9	**(A3**
% F NNRncS	A3.0%	29.8%	2(.A%	0%	**-**	-	2.1%	30.9%	8(.0%	0%	**-**	-	9.0%	44.M%	2.8%	0%	**-**	-	1A.8%	(3.2%	12.1%	0%	**-**	-	-
% TRnnG	10.A%	(.1%	8.8%	0%	**2A.1%**	-	0.3%	3.9%	4.M%	0%	**12.(%**	-	1.9%	14.8%	0.M%	0%	**21.0%**	-	8.2%	31.0%	M1%	0%	**A2.3%**	-	-
LH5	0.402	0.((9	0.(88	-	**0.41A**	-	0.M0	0.M4	0.830	-	**0.(M**	-	0.M0	0.904	0.M0	-	**0.929**	-	0.(8(	0.(99	0.M A	-	**0.(((**	-	0.48A
a si StC	((	M	A4	0	**1(8**	-	2	24	82	0	**92**	-	13	132	A	0	**1A9**	-	A8	22M	34	0	**309**	-	(28
% a si StC	100%	98.2%	94.0%	0%	**94.3%**	-	100%	98.8%	94.A%	0%	**9(.9%**	-	92.9%	9M.%	100%	0%	**9MM%**	-	100%	9(.4%	100%	0%	**94.A%**	-	9(.(%
Uni 6e-k r st TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	3	0	0	**3**	-	0	0	0	0	**0**	-	3
% Uni 6e-k r st TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	2.2%	0%	0%	**1.9%**	-	0%	0%	0%	0%	**0%**	-	0.A%
F dscu6niteB TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	1
% F dscu6niteB TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.(%	0%	0%	**0.8%**	-	0%	0%	0%	0%	**0%**	-	0.1%
y uCeC	0	2	1	0	**3**	-	0	1	1	0	**2**	-	1	2	0	0	**3**	-	0	M	0	0	**M**	-	13
% y uCeC	0%	3.4%	2.0%	0%	**1.(%**	-	0%	3.A%	1.8%	0%	**2.1%**	-	(.1%	1.A%	0%	0%	**1.9%**	-	0%	2.2%	0%	0%	**1.8%**	-	1.(%
y scoc6eCRr wRnB	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% y scoc6eCRr wRnB	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
LeBeCdsnr C	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	11	-	-	-	-	-	9	
% LeBeCdsnr C	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-
y scoc6eCRr) dRCCv nfg,	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% y scoc6eCRr) dRCCv nfg,	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*LeBeCdsnr Cnr B y scoc6eCRr) dRCCv nfg, a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

Wing & Center - TMC

Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r st TducgC, F dscu6niteB TducgC, y uCeC, LeBeCdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP
F 6l Rne l er tC
D 74489A0, a RcntsRr 7A2.A31021, -43.A4A84M

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 Hnl s6lRr F CCRcsnteCDc.
82M5RdeCt EBi e : dsne, Vedr Rr HsfiC, Da, 80081, k U



Wing & Center - TMC

Tue Oct 19, 2021

Fl FeLn gh(70 Fl AM70 Fl - AO4eBf66FeLn) CuP

a 6ss 6Li i ei gS'lkti, d Ur 6eAy Bf TBcni, a Rt'uGLeo TBcni, Rui ei, Feoei t RUB3,

Rt'wc6ei CBv CLo, Rt'wc6ei CBs RCi i mL6n-

a 6Li GAel eBti

D (88. 9h0, SCcLrUCD(h23h71021, A873h8h. 8M

GEWALT HAMILTON ASSOCIATES, INC.

FRC4Udeo bw(GemLfi) LI UCB a i i CcUIrei IDc3

. 2MHCFei t 5 o r e : Rde, E eFBCB) U6i, D5, . 00. 1, y d

Ser : UrectUB	l LUB 5LitbCuBo					l LUB V ei tbCuBo					V Ur p CRkbCuBo					V Ur dCuikbCuBo					
TUI e	S	T	v	y	a V0V FeoN	S	T	v	y	a V0V FeoN	S	T	v	y	a V0V FeoN	S	T	v	y	a V0V FeoN	DR
2021A0A19 h(70F1	1.	9	1.	0	**h1**	1	M	8	19	0	**72**	2	10	81	1	0	**92**	2	8	78	8	0	**Nh**	7	**219**
h(hMF1	17	9	20	0	**h2**	1	1	M	7M	0	**h1**	7	8	*7	1	0	**82**	9	M	M8	11	0	***h**	8	**279**
M(0F1	1.	1M	2M	0	**M**	1	7	10	18	0	**71**	9	.	. 7	h	0	***7**	8	9	h8	M	0	**. 2**	7	**222**
M(1MF1	19	10	10	0	**79**	2	h	1h	70	0	**h8**	.	17	*0	0	0	**87**	8	11	**	8	0	**9.**	10	**2. .**
TCUL6	. h	h7	*1	0	**1*8**	M	17	7*	102	0	**1M2**	20	7*	28*	.	0	**770**	2*	77	221	72	0	**28.**	2h	**9h.**
% a VWCLck	7. 30% 2h32% 793 9% 0%				**A**	A	83 % 2h3 7% . *3 % 0%				**A**	A	111 2% 8*10% 138% 0%				**A**	A	113 M% **3% 113 2% 0%				**A**	A	A
% TCUL6	. 38%	h3M%		*3M6 0%	**183 0%**	A	13 h%	73 9%	103 8% 0%		**1. 3 %**	A	73 9%	703 7%	03 % 0%		**7h3 9%**	A	73M%	273 h%	73 h% 0%		**703 2%**	A	A
F) H	0 3129	03* . 9	03*29		A 03 **81.**	A	03 3M	03 92	03*29		A 03 **807**	A	03*12	0 3 99	03**M		A 03 **908**	A	03*M0	03*77	03*2*		A 03 **7M8**	A	03 9h
S'lkti	. 2	79	*0	0	**1*1**	A	17	7.	100	0	**1h9**	A	7*	282	.	0	**72M**	A	77	21.	72	0	**281**	A	92.
% S'lkti	9. 39% 903 7%		983 %	0%	**9. 3 %**	A	100% 9*3 7%		983 0%	0%	**983 9%**	A	100% 983 7%		100%	0%	**983 6%**	A	100% 9*3 7%		100%	0%	**983 7%**	A	9*3 9%
d Ur 6eAy Bf TBcni	1	0	0	0	**1**	A	0	0	2	0	**2**	A	0	0	0	0	**0**	A	0	1	0	0	**1**	A	h
% d Ur 6eAy Bf TBcni	13 %	0%		0%	0% **03 %**	A	0%	0%	23 0%	0%	**13 7%**	A	0%	0%	0%	0%	**0%**	A	0%	03M%	0%	0%	**03 7%**	A	03 h%
a IRtuGLeo TBcni	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0
% a IRtuGLeo TBcni	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%
Rui ei	0	1	0	0	**1**	A	0	0	0	0	**0**	A	0	2	0	0	**2**	A	0	0	0	0	**0**	A	7
% Rui ei	0%	23%		0%	0% **03 %**	A	0%	0%	0%	0%	**0%**	A	0%	03 %	0%	0%	**03 %**	A	0%	0%	0%	0%	**0%**	A	03 %
Rt'wc6ei CBv CLo	1	7	1	0	**M**	A	0	1	0	0	**1**	A	0	7	0	0	**7**	A	0	h	0	0	**h**	A	17
% Rt'wc6ei CBv CLo	13 %	*3%	13 h%	0%	**23 8%**	A	0%	23 %	0%	0%	**03 %**	A	0%	13 0%	0%	0%	**03 %**	A	0%	13 8%	0%	0%	**13 h%**	A	13 h%
Feoei tRUB3	A	A	A	A	A M	A	A	A	A	A	A 1*		A	A	A	A	A 2M		A	A	A	A	A 2h		
% Feoei tRUB3	A	A	A	A	A 100%	A	A	A	A	A	A 8M0%		A	A	A	A	A 923 %		A	A	A	A	A 100%		A
Rt'wc6ei CBs RCi i mL6n	A	A	A	A	A 0	A	A	A	A	A	A 7		A	A	A	A	A 2		A	A	A	A	A 0		
% Rt'wc6ei CBs RCi i mL6n	A	A	A	A	A 0%	A	A	A	A	A	A 1M0%		A	A	A	A	A * 3%		A	A	A	A	A 0%		A

N Feoei tRUB3 LBo Rt'wc6ei CBs RCi i mL6n3S (Seft, v (v t'lkti, T(TkRu, y (y AT uB3

Wing & Center - TMC

Tue Oct 19, 2021

PM Peak (4:50 PM -) :50 PMv - Or el aHHPeak o Aul

CHHs ldLLeL (i gh StL, ng Lh ld- d Ug TluckL, CLtgu ldteB TluckL, y uLeL,

PeBeLtl gu LL, y g: RcldLAUwAuB, y g: RcldLAUs l ALLmalkkv

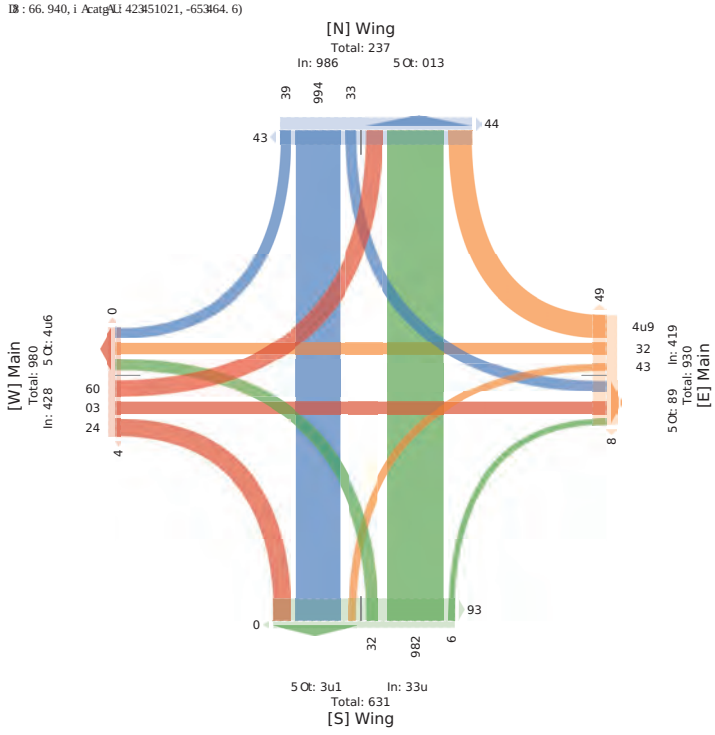
CHHMAr el eLL

D3 : 66. 940, i AcatgAL: 423451021, -653464. 6)

GEWALT HAMILTON ASSOCIATES, INC.

PlArgBeBbR Gemald o al gldAUCLLAcgteL D3c3

. 2) FAleLt EBhe 8 l g r e, VelUAUo gHH, D , . 00. 1, d n



Main & Center - TMC

Tue Oct 19, 2021

Full Length (7 AM-9 AM, 4 PM-6 PM)

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

All Movements

ID: 8869. 3, Location: 42b4. 1073, -8. b48. 227

GEWALT HAMILTON ASSOCIATES, INC.

Provided Gy: Hewalt 5 amilton Associates Incb

623 Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Leg Direction	Main EastGound						Main p estGound						Center WorthGound						Center SouthGound						
Time	L	T	R	U	**ANN**	Ped*	L	T	R	U	**ANN**	Ped*	L	T	R	U	**ANN**	Ped*	L	T	R	U	**ANN**	Ped*	**Int**
2021-10-19 7:00AM	0	0	16	0	**16**	1	0	0	0	0	**0**	0	12	0	0	0	**12**	1	0	0	0	0	**0**	2	**28**
7:13AM	0	0	9	1	**10**	0	0	0	0	0	**0**	0	18	0	0	0	**18**	2	0	0	0	0	**0**	3	**28**
7:. 0AM	0	1	8	0	**9**	2	0	1	0	0	**1**	1	21	0	0	0	**21**	4	0	0	0	0	**0**		**. 1**
7:43AM	0	0	23	0	**23**	0	0	0	2	0	**2**	0	. 6	1	0	0	**. 7**	3	0	0	0	0	**0**		**64**
5 ourly Total	0	1	38	1	**60**	.	0	1	2	0	.	1	87	1	0	0	**88**	12	0	0	0	0	**0**	1.	**131**
8:00AM	0	0	. 4	0	**. 4**	1	0	0	0	0	**0**	1	. 0	0	0	0	**. 0**		0	0	0	0	**0**	1	**64**
8:13AM	0	0	. 2	0	**. 2**	1	0	0	0	0	**0**	.	. 1	0	0	0	**. 1**	1	0	1	0	0	**1**	4	**64**
8:. 0AM	0	0	22	0	**22**	1	0	0	0	0	**0**	2	14	0	0	0	**14**	7	0	0	0	0	**0**	8	**. 6**
8:43AM	0	0	19	0	**19**	1	0	0	0	0	**0**	4	. 1	0	0	0	**. 1**	4	0	1	0	0	**1**	3	**31**
5 ourly Total	0	0	107	0	**107**	4	0	0	0	0	**0**	10	106	0	0	0	**106**	13	0	2	0	0	**2**	18	**213**
4:00PM	0	0	22	1	**2.**	2	0	0	0	0	**0**	26	. 1	1	0	0	**. 2**	2	0	2	0	0	**2**	27	**37**
4:13PM	0	0	26	0	**26**	7	0	0	1	0	**1**	20	4.	1	0	0	**44**	13	0	0	0	0	**0**	20	**71**
4:. 0PM	1	1	14	0	**16**	4	0	0	0	0	**0**	14	. 3	0	0	0	**. 3**	17	0	0	0	0	**0**	17	**31**
4:43PM	0	0	18	0	**18**	8	0	0	0	0	**0**	21	49	2	0	0	**31**	1.	0	0	0	0	**0**	16	**69**
5 ourly Total	1	1	80	1	**8.**	21	0	0	1	0	**1**	81	138	4	0	0	**162**	47	0	2	0	0	**2**	80	**248**
3:00PM	0	0	27	0	**27**	1.	0	0	0	0	**0**	21	. .	0	0	0	**. .**	12	0	0	0	0	**0**	28	**60**
3:13PM	1	0	24	0	**23**	3	0	1	0	0	**1**	48	32	0	0	0	**32**	. 2	0	0	0	0	**0**	28	**78**
3:. 0PM	0	0	. 0	0	**. 0**	11	0	0	0	0	**0**	. 3	. 8	0	0	0	**. 8**	24	0	0	0	0	**0**	26	**68**
3:43PM	0	0	29	0	**29**	6	0	1	0	0	**1**	. 8	. 9	0	0	0	**. 9**	16	0	0	0	0	**0**	33	**69**
5 ourly Total	1	0	110	0	**111**	. 3	0	2	0	0	**2**	142	162	0	0	0	**162**	84	0	0	0	0	**0**	1. 7	**273**
Total	2	2	. 33	2	**. 61**	6.	0	.	.	0	**6**	2. 4	31.	3	0	0	**318**	138	0	4	0	0	**4**	248	**889**
% ANNoach	0h6%	0h6%	98h %	0h6%	-	-	0%	30h8%	30h8%	0%	-	-	99h0%	1h0%	0%	0%	-	-	0%	100%	0%	0%	-	-	-
% Total	0h2%	0h2%	. 98h%	0l2%	**40h6%**	-	0%	0b %	0b %	0%	**0h9%**	-	37h2%	0h6%	0%	0%	**38h %**	-	0%	0h4%	0%	0%	**0h4%**	-	-
Lights	0	0	. 46	2	**. 48**	-	0	0	0	0	**0**	-	303	0	0	0	**303**	-	0	0	0	0	**0**	-	83.
% Lights	0%	0%	97h2%	100%	**96h4%**	-	0%	0%	0%	0%	**0%**	-	98h4%	0%	0%	0%	**97h2%**	-	0%	0%	0%	0%	**0%**	-	96h0%
Single-Unit Trucks	0	0	2	0	**2**	-	0	0	0	0	**0**	-	4	0	0	0	**4**	-	0	0	0	0	**0**	-	6
% Single-Unit Trucks	0%	0%	0h6%	0%	**0h6%**	-	0%	0%	0%	0%	**0%**	-	0h8%	0%	0%	0%	**0h8%**	-	0%	0%	0%	0%	**0%**	-	0h7%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1	0	0	0	**1**	-	0	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0h2%	0%	0%	0%	**0h2%**	-	0%	0%	0%	0%	**0%**	-	0h1%
Buses	0	0	4	0	**4**	-	0	0	0	0	**0**	-	.	0	0	0	.	-	0	0	0	0	**0**	-	7
% Buses	0%	0%	1h1%	0%	**1h1%**	-	0%	0%	0%	0%	**0%**	-	0h6%	0%	0%	0%	**0h6%**	-	0%	0%	0%	0%	**0%**	-	0h8%
Bicycles on Road	2	2	.	0	**7**	-	0	.	.	0	**6**	-	0	3	0	0	**3**	-	0	4	0	0	**4**	-	22
% Bicycles on Road	100%	100%	0h8%	0%	**19%**	-	0%	100%	100%	0%	**100%**	-	0%	100%	0%	0%	**1h9%**	-	0%	100%	0%	0%	**100%**	-	2h8%
Pedestrians	-	-	-	-	-	6.	-	-	-	-	-	229	-	-	-	-	-	136	-	-	-	-	-	243	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	97h9%	-	-	-	-	-	98l2%	-	-	-	-	-	98l8%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	-	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	2h4%	-	-	-	-	-	1h %	-	-	-	-	-	112%	-

*Pedestrians and Bicycles on CrosswalkbL: Left, R: Right, T: Thru, U: U-Turn

Main & Center - TMC

Tue Oct 19, 2021

Full Length (7 AM-9 AM, 4 PM-6 PM)

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

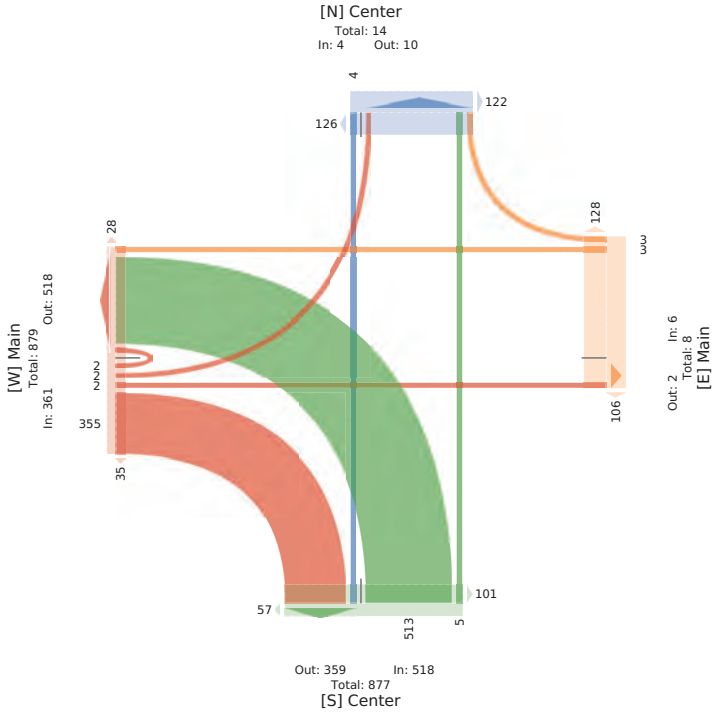
All Movements

ID: 8869. 3, Location: 42b4. 1073, -8. b48. 227

GEWALT HAMILTON ASSOCIATES, INC.

Provided Gy: Hewalt 5 amilton Associates Incb

623 Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Main & Center - TMC

Tue Oct 19, 2021

F1 Leng h(7AMF1 - 47AMF1 P

F 6f) 6nCCeChn si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC,

LeBeCdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP

F 6f1 RmeI er tC

D 74489. Mja RcntsRr 7A23A 10(M -4. 3A4. 22(

GEWALT HAMILTON ASSOCIATES, INC.

LdRmsBeB bo7Gev n6 HnI s6tRr F CCRcsnteCDrc3

82M5RdeCI EBSi e : dsne, VedrRr Hs6tC, Da, 80081, k U

a ei : sdectsRr	I nsr EnCIbRur B					I nsr p eCIbRur B					) er ted WRdtSbRur B					) er ted URurSbRur B					
Tsl e	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	I0t
2021-10-19 (7AMF1	0	0	2M	0	**2M**	0	0	0	2	0	**2**	0	. 8	1	0	0	**. (**	M	0	0	0	0	**0**	.	**8A**
4700F1	0	0	. A	0	**. A**	1	0	0	0	0	**0**	1	. 0	0	0	0	**. 0**	.	0	0	0	0	**0**	1	**8A**
47tMF1	0	0	. 2	0	**. 2**	1	0	0	0	0	**0**	.	. 1	0	0	0	**. 1**	1	0	1	0	0	**1**	A	**8A**
47.0F1	0	0	22	0	**22**	1	0	0	0	0	**0**	2	1A	0	0	0	**1A**	(	0	0	0	0	**0**	4	**. 8**
TRn6	0	0	11.	0	**11.**	.	0	0	2	0	**2**	8	111	1	0	0	**112**	18	0	1	0	0	**1**	18	**224**
% F NNRncS	0%	0%	100%	0%	**-**	-	0%	0%	100%	0%	**-**	-	993t%	03t%	0%	0%	**-**	-	0%	100%	0%	0%	**-**	-	-
% TRn6	0%	0%	A03t%	0%	**A03t%**	-	0%	0%	03t%	0%	**03t%**	-	A43(%	03t%	0%	0%	**A03t%**	-	0%	03t%	0%	0%	**03t%**	-	-
LH5	-	-	03t. 1	-	**03t. 1**	-	-	-	-	-	**-**	-	03((1	-	-	-	**03((1**	-	-	-	-	-	**-**	-	03t(M
a si StC	0	0	110	0	**110**	-	0	0	0	0	**0**	-	109	0	0	0	**109**	-	0	0	0	0	**0**	-	219
% a si StC	0%	0%	9(3 %	0%	**9(3 %**	-	0%	0%	0%	0%	**0%**	-	943t%	0%	0%	0%	**9(3 %**	-	0%	0%	0%	0%	**0%**	-	983t%
Usr i 6e-k r st TducgC	0	0	1	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Usr i 6e-k r st TducgC	0%	0%	03t%	0%	**03t%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	03t%
F dscu6nteB TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% F dscu6nteB TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
y uCeC	0	0	2	0	**2**	-	0	0	0	0	**0**	-	2	0	0	0	**2**	-	0	0	0	0	**0**	-	A
% y uCeC	0%	0%	13t%	0%	**13t%**	-	0%	0%	0%	0%	**0%**	-	13t%	0%	0%	0%	**13t%**	-	0%	0%	0%	0%	**0%**	-	13t%
y scoc6eCRr wRnB	0	0	0	0	**0**	-	0	0	2	0	**2**	-	0	1	0	0	**1**	-	0	1	0	0	**1**	-	A
% y scoc6eCRr wRnB	0%	0%	0%	0%	**0%**	-	0%	0%	100%	0%	**100%**	-	0%	100%	0%	0%	**03t%**	-	0%	100%	0%	0%	**100%**	-	13t%
LeBeCdsnr C	-	-	-	-	-	.	-	-	-	-	-	8	-	-	-	-	-	1M	-	-	-	-	-	1A	
% LeBeCdsnr C	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	9. 3t%	-	-	-	-	-	4(3t%	-
y scoc6eCRr) dRCCv nfg	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	
% y scoc6eCRr) dRCCv nfg	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	83 %	-	-	-	-	-	123t%	-

*LeBeCdsnr Cnr B y scoc6eCRr) dRCCv nfg3a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

Main & Center - TMC

Tue Oct 19, 2021

F1 Leng h(7AMF1 - 47AMF1 P

F 6f) 6nCCeChn si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC,

LeBeCdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP

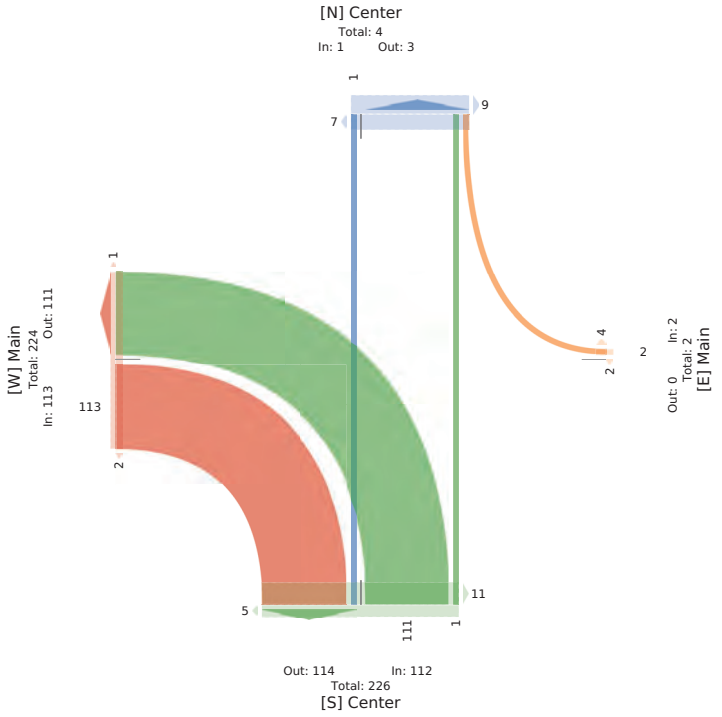
F 6f1 RmeI er tC

D 74489. Mja RcntsRr 7A23A 10(M -4. 3A4. 22(

GEWALT HAMILTON ASSOCIATES, INC.

LdRmsBeB bo7Gev n6 HnI s6tRr F CCRcsnteCDrc3

82M5RdeCI EBSi e : dsne, VedrRr Hs6tC, Da, 80081, k U



Main & Center - TMC

Tue Oct 19, 2021

Fl FeLn gh Fl (7 Fl A(OM4-L44FeLn P 6u-

) 44C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteB T-ucna, y uaea,

FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA

) 441 6M4v ekta

nh D: 798h, s 6cLti6kΩ 23 810bh, (: 83 : 822b

GEWALT HAMILTON ASSOCIATES, INC.

F-6MBeB GoDHewL4 P Lv i46k) aa6ciLtea nkc3

72h 56-eat EBSe I -iM4, Ve-k6k P i4ha, ns, 70071, d r

s eS I i-ect6k	I Lik ELatGukB						I Lik p eatGukB						Cekte- W6-tUGukB						Cekte- r 6utUGukB						
Tiv e	s	T	R	d	) NN	FeB*	s	T	R	d	) NN	FeB*	s	T	R	d	) NN	FeB*	s	T	R	d	) NN	FeB*	nht
2021(10(19 hl00F1	0	0	2b	0	**2b**	18	0	0	0	0	**0**	21	88	0	0	0	**88**	12	0	0	0	0	**0**	2:	**70**
h0hF1	1	0	2.	0	**2h**	h	0	1	0	0	**1**	. :	h2	0	0	0	**h2**	82	0	0	0	0	**0**	2:	**h:**
hl00F1	0	0	80	0	**80**	11	0	0	0	0	**0**	8h	8:	0	0	0	**8:**	2.	0	0	0	0	**0**	27	**7:**
h0hF1	0	0	29	0	**29**	7	0	1	0	0	**1**	8:	89	0	0	0	**89**	17	0	0	0	0	**0**	hh	**79**
T6tL4	1	0	110	0	**111**	8h	0	2	0	0	**2**	1. 2	172	0	0	0	**172**	: .	0	0	0	0	**0**	18h	**2hh**
%) NN6LcU	03t%	0%	993t%	0%	**(**	(	0%	100%	0%	0%	**(**	(	100%	0%	0%	0%	**(**	(	0%	0%	0%	0%	**(**	(	(
% T6tL4	03 %	0%	. 03t%	0%	**. 03 %**	(	0%	03t%	0%	0%	**03t%**	(	h: 3t%	0%	0%	0%	**h: 3t%**	(	0%	0%	0%	0%	**0%**	(	(
FP 5	(	(	03t00	(	**03t00**	(	(	(	(	(	**(**	(	03bb9	(	(	(	**03bb9**	(	(	(	(	(	**(**	(	03t12
s iSUa	0	0	10b	0	**10b**	(	0	0	0	0	**0**	(	170	0	0	0	**170**	(	0	0	0	0	**0**	(	27b
% s iSUa	0%	0%	9h3t%	0%	**973 %**	(	0%	0%	0%	0%	**0%**	(	9: 3 %	0%	0%	0%	**9: 3 %**	(	0%	0%	0%	0%	**(**	(	9h3t%
r ikSde(d kit T-ucna	0	0	1	0	**1**	(	0	0	0	0	**0**	(	2	0	0	0	**2**	(	0	0	0	0	**0**	(	8
% r ikSde(d kit T-ucna	0%	0%	03t%	0%	**03t%**	(	0%	0%	0%	0%	**0%**	(	13t%	0%	0%	0%	**13t%**	(	0%	0%	0%	0%	**(**	(	13t%
) -ticu4LteB T-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
%) -ticu4LteB T-ucna	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**(**	(	0%
y uaea	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
% y uaea	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**(**	(	0%
y icoc4ea 6k R6LB	1	0	2	0	**8**	(	0	2	0	0	**2**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	h
% y icoc4ea 6k R6LB	100%	0%	13 %	0%	**23t%**	(	0%	100%	0%	0%	**100%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**(**	(	13 %
FeBeat-iLka	(	(	(	(	(	8h	(	(	(	(	(	8h	(	(	(	(	(	1. 0	(	(	(	(	(	187	
% FeBeat-iLka	(	(	(	(	(	100%	(	(	(	(	(	9: 3t%	(	(	(	(	(	9: 3 %	(	(	(	(	(	993t%	(
y icoc4ea 6k C-6aawL4h	(	(	(	(	(	0	(	(	(	(	(	2	(	(	(	(	(	1	(	(	(	(	(	1	
% y icoc4ea 6k C-6aawL4h	(	(	(	(	(	0%	(	(	(	(	(	13 %	(	(	(	(	(	13t%	(	(	(	(	(	03t%	(

*FeBeat-iLka IkB y icoc4ea 6k C-6aawL4n3s Ds eft, RDRiSUi, TDTU-u, d Dtl (Tu-k

Main & Center - TMC

Tue Oct 19, 2021

Fl FeLn gh Fl (7 Fl A(OM4-L44FeLn P 6u-

) 44C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteB T-ucna, y uaea,

FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA

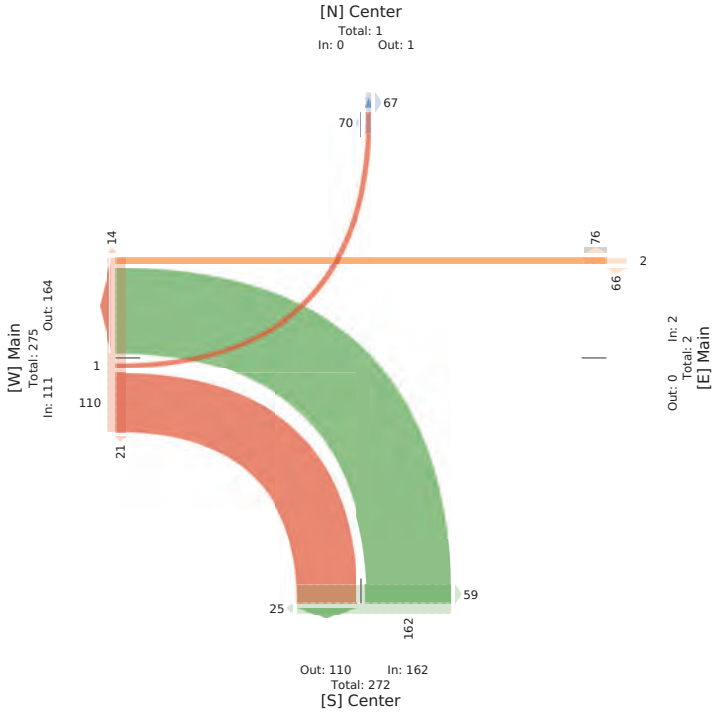
) 441 6M4v ekta

nh D: 798h, s 6cLti6kΩ 23 810bh, (: 83 : 822b

GEWALT HAMILTON ASSOCIATES, INC.

F-6MBeB GoDHewL4 P Lv i46k) aa6ciLtea nkc3

72h 56-eat EBSe I -iM4, Ve-k6k P i4ha, ns, 70071, d r



Main & Northville - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 4, Location: 423l. 1204, -8. 3l8100b

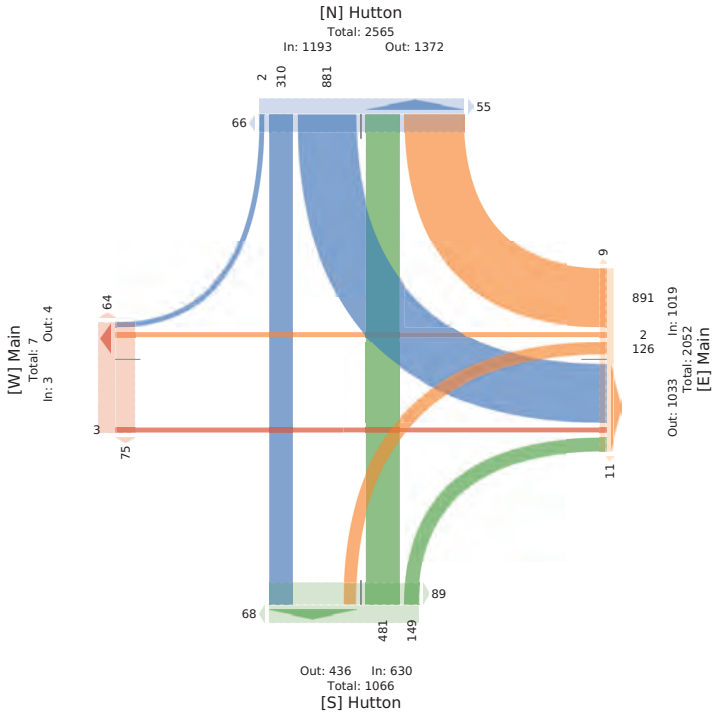
GEWALT HAMILTON ASSOCIATES, INC.
Provided Cjy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Leg Direction	Main EastGound						Main p estGound						5 utton WorthGound						5 utton SouthGound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	0	0	0	0	**0**	1	.	0	19	0	**22**	0	0	1b	8	0	**2.**	1	20	4	0	0	**24**	b	**69**
7:1bAM	0	0	0	0	**0**	4	2	1	2b	0	**28**	0	0	24	12	0	**. 6**	1	24	18	0	0	**42**	7	**106**
7:. 0AM	0	1	0	0	**1**	0	1	0	. 0	0	**. 1**	0	0	28	7	0	**. b**	4	. 2	12	0	0	**44**	1	**111**
7:4bAM	0	0	0	0	**0**	1	b	0	0	. 9	**44**	2	0	2b	12	0	**. 7**	.	. 8	18	0	0	**b6**	.	**1. 7**
5 ourly Total	0	1	0	0	**1**	6	11	1	11.	0	**12b**	2	0	92	. 9	0	**1. 1**	9	114	b2	0	0	**166**	16	**42.**
8:00AM	0	0	0	0	**0**	1	7	0	44	0	**b1**	0	0	22	12	0	**. 4**		bb	2.	0	0	**78**	1	**16.**
8:1bAM	0	0	0	0	**0**	1	b	0	24	0	**29**	1	0	29	2.	0	**b2**	b	61	11	0	0	**72**	.	**1b.**
8:. 0AM	0	0	0	0	**0**	2	b	0	4.	0	**48**	0	0	28	1b	0	**4.**	6	b4	16	1	0	**71**	b	**162**
8:4bAM	0	0	0	0	**0**	0	6	0	b6	0	**62**	0	0	. 1	7	0	**. 8**	.	6.	17	0	0	**80**	2	**180**
5 ourly Total	0	0	0	0	**0**	4	2.	0	167	0	**190**	1	0	110	b7	0	**167**	17	2. .	67	1	0	**. 01**	11	**6b8**
4:00PM	0	0	0	0	**0**	17	7	0	70	0	**77**	1	0	. 8	6	0	**44**	21	67	20	0	0	**87**	11	**208**
4:1bPM	0	0	0	0	**0**	14	7	0	62	0	**69**	1	0	. 2	4	0	**. 6**	17	61	22	0	0	**8.**	9	**188**
4:. 0PM	0	1	0	0	**1**	22	14	0	87	0	**101**	0	0	. 4	6	0	**40**	10	74	22	0	0	**96**	1b	**2. 8**
4:4bPM	0	0	0	0	**0**	12	1.	0	8b	0	**98**	2	0	. 1	12	0	**4.**	22	61	. 4	0	0	**9b**	11	**2. 6**
5 ourly Total	0	1	0	0	**1**	6b	41	0	. 04	0	**. 4b**	4	0	1. b	28	0	**16.**	70	26.	98	0	0	**. 61**	46	**870**
b:00PM	0	0	0	0	**0**	.	1.	0	74	0	**87**	2	0	42	b	0	**47**	10	b7	18	1	0	**76**	6	**210**
b:1bPM	0	0	0	0	**0**	17	6	1	80	0	**87**	b	0	. 4	1	0	**. b**	12	66	22	0	0	**88**	b	**210**
b:. 0PM	0	1	0	0	**1**	29	16	0	71	0	**87**	2	0	. 2	10	0	**42**	21	74	. 4	0	0	**108**	24	**2. 8**
b:4bPM	0	0	0	0	**0**	1b	16	0	82	0	**98**	4	0	. 6	9	0	**4b**	18	74	19	0	0	**9.**	1.	**2. 6**
5 ourly Total	0	1	0	0	**1**	64	b1	1	. 07	0	**. b9**	1.	0	144	2b	0	**169**	61	271	9.	1	0	**. 6b**	48	**894**
Total	0	.	0	0	.	1. 9	126	2	891	0	**1019**	20	0	481	149	0	**6. 0**	1b7	881	. 10	2	0	**119.**	121	**284b**
% ANNoach	0%	100%	0%	0%	**-**	-	12.8%	0.2%	87.8%	0%	**-**	-	0%	76 3 %	2. 3%	0%	**-**	-	7. 8%	26.0%	0.2%	0%	**-**	-	-
% Total	0%	0.1%	0%	0%	**0.1%**	-	4.8%	0.1%	. 1 3 %	0%	**. b.8%**	-	0%	16.9%	b2%	0%	**22.1%**	-	. 1.0%	10.9%	0.1%	0%	**41.9%**	-	-
Lights	0	0	0	0	**0**	-	12.	0	879	0	**1002**	-	0	478	148	0	**626**	-	872	299	0	0	**1171**	-	2799
% Lights	0%	0%	0%	0%	**0%**	-	97.6%	0%	98.3%	0%	**98.3 %**	-	0%	99.4%	99.3 %	0%	**99.4%**	-	99.0%	96.b%	0%	0%	**98.2%**	-	98.4%
Single-Unit Trucks	0	0	0	0	**0**	-	1	0	6	0	**7**	-	0	0	0	0	**0**	-	.	b	0	0	**8**	-	1b
% Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0.8%	0%	0.7%	0%	**0.7%**	-	0%	0%	0%	0%	**0%**	-	0.3 %	1.6%	0%	0%	**0.7%**	-	0.6%
Articulated Trucks	0	0	0	0	**0**	-	2	0	2	0	**4**	-	0	1	0	0	**1**	-	.	0	0	0	**.**	-	8
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	1.6%	0%	0.2%	0%	**0.8%**	-	0%	0.2%	0%	0%	**0.2%**	-	0.3 %	0%	0%	0%	**0.3 %**	-	0.3 %
Buses	0	0	0	0	**0**	-	0	0	2	0	**2**	-	0	0	0	0	**0**	-	.	1	0	0	**4**	-	6
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	0.2%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0.3 %	0.3 %	0%	0%	**0.3 %**	-	0.2%
Bicycles on Road	0	.	0	0	.	-	0	2	2	0	**4**	-	0	2	1	0	.	-	0	b	2	0	**7**	-	17
% Bicycles on Road	0%	100%	0%	0%	**100%**	-	0%	100%	0.2%	0%	**0.8%**	-	0%	0.8%	0.7%	0%	**0.b%**	-	0%	1.6%	100%	0%	**0.6%**	-	0.6%
Pedestrians	-	-	-	-	-	1. 9	-	-	-	-	-	18	-	-	-	-	-	1b4	-	-	-	-	-	118	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	90.0%	-	-	-	-	-	98.1%	-	-	-	-	-	97.b%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	100.0%	-	-	-	-	-	1.9%	-	-	-	-	-	2.b%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Main & Northville - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 4, Location: 423l. 1204, -8. 3l8100b

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cjy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Main & Northville - TMC
Tue Oct 19, 2021
F1 Lengl h(F1 79 F1 A
F Wl M44e4 lP9 C14, a 6s) e7 1 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSins 4, r 6ckcM44 ds BdnU, r 6ckcM44 ds - Sl44y nMgA
F Wl doeRest4
wm((19D , Pdcnt6lsm 28 D120: , 7(D8 (100.

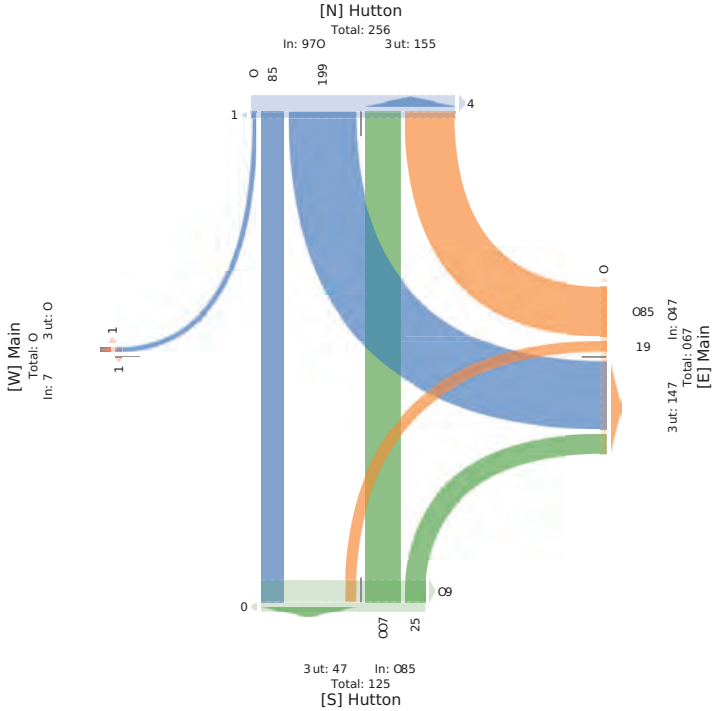
GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeU3kmb ey nMGnR6ds F44dc6nte4 wc8
I2. HdSe4t 5 U) e v Sne, E eSsds G6Nl(vP, 100l 1, i a

Pe) v 6ect6ls	1 n6s 5 n43dus U						1 n6s V e43dus U						Guttds p dSC3dus U						Guttds adut C3dus U						
T6Re	P	T	B	i	F W W	LeUN	P	T	B	i	F W W	LeUN	P	T	B	i	F W W	LeUN	P	T	B	i	F W W	LeUN	wt
2021710719 (n0F1	0	0	0	0	**0**	1	*	0	: :	0	**. 1**	0	0	22	12	0	**D.**	D	. .	2D	0	0	***(**	1	**11D**
(n. F1	0	0	0	0	**0**	1	.	0	2:	0	**29**	1	0	29	2D	0	**. 2**	.	I 1	11	0	0	***2**	D	**1. D**
(n0F1	0	0	0	0	**0**	2	.	0	: D	0	**:(**	0	0	2(	1.	0	**: D**	1	. :	1I	1	0	***1**	.	**11 2**
(m. F1	0	0	0	0	**0**	0	I	0	. 1	0	**12**	0	0	D(	*	0	**D(**	D	1 D	1*	0	0	**(0**	2	**1(0**
TdmM	0	0	0	0	**0**	.	2D	0	11 *	0	**190**	1	0	110	. *	0	**11 ***	1*	2DD	1 *	1	0	**DD1**	11	**1. (**
% F W6lncC	0%	0%	0%	0%	**7**	7	12 8 %	0%	(*8%	0%	**7**	7	0%	1. 8%	D. 8 %	0%	**7**	7	**8 %	22 8 %	0 8 %	0%	**7**	7	7
% TdmM	0%	0%	0%	0%	**0%**	7	D8 %	0%	2. 8 %	0%	**2(8%**	7	0%	11 8 %	(8%	0%	**2. 8 %**	7	D 8 %	10 8 2 %	0 8 2 %	0%	**: . 8%**	7	7
LGH	7	7	7	7	**7**	7	08 21	7	08* : I	7	**08* 11**	7	7	08 (*	08 20	7	**08 0D**	7	08 2.	08* 2(	7	7	**08D(**	7	08 1D
P6 C14	0	0	0	0	**0**	7	2D	0	11D	0	**1(I**	7	0	110	. *	0	**11 ***	7	22(	I 2	0	0	**290**	7	I : D
% P6 C14	0%	0%	0%	0%	**7**	7	100%	0%	9*8 %	0%	**9*8%**	7	0%	100%	100%	0%	**100%**	7	9*8%	928 %	0%	0%	**918%**	7	9*8%
a6) M1 s6 TSucg4	0	0	0	0	**0**	7	0	0	2	0	**2**	7	0	0	0	0	**0**	7	0	:	0	0	**:**	7	I
% a6) M1 s6 TSucg4	0%	0%	0%	0%	**7**	7	0%	0%	18.2%	0%	**18.1%**	7	0%	0%	0%	0%	**0%**	7	0%	18.0%	0%	0%	**18.2%**	7	08.9%
F SfcuMteUTSucg4	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	2	0	0	0	**2**	7	2
% F SfcuMteUTSucg4	0%	0%	0%	0%	**7**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	08.9%	0%	0%	0%	**08*%**	7	08.6%
r u4e4	0	0	0	0	**0**	7	0	0	2	0	**2**	7	0	0	0	0	**0**	7	D	1	0	0	**:**	7	I
% r u4e4	0%	0%	0%	0%	**7**	7	0%	0%	18.2%	0%	**18.1%**	7	0%	0%	0%	0%	**0%**	7	18.3%	18 %	0%	0%	**18.2%**	7	08.9%
r 6ckcM44 ds BdnU	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	1	0	**1**	7	1
% r 6ckcM44 ds BdnU	0%	0%	0%	0%	**7**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	100%	0%	**08.2%**	7	08.2%
LeUe4tSins 4	7	7	7	7	7	.	7	7	7	7	7	1	7	7	7	7	7	1*	7	7	7	7	7	10	
% LeUe4tSins 4	7	7	7	7	7	100%	7	7	7	7	7	100%	7	7	7	7	7	100%	7	7	7	7	7	90.9%	7
r 6ckcM44 ds - Sl44y nMgJ	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	1	
% r 6ckcM44 ds - Sl44y nMgJ	7	7	7	7	7	0%	7	7	7	7	7	0%	7	7	7	7	7	0%	7	7	7	7	7	98%	7

N LeUe4tSins 4 ns Ur 6ckcM44 ds - Sl44y nMg8PmPeft, BmB6)Cl, TmlTCSu, i mi 7TuSs

Main & Northville - TMC
Tue Oct 19, 2021
PM aek(4 PM 59 P M-
P)) v)krrer 4 l6lAr, CHo)e5Ls l6Tiuc(r, P itl4u)kteg Tiuc(r, h urer,
aegertilksr, h ldSc)er ns Unkg, h ldSc)er ns v inrrd k)(-
P)) MnBey estr
Rwm : 19D8, 1 nckt4lsm 8268D1208, 5: D8: 100.

GEWALT HAMILTON ASSOCIATES, INC.
ainEBdeg 3Smb ed k)t Gky Bins P rrnc4kter Rc6
I2. Fniert Egoe wiBEe, Veis ns GH)r, R , 100l 1, LC



Main & Northville - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM(70 Fl - AO4eHf66FeLn) CuP
a 66s 6Lii ei gS(t/kti, d(B(r6eAy B(t/THcni, a Rt/dwf1eo THcni, Ruiei,
FeoeitPUB3i, Rt/dwc6ei CB3v CLo, Rt/dwc6ei CB3s RCiimLf6n-
a 6fil C4eI eBti
D (88. 97h, SCcL1(0CB(h23h7120h, A873h8100M

GEWALT HAMILTON ASSOCIATES, INC.
FBG4(deo bw(GemLf6) LI t(dCBa ii CcUIei D3c3
. 2MHCBeit 5ore : Pd4e, EeHBCB) t66i, D$, . 00. 1, y d

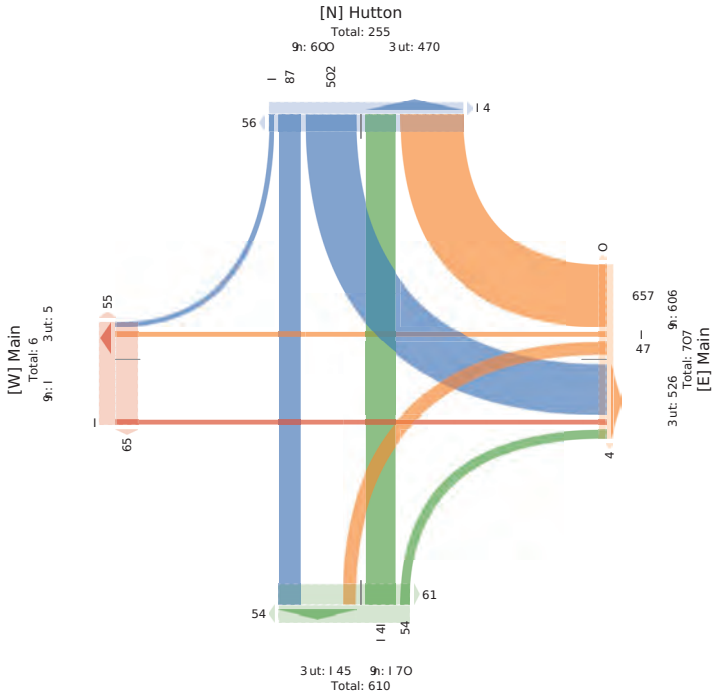
Ser : UBecti(CB	I LUB 5Li tibCuBo					I LUB V eitbCuBo					) uttCB p CBtibCuBo					) uttCB dCutkbCuBo					
TUi e	S	T	v	y	a V6V FeoN	S	T	v	y	a V6V FeoN	S	T	v	y	a V6V FeoN	S	T	v	y	a V6V FeoN	Dt
2021A0A9 h(70Fl	0	1	0	0	**1** 22	1h	0	8*	0	**101** 0	0	7h	.	0	**h0** 10	*h	22	0	0	**9.** 1M	**278**
h(hMFl	0	0	0	0	**0** 12	17	0	8M	0	**98** 2	0	71	12	0	**h7** 22	. 1	7h	0	0	**9M** 11	**27.**
M(00Fl	0	0	0	0	**0** 7	17	0	*h	0	**8*** 2	0	h2	M	0	**h*** 10	M*	18	1	0	***.**	**210**
M(1MFl	0	0	0	0	**0** 1*	.	1	80	0	**8*** M	0	7h	1	0	**7M** 12	. .	22	0	0	**88** M	**210**
TC(16	0	1	0	0	**1** Mi	h.	1	72.	0	**7*7** 9	0	1h1	2h	0	**1. M** Mi	2M	9.	1	0	**7M** 7*	**89h**
% a V6VCLck	0%	100%	0%	0%	**A** A	123%	03%	8*3%	0%	**A** A	0%	8M%	1h3M%	0%	**A** A	03%	2*0%	03%	0%	**A** A	A
% TC(16	0%	03%	0%	0%	**03%** A	Mi%	03%	7. 3M%	0%	**h13%** A	0%	1M8%	23%	0%	**183M%** A	283%	103%	03%	0%	**793%** A	A
F) H	A	A	A	A	**A** A	0821	A	0397h	A	**0918** A	A	038M1	0340	A	**0891** A	038*2	0390M	A	A	**0911h** A	0397M
S(dkti	0	0	0	0	**0** A	hh	0	72M	0	**7. 9** A	0	1h0	2h	0	**1. h** A	2M	97	0	0	**7h9** A	882
% S(dkti	0%	0%	0%	0%	**0%** A	9M3*%	0%	993%	0%	**983%** A	0%	993%	100%	0%	**993%** A	993%	9. 3%	0%	0%	**983%** A	983*%
dB(r6eAy B(t/THcni	0	0	0	0	**0** A	0	0	0	0	**0** A	0	0	0	0	**0** A	2	0	0	0	**2** A	2
% dB(r6eAy B(t/THcni	0%	0%	0%	0%	**0%** A	0%	0%	0%	0%	**0%** A	0%	0%	0%	0%	**0%** A	038%	0%	0%	0%	**03%** A	032%
a Rt/dwf1eo THcni	0	0	0	0	**0** A	2	0	0	0	**2** A	0	0	0	0	**0** A	0	0	0	0	**0** A	2
% a Rt/dwf1eo THcni	0%	0%	0%	0%	**0%** A	h3*%	0%	0%	0%	**03M%** A	0%	0%	0%	0%	**0%** A	0%	0%	0%	0%	**0%** A	032%
Rui ei	0	0	0	0	**0** A	0	0	0	0	**0** A	0	0	0	0	**0** A	0	0	0	0	**0** A	0
% Rui ei	0%	0%	0%	0%	**0%** A	0%	0%	0%	0%	**0%** A	0%	0%	0%	0%	**0%** A	0%	0%	0%	0%	**0%** A	0%
Rt/dwc6ei CB3v CLo	0	1	0	0	**1** A	0	1	1	0	**2** A	0	1	0	0	**1** A	0	7	1	0	**h** A	8
% Rt/dwc6ei CB3v CLo	0%	100%	0%	0%	**100%** A	0%	100%	03%	0%	**03M%** A	0%	03*%	0%	0%	**03%** A	0%	73%	100%	0%	**13%** A	039%
FeoeitPUB3i	A	A	A	A	A Mi	A	A	A	A	A 9	A	A	A	A	A Mi	A	A	A	A	A 7.	
% FeoeitPUB3i	A	A	A	A	A100%	A	A	A	A	A100%	A	A	A	A	A100%	A	A	A	A	A9*3%	A
Rt/dwc6ei CB3s RCiimLf6n	A	A	A	A	A 0	A	A	A	A	A 0	A	A	A	A	A 0	A	A	A	A	A . 1	
% Rt/dwc6ei CB3s RCiimLf6n	A	A	A	A	A 0%	A	A	A	A	A 0%	A	A	A	A	A 0%	A	A	A	A	A 239%	A

[N]FeoeitPUB3i LB3o Rt/dwc6ei CB3s RCiimLf6n3S(Seft, v (v t/kt, T(TkRu, y (y ATuPB

Main & Northville - TMC

Tue Oct 19, 2021
PM Peak (4:50 PM -) :50 PMv - Or elaHPeak o Aul
CHHs laLLeL (i ghStL, ngLhld-d Ug TluckL, CLtgculaiteB TluckL, y uLeL,
PeBeLtlguL, y g:RcleLA Uswaa3, y g:RcleLA Us lALLmalkiv
CHHMAr el eLiL
D8 : 66. 954, i AcatgAL: 4234151204, -6534(6100)

GEWALT HAMILTON ASSOCIATES, INC.
PlArgBeBbR Gemalio al gtdAUCLLAcgteL D3c3
. 2) FAleLt EBhe 8 lg re, VelUAUo gHH, D , . 00. 1, d n



Main & Griswold - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. . , Location: 423i. 1. . 2, -8. 3i78768

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

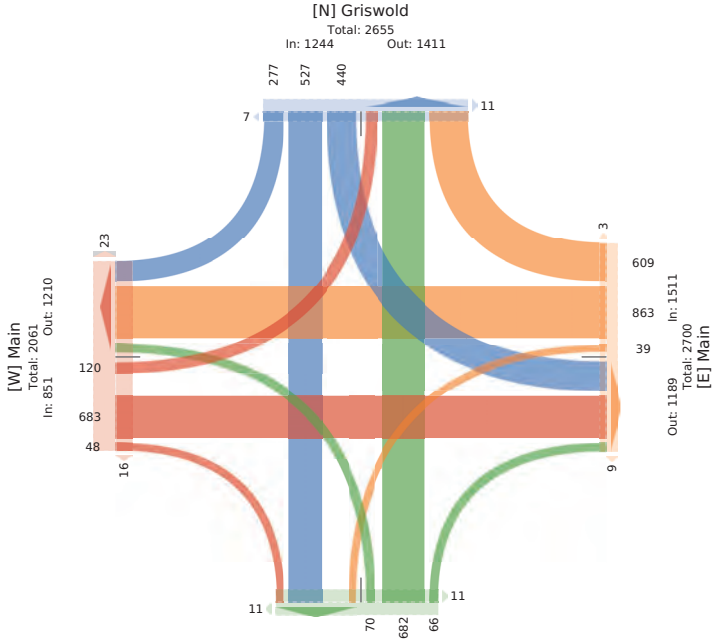
Leg Direction	Main Eastbound						Main p estbound						Griswold Worthbound						Griswold Southbound						
Time	L	T	R	U	**ANN**	Ped*	L	T	R	U	**ANN**	Ped*	L	T	R	U	**ANN**	Ped*	L	T	R	U	**ANN**	Ped*	**Int**
2021-10-19 7:00AM	1	11	1	0	**1.**	1	1	21	15	0	**.7**	0	1	2.	4	0	**28**	0	16	11	11	0	**.8**	0	**116**
7:15AM	1	19	0	0	**20**	1	0	. 1	16	0	**47**	0	2	20	.	0	**25**	0	8	18	9	0	**.5**	0	**127**
7:. 0AM	5	27	0	0	**.2**	0	.	28	19	0	**50**	0	4	20	1	0	**25**	1	14	18	5	0	**.7**	2	**144**
7:45AM	1	. 1	2	0	**.4**	0	0	4.	22	0	**65**	0	4	.2	4	0	**40**	0	24	18	19	0	**61**	1	**200**
Hourly Total	8	88	.	0	**99**	2	4	12.	72	0	**199**	0	11	95	12	0	**118**	1	62	65	44	0	**171**	.	**587**
8:00AM	4	.7	2	0	**4.**	1	1	52	22	0	**75**	0	2	44	0	0	**46**	0	16	. 1	18	0	**65**	0	**229**
8:15AM	7	48	1	0	**56**	0	2	. 4	29	0	**65**	0	.	40	4	0	**47**	4	15	20	14	0	**49**	2	**217**
8:. 0AM	9	44	.	0	**56**	4	.	46	22	0	**71**	2	5	5.	5	0	**6.**	2	20	28	12	0	**60**	1	**250**
8:45AM	5	4.	.	0	**51**	1	.	60	4.	0	**106**	2	6	. 1	5	0	**42**	2	14	40	20	0	**74**	0	**27.**
Hourly Total	25	172	9	0	**206**	6	9	192	116	0	**. 17**	4	16	168	14	0	**198**	8	65	119	64	0	**248**	.	**969**
4:00PM	11	46	7	0	**64**	4	4	55	41	0	**100**	1	12	45	10	0	**67**	2	. 8	. 5	21	0	**94**	0	**. 25**
4:15PM	11	52	4	0	**67**	0	4	54	. 6	0	**94**	1	6	4.	5	0	**54**	1	. 1	. 5	25	0	**91**	0	**. 06**
4:. 0PM	9	56	7	0	**72**	6	2	8.	49	0	**1. 4**	0	4	54	5	0	**6.**	2	41	40	18	0	**99**	1	**. 68**
4:45PM	8	54	1	0	**6.**	4	6	78	5.	0	**1. 7**	1	6	49	.	0	**58**	0	. 9	42	20	0	**101**	1	**. 59**
Hourly Total	. 9	208	19	0	**266**	14	16	270	179	0	**465**	.	28	191	2.	0	**242**	5	149	152	84	0	**. 85**	2	**1. 58**
5:00PM	12	47	4	0	**6.**	8	.	67	61	0	**1. 1**	1	2	68	4	0	**74**	1	46	. 8	25	0	**109**	.	**. 77**
5:15PM	7	55	.	0	**65**	.	5	69	62	0	**1. 6**	0	6	5.	7	0	**66**	4	46	5.	1.	0	**112**	0	**. 79**
5:. 0PM	15	55	5	0	**75**	.	0	71	51	0	**122**	2	.	51	.	0	**57**	2	. 6	59	22	0	**117**	.	**. 71**
5:45PM	14	58	5	0	**77**	.	2	71	68	0	**141**	2	4	56	.	0	**6.**	1	. 6	41	25	0	**102**	4	**. 8.**
Hourly Total	48	215	17	0	**280**	17	10	278	242	0	**5. 0**	5	15	228	17	0	**260**	8	164	191	85	0	**440**	10	**1510**
Total	120	68.	48	0	**851**	. 9	. 9	86.	609	0	**1511**	12	70	682	66	0	**818**	22	440	527	277	0	**1244**	18	**4424**
% ANNoach	143%	803%	536%	0%	**-**	-	236%	573%	403%	0%	**-**	-	836%	8. 34%	834%	0%	**-**	-	. 534%	423%	223%	0%	**-**	-	-
% Total	23%	153%	13%	0%	**192%**	-	03*%	193%	1. 38%	0%	**. 432%**	-	136%	153%	15%	0%	**185%**	-	93*%	113%	63%	0%	**283%**	-	-
Lights	119	672	47	0	**8. 8**	0	. 8	854	590	0	**1482**	-	70	675	66	0	**811**	-	4. 0	520	272	0	**1222**	-	4. 5.
% Lights	993%	983%	973%	0%	**985%**	-	973%	993%	963%	0%	**983%**	-	100%	993%	100%	0%	**993%**	-	973%	983%	983%	0%	**983%**	-	983%
Single-Unit Trucks	0	.	0	0	**.**	-	1	4	9	0	**14**	-	0	.	0	0	**.**	-	4	4	5	0	**1.**	-	. .
% Single-Unit Trucks	0%	03*%	0%	0%	**03%**	-	236%	03*%	13*%	0%	**039%**	-	0%	03*%	0%	0%	**038%**	-	039%	038%	13*%	0%	**139%**	-	03*%
Articulated Trucks	0	2	0	0	**2**	-	0	2	.	0	**5**	-	0	0	0	0	**0**	-	1	0	0	0	**1**	-	8
% Articulated Trucks	0%	03 %	0%	0%	**032%**	-	0%	032%	03*%	0%	**03 %**	-	0%	0%	0%	0%	**0%**	-	032%	0%	0%	0%	**031%**	-	032%
Buses	0	.	0	0	**.**	-	0	1	7	0	**8**	-	0	1	0	0	**1**	-	5	1	0	0	**6**	-	18
% Buses	0%	03*%	0%	0%	**03*%**	-	0%	03*%	13*%	0%	**035%**	-	0%	03*%	0%	0%	**03*%**	-	13*%	032%	0%	0%	**035%**	-	03*%
Bicycles on Road	1	.	1	0	**5**	-	0	2	0	0	**2**	-	0	.	0	0	**.**	-	0	2	0	0	**2**	-	12
% Bicycles on Road	038%	03*%	23%	0%	**03*%**	-	0%	032%	0%	0%	**03*%**	-	0%	03*%	0%	0%	**03*%**	-	0%	03*%	0%	0%	**032%**	-	03 %
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	9	-	-	-	-	-	19	-	-	-	-	-	15	
% Pedestrians	-	-	-	-	- 893%		-	-	-	-	- 75.0%		-	-	-	-	- 863%		-	-	-	-	- 8. 3 %		-
Bicycles on Crosswalk	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
% Bicycles on Crosswalk	-	-	-	-	- 103 %		-	-	-	-	- 25.0%		-	-	-	-	- 1. 3%		-	-	-	-	- 163%		

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Main & Griswold - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. . , Location: 423i. 1. . 2, -8. 3i78768

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



GHA GEWALT HAMILTON ASSOCIATES, INC.

Pe) v ðrectðls	l nñs Ens4t3dus U					l nñs p e4t3dus U					b Sðly dNñ Wdl5t3dus U					b Sðly dNñ adutt3dus U					
Tðte	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	wt
2021710719 (nl0F l	:	D	2	0	: D	1	1	H2	22	0	. H	0	2	: :	0	0	: I	0	1l	Dl	1(	0	1 H	0	229
(nlHF l	.	: (	1	0	Hl	0	2	D	29	0	1 H	0	D	: 0	:	0	:.	:	1H	20	1:	0	: 9	2	21.
(nl0F l	9	: :	D	0	Hl	:	D	: I	22	0	. 1	2	H	HD	H	0	1 D	2	20	2(	12	0	1 0	1	2H0
(mHF l	H	: D	D	0	Hl	1	D	I 0	: D	0	10I	2	I	Dl	H	0	: 2	2	1:	: 0	20	0	.:	0	2. D
TdnM	2H	1. 2	9	0	20I	1	9	192	11I	0	Dl.	:	11	11(	1:	0	19(	(	1 H	119	1:	0	2: (	D	9I 9
% F NNSincC	128 %	(D H %	: 8 %	0%	7	7	28[%	1 0ß %	D I ß %	0%	7	7	(ß %	: ß %	. ß %	0%	7	7	2I ß2%	: (ß0%	2H(%	0%	7	7	7
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% a6) M7 s6 TSucg4	0%	08 %	0%	0%	08 H %	7	0%	18 0%	: ß0%	0%	28 2%	7	0%	18 2%	0%	0%	18 0%	7	D8 %	08 %	0%	0%	18 2%	7	18 3%
F S6cuMteUTSucg4	0	2	0	0	2	7	0	0	D	0	D	7	0	0	0	0	0	7	0	0	0	0	0	7	H
% F S6cuMteUTSucg4	0%	18 2%	0%	0%	18 0%	7	0%	0%	28 %	0%	08 9%	7	0%	0%	0%	0%	0%	7	0%	0%	0%	0%	0%	7	08 8%
r u4e4	0	D	0	0	D	7	0	1	D	0	:	7	0	1	0	0	1	7	D	0	0	0	D	7	11
% r u4e4	0%	18 %	0%	0%	18 H %	7	0%	08 H %	28 %	0%	18 3%	7	0%	08 I %	0%	0%	08 H %	7	: 8 %	0%	0%	0%	18 2%	7	18 I %
r 6ckcM4 ds BdnU	0	0	0	0	0	7	0	0	0	0	0	7	0	0	0	0	0	7	0	0	0	0	0	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	0%	0%	7	0%	0%	0%	0%	0%	7	0%	0%	0%	0%	0%	7	0%	0%	0%	0%	0%	7	0%
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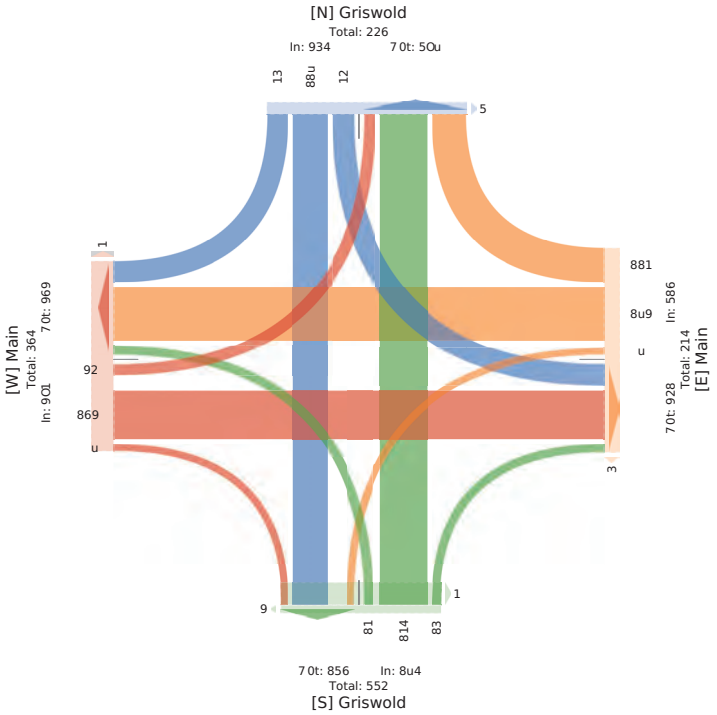
% r 6ckcM4 ds - Sl44y nMg	7	7	7	7	7	0%	7	7	7	7	0%		7	7	7	7	0%		7	7	7	7	0%		7

*LeUe4t5Sns 4 ns Ur 6ckcM4 ds - Sl44y nMg8PmPeft, BmB6) Cl, TmTC5u, i m 7TuSs

GHA GEWALT HAMILTON ASSOCIATES, INC.



GHA GEWALT HAMILTON ASSOCIATES, INC.

s eS l i-ecti6k	l Tik ELaCGukB					l Tik p eatGukB					H-iaw64ß W6-tUGukB					H-iaw64ß r 6utUGukB					
Tiv e	s	T	R	d	) NN	FeIP	s	T	R	d	) NN	FeIP	s	T	R	d	) NN	FeIP	s	T	R	d	) NN	FeIP	akt
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hDhF l	b	hh	8	0	7h	8	h	79	72	0	187	0	7	h8	b	0	77	.	. 7	h8	18	0	112	0	8b9
hl0F l	1h	hh	h	0	hh	8	0	b1	h1	0	122	2	8	h1	8	0	hb	2	87	h9	22	0	11b	8	8b1
hDhF l	1.	h:	h	0	bb	8	2	b1	7:	0	1. 1	2	.	h7	8	0	78	1	87	. 1	2h	0	102		8: 8
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% T6tL4	832%	1. 32%	13 %	0%	1: 3 %	(	03 %	1: 3 %	17 0%	0%	8h3 %	(	13 0%	1h3 %	13 %	0%	1b2 %	(	10 39 %	123 %	h3 %	0%	293 %	(	(
FP 5	03 00	032b	03 00	(	03 1:	(	03 00	03 0h2	03 90	(	03 87	(	032b	03 8h	037 0b	(	03 hh	(	03 91	03 19	03 h0	(	03 9. 7	(	03 9: :
s lSUa	. :	21h	17	0	2b9	(	9	2bh	289	0	h28	(	1h	227	1b	0	2h:	(	17.	190	: h	0	. 89	(	1. 99
% s lSUa	100%	100%	9. 3 %	0%	993 %	(	90 30%	9: 3%	9: 3 %	0%	9: 3h %	(	100%	993 %	100%	0%	992 %	(	100%	993 h%	100%	0%	993 %	(	993 8%
r ikSde(d kit T-ucna	0	0	0	0	0	(	1	0	8	0	.	(	0	1	0	0	1	(	0	0	0	0	0	(	h
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) -icu4ueBT-ucna	0	0	0	0	0	(	0	1	0	0	1	(	0	0	0	0	0	(	0	0	0	0	0	(	1
%) -icu4ueBT-ucna	0%	0%	0%	0%	0%	(	0%	03 %	0%	0%	032%	(	0%	0%	0%	0%	0%	(	0%	0%	0%	0%	0%	(	03 1%
y uaea	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0	0	0	0	0	(	0
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y icoc4ea 6k R6LB	0	0	1	0	1	(	0	2	0	0	2	(	0	1	0	0	1	(	0	1	0	0	1	(	h
% y icoc4ea 6k R6LB	0%	0%	h3 %	0%	03 %	(	0%	03 h%	0%	0%	03 %	(	0%	03 %	0%	0%	03 %	(	0%	03 h%	0%	0%	032%	(	03 8%
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y icoc4ea 6k C-6aawL4h	(	(	(	(	(	8	(	(	(	(	(	2	(	(	(	(	(	8	(	(	(	(	(	2	
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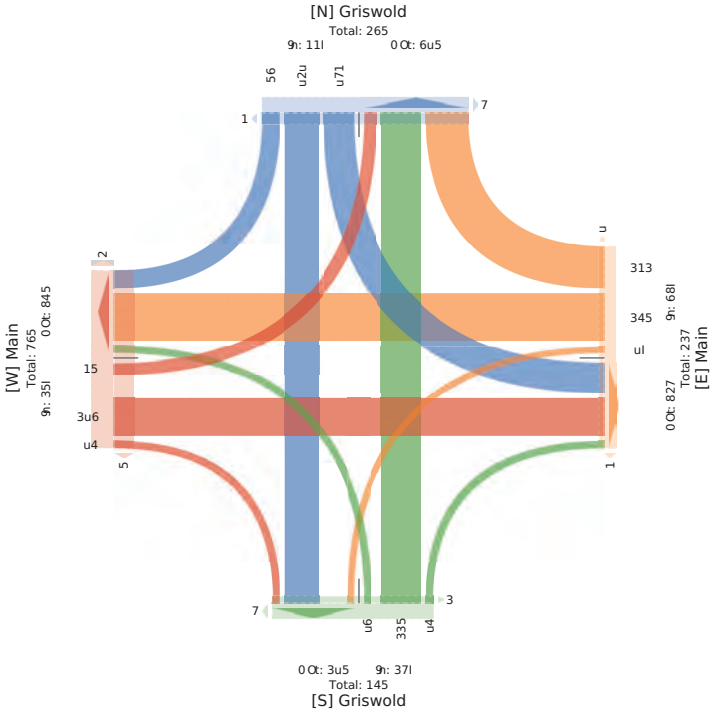
*FeBeat-iLka IkB y icoc4ea 6k C-6aawL4h3s Ds eft, RDRiSUl, TDJTU-u, d Dd (Tu-k

GHA GEWALT HAMILTON ASSOCIATES, INC.



Cady & Main - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 0, Location: 423 4b1b96, -8b3 477276

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cy: Hewalt 5 amilton Associates Inc3
62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US

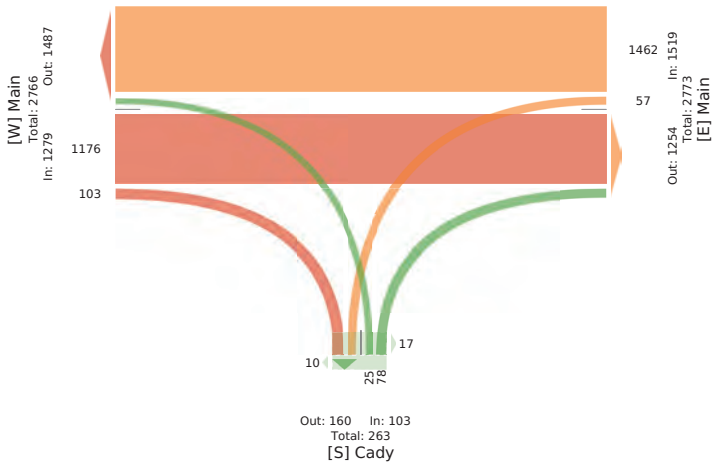
Leg Direction	Main EastGound					Main p estGound					Cady WorthGound					
Time	T	R	U	**ANN**	Ped*	L	T	U	**ANN**	Ped*	L	R	U	**ANN**	Ped*	**Int**
2021-10-19 7:00AM	b2	0	0	**b2**	0	0	b8	0	**b8**	0	0	1	0	**1**	0	**71**
7:1. AM	b0	2	0	**b2**	0	0	4.	0	**4.**	0	1	1	0	**2**	0	**79**
7:b0AM	46	0	0	**46**	0	0	48	0	**48**	0	0	1	0	**1**	0	**9.**
7:4. AM	60	1	0	**61**	0	b	68	0	**71**	0	0	b	0	**b**	1	**1b.**
5 ourly Total	168	b	0	**171**	0	b	199	0	**202**	0	1	6	0	**7**	1	**b80**
8:00AM	. 4	2	0	**. 6**	0	1	71	0	**72**	0	0	b	0	**b**	0	**1b1**
8:1. AM	61	8	0	**69**	0	2	68	0	**70**	0	0	b	0	**b**	4	**142**
8:b0AM	67	8	0	**7.**	0	4	7.	0	**79**	0	b	8	0	**11**	2	**16.**
8:4. AM	62	10	0	**72**	0	6	101	0	**107**	0	2	b	0	**.**	2	**184**
5 ourly Total	244	28	0	**272**	0	1b	b1.	0	**b28**	0	.	17	0	**22**	8	**622**
4:00PM	92	.	0	**97**	0	.	100	0	**10.**	0	0	7	0	**7**	2	**209**
4:1. PM	81	1b	0	**94**	0	7	86	0	**9b**	0	1	7	0	**8**	1	**19.**
4:b0PM	10b	6	0	**109**	0	6	1b4	0	**140**	0	.	10	0	**1.**	b	**264**
4:4. PM	98	7	0	**10.**	0	.	124	0	**129**	0	2	9	0	**11**	0	**24.**
5 ourly Total	b74	b1	0	**40.**	0	2b	444	0	**467**	0	8	bb	0	**41**	6	**91b**
. :00PM	91	1b	0	**104**	0	6	124	0	**1b0**	0	.	.	0	**10**	1	**244**
. :1. PM	10b	16	0	**119**	0	4	129	0	**1bb**	0	2	10	0	**12**	6	**264**
. :b0PM	98	.	0	**10b**	0	4	124	0	**128**	0	2	4	0	**6**	2	**2b7**
. :4. PM	98	7	0	**10.**	0	4	127	0	**1b1**	0	2	b	0	**.**	b	**241**
5 ourly Total	b90	41	0	**4b1**	0	18	. 04	0	**. 22**	0	11	22	0	**bb**	12	**986**
Total	1176	10b	0	**1279**	0	. 7	1462	0	**1. 19**	0	2.	78	0	**10b**	27	**2901**
% ANNroach	91 3%	8 3 %	0%	**-**	-	b 3%	96 2%	0%	**-**	-	24 3%	7. 7%	0%	**-**	-	-
% Total	40 3 %	b 6%	0%	**44 1%**	-	2 0%	. 0 4%	0%	**. 2 4%**	-	0 9%	2 7%	0%	**b 6%**	-	-
Lights	11. 1	10b	0	**12. 4**	-	. 7	14b1	0	**1488**	-	2.	76	0	**101**	-	284b
% Lights	97 9%	100%	0%	**98 0%**	-	100%	97 9%	0%	**98 0%**	-	100%	97 4%	0%	**98 1%**	-	98 0%
Single-Unit Trucks	8	0	0	**8**	-	0	1.	0	**1.**	-	0	2	0	**2**	-	2.
% Single-Unit Trucks	0 7%	0%	0%	**0 6%**	-	0%	1 0%	0%	**1 0%**	-	0%	2 6%	0%	**1 9%**	-	0 9%
Articulated Trucks	6	0	0	**6**	-	0	.	0	**.**	-	0	0	0	**0**	-	11
% Articulated Trucks	0 3 %	0%	0%	**0 3 %**	-	0%	0 3%	0%	**0 3%**	-	0%	0%	0%	**0%**	-	0 4%
Buses	8	0	0	**8**	-	0	9	0	**9**	-	0	0	0	**0**	-	17
% Buses	0 7%	0%	0%	**0 6%**	-	0%	0 6%	0%	**0 6%**	-	0%	0%	0%	**0%**	-	0 6%
Bicycles on Road	b	0	0	**b**	-	0	2	0	**2**	-	0	0	0	**0**	-	.
% Bicycles on Road	0 b%	0%	0%	**0 2%**	-	0%	0 1%	0%	**0 1%**	-	0%	0%	0%	**0%**	-	0 2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	22	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	813 %	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	.	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	183 %	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Cady & Main - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 0, Location: 423 4b1b96, -8b3 477276

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cy: Hewalt 5 amilton Associates Inc3
62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Cady & Main - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Nt M44e4 hP Q C14, a 6) M7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMA
F Nt doeR est4
w m((19D0, Pdcnt6lsm 28 . 1. 9I , 7(. 8 3323I

GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeUbkmGey nMHnR 6Nds F 44dc6nte4 wsc8
I 2D5dSe4t EU) e v Sne, VeSs ds H6NM vP, I 00I 1, i a

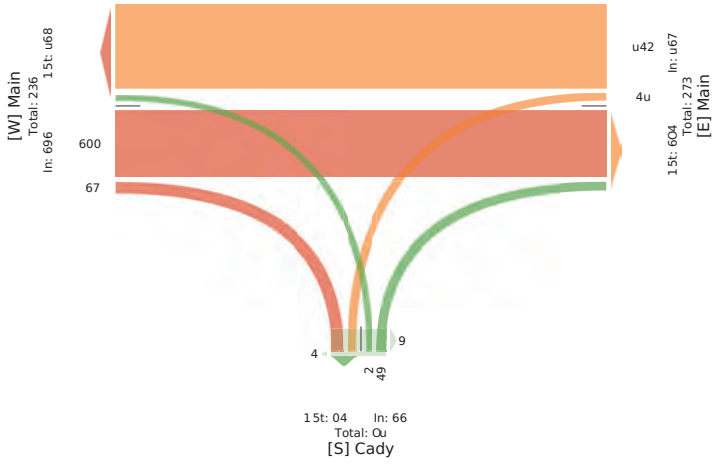
Pe) v 6ect6ls	l n6s En4bdus U					l n6s p e4bdus U					- nUk WelSCbdus U					
T6Re	T	B	i	**FNN**	LeU*	P	T	i	**FNN**	LeU*	P	B	i	**FNN**	LeU*	**wt**
2021710719 (m00F1	D	2	0	**DI**	0	1	31	0	**32**	0	0	.	0	**.**	0	**1. 1**
(m0DF1	I 1	(	0	**19**	0	2	I (	0	**30**	0	0	.	0	**.**	:	**1: 2**
(m0F1	I 3	(	0	**3D**	0	:	3D	0	**39**	0	.	(	0	**11**	2	**11D**
(mDF1	I 2	10	0	**32**	0	I	101	0	**103**	0	2	.	0	**D**	2	**1(:**
TdmM	2: :	2(	0	**232**	0	1.	. 1D	0	**. 2(**	0	D	13	0	**22**	(	**I 22**
% F NNsincC	(98%	108 %	0%	**7**	7	: 8%	91 8%	0%	**7**	7	228%	338 %	0%	**7**	7	7
% TdmM	. 982%	: 8%	0%	**:. 8%**	7	28 %	D8 I %	0%	**D28%**	7	08 %	28%	0%	**. 8%**	7	7
LH5	0810	0800	7	**0803**	7	08D 2	08(0	7	**08I I**	7	08 13	08D 1	7	**08D0**	7	08(: D
P Q C14	2. .	2(	0	**2I 1**	7	1.	. 00	0	**. 1.**	7	D	13	0	**22**	7	D9I
% P Q C14	9DI 3%	100%	0%	**9I 8%**	7	100%	9D 2%	0%	**9D 8 %**	7	100%	100%	0%	**100%**	7	9D 8 %
a 6) M7 s 6 TSucg4	.	0	0	**.**	7	0	3	0	**3**	7	0	0	0	**0**	7	10
% a 6) M7 s 6 TSucg4	18%	0%	0%	**18%**	7	0%	28%	0%	**28%**	7	0%	0%	0%	**0%**	7	18 %
F St6cuMteUTSucg4	2	0	0	**2**	7	0	.	0	**.**	7	0	0	0	**0**	7	D
% F St6cuMteUTSucg4	08 %	0%	0%	**08%**	7	0%	18 0%	0%	**08 0%**	7	0%	0%	0%	**0%**	7	08 %
r u4e4	I	0	0	**I**	7	0	D	0	**D**	7	0	0	0	**0**	7	11
% r u4e4	28 3%	0%	0%	**28 2%**	7	0%	18 %	0%	**18 3%**	7	0%	0%	0%	**0%**	7	18 %
r 6ckcM4 ds BdnU	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
LeUe4tSns 4	7	7	7	7	0	7	7	7	7	0	7	7	7	7	(	
% LeUe4tSns 4	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%	7
r 6ckcM4 ds - Sl44y nMg	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6ckcM4 ds - Sl44y nMg	7	7	7	7	7	7	7	7	7	7	7	7	7	7	0%	7

*LeUe4tSns 4 ns Ur 6ckcM4 ds - Sl44y nMg8PmPeft, BmB6) Cl, TmlTCSu, i mi 7TuSs

Cady & Main - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Nt M44e4 hP Q C14, a 6) M7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMA
F Nt doeR est4
w m((19D0, Pdcnt6lsm 28 . 1. 9I , 7(. 8 3323I

GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeUbkmGey nMHnR 6Nds F 44dc6nte4 wsc8
I 2D5dSe4t EU) e v Sne, VeSs ds H6NM vP, I 00I 1, i a



Cady & Main - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM70 Fl - AO4eEL66FeLn) CuP
a 6ss GLiiei gSUkti, dUBr6eAy BtU TRucni, a RUduGLieo TRucni, Ruiei,
FeoeitPULEi, RUdwc6ei CBvCLo, RUdwc6ei CBs PGimLfin-
a 6Gl C4eI eBti
D (88. 9M0, SCcLrUCB(h23h7179. , A873hbb2b.

GEWALT HAMILTON ASSOCIATES, INC.
FIC4Udeo Gv(HemLfi) LI UdCBa iiCcULrei DBc3
. 2M5CReit Eore : Pude, VeBBCB) U6i, DS, . 00. 1, y d

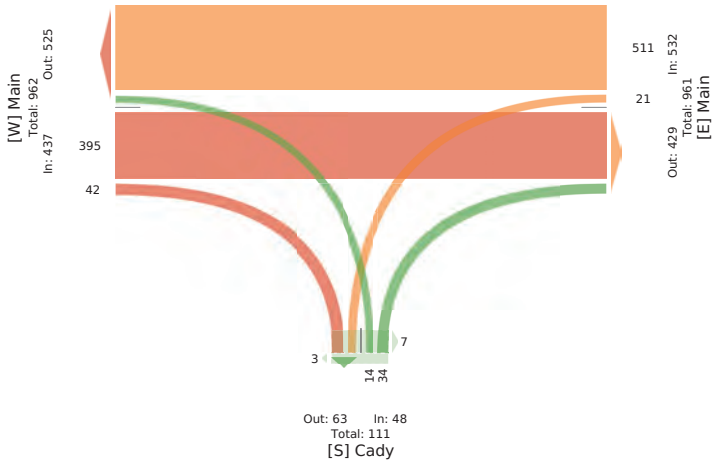
Ser : UBectUCB	l LIB ELitGCuBo				l LIB p eitGCuBo				s Low WCRkGCuBo				
TUe	T	v	y	a NN	Feo*	S	T	y	a NN	Feo*	S	v	y	a NN	Feo*
2021A10A19 h(70Fl	107	.	0	**109**	0	.	17h	0	**1h0**	0	M	10	0	**1M**	7
h(hMFl	98	b	0	**10M**	0	M	12h	0	**129**	0	2	9	0	**11**	0
M00Fl	91	17	0	**10h**	0	.	12h	0	**170**	0	M	M	0	**10**	1
M1MFl	107	1.	0	**119**	0	h	129	0	**177**	0	2	10	0	**12**	.
TCL6	79M	h2	0	**h7b**	0	21	M1	0	**M72**	0	1h	7h	0	**h8**	10
% a NNCLck	90Sh%	93 %	0%	**A**	A	73I9%	9. 3.%	0%	**A**	A	292I%	b03I%	0%	**A**	A
% TCL6	783I%	h3I%	0%	**h73I%**	A	23I%	M62I%	0%	**M37%**	A	13h%	73I%	0%	**h3h%**	A
F) 5	03IM	03 M	A	**03I1.**	A	03IbM	03IM0	A	**03Ih.**	A	03h00	03IM0	A	**03I00**	A
Sukti	789	h2	0	**h71**	A	21	M0b	0	**M28**	A	1h	7h	0	**h8**	A
% Sukti	983M%	100%	0%	**983 %**	A	100%	993I%	0%	**993I%**	A	100%	100%	0%	**100%**	A
dUBr6eAy BtU TRucni	2	0	0	**2**	A	0	1	0	**1**	A	0	0	0	**0**	A
% dUBr6eAy BtU TRucni	03M%	0%	0%	**03M%**	A	0%	03I%	0%	**03I%**	A	0%	0%	0%	**0%**	A
a RUduGLieo TRucni	7	0	0	**7**	A	0	1	0	**1**	A	0	0	0	**0**	A
% a RUduGLieo TRucni	03I%	0%	0%	**03h%**	A	0%	03I%	0%	**03I%**	A	0%	0%	0%	**0%**	A
Ruiei	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A
% Ruiei	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A
RUdwc6ei CBvCLo	1	0	0	**1**	A	0	2	0	**2**	A	0	0	0	**0**	A
% RUdwc6ei CBvCLo	03I%	0%	0%	**03I%**	A	0%	03h%	0%	**03h%**	A	0%	0%	0%	**0%**	A
FeoeitPULEi	A	A	A	A	0	A	A	A	A	0	A	A	A	A	8
% FeoeitPULEi	A	A	A	A	A	A	A	A	A	A	A	A	A	A	803I%
RUdwc6ei CBs PGimLfin	A	A	A	A	0	A	A	A	A	0	A	A	A	A	2
% RUdwc6ei CBs PGimLfin	A	A	A	A	A	A	A	A	A	A	A	A	A	A	203I%

*FeoeitPULEi LBo RUdwc6ei CBs PGimLfin3S(Seft, v (v Ukt, T(TkRu, y (y AUuBB

Cady & Main - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM70 Fl - AO4eEL66FeLn) CuP
a 6ss GLiiei gSUkti, dUBr6eAy BtU TRucni, a RUduGLieo TRucni, Ruiei,
FeoeitPULEi, RUdwc6ei CBvCLo, RUdwc6ei CBs PGimLfin-
a 6Gl C4eI eBti
D (88. 9M0, SCcLrUCB(h23h7179. , A873hbb2b.

GEWALT HAMILTON ASSOCIATES, INC.
FIC4Udeo Gv(HemLfi) LI UdCBa iiCcULrei DBc3
. 2M5CReit Eore : Pude, VeBBCB) U6i, DS, . 00. 1, y d



Cady & Wing - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 9, Location: 423429981, -8. 3484b8.

GEWALT HAMILTON ASSOCIATES, INC.
Provided Gy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

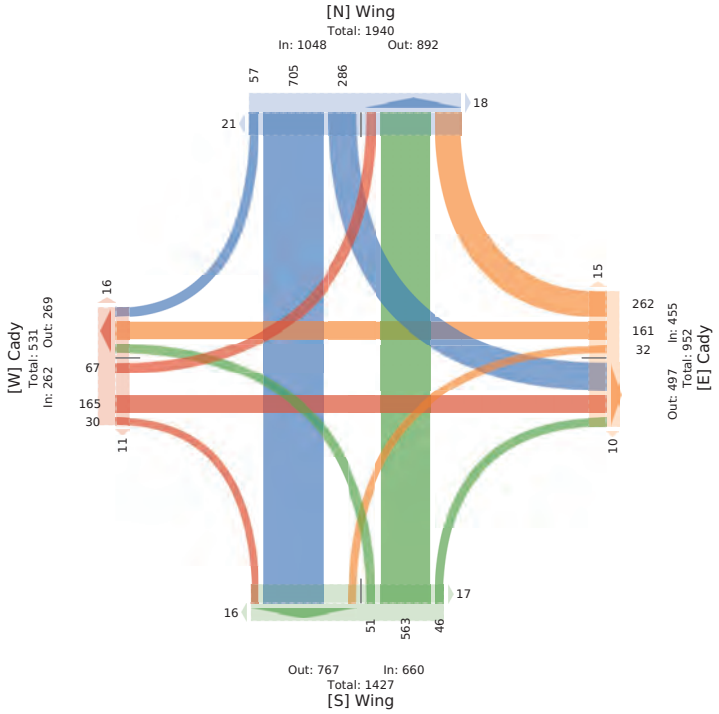
Leg Direction	Cady EastGound						Cady p estGound						p ing WorthGound						p ing SouthGound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	0	2	0	0	**2**	0	1	.	11	0	**1b**	0	2	14	1	0	**17**	1	1.	24	0	0	**.7**	1	**71**
7:1bAM	0	7	0	0	**7**	0	1	1	14	0	**16**	0	0	2b	0	0	**2b**	0	11	22	4	0	**.7**	1	**8b**
7:. 0AM	2	b	1	0	**8**	0	1	b	9	0	**1b**	0	.	2b	2	0	**.0**	2	14	28	2	0	**44**	1	**97**
7:4bAM	1	4	0	0	**b**	0	1	7	14	0	**22**	0	.	29	2	0	**.4**	1	. 4	4.	1	0	**78**	0	**1. 9**
5 ourly Total	.	18	1	0	**22**	0	4	16	48	0	**68**	0	8	9.	b	0	**106**	4	72	117	7	0	**196**	.	**. 92**
8:00AM	b	24	1	0	**.0**	0	2	11	9	0	**22**	0	4	20	1	0	**2b**	0	19	62	b	0	**86**	0	**16.**
8:1bAM	4	12	.	0	**19**	0	1	17	1.	0	**.1**	0	7	24	2	0	**..**	0	20	. 7	2	0	**b9**	0	**142**
8:. 0AM	b	1b	2	0	**22**	4	0	16	17	0	**. .**	2	b	24	2	0	**.1**	0	14	. 9	.	0	**b6**	4	**142**
8:4bAM	.	10	2	0	**1b**	1	0	b	14	0	**19**	1	4	22	1	0	**27**	1	17	. .	6	0	**b6**	.	**117**
5 ourly Total	17	61	8	0	**86**	b	.	49	b.	0	**10b**	.	20	90	6	0	**116**	1	70	171	16	0	**2b7**	7	**b64**
4:00PM	6	19	4	0	**29**	2	.	12	18	0	**. .**	0	4	41	7	0	**b2**	2	22	44	8	0	**74**	0	**188**
4:1bPM	8	9	2	0	**19**	6	2	18	1b	0	**.b**	1	.	.2	b	0	**40**	.	17	44	7	0	**68**	0	**162**
4:. 0PM	9	11	.	0	**2.**	4	7	10	2b	0	**42**	1	2	b8	0	0	**60**	2	11	44	4	0	**b9**	.	**184**
4:4bPM	6	10	b	0	**21**	1	2	8	2.	0	**. .**	2	2	bb	.	0	**60**	4	17	64	4	0	**8b**	4	**199**
5 ourly Total	29	49	14	0	**92**	1.	14	48	81	0	**14.**	4	11	186	1b	0	**212**	11	67	196	2.	0	**286**	7	**7. .**
b:00PM	4	10	.	0	**17**	2	4	12	2b	0	**41**	4	.	4.	8	0	**b4**	2	12	62	2	0	**76**	b	**188**
b:1bPM	b	11	1	0	**17**	2	1	12	22	0	**.b**	.	.	b9	6	0	**68**	4	24	b8	b	0	**87**	4	**207**
b:. 0PM	7	9	1	0	**17**	b	2	12	18	0	**.2**	7	b	40	.	0	**48**	8	17	46	2	0	**6b**	6	**162**
b:4bPM	2	7	2	0	**11**	0	4	12	1b	0	**.1**	4	1	b2	.	0	**b6**	.	24	bb	2	0	**81**	7	**179**
5 ourly Total	18	.7	7	0	**62**	9	11	48	80	0	**1. 9**	18	12	194	20	0	**226**	17	77	221	11	0	**. 09**	22	**7. 6**
Total	67	16b	. 0	0	**262**	27	.2	161	262	0	**4bb**	2b	b1	b6.	46	0	**660**	. .	286	70b	b7	0	**1048**	.9	**242b**
% ANNoach	2b3I%	6. 3I%	113I%	0%	**-**	-	7I0%	. b3I%	b73I%	0%	**-**	-	7I3%	8b3 %	7I0%	0%	**-**	-	27I %	673 %	b3I%	0%	**-**	-	-
% Total	23I%	63I%	13I%	0%	**103I%**	-	13 %	63I%	103I%	0%	**183I%**	-	23I%	2. 3I%	13I%	0%	**273I%**	-	113I%	293I%	23I%	0%	**4. 3I%**	-	-
Lights	67	1b9	. 0	0	**2b6**	-	. 1	1b9	2b9	0	**449**	-	b1	b4b	4.	0	**6. 9**	-	28b	689	b6	0	**10. 0**	-	2. 74
% Lights	100%	963I%	100%	0%	**973I%**	-	963I%	983I%	983I%	0%	**983I%**	-	100%	963I%	9. 3I%	0%	**963I%**	-	993I%	973I%	983I%	0%	**983 %**	-	973I%
Single-Unit Trucks	0	.	0	0	**.**	-	0	1	1	0	**2**	-	0	6	2	0	**8**	-	0	2	0	0	**2**	-	1b
% Single-Unit Trucks	0%	13I%	0%	0%	**13I%**	-	0%	03I%	03I%	0%	**03I%**	-	0%	13I%	43 %	0%	**13I%**	-	0%	03 %	0%	0%	**03I%**	-	03I%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses	0	1	0	0	**1**	-	1	0	1	0	**2**	-	0	7	0	0	**7**	-	0	6	0	0	**6**	-	16
% Buses	0%	03I%	0%	0%	**03I%**	-	. 3I%	0%	03I%	0%	**03I%**	-	0%	13I%	0%	0%	**13I%**	-	0%	03I%	0%	0%	**03I%**	-	03I%
Bicycles on Road	0	2	0	0	**2**	-	0	1	1	0	**2**	-	0	b	1	0	**6**	-	1	8	1	0	**10**	-	20
% Bicycles on Road	0%	13I%	0%	0%	**03I%**	-	0%	03I%	03I%	0%	**03I%**	-	0%	03I%	23I%	0%	**03I%**	-	03 %	13I%	13I%	0%	**13I%**	-	03I%
Pedestrians	-	-	-	-	-	26	-	-	-	-	2.	-	-	-	-	-	-	2	-	-	-	-	-	7	-
% Pedestrians	-	-	-	-	- 963 %	-	-	-	-	-	- 923I%	-	-	-	-	-	- 973I%	-	-	-	-	-	- 943I%	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	2	-
% Bicycles on Crosswalk	-	-	-	-	- . 3%	-	-	-	-	-	- 83I%	-	-	-	-	-	- . I0%	-	-	-	-	-	h3I%	-	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Cady & Wing - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 9, Location: 423429981, -8. 3484b8.

GEWALT HAMILTON ASSOCIATES, INC.
Provided Gy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US



GEWALT HAMILTON ASSOCIATES, INC.

| | | |

Cady Street & Center Street - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886927, Location: 42.430109, -83.483128

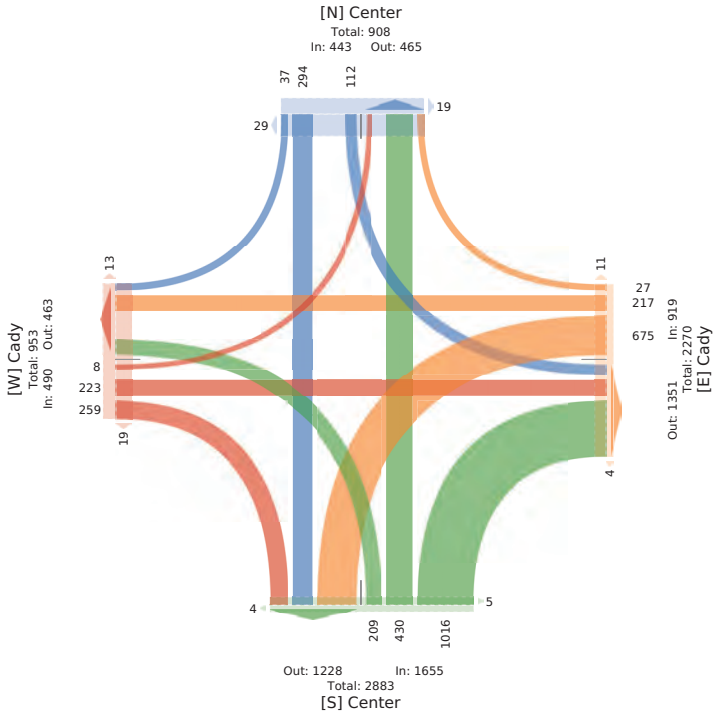
GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Cady Eastbound							Cady p estbound							Center Worthbound							Center Southbound						
Time	L	T	R	U	ANN	Ped*	Int	L	T	R	U	ANN	Ped*	Int	L	T	R	U	ANN	Ped*	Int	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	0	6	12	0	18	0	113	22	3	0	0	25	0	113	8	11	31	0	50	0	113	4	15	1	0	20	1	113
7:15AM	0	5	10	0	15	1	126	32	4	0	0	36	0	126	13	15	39	0	67	0	126	2	6	0	0	8	0	126
7:30AM	0	5	12	0	17	1	141	32	7	1	0	40	0	141	9	20	47	0	76	0	141	0	8	0	0	8	0	141
7:45AM	0	9	32	0	41	0	209	28	8	5	0	41	0	209	13	30	61	0	104	0	209	1	18	4	0	23	0	209
Hourly Total	0	25	66	0	91	2	589	114	22	6	0	142	0	589	43	76	178	0	297	0	589	7	47	5	0	59	1	589
8:00AM	0	23	18	0	41	0	231	45	16	2	0	63	0	231	6	26	57	0	89	0	231	5	32	1	0	38	0	231
8:15AM	0	16	16	0	32	3	223	31	17	2	0	50	2	223	11	28	69	0	108	0	223	8	23	2	0	33	0	223
8:30AM	1	16	14	0	31	0	202	23	17	1	0	41	0	202	20	15	74	0	109	0	202	8	12	1	0	21	2	202
8:45AM	0	10	8	0	18	1	200	38	20	5	0	63	2	200	12	22	63	0	97	0	200	6	15	1	0	22	1	200
Hourly Total	1	65	56	0	122	4	856	137	70	10	0	217	4	856	49	91	263	0	403	0	856	27	82	5	0	114	3	856
4:00PM	0	27	22	0	49	2	249	52	16	0	0	68	3	249	13	28	60	0	101	2	249	11	17	3	0	31	3	249
4:15PM	0	18	15	0	33	2	252	44	16	1	0	61	2	252	14	37	77	0	128	0	252	8	18	4	0	30	8	252
4:30PM	0	8	16	0	24	1	228	47	20	2	0	69	1	228	18	32	62	0	112	2	228	4	17	2	0	23	2	228
4:45PM	2	10	13	0	25	0	256	56	15	3	0	74	2	256	14	35	84	0	133	1	256	10	12	2	0	24	6	256
Hourly Total	2	63	66	0	131	5	985	199	67	6	0	272	8	985	59	132	283	0	474	5	985	33	64	11	0	108	19	985
5:00PM	1	23	14	0	38	5	260	62	19	2	0	83	0	260	15	25	59	0	99	0	260	11	28	1	0	40	6	260
5:15PM	2	21	24	0	47	4	274	48	11	1	0	60	2	274	20	44	69	0	133	0	274	6	22	6	0	34	7	274
5:30PM	2	15	16	0	33	6	274	64	17	1	0	82	0	274	13	29	79	0	121	2	274	12	22	4	0	38	7	274
5:45PM	0	11	17	0	28	6	269	51	11	1	0	63	1	269	10	33	85	0	128	2	269	16	29	5	0	50	5	269
Hourly Total	5	70	71	0	146	21	1077	225	58	5	0	288	3	1077	58	131	292	0	481	4	1077	45	101	16	0	162	25	1077
Total	8	223	259	0	**490**	32	3507	675	217	27	0	**919**	15	3507	209	430	1016	0	**1655**	9	3507	112	294	37	0	**443**	48	3507
% ANVtoach	1.6%	45.5%	52.9%	0%	-	-	-	73.4%	23.6%	2.9%	0%	-	-	-	12.6%	26.0%	61.4%	0%	-	-	-	25.3%	66.4%	8.4%	0%	-	-	-
% Total	0.2%	6.4%	7.4%	0%	**14.0%**	-	-	19.2%	6.2%	0.8%	0%	**26.2%**	-	-	6.0%	12.3%	29.0%	0%	**47.2%**	-	-	3.2%	8.4%	1.1%	0%	**12.6%**	-	-
Lights	8	218	255	0	**481**	-	3457	665	215	27	0	**907**	-	3457	207	422	1011	0	**1640**	-	3457	111	281	37	0	**429**	-	3457
% Lights	100%	97.8%	98.5%	0%	**98.2%**	-	98.6%	98.5%	99.1%	100%	0%	**98.7%**	-	98.6%	99.0%	98.1%	99.5%	0%	**99.1%**	-	98.6%	99.1%	95.6%	100%	0%	**96.8%**	-	98.6%
Single-Unit Trucks	0	3	2	0	**5**	-	22	7	2	0	0	**9**	-	22	0	2	2	0	**4**	-	22	1	3	0	0	**4**	-	22
% Single-Unit Trucks	0%	1.3%	0.8%	0%	**1.0%**	-	0.6%	1.0%	0.9%	0%	0%	**1.0%**	-	0.6%	0%	0.5%	0.2%	0%	**0.2%**	-	0.6%	0.9%	1.0%	0%	0%	**0.9%**	-	0.6%
Articulated Trucks	0	0	0	0	**0**	-	2	0	0	0	0	**0**	-	2	0	0	1	0	**1**	-	2	0	1	0	0	**1**	-	2
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0.1%	0%	0%	0%	0%	**0%**	-	0.1%	0%	0%	0.1%	0%	**0.1%**	-	0.1%	0%	0.3%	0%	0%	**0.2%**	-	0.1%
Buses	0	0	0	0	**0**	-	10	1	0	0	0	**1**	-	10	2	3	0	0	**5**	-	10	0	4	0	0	**4**	-	10
% Buses	0%	0%	0%	0%	**0%**	-	0.3%	0.1%	0%	0%	0%	**0.1%**	-	0.3%	1.0%	0.7%	0%	0%	**0.3%**	-	0.3%	0%	1.4%	0%	0%	**0.9%**	-	0.3%
Bicycles on Road	0	2	2	0	**4**	-	16	2	0	0	0	**2**	-	16	0	3	2	0	**5**	-	16	0	5	0	0	**5**	-	16
% Bicycles on Road	0%	0.9%	0.8%	0%	**0.8%**	-	0.5%	0.3%	0%	0%	0%	**0.2%**	-	0.5%	0%	0.7%	0.2%	0%	**0.3%**	-	0.5%	0%	1.7%	0%	0%	**1.1%**	-	0.5%
Pedestrians	-	-	-	-	-	30		-	-	-	-	-	13		-	-	-	-	-	8		-	-	-	-	-	48	
% Pedestrians	-	-	-	-	-	93.8%		-	-	-	-	-	86.7%		-	-	-	-	-	88.9%		-	-	-	-	-	100%	
Bicycles on Crosswalk	-	-	-	-	-	2		-	-	-	-	-	2		-	-	-	-	-	1		-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	6.3%		-	-	-	-	-	13.3%		-	-	-	-	-	11.1%		-	-	-	-	-	0%	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cady Street & Center Street - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886927, Location: 42.430109, -83.483128

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Cady Street & Center Street - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e- k r st TducgC, F dscu6niteB TducgC, y uCeC, LeBeCtdnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP
F 6l Rme l er tC
D 744892(, a RcntsRr 7A2. A30109, -43. A43124

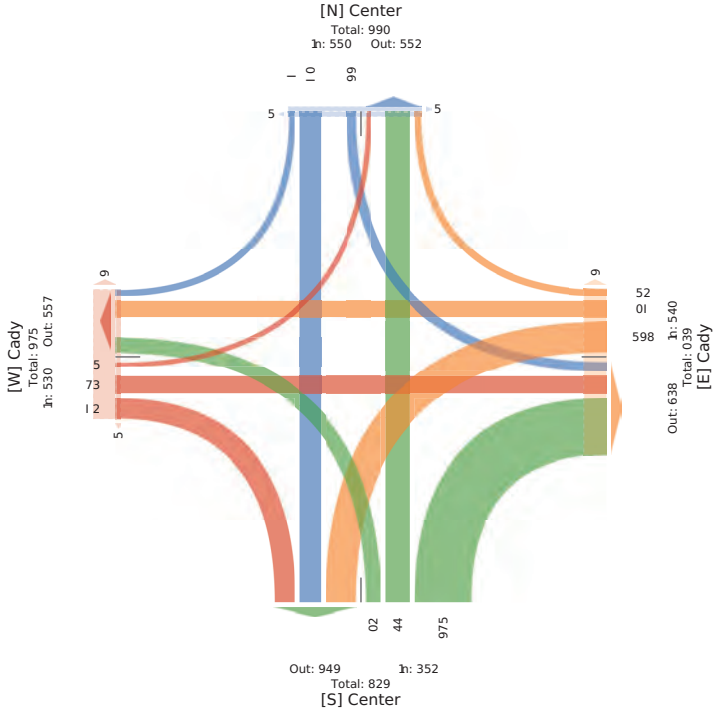
GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeBbo7Gev n6 Hnl s6fRr F CCRcsnteCDc.
82M5RdeCt EBi e : dnne, Vedr Rr Hs6fC, Da , 80081, k U

a ei : sdecssRe	) nBo EnCbRur B						) nBo p eCbRur B						) er ted VRttSbRur B						) er ted LRurSbRur B						
Tsl e	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	Dt
2021-10-19 (7AMF l	0	9	32	0	**Al**	0	24	4	M	0	**Al**	0	13	30	81	0	**10A**	0	1	14	A	0	**23**	0	**209**
4700F l	0	23	14	0	**Al**	0	AM	18	2	0	**83**	0	8	28	M	0	**49**	0	M	32	1	0	**34**	0	**231**
47AMF l	0	18	18	0	**32**	3	31	1(	2	0	**M0**	2	11	24	89	0	**104**	0	4	23	2	0	**33**	0	**223**
4700F l	1	18	1A	0	**31**	0	23	1(	1	0	**Al**	0	20	1M	(A	0	**109**	0	4	12	1	0	**21**	2	**202**
TRm6	1	8A	40	0	**1AM**	3	12(	M	10	0	**19M**	2	M	99	281	0	**A10**	0	22	4M	4	0	**11M**	2	**48M**
% F NNRncS	0.(%	AA1%	M42%	0%	-	-	8M1%	29.(%	M1%	0%	-	-	12.2%	2A.1%	83.(%	0%	-	-	19.1%	(3.9%	(.0%	0%	-	-	-
% TRm6	0.1%	(.A%	9.2%	0%	**18.4%**	-	1A(%	8.(%	1.2%	0%	**22.M%**	-	M4%	11.A%	30.2%	0%	**A(.A%**	-	2.M%	9.4%	0.9%	0%	**13.3%**	-	-
LH5	0.2M	0.898	0.82M	-	**0.44A**	-	0.(08	0.4M	0.M0	-	**0.((A**	-	0.82M	0.42M	0.442	-	**0.9A0**	-	0.844	0.8M	0.M0	-	**0.(M**	-	0.93M
a si StC	1	8A	40	0	**1AM**	-	123	M	10	0	**190**	-	A4	9(	280	0	**A0M**	-	22	41	4	0	**111**	-	4M
% a si StC	100%	100%	100%	0%	**100%**	-	98.9%	94.3%	100%	0%	**9(.A%**	-	98.0%	94.0%	99.8%	0%	**94.4%**	-	100%	9M3%	100%	0%	**98.M%**	-	94.A%
Uri 6k r st TducgC	0	0	0	0	**0**	-	3	1	0	0	**A**	-	0	0	1	0	**1**	-	0	1	0	0	**1**	-	8
% Uri 6k r st TducgC	0%	0%	0%	0%	**0%**	-	2.A%	1.(%	0%	0%	**2.1%**	-	0%	0%	0.A%	0%	**0.2%**	-	0%	1.2%	0%	0%	**0.9%**	-	0.(%
F dscu6niteB TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% F dscu6niteB TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
y uGC	0	0	0	0	**0**	-	1	0	0	0	**1**	-	2	2	0	0	**A**	-	0	2	0	0	**2**	-	(
% y uGC	0%	0%	0%	0%	**0%**	-	0.4%	0%	0%	0%	**0.M%**	-	A0%	2.0%	0%	0%	**1.0%**	-	0%	2.A%	0%	0%	**1.(%**	-	0.4%
y scoc6eCRr wRnB	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	1
% y scoc6eCRr wRnB	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	1.2%	0%	0%	**0.9%**	-	0.1%
LeBeCtdnr C	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	2	
% LeBeCtdnr C	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
y scoc6eCRr) dRCCv nfg	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% y scoc6eCRr) dRCCv nfg	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*LeBeCtdnr Cnr B y scoc6eCRr) dRCCv nfg, a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

Cady Street & Center Street - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e- k r st TducgC, F dscu6niteB TducgC, y uCeC, LeBeCtdnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP
F 6l Rme l er tC
D 744892(, a RcntsRr 7A2. A30109, -43. A43124

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeBbo7Gev n6 Hnl s6fRr F CCRcsnteCDc.
82M5RdeCt EBi e : dnne, Vedr Rr Hs6fC, Da , 80081, k U



Cady Street & Center Street - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4lFeLn P 6u-
) 4lC4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea, FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4hA
) 4ll 6Mev ekta
nh D: 7928, s 6cLti6kD 23 b0109, (: b3 : b12:

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeB GoDHewL4 P Lv i46k) aa6ciLtea nkc3
72h 56-eat EBSe I -iMt, Ve-k6k P i4h, ns , 70071, d r

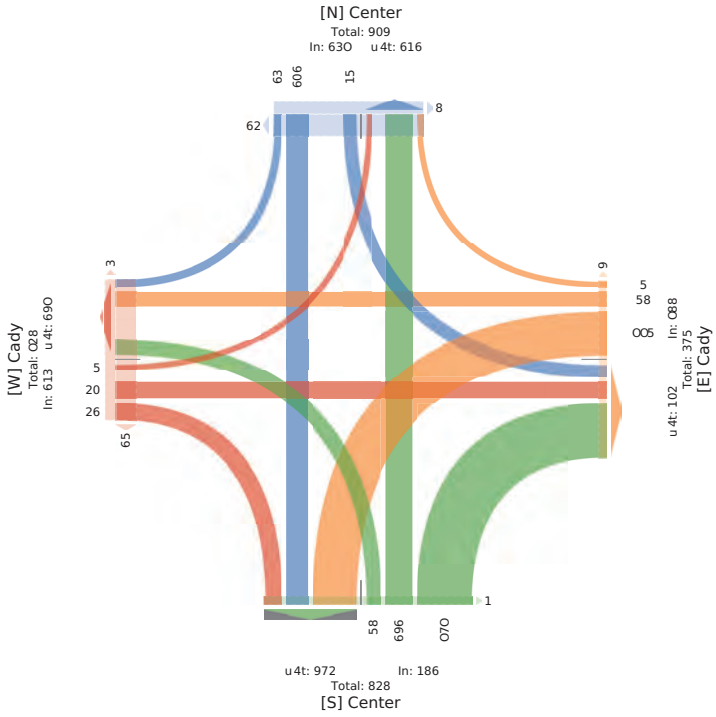
s eS t i-ecti6k	ClBo ELatGukB					ClBo p eatGukB					Cekte- W6-tUGukB					Cekte- r 6utUGukB					
Tiv e	s	T	R	d	) NN	FeIP*	s	T	R	d	) NN	FeIP*	s	T	R	d	) NN	FeIP*	s	T	R	d	) NN	FeIP*	nkt
2021(10(19 h00F1	1	2b	1.	0	b:	h	72	19	2	0	: b	0	1h	2h	h9	0	99	0	11	2:	1	0	. 0	7	270
h0hFl	2	21	2.	0	. 8		. :	11	1	0	70	2	20	. .	79	0	1bb	0	7	22	7	0	b.	8	28.
hlh0F1	2	1h	17	0	bb	7	7.	18	1	0	: 2	0	1b	29	89	0	121	2	12	22	.	0	b:	8	28.
hDhFl	0	11	18	0	2:	7	h1	11	1	0	7b	1	10	bb	: h	0	12:	2	17	29	h	0	h0	h	279
T6tL4	h	80	81	0	**1. 7**	21	22h	h:	h	0	**2: :**	b	h:	1b1	292	0	**. : 1**		. h	101	17	0	**172**	2h	**1088**
%) NN6LtU	b3 %	. 83%	. : 3%	0%	**(**	(	8: 3%	20.1%	1.8%	0%	**(**	(	12.1%	28.2%	70.8%	0%	**(**	(	28.3 %	72.b%	9.3%	0%	**(**	(	(
% T6tL4	03h%	73h%	73%	0%	**1b.7%**	(	20.9%	h3 %	03h%	0%	**27.8%**	(	h3 %	12.2%	28.1%	0%	**. .8%**	(	. 2%	93 %	13h%	0%	**1h.8%**	(	(
FP 5	0.72h	03l: .	03l: .	(	**0.89.**	(	03 8h	0.87b	0.72h	(	**03 8h**	(	0.82h	03l. .	03 h7	(	**0.902**		0.80b	03 hb	0.778	(	**03 00**	(	03: 0
s iSUta	h	7:	79	0	**1. 2**	(	22b	h:	h	0	**2: 7**	(	h:	129	290	0	**. 88**	(	. h	98	17	0	**1h:**	(	107b
% s iSUta	100%	98.1%	98.2%	0%	**98.h%**	(	99.1%	100%	100%	0%	**99.h%**	(	100%	9: 1%	99.h%	0%	**99.2%**	(	100%	97.0%	100%	0%	**98.h%**	(	9: 1%
r ikS4e(d kit T-ucna	0	1	0	0	**1**	(	1	0	0	0	**1**	(	0	2	1	0	**b**	(	0	1	0	0	**1**	(	7
% r ikS4e(d kit T-ucna	0%	1 3 %	0%	0%	**03h%**	(	03 %	0%	0%	0%	**03h%**	(	0%	1.1h%	0.1h%	0%	**0.3%**	(	0%	1.0%	0%	0%	**03%**	(	0.3%
) -ticu4LteBT-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	1	0	0	**1**	(	1
%) -ticu4LteBT-ucna	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	1.0%	0%	0%	**03%**	(	0.1%
y uaea	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
% y uaea	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	0	1	2	0	**b**	(	1	0	0	0	**1**	(	0	0	1	0	**1**	(	0	2	0	0	**2**	(	8
% y icoc4ea 6k R6LB	0%	1 3 %	2 3 %	0%	**23.1%**	(	03 %	0%	0%	0%	**03h%**	(	0%	0%	0.3%	0%	**0.2%**	(	0%	2.0%	0%	0%	**13.2%**	(	0.3%
FeBeat-iLka	(	(	(	(	(	20	(	(	(	(	1		(	(	(	(			(	(	(	(	(	2h	
% FeBeat-iLka	(	(	(	(	(	9h12%	(	(	(	(	bb.h%		(	(	(	(	(	100%	(	(	(	(	(	100%	(
y icoc4ea 6k C-6aawL4h	(	(	(	(	(	1	(	(	(	(	2		(	(	(	(	(	0	(	(	(	(	(	0	
% y icoc4ea 6k C-6aawL4h	(	(	(	(	(	. 3 %	(	(	(	(	77.8%		(	(	(	(	(	0%	(	(	(	(	(	0%	(

*FeBeat-iLka IkB y icoc4ea 6k C-6aawL4h3s Ds eft, RDRiSU, TDTU-u, d Dtl (Tu-k

Cady Street & Center Street - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4lFeLn P 6u-
) 4lC4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea, FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4hA
) 4ll 6Mev ekta
nh D: 7928, s 6cLti6kD 23 b0109, (: b3 : b12:

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeB GoDHewL4 P Lv i46k) aa6ciLtea nkc3
72h 56-eat EBSe I -iMt, Ve-k6k P i4h, ns , 70071, d r



Hutton Street & Cady Street - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886928, Location: 42.430207, -83.480946

GEWALT HAMILTON ASSOCIATES, INC.
Provided 5y: b ewalt Gamilton Associates Inc.
62HForest Edge Drive, Vernon Gills, IL, 60061, US

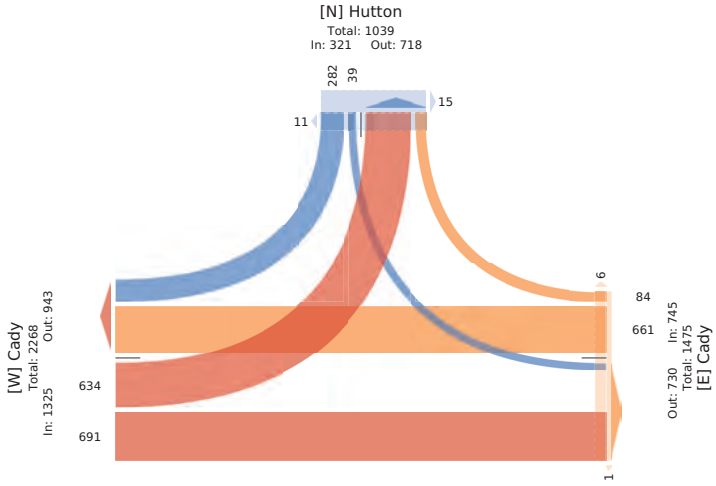
Leg Direction	Cady East5ound					Cady p est5ound					Gutton South5ound					
Time	L	T	U	**AVW**	Ped*	T	R	U	**AVW**	Ped*	L	R	U	**AVW**	Ped*	**Int**
2021-10-19 7:00AM	22	18	0	**40**	0	20	2	0	**22**	0	0	6	0	**6**	0	**68**
7:1HAM	33	14	0	**47**	0	21	H	0	**26**	0	0	17	0	**17**	0	**90**
7:30AM	30	23	0	**HB**	0	26	2	0	**28**	0	0	13	0	**13**	0	**94**
7:4HAM	37	28	0	**6H**	0	26	4	0	**30**	0	2	19	0	**21**	0	**116**
Gourly Total	122	83	0	**20H**	0	93	13	0	**106**	0	2	H1	0	**HP**	0	**368**
8:00AM	3H	43	0	**78**	0	41	1	0	**42**	0	1	22	0	**23**	3	**143**
8:1HAM	HD	39	0	**89**	0	42	4	0	**46**	2	0	11	0	**11**	0	**146**
8:30AM	42	H1	0	**93**	0	40	6	0	**46**	3	2	14	0	**16**	2	**1HH**
8:4HAM	36	3H	0	**71**	0	61	10	0	**71**	2	2	14	0	**16**	2	**1HB**
Gourly Total	163	168	0	**331**	0	184	21	0	**20H**	7	H	61	0	**66**	7	**602**
4:00PM	39	63	0	**102**	0	48	8	0	**H6**	0	3	14	0	**17**	0	**17H**
4:1HPM	41	HH	0	**96**	0	38	6	0	**44**	0	3	19	0	**22**	3	**162**
4:30PM	3H	47	0	**82**	0	43	6	0	**49**	0	3	21	0	**24**	2	**1HH**
4:4HPM	44	HD	0	**94**	0	47	8	0	**HH**	0	4	30	0	**34**	1	**183**
Gourly Total	1HD	21H	0	**374**	0	176	28	0	**204**	0	13	84	0	**97**	6	**67H**
H00PM	49	H7	0	**106**	0	H2	6	0	**HB**	0	1	17	0	**18**	4	**182**
H1HPM	39	HD	0	**98**	0	H6	4	0	**60**	0	6	14	0	**20**	6	**178**
H30PM	HI	HD	0	**101**	0	H2	H	0	**H7**	0	7	33	0	**40**	3	**198**
H4HPM	HI	HD	0	**110**	0	48	7	0	**HH**	0	H	18	0	**23**	0	**188**
Gourly Total	190	22H	0	**41H**	0	208	22	0	**230**	0	19	82	0	**101**	13	**746**
Total	634	691	0	**132H**	0	661	84	0	**74H**	7	39	282	0	**321**	26	**2391**
% AVWoach	47.8%	H2.2%	0%	**-**	-	88.7%	11.3%	0%	**-**	-	12.1%	87.9%	0%	**-**	-	-
% Total	26.H%	28.9%	0%	**HH.4%**	-	27.6%	3.H%	0%	**31.2%**	-	1.6%	11.8%	0%	**13.4%**	-	-
Lights	627	686	0	**1313**	-	6HH	83	0	**737**	-	37	276	0	**313**	-	2363
% Lights	98.9%	99.3%	0%	**99.1%**	-	98.9%	98.8%	0%	**98.9%**	-	94.9%	97.9%	0%	**97.H%**	-	98.8%
Single-Unit Trucks	0	4	0	**4**	-	H	0	0	**H**	-	1	3	0	**4**	-	13
% Single-Unit Trucks	0%	0.6%	0%	**0.3%**	-	0.8%	0%	0%	**0.7%**	-	2.6%	1.1%	0%	**1.2%**	-	0.H%
Articulated Trucks	2	0	0	**2**	-	0	0	0	**0**	-	0	0	0	**0**	-	2
% Articulated Trucks	0.3%	0%	0%	**0.2%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.1%
Buses	1	0	0	**1**	-	0	0	0	**0**	-	0	1	0	**1**	-	2
% Buses	0.2%	0%	0%	**0.1%**	-	0%	0%	0%	**0%**	-	0%	0.4%	0%	**0.3%**	-	0.1%
Bicycles on Road	4	1	0	**H**	-	2	1	0	**3**	-	1	2	0	**3**	-	11
% Bicycles on Road	0.6%	0.1%	0%	**0.4%**	-	0.3%	1.2%	0%	**0.4%**	-	2.6%	0.7%	0%	**0.9%**	-	0.H%
Pedestrians	-	-	-	-	0	-	-	-	-	7	-	-	-	-	2H	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	96.2%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	3.8%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hutton Street & Cady Street - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886928, Location: 42.430207, -83.480946

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Hutton Street & Cady Street - TMC

Tue Oct 19, 2021

F1 Leng h(F1 79 F1 A

F Nt M44e4 hPGj Ct4, a6) M7 s6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns4, r 6ckcM44 ds BdnU, r 6ckcM44 ds - Sl44y nMA
F Nt doeR est4
ww m((I92(, Pdcnt6ls mD2:D8020. , 7(8:D(09DI

Pe) v 6ect6ls	- nLk En4t3dus U				- nLk p e4t3dus U				b uttds a dutC3dus U				
T6tRe	P	T	i	F W W LeU*	T	B	i	F W W LeU*	P	B	i	F W W LeU*	w t
2021710719 (n10F1	8G	D8	0	. (0	Dt	1	0	D2 0	1	22	0	28 8	1D8
(n1CF1	CD	89	0	(9 0	D2	D	0	D1 2	0	11	0	11 0	1D1
(n10F1	D2	Ct	0	98 0	DD	1	0	D1 8	2	1D	0	11 2	1CG
(n1CF1	81	8G	0	. 1 0	11	10	0	. 1 2	2	1D	0	11 2	1C(
TdmM	118	11(	0	**881** 0	1(D	21	0	**20G** .	G	11	0	11 .	**102**
% F W6tlncC	D9:2%	CD:(%	0%	**7** 7	(9:(%	10:2%	0%	**7** 7	. :1 %	92:D%	0%	**7** 7	7
% TdmM	2. :1%	2. :9%	0%	**CC:0%** 7	80:1 %	8:C%	0%	**8D:1%** 7	0:(%	10:1%	0%	**11:0%** 7	7
Lb H	0:(1G	0:(2D	7	**0:(90** 7	0:. CD	0:C2G	7	**0:. 22** 7	0:1 2G	0:1 98	7	**0:. 1.** 7	0:9C8
P6j C4	112	11.	0	**829** 7	1(8	21	0	**20D** 7	G	G	0	**12** 7	CBG
% P6j C4	99:C%	99:D%	0%	**99:D%** 7	99:C%	100%	0%	**99:C%** 7	100%	98:D%	0%	**98:9%** 7	9(:(%
a6) M7 s6 TSucg4	0	1	0	**1** 7	1	0	0	**1** 7	0	8	0	**8** 7	G
% a6) M7 s6 TSucg4	0%	0:1 %	0%	**0:8%** 7	0:C%	0%	0%	**0:C%** 7	0%	D9%	0%	**DC%** 7	0:(%
F St6cuMteUTSucg4	0	0	0	**0** 7	0	0	0	**0** 7	0	0	0	**0** 7	0
% F St6cuMteUTSucg4	0%	0%	0%	**0%** 7	0%	0%	0%	**0%** 7	0%	0%	0%	**0%** 7	0%
r u4e4	1	0	0	**1** 7	0	0	0	**0** 7	0	1	0	**1** 7	2
% r u4e4	0:1 %	0%	0%	**0:8%** 7	0%	0%	0%	**0%** 7	0%	1:1 %	0%	**1:C%** 7	0:8%
r 6ckcM44 ds BdnU	0	0	0	**0** 7	0	0	0	**0** 7	0	0	0	**0** 7	0
% r 6ckcM44 ds BdnU	0%	0%	0%	**0%** 7	0%	0%	0%	**0%** 7	0%	0%	0%	**0%** 7	0%
LeUe4tSns4	7	7	7	7 0	7	7	7	7 .	7	7	7	7 .	
% LeUe4tSns4	7	7	7	7 7	7	7	7	7 100%	7	7	7	7 100%	7
r 6ckcM44 ds - Sl44y nMg	7	7	7	7 0	7	7	7	7 0	7	7	7	7 0	
% r 6ckcM44 ds - Sl44y nMg	7	7	7	7 7	7	7	7	7 0%	7	7	7	7 0%	7

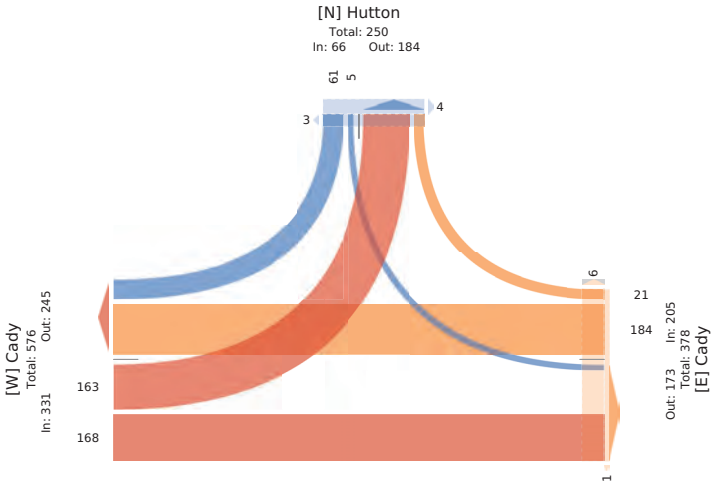
*LeUe4tSns4 ns Ur 6ckcM44 ds - Sl44y nMg: PmPeft, BmB0j Ct, TmlTCSu, i mi 7TuSs

Hutton Street & Cady Street - TMC

Tue Oct 19, 2021

F1 Leng h(F1 79 F1 A

F Nt M44e4 hPGj Ct4, a6) M7 s6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns4, r 6ckcM44 ds BdnU, r 6ckcM44 ds - Sl44y nMA
F Nt doeR est4
ww m((I92(, Pdcnt6ls mD2:D8020. , 7(8:D(09DI



Hutton Street & Cady Street - TMC

Tue Oct 19, 2021

Fl FeLn gh Fl (7 Fl A(OM4-L44 FeLn P 6u-
) 44C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 41l 6M4v ekta
nh D: 792: , s 6cLti6kDB2.830205, (: 3.8: 0987

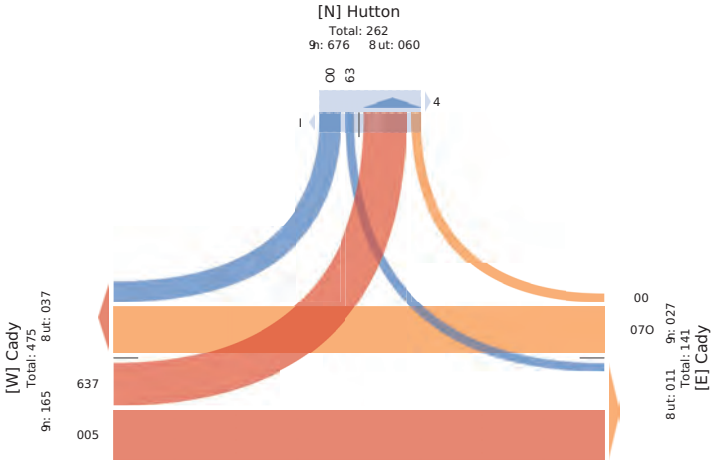
s eS I i-ect6k	CLBo ELatb6ukB				CLBo p eatb6ukB				P utt6k r 6urUb6ukB				
Tiv e	s	T	d	) W W FeB*	T	R	d	) W W FeB*	s	R	d	) W W FeB*	nt
2021(10(19 h10F1	89	h5	0	**107** 0	h2	7	0	**h:** 0	1	15	0	**1:** 8	**1: 2**
h1hFl	39	h9	0	**9:** 0	h7	8	0	**70** 0	7	18	0	**20** 7	**15:**
h10F1	h1	h0	0	**101** 0	h2	h	0	**h5** 0	5	33	0	**80** 3	**19:**
h1hFl	h1	h9	0	**110** 0	8:	5	0	**hh** 0	h	1:	0	**23** 0	**1: :**
T6tL4	190	22h	0	**81h** 0	20:	22	0	**230** 0	19	: 2	0	**101** 13	**587**
%) W W6LcU	8h. : %	h8.2%	0%	**(** (	90.8%	9.7%	0%	**(** (	1: . : %	: 1.2%	0%	**(** (	(
% T6tL4	2h.h%	30.2%	0%	**hh.7%** (	25.9%	2.9%	0%	**30. : %** (	2.h%	11.0%	0%	**13.h%** (	(
FP H	0.922	0.9h3	(	**0.939** (	0.937	0.5: 7	(	**0.977** (	0.759	0.718	(	**0.72h** (	0.980
s iSUa	1: 5	228	0	**811** (	20h	22	0	**225** (	1:	: 1	0	**99** (	535
% s iSUa	9: .8%	99.7%	0%	**99.0%** (	9: .7%	100%	0%	**9: .5%** (	98.5%	9: . : %	0%	**9: .0%** (	9: . : %
r ikS4e(d kit T-ucna	0	1	0	**1** (	1	0	0	**1** (	1	0	0	**1** (	3
% r ikS4e(d kit T-ucna	0%	0.8%	0%	**0.2%** (	0.h%	0%	0%	**0.8%** (	h.3%	0%	0%	**1.0%** (	0.8%
) -ticu4LteBT-ucna	1	0	0	**1** (	0	0	0	**0** (	0	0	0	**0** (	1
%) -ticu4LteBT-ucna	0.h%	0%	0%	**0.2%** (	0%	0%	0%	**0%** (	0%	0%	0%	**0%** (	0.1%
y uaea	0	0	0	**0** (	0	0	0	**0** (	0	0	0	**0** (	0
% y uaea	0%	0%	0%	**0%** (	0%	0%	0%	**0%** (	0%	0%	0%	**0%** (	0%
y icoc4ea 6k R6LB	2	0	0	**2** (	2	0	0	**2** (	0	1	0	**1** (	h
% y icoc4ea 6k R6LB	1.1%	0%	0%	**0.h%** (	1.0%	0%	0%	**0.9%** (	0%	1.2%	0%	**1.0%** (	0.5%
FeBeat-iLka	(	(	(	(0	(	(	(	(0	(	(	(	(13	
% FeBeat-iLka	(	(	(	((	(	(	(	((	(	(	(	(100%	(
y icoc4ea 6k C-6aawL4h	(	(	(	(0	(	(	(	(0	(	(	(	(0	
% y icoc4ea 6k C-6aawL4h	(	(	(	((	(	(	(	((	(	(	(	(0%	(

*FeBeat-iLka IkB y icoc4ea 6k C-6aawL4h. s Ds eft, RDRiSUi, TDlTUu, d Dtl (Tu-k

Hutton Street & Cady Street - TMC

Tue Oct 19, 2021

Fl FeLn gh Fl (7 Fl A(OM4-L44 FeLn P 6u-
) 44C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 41l 6M4v ekta
nh D: 792: , s 6cLti6kDB2.83020b, (: 3.8: 0987



Cady & Church - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 6, Location: 423 4. 0245, -8. 3480269

Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

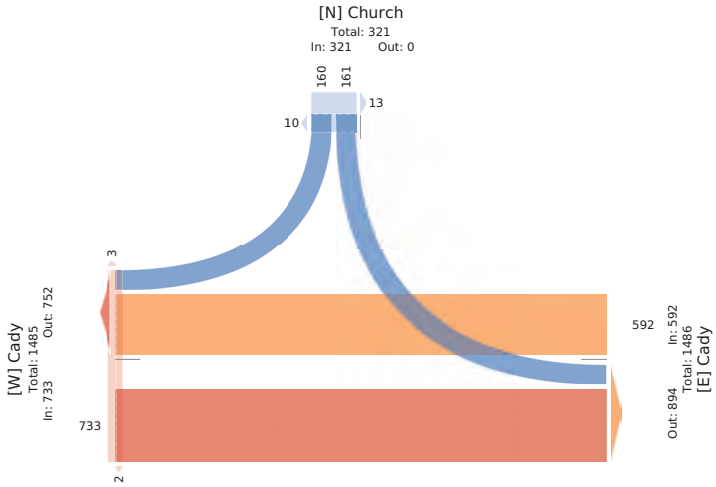
Leg Direction	Cady Eastbound					Cady p estbound					Church Southbound					
Time	L	T	U	AWW	Ped*	T	R	U	AWW	Ped*	L	R	U	AWW	Ped*	Int
2021-10-19 7:00AM	0	18	0	**18**	0	12	0	0	**12**	0	11	10	0	**21**	1	**51**
7:15AM	0	14	0	**14**	0	16	0	0	**16**	0	17	9	0	**26**	0	**56**
7:. 0AM	0	2.	0	**2.**	0	17	0	0	**17**	0	11	11	0	**22**	0	**62**
7:45AM	0	. 0	0	**. 0**	0	21	0	0	**21**	0	16	11	0	**27**	0	**78**
Hourly Total	0	85	0	**85**	0	66	0	0	**66**	0	55	41	0	**96**	1	**247**
8:00AM	0	4.	0	**4.**	1	. 0	0	0	**. 0**	0	11	12	0	**2.**	0	**96**
8:15AM	0	. 7	0	**. 7**	0	22	0	0	**22**	0	15	24	0	**. 9**	0	**98**
8:. 0AM	0	5.	0	**5.**	0	. 6	0	0	**. 6**	0	11	11	0	**22**	1	**111**
8:45AM	0	. 8	0	**. 8**	1	56	0	0	**56**	0	11	24	0	**. 5**	2	**129**
Hourly Total	0	171	0	**171**	2	144	0	0	**144**	0	48	71	0	**119**	.	**4. 4**
4:00PM	0	65	0	**65**	2	4.	0	0	**4.**	0	11	9	0	**20**	0	**128**
4:15PM	0	58	0	**58**	0	40	0	0	**40**	0	6	6	0	**12**	1	**110**
4:. 0PM	0	50	0	**50**	0	41	0	0	**41**	0	10	8	0	**18**	.	**109**
4:45PM	0	57	0	**57**	0	47	0	0	**47**	0	5	8	0	**1.**	1	**117**
Hourly Total	0	2. 0	0	**2. 0**	2	171	0	0	**171**	0	. 2	. 1	0	**6.**	5	**464**
5:00PM	0	59	0	**59**	1	48	0	0	**48**	0	7	8	0	**15**	5	**122**
5:15PM	0	66	0	**66**	0	59	0	0	**59**	0	8	1	0	**9**	5	**1. 4**
5:. 0PM	0	57	0	**57**	0	55	0	0	**55**	0	5	4	0	**9**	.	**121**
5:45PM	0	65	0	**65**	0	49	0	0	**49**	0	6	4	0	**10**	1	**124**
Hourly Total	0	247	0	**247**	1	211	0	0	**211**	0	26	17	0	**4.**	14	**501**
Total	0	7. .	0	**7. .**	5	592	0	0	**592**	0	161	160	0	**. 21**	2.	**1646**
% AWWoach	0%	100%	0%	**-**	-	100%	0%	0%	**-**	-	503 2%	493 8%	0%	**-**	-	-
% Total	0%	443 5%	0%	**443 5%**	-	. 63 0%	0%	0%	**. 63 0%**	-	9 8%	9 7%	0%	**193 5%**	-	-
Lights	0	726	0	**726**	-	584	0	0	**584**	-	160	160	0	**. 20**	-	16. 0
% Lights	0%	99 0%	0%	**99 0%**	-	98 6%	0%	0%	**98 6%**	-	99 3%	100%	0%	**99 7%**	-	99 0%
Single-Unit Trucks	0	4	0	**4**	-	5	0	0	**5**	-	0	0	0	**0**	-	9
% Single-Unit Trucks	0%	0 5%	0%	**0 5%**	-	0 8%	0%	0%	**0 8%**	-	0%	0%	0%	**0%**	-	0 5%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Buses	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	.	0	**.**	-	.	0	0	**.**	-	1	0	0	**1**	-	7
% Bicycles on Road	0%	0 8%	0%	**0 8%**	-	0 5%	0%	0%	**0 5%**	-	0 6%	0%	0%	**0 3 %**	-	0 8%
Pedestrians	-	-	-	-	5	-	-	-	-	0	-	-	-	-	21	
% Pedestrians	-	-	-	-	100%	-	-	-	-		-	-	-	-	913 %	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-		-	-	-	-	83 7%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Cady & Church - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 6, Location: 423 4. 024b, -8. 3480269

Provided Cy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Cady & Church - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Wi M 44e4 hP Q C14, a 6) M 7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSins 4, r 6kkcM4 ds BdnU, r 6kkcM4 ds - St44y nMA
F Wi doeRest4
w m((19 D1 , Pdcnt6lsm 28 D D2: . , 7(D8 (021 9

LSloGLeU3km5 ey nMb nR GMls F 44dc6nte4 wc8
I 2. GdSe4t HU)e v Sne, E eSsds b GM(vP, 1 00 I 1, i a

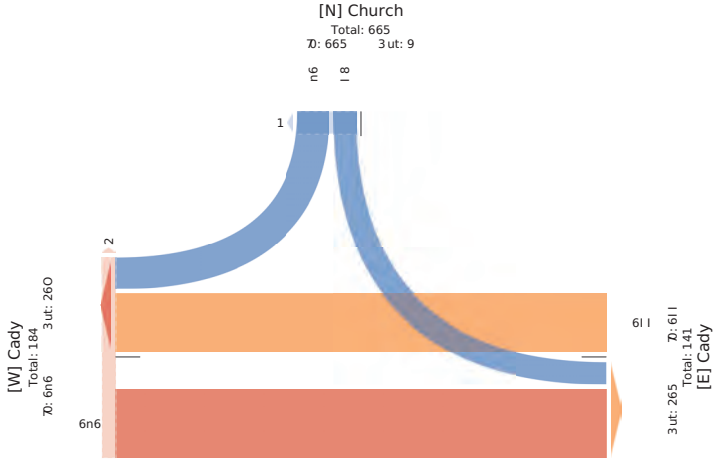
Pe) v 6ect6ls	- nUk Hn43dus U					- nUk V e43dus U					- GuSCC adutC3dus U					
T6Re	P	T	i	Fpp	LeUW	T	B	i	Fpp	LeUW	P	B	i	Fpp	LeUW	wt
2021 7 07 9 (n0 F1	0	: D	0	**: D**	1	D0	0	0	**D0**	0	11	12	0	**2D**	0	**91**
(n. F1	0	D*	0	**D***	0	22	0	0	**22**	0	1.	2:	0	**D9**	0	**9(**
(n80 F1	0	. D	0	**. D**	0	D1	0	0	**D1**	0	11	11	0	**22**	1	**111**
(m. F1	0	D(	0	**D(**	1	. I	0	0	**. I**	0	11	2:	0	**D**	2	**129**
TdmM	0	1*1	0	**1*1**	2	1: :	0	0	**1: :**	0	: (	*1	0	**119**	D	**: D**
% F ppSlncC	0%	100%	0%	**7**	7	100%	0%	0%	**7**	7	: 08 3%	. 98*%	0%	**7**	7	7
% TdmM	0%	D88 %	0%	**D88 %**	7	DD2%	0%	0%	**DD2%**	7	118 1%	118 %	0%	**2*8 %**	7	7
Lb G	7	08(0*	7	**08(0***	7	08 : D	7	7	**08 : D**	7	08(00	08*: 0	7	**08*1 D**	7	08(: 1
P9 Cl4	0	1*0	0	**1*0**	7	1: D	0	0	**1: D**	7	: (	*1	0	**119**	7	: D2
% P9 Cl4	0%	998 %	0%	**998 %**	7	998 3%	0%	0%	**998 3%**	7	100%	100%	0%	**100%**	7	998 %
a6) M1 s6 TSucg4	0	1	0	**1**	7	1	0	0	**1**	7	0	0	0	**0**	7	2
% a6) M1 s6 TSucg4	0%	08 1 %	0%	**08 1 %**	7	08*%	0%	0%	**08*%**	7	0%	0%	0%	**0%**	7	08 %
F S6cuMteUTSucg4	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% F S6cuMteUTSucg4	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
r u4e4	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% r u4e4	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
r 6kkcM4 ds BdnU	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% r 6kkcM4 ds BdnU	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
LeUe4tSins 4	7	7	7	7	2	7	7	7	7	0	7	7	7	7	D	
% LeUe4tSins 4	7	7	7	7	100%	7	7	7	7	7	7	7	7	7	100%	7
r 6kkcM4 ds - St44y nMg	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6kkcM4 ds - St44y nMg	7	7	7	7	0%	7	7	7	7	7	7	7	7	7	0%	7

W LeUe4tSins 4 ns Ur 6kkcM4 ds - St44y nMg8 PmPeft, BmB6) Cl, TmiTCSu, i mi 7TuSs

Cady & Church - TMC

Tue Oct 19, 2021
P M aek(4: P M 59 P M-
P)) v)krrer 4 hiAr, CHo)e5Ls hTiuc(r, P itHu)kteg Tiuc(r, hurer,
aegertiHsr, hHSc)er ns Unkg, hHSc)er ns v inrrd k)(-
P)) MnBey estr
Rwm : 19 D1 , 1 nckHlsm 8 26 BDD 28. , 5: D8: 021 9

ainBHeg 3Smb ed k)t Gky Bins P rrnckter Rc6
I 2. Fniert Egoe wiHBe, Veis ns GHJr, R , 1 00 I 1, L C



Cady & Church - TMC

Tue Oct 19, 2021

Fl FeLn gh Fl (7 Fl A(OM4-L4tFeLn P 6u-
) 4tC4Laaea gs iSLta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 4tl 6M4v ekta
nh D: 7987, s 6cIi16kD 23 802. h, (: 83 : 0279

GEWALT HAMILTON ASSOCIATES, INC.

F-6MBeB5oDb ewL4 P Lv i4 6k) aa6ciLtea rhc3
72h G6-eat HBSe I -iM, E e-k6k P i4a, ns , 70071, d r

s eS l i-ect6k	CLBo HLat56ukB				CLBo V eat56ukB				CLu-cU r 6urtL56ukB				
Tiv e	s	T	d	) pp	FeBVA	T	R	d	) pp	FeBVA	s	R	d	) pp	FeBVA	hut
2021(10(19 hl0Fl	0	h9	0	**h9**	1	. :	0	0	**. :**	0	*	:	0	**1h**	h	**122**
hlDhFl	0	77	0	**77**	0	h9	0	0	**h9**	0	:	1	0	**9**	h	**18.**
hlB0Fl	0	h*	0	**h***	0	hh	0	0	**hh**	0	h	.	0	**9**	8	**121**
hDhFl	0	7h	0	**7h**	0	. 9	0	0	**. 9**	0	7	.	0	**10**	1	**12.**
T6tL4	0	2. *	0	**2. ***	1	211	0	0	**211**	0	27	1*	0	**. 8**	1.	**h01**
%) pp-6LcU	0%	100%	0%	**(**	(	100%	0%	0%	**(**	(	703h%	893h%	0%	**(**	(	(
% T6tL4	0%	. 93l%	0%	**. 93l%**	(	. 23 %	0%	0%	**. 23 %**	(	h2%	83 %	0%	**: 3%**	(	(
FP G	(| 03). 7	(| **03). 7**	(	0301	(	(	**0301**	(	03 18	03h81	(	**03*1***	(| 03). 8
s iSLta	0	2. h	0	**2. h**	(	20:	0	0	**20:**	(	27	1*	0	**. 8**	(	. 97
% s iSLta	0%	993 2%	0%	**993 2%**	(	9: 3%	0%	0%	**9: 3%**	(	100%	100%	0%	**100%**	(	993 0%
r ikS4t(d kit T-ucna	0	1	0	**1**	(	1	0	0	**1**	(	0	0	0	**0**	(	2
% r ikS4t(d kit T-ucna	0%	03 %	0%	**03 %**	(	03h%	0%	0%	**03h%**	(	0%	0%	0%	**0%**	(	03 %
) -ticu4LteBT-ucna	0	0	0	**0**	(	0	0	0	**0**	(	0	0	0	**0**	(	0
%) -ticu4LteBT-ucna	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%
y uaea	0	0	0	**0**	(	0	0	0	**0**	(	0	0	0	**0**	(	0
% y uaea	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	0	1	0	**1**	(	2	0	0	**2**	(	0	0	0	**0**	(	8
% y icoc4ea 6k R6LB	0%	03 %	0%	**03 %**	(	03l%	0%	0%	**03l%**	(	0%	0%	0%	**0%**	(	03l%
FeBeat-iLka	(	(	(	(	1	(	(	(	(	0	(	(	(	(	1.	
% FeBeat-iLka	(	(	(	(	100%	(	(	(	(	(	(	(	(	(	100%	(
y icoc4ea 6k C-6aawL4h	(	(	(	(	0	(	(	(	(	0	(	(	(	(	0	
% y icoc4ea 6k C-6aawL4h	(	(	(	(	0%	(	(	(	(	(	(	(	(	(	0%	(

[W] FeBeat-iLka LkB y icoc4ea 6k C-6aawL4h3s Ds eft, RDRiSUt, TDTU-u, d Dtl (Tu-k

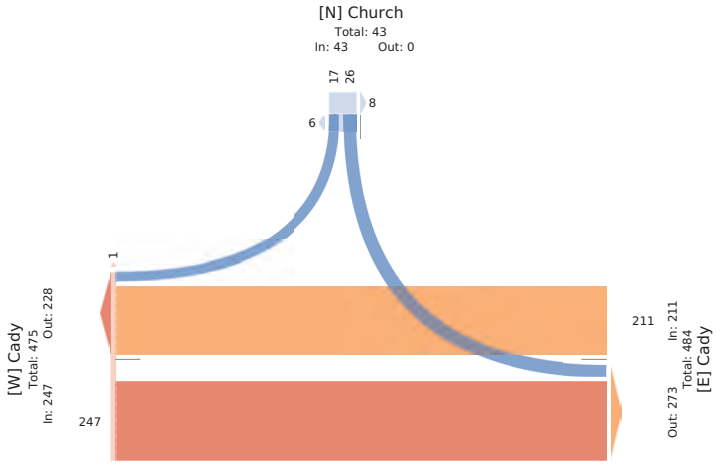
Cady & Church - TMC

Tue Oct 19, 2021

PM Peak (4 PM : 5 PM- : O) evarr Peak l Huv
o rr AraCCeC(s Ii gtC, hISi re:n SIt TvuckC, o vtLcurateUTvuckC, d uCeC,
PeUeCtMaSC, d IcBcreCHS y HsU, d IcBcreCHS AvHCCRark-
o rr MHj ewe StC
nh D885965, s HcatIHSD 23 602. 4, :863 80259

GEWALT HAMILTON ASSOCIATES, INC.

PvHj ILeUbBDGeRart l awIttHS o CCHelateCrn5c3
524 FHeeCl ELi e I vl) e, VevSHS1 InrC, ns , 50051, n h



Griswold & Cady - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886929, Location: 42.430343, -83.47872

GEWALT HAMILTON ASSOCIATES, INC.

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Cady Eastbound						Cady p estbound						Griswold Vorthbound						Griswold Southbound						
Time	L	T	R	U	**ANN**	Ped*	L	T	R	U	**ANN**	Ped*	L	T	R	U	**ANN**	Ped*	L	T	R	U	**ANN**	Ped*	**Int**
2021-10-19 7:00AM	25	2	2	0	**29**	2	0	0	0	0	**0**	0	2	2	1	0	**5**	0	0	1	11	0	**12**	0	**46**
7:15AM	25	2	4	0	**31**	0	0	0	0	0	**0**	0	1	1	0	0	**2**	0	0	2	17	0	**19**	0	**52**
7:30AM	22	3	7	0	**32**	0	0	0	0	0	**0**	0	0	3	0	0	**3**	0	0	2	17	0	**19**	0	**54**
7:45AM	36	3	10	0	**49**	0	0	3	0	0	**3**	0	1	5	2	0	**8**	0	1	3	17	0	**21**	0	**81**
Hourly Total	108	10	23	0	**141**	2	0	3	0	0	**3**	0	4	11	3	0	**18**	0	1	8	62	0	**71**	0	**233**
8:00AM	39	7	6	0	**52**	0	0	0	0	0	**0**	0	1	6	0	0	**7**	0	3	2	29	0	**34**	0	**93**
8:15AM	43	4	4	0	**51**	0	0	3	0	0	**3**	0	2	5	1	0	**8**	0	0	5	18	0	**23**	0	**85**
8:30AM	52	8	4	0	**64**	0	0	1	0	0	**1**	0	6	10	2	0	**18**	0	0	4	31	0	**35**	0	**118**
8:45AM	37	6	5	0	**48**	0	0	5	0	0	**5**	0	6	5	1	0	**12**	0	1	3	41	0	**45**	0	**110**
Hourly Total	171	25	19	0	**215**	0	0	9	0	0	**9**	0	15	26	4	0	**45**	0	4	14	119	0	**137**	0	**406**
4:00PM	61	9	10	0	**80**	0	0	3	0	0	**3**	2	3	4	0	0	**7**	0	0	9	39	0	**48**	1	**138**
4:15PM	48	5	8	0	**61**	1	0	3	0	0	**3**	1	3	7	0	0	**10**	0	0	13	31	0	**44**	2	**118**
4:30PM	46	9	9	0	**64**	1	0	2	0	0	**2**	0	1	13	0	0	**14**	0	2	12	38	0	**52**	3	**132**
4:45PM	43	7	9	0	**59**	3	1	0	0	0	**1**	1	6	12	1	0	**19**	0	0	8	41	0	**49**	0	**128**
Hourly Total	198	30	36	0	**264**	5	1	8	0	0	**9**	4	13	36	1	0	**50**	0	2	42	149	0	**193**	6	**516**
5:00PM	59	5	6	0	**70**	5	1	3	3	0	**7**	2	4	7	0	0	**11**	0	0	10	38	0	**48**	1	**136**
5:15PM	54	8	11	0	**73**	4	0	3	3	0	**6**	0	4	9	0	0	**13**	0	0	12	52	0	**64**	2	**156**
5:30PM	46	2	13	0	**61**	1	0	3	1	0	**4**	2	3	8	0	0	**11**	1	1	15	50	0	**66**	0	**142**
5:45PM	56	3	11	0	**70**	0	0	1	0	0	**1**	0	7	9	0	0	**16**	0	0	15	35	0	**50**	0	**137**
Hourly Total	215	18	41	0	**274**	10	1	10	7	0	**18**	4	18	33	0	0	**51**	1	1	52	175	0	**228**	3	**571**
Total	692	83	119	0	**894**	17	2	30	7	0	**39**	8	50	106	8	0	**164**	1	8	116	505	0	**629**	9	**1726**
% ANNroach	77.4%	9.3%	13.3%	0%	**-**	-	5.1%	76.9%	17.9%	0%	**-**	-	30.5%	64.6%	4.9%	0%	**-**	-	1.3%	18.4%	80.3%	0%	**-**	-	-
% Total	40.1%	4.8%	6.9%	0%	**51.8%**	-	0.1%	1.7%	0.4%	0%	**2.3%**	-	2.9%	6.1%	0.5%	0%	**9.5%**	-	0.5%	6.7%	29.3%	0%	**36.4%**	-	-
Lights	689	81	115	0	**885**	-	2	30	7	0	**39**	-	46	102	8	0	**156**	-	7	110	500	0	**617**	-	1697
% Lights	99.6%	97.6%	96.6%	0%	**99.0%**	-	100%	100%	100%	0%	**100%**	-	92.0%	96.2%	100%	0%	**95.1%**	-	87.5%	94.8%	99.0%	0%	**98.1%**	-	98.3%
Single-Unit Trucks	2	2	1	0	**5**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	5	0	**5**	-	11
% Single-Unit Trucks	0.3%	2.4%	0.8%	0%	**0.6%**	-	0%	0%	0%	0%	**0%**	-	0%	0.9%	0%	0%	**0.6%**	-	0%	0%	1.0%	0%	**0.8%**	-	0.6%
Articulated Trucks	1	0	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Articulated Trucks	0.1%	0%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	1	0	0	**1**	-	2
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.9%	0%	0%	**0.6%**	-	0%	0.9%	0%	0%	**0.2%**	-	0.1%
Bicycles on Road	0	0	3	0	**3**	-	0	0	0	0	**0**	-	4	2	0	0	**6**	-	1	5	0	0	**6**	-	15
% Bicycles on Road	0%	0%	2.5%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	8.0%	1.9%	0%	0%	**3.7%**	-	12.5%	4.3%	0%	0%	**1.0%**	-	0.9%
Pedestrians	-	-	-	-	-	15	-	-	-	-	-	8	-	-	-	-	-	1	-	-	-	-	-	7	
% Pedestrians	-	-	-	-	-	88.2%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	77.8%	-
Bicycles on Crosswalk	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	-	11.8%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	22.2%	-

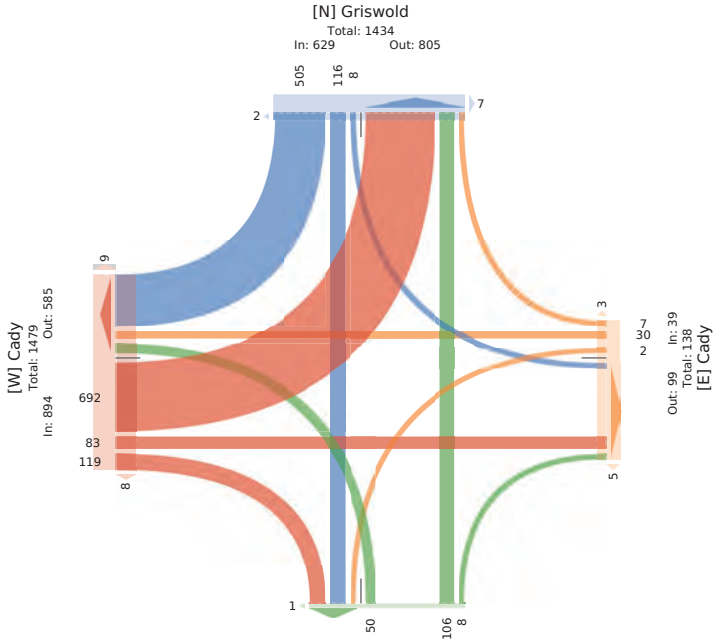
*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Griswold & Cady - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886929, Location: 42.430343, -83.47872

GEWALT HAMILTON ASSOCIATES, INC.

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

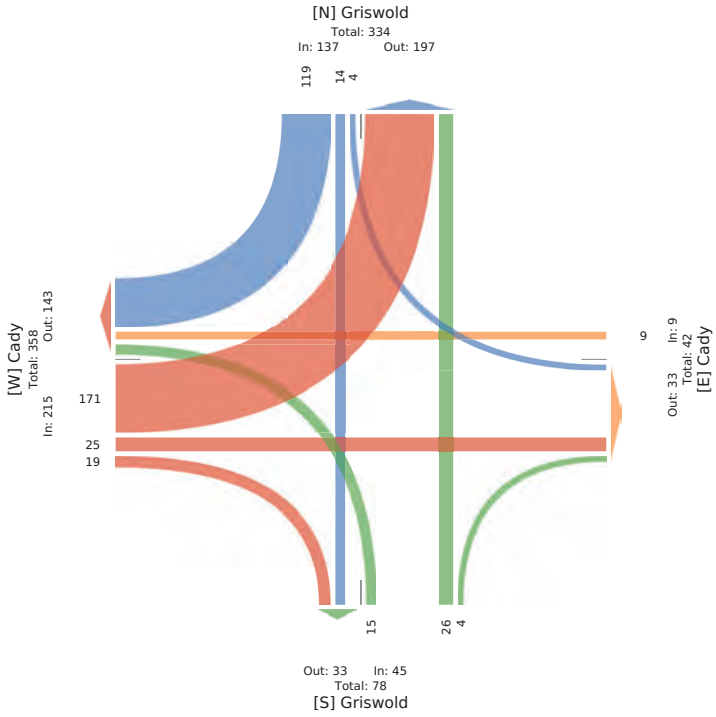


GEWALT HAMILTON ASSOCIATES, INC.

Pe) v 6ec6ls	- nUk En43dus U						- nUk p e43dus U						b S6ly dNf Vt6St3dus U						b S6ly dNf a dutC3dus U						
T6Re	P	T	B	i	F NN LeU*		P	T	B	i	F NN LeU*		P	T	B	i	F NN LeU*		P	T	B	i	F NN LeU*		wt
2021710719 (nt0F 1	89	.	I	0	**H2**	0	0	0	0	0	**0**	0	1	I	0	0	.	0	8	2	29	0	**8D**	0	**98**
(nt1F 1	D8	D	D	0	**Hl**	0	0	8	0	0	**8**	0	2	H	1	0	**(**	0	0	H	1(	0	**28**	0	**(H**
(nt0F 1	H2	(	D	0	**1D**	0	0	1	0	0	**1**	0	1	10	2	0	**1(**	0	0	D	81	0	**8H**	0	**11(**
(nt1F 1	8.	I	H	0	**D(**	0	0	H	0	0	**H**	0	I	H	1	0	**12**	0	1	8	D1	0	**DH**	0	**110**
TdtnM	1. 1	2H	19	0	**21H**	0	0	9	0	0	**9**	0	1H	2I	D	0	**DH**	0	D	1D	119	0	**18.**	0	**DDI**
% F NNSlncC	. 9:H%	11:I %	(:(%	0%	**7**	7	0%	100%	0%	0%	**7**	7	88:8%	H :(%	(:9%	0%	**7**	7	2:9%	10:2%	(1:9%	0%	**7**	7	7
% TdtnM	I2:1%	I :2%	D. %	0%	**H8:0%**	7	0%	2:2%	0%	0%	**2:2%**	7	8:. %	I :D%	1:0%	0%	**11:1%**	7	1:0%	8:D%	29:8%	0%	**88:. %**	7	7
LG5	0:(22	0:. (1	0:. 92	7	**0:(D0**	7	7	0:DH0	7	7	**0:DH0**	7	0:I 2H	0:I H0	0:H00	7	**0:I 2H**	7	0:888	0:. 00	0:. 2I	7	**0:. 11**	7	0:(10
P Q Cl4	1. 0	2H	19	0	**21D**	7	0	9	0	0	**9**	7	1H	2D	D	0	**D8**	7	D	1D	11(	0	**18I**	7	DD2
% P Q Cl4	99:D%	100%	100%	0%	**99:H%**	7	0%	100%	0%	0%	**100%**	7	100%	92:8%	100%	0%	**9HI %**	7	100%	100%	99:2%	0%	**99:8%**	7	99:0%
a 6) M1 s 6 TSucg4	1	0	0	0	**1**	7	0	0	0	0	**0**	7	0	1	0	0	**1**	7	0	0	1	0	**1**	7	8
% a 6) M1 s 6 TSucg4	0:I %	0%	0%	0%	**0:H%**	7	0%	0%	0%	0%	**0%**	7	0%	8:(%	0%	0%	**2:2%**	7	0%	0%	0:(%	0%	**0:. %**	7	0:. %
F St6cuMteUTSucg4	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0
% F St6cuMteUTSucg4	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%
r u4e4	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	1	0	0	**1**	7	0	0	0	0	**0**	7	1
% r u4e4	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	8:(%	0%	0%	**2:2%**	7	0%	0%	0%	0%	**0%**	7	0:2%
r 6ckcM44 ds BdnU	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0
% r 6ckcM44 ds BdnU	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%
LeUe4tSns4	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	
% LeUe4tSns4	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
r 6ckcM44 ds - Sl44y nMg	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	
% r 6ckcM44 ds - Sl44y nMg	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	

*LeUe4tSns4 ns Ur 6ckcM44 ds - Sl44y nMg P nPeft, BnB6) Ct, TnlTCSu, i ni 7TuSs

GEWALT HAMILTON ASSOCIATES, INC.

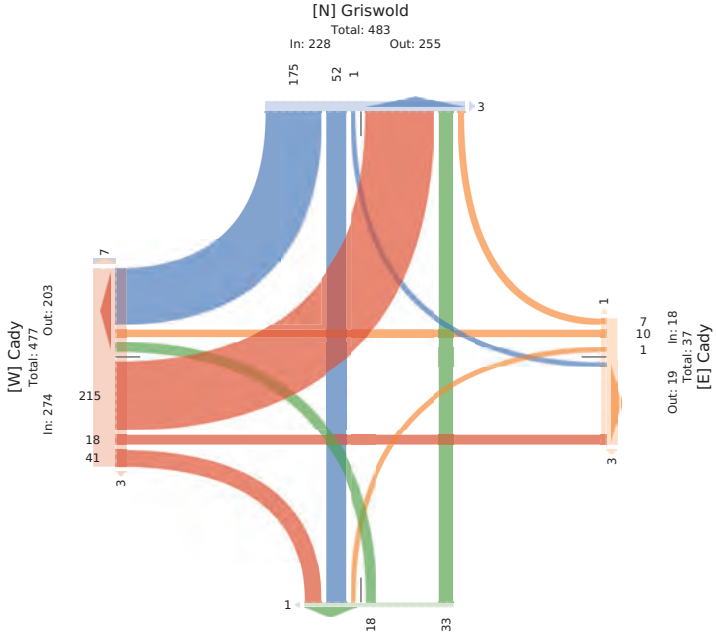


GEWALT HAMILTON ASSOCIATES, INC.

s eS t i-ectGk	CLBo ELatG6ukB						CLBo p eatG6ukB						H-iaw643 W6-tUG6ukB						H-iaw643 r 6utUG6ukB						
Tiv e	s	T	R	d	) NN FeB*		s	T	R	d	) NN FeB*		s	T	R	d	) NN FeB*		s	T	R	d	) NN FeB*		nkt
2021(10(19 h0F1	h9	h	7	0	**h0**	h	1	3	3	0	**b**	2	8	b	0	0	**11**	0	0	10	3:	0	**8:**	1	**137**
hDhF1	h8	:	11	0	**h3**	8	0	3	3	0	**7**	0	8	9	0	0	**13**	0	0	12	h2	0	**78**	2	**1h7**
hD0F1	87	2	13	0	**71**	1	0	3	1	0	**8**	2	3	:	0	0	**11**	1	1	1h	h0	0	**77**	0	**182**
hDhF1	h7	3	11	0	**h0**	0	0	1	0	0	**1**	0	b	9	0	0	**17**	0	0	1h	3h	0	**h0**	0	**13b**
T6tL4	21h	1:	81	0	**2h8**	10	1	10	b	0	**1:**	8	1:	33	0	0	**h1**	1	1	h2	1bh	0	**22:**	3	**hh1**
%) NN6LcU	h: .h%	7.7%	1h.0%	0%	**(**	(	h.7%	hh.7%	3: .9%	0%	**(**	(	3h.3%	78.b%	0%	0%	**(**	(	0.8%	22.: %	b7.: %	0%	**(**	(	(
% T6tL4	3b.b%	3.2%	b.2%	0%	**8: .0%**	(	0.2%	1.: %	1.2%	0%	**3.2%**	(	3.2%	h. : %	0%	0%	**: .9%**	(	0.2%	9.1%	30.7%	0%	**39.9%**	(	(
FP 5	0.911	0.h73	0.b79	(	**0.98:**	(	0.2h0	0. : 33	0.h: 3	(	**0.783**	(	0.77b	0. : : 9	(	(	**0. : hb**	(	0.2h0	0. : bh	0. : 81	(	**0. : b9**	(	0.917
s iSUa	218	1:	39	0	**2b1**	(	1	10	b	0	**1:**	(	17	32	0	0	**8:**	(	1	89	1b8	0	**228**	(	h71
% s iSUa	99.h%	100%	9h.1%	0%	**9: .9%**	(	100%	100%	100%	0%	**100%**	(	: : .9%	9b.0%	0%	0%	**98.1%**	(	100%	98.2%	99.8%	0%	**9: .2%**	(	9: .2%
r ikS4e(d kit T-ucna	1	0	1	0	**2**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	1	0	**1**	(	3
% r ikS4e(d kit T-ucna	0.h%	0%	2.8%	0%	**0.b%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0.7%	0%	**0.8%**	(	0.h%
) -ticu4LteBT-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
%) -ticu4LteBT-ucna	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%
y uaea	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
% y uaea	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	0	0	1	0	**1**	(	0	0	0	0	**0**	(	2	1	0	0	**3**	(	0	3	0	0	**3**	(	b
% y icoc4ea 6k R6LB	0%	0%	2.8%	0%	**0.8%**	(	0%	0%	0%	0%	**0%**	(	11.1%	3.0%	0%	0%	**h.9%**	(	0%	h. : %	0%	0%	**1.3%**	(	1.2%
FeBeat-iLka	(	(	(	(	(	10	(	(	(	(	(	8	(	(	(	(	(	1	(	(	(	(	(	3	
% FeBeat-iLka	(	(	(	(	(	100%	(	(	(	(	(	100%	(	(	(	(	(	100%	(	(	(	(	(	100%	(
y icoc4ea 6k C-6aawL4h	(	(	(	(	(	0	(	(	(	(	(	0	(	(	(	(	(	0	(	(	(	(	(	0	
% y icoc4ea 6k C-6aawL4h	(	(	(	(	(	0%	(	(	(	(	(	0%	(	(	(	(	(	0%	(	(	(	(	(	0%	(

*FeBeat-iLka lkB y icoc4ea 6k C-6aawL4h. s Ds eft, RDRiSUt, TDfU-u, d Dtl (Tu-k

GEWALT HAMILTON ASSOCIATES, INC.



River & Beal - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 0, Location: 423 42889, -8. 3477948

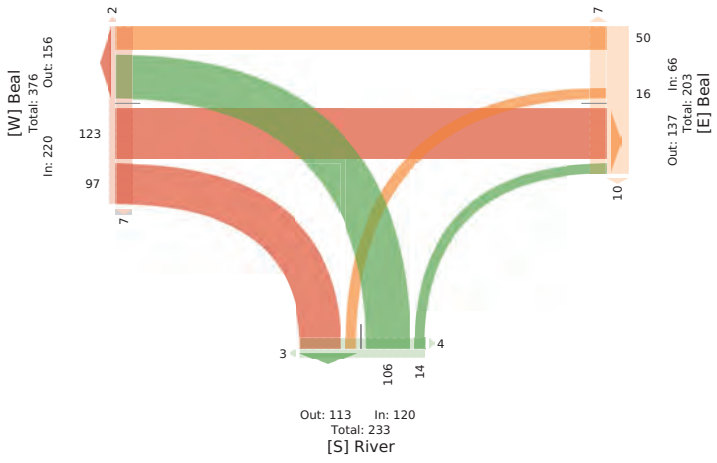
GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Beal Eastbound					Beal p estbound					River Worthbound					
Time	T	R	U	**ANN**	Ped*	L	T	U	**ANN**	Ped*	L	R	U	**ANN**	Ped*	**Int**
2021-10-19 7:00AM	2	1	0	**.**	0	1	1	0	**2**	1	4	1	0	**5**	0	**10**
7:15AM	4	0	0	**4**	0	0	0	0	**0**	0	2	0	0	**2**	0	**6**
7:. 0AM	6	2	0	**8**	0	0	0	0	**0**	0	2	0	0	**2**	0	**10**
7:45AM	7	5	0	**12**	0	0	2	0	**2**	0	4	0	0	**4**	0	**18**
Hourly Total	19	8	0	**27**	0	1	.	0	**4**	1	12	1	0	**1.**	0	**44**
8:00AM	6	.	0	**9**	0	0	1	0	**1**	0	7	.	0	**10**	0	**20**
8:15AM	4	2	0	**6**	0	1	2	0	**.**	2	6	1	0	**7**	0	**16**
8:. 0AM	4	4	0	**8**	0	2	7	0	**9**	1	10	2	0	**12**	0	**29**
8:45AM	5	2	0	**7**	1	1	8	0	**9**	0	5	0	0	**5**	1	**21**
Hourly Total	19	11	0	**. 0**	1	4	18	0	**22**	.	28	6	0	**. 4**	1	**86**
4:00PM	16	1	0	**17**	.	1	5	0	**6**	0	2	0	0	**2**	0	**25**
4:15PM	11	10	0	**21**	0	1	2	0	**.**	1	5	0	0	**5**	0	**29**
4:. 0PM	7	1.	0	**20**	0	1	2	0	**.**	2	11	0	0	**11**	0	**. 4**
4:45PM	12	9	0	**21**	0	0	8	0	**8**	6	1.	.	0	**16**	0	**45**
Hourly Total	46	. .	0	**79**	.	.	17	0	**20**	9	. 1	.	0	**. 4**	0	**1. .**
5:00PM	10	7	0	**17**	.	2	2	0	**4**	0	6	2	0	**8**	2	**29**
5:15PM	9	12	0	**21**	0	2	4	0	**6**	2	10	1	0	**11**	1	**. 8**
5:. 0PM	10	15	0	**25**	2	1	1	0	**2**	0	7	0	0	**7**	.	**. 4**
5:45PM	10	11	0	**21**	0	.	5	0	**8**	2	12	1	0	**1.**	0	**42**
Hourly Total	. 9	45	0	**84**	5	8	12	0	**20**	4	. 5	4	0	**. 9**	6	**14.**
Total	12.	97	0	**220**	9	16	50	0	**66**	17	106	14	0	**120**	7	**406**
% ANNroach	55 3%	44 3%	0%	**-**	-	24 2%	75 8%	0%	**-**	-	88 3 %	11 7%	0%	**-**	-	-
% Total	. 03 %	2. 3%	0%	**54 2%**	-	. 3%	12 3 %	0%	**16 3 %**	-	26 1 %	. 3 %	0%	**29 6%**	-	-
Lights	122	90	0	**212**	-	12	50	0	**62**	-	98	1.	0	**111**	-	. 85
% Lights	99 2%	92 8%	0%	**96 8%**	-	75 0%	100%	0%	**9. 9%**	-	92 5%	92 9%	0%	**92 5%**	-	94 8%
Single-Unit Trucks	0	1	0	**1**	-	1	0	0	**1**	-	1	1	0	**2**	-	4
% Single-Unit Trucks	0%	1 0%	0%	**0 5%**	-	6 3 %	0%	0%	**1 5%**	-	0 9%	7 1 %	0%	**1 7%**	-	1 0%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	1	0	0	**1**	-	0	0	0	**0**	-	1	0	0	**1**	-	2
% Buses	0 8%	0%	0%	**0 5%**	-	0%	0%	0%	**0%**	-	0 9%	0%	0%	**0 8%**	-	0 5%
Bicycles on Road	0	6	0	**6**	-	.	0	0	**.**	-	6	0	0	**6**	-	15
% Bicycles on Road	0%	6 2%	0%	**2 7%**	-	18 8%	0%	0%	**4 5%**	-	5 7%	0%	0%	**5 0%**	-	. 7%
Pedestrians	-	-	-	-	9	-	-	-	-	17	-	-	-	-	7	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

River & Beal - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 0, Location: 423 42889, -8. 3477948

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



River & Beal - TMC
Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Nl M 44e4 hP Q C14, a 6) M7 s 6 TS ucg4, F St6cuMteUTS ucg4, r u4e4,
LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMA
F Nl doeR est4
w m((19D0, Pdcnt6lsm 28 2((9, 7(D8 . . 9: (

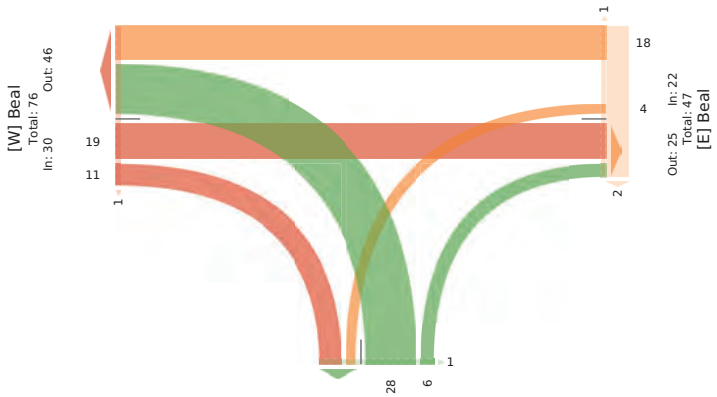
GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeU3kmb ey nMGnR 6Wls F 44dc6nte4 wsc8
I 2H5 dSe4t EU) e v Sne, VeSs ds G6NMl vP, I 00I 1, i a

Pe) v 6ect6ls	r enM En43dus U					r enM p e43dus U					B6oeS WdSC3dus U					
T6Re	T	B	i	**F NN**	LeU*	P	T	i	**F NN**	LeU*	P	B	i	**F NN**	LeU*	**wt**
202171 0719 (n0 F1	I	D	0	**9**	0	0	1	0	**1**	0	.	D	0	**10**	0	**20**
(n1 F1	:	2	0	**I**	0	1	2	0	**D**	2	I	1	0	**.**	0	**11**
(n0 F1	:	:	0	**(**	0	2	.	0	**9**	1	10	2	0	**12**	0	**29**
(m F1	H	2	0	**.**	1	1	(	0	**9**	0	H	0	0	**H**	1	**21**
TdmM	19	11	0	**D0**	1	:	1(	0	**22**	D	2(	I	0	**D**	1	**(I**
% F NNSincC	1 D0 %	D 8 %	0%	**7**	7	1(82 %	(18 %	0%	**7**	7	(28 %	1. 8 %	0%	**7**	7	7
% TdmM	228 %	128 %	0%	**D. 8%**	7	: 8 %	208%	0%	**2H 8 %**	7	D28 %	. 8%	0%	**D8 8%**	7	7
LG5	08 92	08 ((	7	**08 DD**	7	08 00	08 H D	7	**08 11**	7	08 00	08 D0	7	**08 0(**	7	08 : 1
P Q C14	19	11	0	**D0**	7	D	1(	0	**21**	7	2.	I	0	**DD**	7	(:
% P Q C14	100%	100%	0%	**100%**	7	. H0 %	100%	0%	**9H H %**	7	91 8 %	100%	0%	**9. 8 %**	7	9. 8 %
a 6) M7 s 6 TS ucg4	0	0	0	**0**	7	1	0	0	**1**	7	0	0	0	**0**	7	1
% a 6) M7 s 6 TS ucg4	0%	0%	0%	**0%**	7	2H 0 %	0%	0%	**: H %**	7	0%	0%	0%	**0%**	7	18 2%
F St6cuMteUTS ucg4	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% F St6cuMteUTS ucg4	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
r u4e4	0	0	0	**0**	7	0	0	0	**0**	7	1	0	0	**1**	7	1
% r u4e4	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	D8 %	0%	0%	**28 0%**	7	18 2%
r 6ckcM4 ds BdnU	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
LeUe4tSns 4	7	7	7	7	1	7	7	7	7	D	7	7	7	7	1	
% LeUe4tSns 4	7	7	7	7	100%	7	7	7	7	100%	7	7	7	7	100%	7
r 6ckcM4 ds - Sl44y nMg	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6ckcM4 ds - Sl44y nMg	7	7	7	7	0%	7	7	7	7	0%	7	7	7	7	0%	7

*LeUe4tSns 4 ns Ur 6ckcM4 ds - Sl44y nMg8 PmPeft, BmB6) Cl, TmlTCSu, i mi 7TuSs

River & Beal - TMC
Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Nl M 44e4 hP Q C14, a 6) M7 s 6 TS ucg4, F St6cuMteUTS ucg4, r u4e4,
LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMA
F Nl doeR est4
w m((19D0, Pdcnt6lsm 28 2((9, 7(D8 . . 9: (

GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeU3kmb ey nMGnR 6Wls F 44dc6nte4 wsc8
I 2H5 dSe4t EU) e v Sne, VeSs ds G6NMl vP, I 00I 1, i a



River & Beal - TMC

Tue Oct 19, 2021
Fl FeLngh(70 Fl AM70 Fl - AO4eELi6FeLn) CuP
a 6s 6Liiei gSUkti, dUBr6eAyBtiTRucni, a RUcuGLteo TRucni, Ruiei,
FeoeitRULEi, RUcwc6ei CBvCLo, RUcwc6ei CBs PCimLfin-
a 6il C4el eBti
D (88. 970, SCcLrUCB(h23h2889, A873bbb9h8

GEWALT HAMILTON ASSOCIATES, INC.
FRC4Udeo Gv(HemLfi) LI UCB a iiCcULtei DBc3
. 2M5CReit Eore : Pude, VeBBCB) U6i, DS, . 00. 1, y d

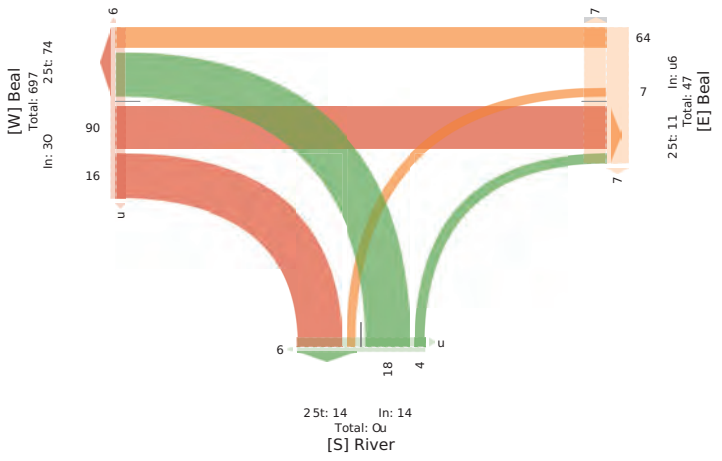
Ser . UBectUCB	ReLi6 ELitCUuBo					ReLi6 p eitCUuBo					v UdeP WCRkCUuBo					
TUi e	T	v	y	**a NN**	Feo*	S	T	y	**a NN**	Feo*	S	v	y	**a NN**	Feo*	**DBi**
2021A10A19 h(70Fl	b	17	0	**20**	0	1	2	0	**7**	2	11	0	0	**11**	0	**7h**
h(hMFl	12	9	0	**21**	0	0	8	0	**8**	-	17	7	0	**1.**	0	**hM**
M00Fl	10	b	0	**1b**	7	2	2	0	**h**	0	.	2	0	**8**	2	**29**
M1MFl	9	12	0	**21**	0	2	h	0	**.**	2	10	1	0	**11**	1	**78**
TCUL6	78	h1	0	**b9**	7	M	1.	0	**21**	10	h0	.	0	**h.**	7	**1h.**
% a NNKCLck	h83I%	M.9%	0%	**A**	A	273I%	b. 2%	0%	**A**	A	8b.0%	173I%	0%	**A**	A	A
% TCUL6	2. 30%	283I%	0%	**Mb.1%**	A	73I%	113I%	0%	**1h3I%**	A	2b.I%	h.1%	0%	**713M%**	A	A
F) 5	03.92	03I17	A	**03911b**	A	03.2M	03M40	A	**03 M**	A	03.M0	03M40	A	**03007**	A	03b9h
SUkti	78	78	0	**b.**	A	M	1.	0	**21**	A	79	M	0	**hh**	A	1h1
% SUkti	100%	923I%	0%	**9. 32%**	A	100%	100%	0%	**100%**	A	9b.M%	873I%	0%	**9M2%**	A	9. 3 %
dUBr6eAyBtiTRucni	0	1	0	**1**	A	0	0	0	**0**	A	0	1	0	**1**	A	2
% dUBr6eAyBtiTRucni	0%	23I%	0%	**137%**	A	0%	0%	0%	**0%**	A	0%	1. 3I%	0%	**232%**	A	13I%
a RUcuGLteo TRucni	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% a RUcuGLteo TRucni	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
Ruiei	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% Ruiei	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
RUcwc6ei CBvCLo	0	2	0	**2**	A	0	0	0	**0**	A	1	0	0	**1**	A	7
% RUcwc6ei CBvCLo	0%	h.9%	0%	**23M%**	A	0%	0%	0%	**0%**	A	23M%	0%	0%	**232%**	A	23I%
FeoeitRULEi	A	A	A	A	7	A	A	A	A	10	A	A	A	A	7	
% FeoeitRULEi	A	A	A	A	100%	A	A	A	A	100%	A	A	A	A	100%	A
RUcwc6ei CBs PCimLfin	A	A	A	A	0	A	A	A	A	0	A	A	A	A	0	
% RUcwc6ei CBs PCimLfin	A	A	A	A	0%	A	A	A	A	0%	A	A	A	A	0%	A

*FeoeitRULEi LBo RUcwc6ei CBs PCimLfin3S(Seft, v (v U'kt, T(TkRu, y (y AUuBB

River & Beal - TMC

Tue Oct 19, 2021
Fl FeLngh(70 Fl AM70 Fl - AO4eELi6FeLn) CuP
a 6s 6Liiei gSUkti, dUBr6eAyBtiTRucni, a RUcuGLteo TRucni, Ruiei,
FeoeitRULEi, RUcwc6ei CBvCLo, RUcwc6ei CBs PCimLfin-
a 6il C4el eBti
D (88. 970, SCcLrUCB(h23h2889, A873bbb9h8

GEWALT HAMILTON ASSOCIATES, INC.
FRC4Udeo Gv(HemLfi) LI UCB a iiCcULtei DBc3
. 2M5CReit Eore : Pude, VeBBCB) U6i, DS, . 00. 1, y d



Beal Street & South Main Street - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886947, Location: 42.429186, -83.475603

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

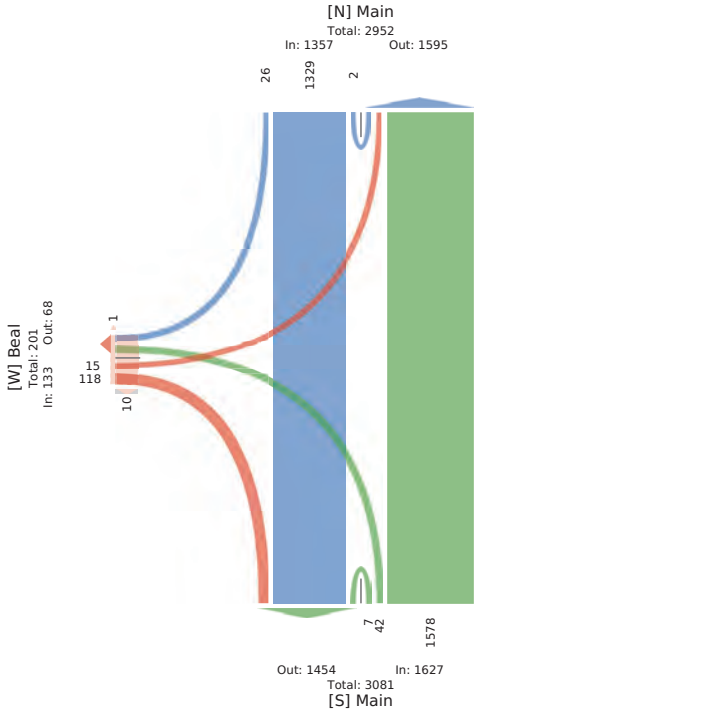
Leg Direction	Beal Eastbound					Main Northbound					Main Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2021-10-19 7:00AM	0	1	0	**1**	0	2	38	0	**40**	0	37	0	0	**37**	0	**78**
7:15AM	1	1	0	**2**	0	0	41	1	**42**	0	34	1	0	**35**	0	**79**
7:30AM	0	8	0	**8**	0	0	52	0	**52**	0	57	0	0	**57**	0	**117**
7:45AM	0	5	0	**5**	0	3	74	1	**78**	0	72	1	0	**73**	0	**156**
Hourly Total	1	15	0	**16**	0	5	205	2	**212**	0	200	2	0	**202**	0	**430**
8:00AM	1	6	0	**7**	0	1	81	0	**82**	0	52	3	0	**55**	0	**144**
8:15AM	2	3	0	**5**	1	2	76	1	**79**	0	63	0	0	**63**	0	**147**
8:30AM	0	6	0	**6**	2	9	83	0	**92**	0	73	5	0	**78**	0	**176**
8:45AM	0	6	0	**6**	1	8	98	0	**106**	0	74	1	0	**75**	0	**187**
Hourly Total	3	21	0	**24**	4	20	338	1	**359**	0	262	9	0	**271**	0	**654**
4:00PM	3	15	0	**18**	1	0	103	1	**104**	0	92	5	2	**99**	0	**221**
4:15PM	2	6	0	**8**	0	1	104	0	**105**	0	100	0	0	**100**	0	**213**
4:30PM	0	8	0	**8**	2	0	146	0	**146**	0	122	0	0	**122**	0	**276**
4:45PM	2	11	0	**13**	1	6	135	1	**142**	0	115	0	0	**115**	0	**270**
Hourly Total	7	40	0	**47**	4	7	488	2	**497**	0	429	5	2	**436**	0	**980**
5:00PM	1	9	0	**10**	1	2	120	1	**123**	0	114	2	0	**116**	0	**249**
5:15PM	2	12	0	**14**	0	3	155	0	**158**	0	117	2	0	**119**	0	**291**
5:30PM	1	11	0	**12**	2	2	133	1	**136**	0	117	1	0	**118**	0	**266**
5:45PM	0	10	0	**10**	0	3	139	0	**142**	0	90	5	0	**95**	0	**247**
Hourly Total	4	42	0	**46**	3	10	547	2	**559**	0	438	10	0	**448**	0	**1053**
Total	15	118	0	**133**	11	42	1578	7	**1627**	0	1329	26	2	**1357**	0	**3117**
% Approach	11.3%	88.7%	0%	**-**	-	2.6%	97.0%	0.4%	**-**	-	97.9%	1.9%	0.1%	**-**	-	-
% Total	0.5%	3.8%	0%	**4.3%**	-	1.3%	50.6%	0.2%	**52.2%**	-	42.6%	0.8%	0.1%	**43.5%**	-	-
Lights	15	117	0	**132**	-	39	1551	7	**1597**	-	1310	22	2	**1334**	-	3063
% Lights	100%	99.2%	0%	**99.2%**	-	92.9%	98.3%	100%	**98.2%**	-	98.6%	84.6%	100%	**98.3%**	-	98.3%
Single-Unit Trucks	0	0	0	**0**	-	0	15	0	**15**	-	7	0	0	**7**	-	22
% Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	1.0%	0%	**0.9%**	-	0.5%	0%	0%	**0.5%**	-	0.7%
Articulated Trucks	0	0	0	**0**	-	2	3	0	**5**	-	3	0	0	**3**	-	8
% Articulated Trucks	0%	0%	0%	**0%**	-	4.8%	0.2%	0%	**0.3%**	-	0.2%	0%	0%	**0.2%**	-	0.3%
Buses	0	1	0	**1**	-	1	7	0	**8**	-	5	1	0	**6**	-	15
% Buses	0%	0.8%	0%	**0.8%**	-	2.4%	0.4%	0%	**0.5%**	-	0.4%	3.8%	0%	**0.4%**	-	0.5%
Bicycles on Road	0	0	0	**0**	-	0	2	0	**2**	-	4	3	0	**7**	-	9
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0.1%	0%	**0.1%**	-	0.3%	11.5%	0%	**0.5%**	-	0.3%
Pedestrians	-	-	-	-	9	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	81.8%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	18.2%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beal Street & South Main Street - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886947, Location: 42.429186, -83.47b603

GEWALT HAMILTON ASSOCIATES, INC.
Provided Gy: Hewalt 5 amilton Associates Inc.
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

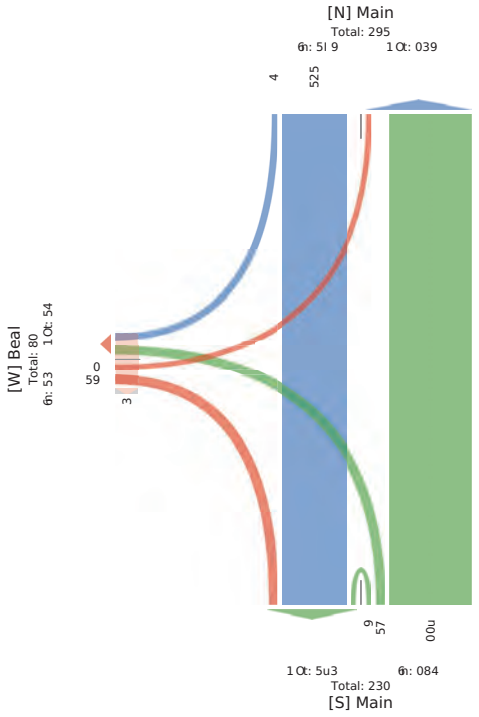


GEWALT HAMILTON ASSOCIATES, INC.

Pe) v 6ect6ds	r enM Ena45dus U					l nfs. Nds5dus U					l nfs. adut5dus U					
T6Re	P	B	i	Fpp	LeU*	P	T	i	Fpp	LeU*	T	B	i	Fpp	LeU*	wt
2021710719 (m0F1	1	I	0	:	0	1	(1	0	(2	0	32	.	0	33	0	1DD
(m3F1	2	.	0	3	1	2	: I	1	: 9	0	I.	0	0	1.	0	1D
(m0F1	0	1	0	I	2	9	(.	0	92	0	: .	3	0	: (	0	1: I
(m8F1	0	1	0	I	1	(	9(	0	10I	0	: D	1	0	: 3	0	1(:
TdmM	.	21	0	2D	D	20	. . (	1	. 39	0	2I 2	9	0	2: 1	0	I 3D
% FppSlncC	128%	(: 8%	0%	7	7	38 %	9D2%	08 %	7	7	9I 8 %	. 8 %	0%	7	7	7
% TdmM	08%	. 82%	0%	. 8 %	7	. 8 %	318 %	082%	3D9%	7	D08 %	18D%	0%	DI8D%	7	7
LGH	08 : 3	08(: 3	7	08(3:	7	083I	08(I 2	0823 0	08(D	7	08((3	083D	7	08(I 9	7	08 : D
P6jO4	.	21	0	2D	7	1(	. 23	1	. DD	7	23.	9	0	21 2	7	I. 0
% P6jO4	100%	100%	0%	100%	7	908%	9I 82%	100%	938 %	7	9I 8 %	100%	0%	9I8 %	7	9I 8 %
a6i) M1 s6 TSucg4	0	0	0	0	7	0	:	0	:	7	2	0	0	2	7	9
% a6i) M1 s6 TSucg4	0%	0%	0%	0%	7	0%	28%	0%	18%	7	08 %	0%	0%	08 %	7	18D%
F StGcuMteUTSucg4	0	0	0	0	7	1	2	0	.	7	2	0	0	2	7	3
% F StGcuMteUTSucg4	0%	0%	0%	0%	7	38%	08 %	0%	08 %	7	08 %	0%	0%	08 %	7	08 %
r u4e4	0	0	0	0	7	1	D	0	3	7	3	0	0	3	7	10
% r u4e4	0%	0%	0%	0%	7	38%	18 2%	0%	18D%	7	18%	0%	0%	18 %	7	188%
r 6ckcM4 ds BdnU	0	0	0	0	7	0	0	0	0	7	0	0	0	0	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%
LeUe4tSns 4	7	7	7	7	D	7	7	7	7	0	7	7	7	7	0	
% LeUe4tSns 4	7	7	7	7	100%	7	7	7	7	7	7	7	7	7	7	7
r 6ckcM4 ds - Sl44y nMgA	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6ckcM4 ds - Sl44y nMgA	7	7	7	7	0%	7	7	7	7	7	7	7	7	7	7	7

*LeUe4tSns 4 nsUr 6ckcM4 ds - Sl44y nMgA3PmPeft, BmB9jO1, TmiTCSu, i mi 7TuSs

GEWALT HAMILTON ASSOCIATES, INC.

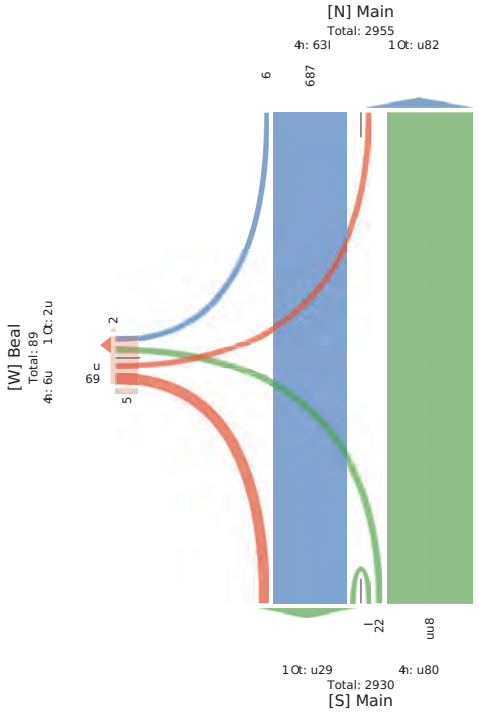


GEWALT HAMILTON ASSOCIATES, INC.

Ser : U6ectU2B	ReL6 ELitbCuBo					l LIB NCtkbCuBo					l LIB dCutkbCuBo					
TUe	S	v	y	a pp	Feo*	S	T	y	a pp	Feo*	T	v	y	a pp	Feo*	D6
2021A10A19 h(70F1	0	8	0	8	2	0	1h.	0	1h.	0	122	0	0	122	0	23.
h(hMF1	2	11	0	17	1	.	17M	1	1h2	0	11M	0	0	11M	0	230
M00F1	1	9	0	10	1	2	120	1	127	0	11h	2	0	11.	0	2h9
M1MF1	2	12	0	1h	0	7	1MM	0	1M8	0	113	2	0	119	0	291
TCiL6	M	h0	0	hM	h	11	MM	2	M9	0	h. 8	h	0	h32	0	108.
% a ppRCLck	115%	883%	0%	A	A	15D%	935%	05h%	A	A	99I2%	03B%	0%	A	A	A
% TCiL6	05M%	75I%	0%	h1%	A	15D%	M 52%	052%	M2h%	A	h75I%	05h%	0%	h7M%	A	A
F) H	05 2M	05877	A	0580h	A	05hM8	05893	05M0	05900	A	05M8	05M0	A	059. M	A	05072
Sl4kti	M	h0	0	hM	A	11	MM7	2	M.	A	h. M	h	0	h. 9	A	1080
% Sl4kti	100%	100%	0%	100%	A	100%	993M%	100%	995M%	A	993h%	100%	0%	995h%	A	993h%
dUBr6eAy BtTTucni	0	0	0	0	A	0	2	0	2	A	1	0	0	1	A	7
% dUBr6eAy BtTTucni	0%	0%	0%	0%	A	0%	05h%	0%	05h%	A	052%	0%	0%	052%	A	057%
a PtUuGLteo TTucni	0	0	0	0	A	0	1	0	1	A	1	0	0	1	A	2
% a PtUuGLteo TTucni	0%	0%	0%	0%	A	0%	052%	0%	052%	A	052%	0%	0%	052%	A	052%
Ruiei	0	0	0	0	A	0	0	0	0	A	0	0	0	0	A	0
% Ruiei	0%	0%	0%	0%	A	0%	0%	0%	0%	A	0%	0%	0%	0%	A	0%
RUwc6ei CBv CLo	0	0	0	0	A	0	0	0	0	A	1	0	0	1	A	1
% RUwc6ei CBv CLo	0%	0%	0%	0%	A	0%	0%	0%	0%	A	052%	0%	0%	052%	A	053%
FeoeitPULBi	A	A	A	A	2	A	A	A	A	0	A	A	A	A	0	
% FeoeitPULBi	A	A	A	A	M53%	A	A	A	A	A	A	A	A	A	A	A
RUwc6ei CBs PCiimLfn	A	A	A	A	2	A	A	A	A	0	A	A	A	A	0	
% RUwc6ei CBs PCiimLfn	A	A	A	A	M53%	A	A	A	A	A	A	A	A	A	A	A

*FeoeitPULBi LBo RUwc6ei CBs PCiimLfn5S(Seft, v (v U4kt, T(TkRh, y (y AfuHB

GEWALT HAMILTON ASSOCIATES, INC.



7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886948, Location: 42.427136, -83.488241

Provided 5y: b ewalt Gamilton Associates Inc.
62HForest Edge Drive, Vernon Gills, IL, 60061, US

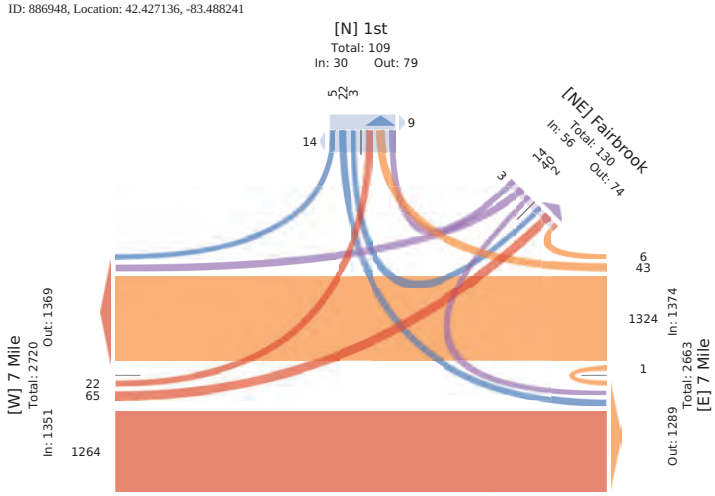
Leg Direction	7 Mile East5ound						7 Mile p est5ound						1st South5ound						Fair5rook Southwest5ound						
Time	L	BL	T	U	A Ped*		T	R	GR	U	A Ped*		GL	L	R	U	A Ped*		GL	BR	GR	U	A Ped*		Int
2021-10-19 7:00AM	0	1	74	0	**7H**	0	38	1	0	0	**39**	0	0	1	0	0	**1**	0	0	1	0	0	**1**	0	**116**
7:1HAM	0	2	H	0	**60**	0	41	3	0	0	**44**	0	0	0	0	0	**0**	1	0	0	0	0	**0**	0	**104**
7:30AM	0	3	73	0	**76**	0	H**0**	0	0	0	**H0**	0	0	1	0	0	**1**	0	1	3	1	0	**H**	0	**132**
7:4HAM	3	7	7H	0	**8H**	0	44	6	0	0	**H0**	0	0	1	0	0	**1**	0	0	2	0	0	**2**	0	**138**
Gourly Total	3	13	280	0	**296**	0	173	10	0	0	**183**	0	0	3	0	0	**3**	1	1	6	1	0	**8**	0	**490**
8:00AM	2	H	107	0	**114**	0	66	2	0	0	**68**	0	0	1	1	0	**2**	1	1	2	0	0	**3**	0	**187**
8:1HAM	4	8	97	0	**109**	0	48	0	1	0	**49**	0	0	3	0	0	**3**	4	0	2	0	0	**2**	2	**163**
8:30AM	1	4	6H	0	**70**	0	H**1**	2	0	0	**H**	0	0	3	1	0	**4**	2	0	1	0	0	**1**	0	**132**
8:4HAM	1	H	62	0	**68**	0	H**0**	3	0	0	**H8**	0	0	2	0	0	**2**	0	0	2	0	0	**2**	0	**12H**
Gourly Total	8	22	331	0	**361**	0	219	7	1	0	**227**	0	0	9	2	0	**11**	7	1	7	0	0	**8**	2	**607**
4:00PM	2	6	80	0	**88**	0	114	2	0	0	**116**	0	0	4	1	0	**H**	6	0	6	0	0	**6**	0	**21H**
4:1HPM	0	3	7H	0	**78**	0	96	3	2	0	**101**	0	0	2	0	0	**2**	0	0	2	3	0	**H**	0	**186**
4:30PM	2	H	8H	0	**92**	0	131	0	0	0	**131**	0	0	2	0	0	**2**	0	0	3	1	0	**4**	0	**229**
4:4HPM	3	H	102	0	**110**	0	113	4	0	0	**117**	0	1	0	1	0	**2**	4	0	3	1	0	**4**	1	**233**
Gourly Total	7	19	342	0	**368**	0	4H**4**	9	2	0	**46H**	0	1	8	2	0	**11**	10	0	14	H	0	**19**	1	**863**
H:00PM	0	3	60	0	**63**	0	123	3	0	1	**127**	0	0	0	0	0	**0**	0	0	H	0	0	**H**	0	**19H**
H:1HPM	1	4	81	0	**86**	0	118	7	3	0	**128**	0	0	0	0	0	**0**	2	0	2	3	0	**H**	0	**219**
H:30PM	2	2	84	0	**88**	0	12H	2	0	0	**127**	0	1	0	1	0	**2**	1	0	2	4	0	**6**	0	**223**
H:4HPM	1	2	86	0	**89**	0	112	H	0	0	**117**	0	1	2	0	0	**3**	2	0	4	1	0	**H**	0	**214**
Gourly Total	4	11	311	0	**326**	0	478	17	3	1	**499**	0	2	2	1	0	**H**	H	0	13	8	0	**21**	0	**8H1**
Total	22	6H	1264	0	**13H**	0	1324	43	6	1	**1374**	0	3	22	H	0	**30**	23	2	40	14	0	**H6**	3	**2811**
% A Vehicle	1.6%	4.8%	93.6%	0%		-	96.4%	3.1%	0.4%	0.1%		-	10.0%	73.3%	16.7%	0%		-	3.6%	71.4%	2H.0%	0%		-	-
% Total	0.8%	2.3%	4H.0%	0%	**48.1%**		47.1%	1.H%	0.2%	0%	**48.9%**		0.1%	0.8%	0.2%	0%	**1.1%**		0.1%	1.4%	0.H%	0%	**2.0%**		
Lights	21	64	1237	0	**1322**		1288	43	6	1	**1338**		2	22	H	0	**29**		2	3H	12	0	**49**		27**38**
% Lights	9H.H%	98.H%	97.9%	0%	**97.9%**		97.3%	100%	100%	100%	**97.4%**		66.7%	100%	100%	0%	**96.7%**		100%	87.H%	8H.7%	0%	**87.H%**		97.4%
Single-Unit Trucks	1	0	13	0	**14**		21	0	0	0	**21**		0	0	0	0	**0**		0	0	0	0	**0**		3H
% Single-Unit Trucks	4.H%	0%	1.0%	0%	**1.0%**		1.6%	0%	0%	0%	**1.H%**		0%	0%	0%	0%	**0%**		0%	0%	0%	0%	**0%**		1.2%
Articulated Trucks	0	0	7	0	**7**		11	0	0	0	**11**		0	0	0	0	**0**		0	0	0	0	**0**		18
% Articulated Trucks	0%	0%	0.6%	0%	**0.H%**		0.8%	0%	0%	0%	**0.8%**		0%	0%	0%	0%	**0%**		0%	0%	0%	0%	**0%**		0.6%
Buses	0	0	3	0	**3**		3	0	0	0	**3**		0	0	0	0	**0**		0	3	2	0	**H**		11
% Buses	0%	0%	0.2%	0%	**0.2%**		0.2%	0%	0%	0%	**0.2%**		0%	0%	0%	0%	**0%**		0%	7.H%	14.3%	0%	**8.9%**		0.4%
Bicycles on Road	0	1	4	0	**H**		1	0	0	0	**1**		1	0	0	0	**1**		0	2	0	0	**2**		9
% Bicycles on Road	0%	1.H%	0.3%	0%	**0.4%**		0.1%	0%	0%	0%	**0.1%**		33.3%	0%	0%	0%	**3.3%**		0%	H.0%		0%	0%	**3.6%**	0.3%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	22	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	- 9H7%	-	-	-	-	-	- 100%	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	- 4.3%	-	-	-	-	-	0%	

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, GL: Gard left, GR: Gard right, L: Left, R: Right, T: Thru, U: U-Turn

7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886948, Location: 42.427136, -83.488241

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021
F1 Leng h(7A0 F1 M 7A0 F1 4
F PP6 Ph))e) hCas i t), SaLis feM Uit Tlaucg), F ktaculPnted Tlaucg), Bu)e), Lede)tkanU), Bacycle) oURond, Bacycle) oU6 ko))wnlg4
F PP1 ovemeUt)
ID7- - : 98- , CocntaoU782.82(1A: , MA8- - 281

Llovaled 3y75 ewnl? b nmaRtoUF))ocante) IUc.
: 2GHoke)t Edse Dkave, VekLbUb aP), IC, : 00: 1, r S

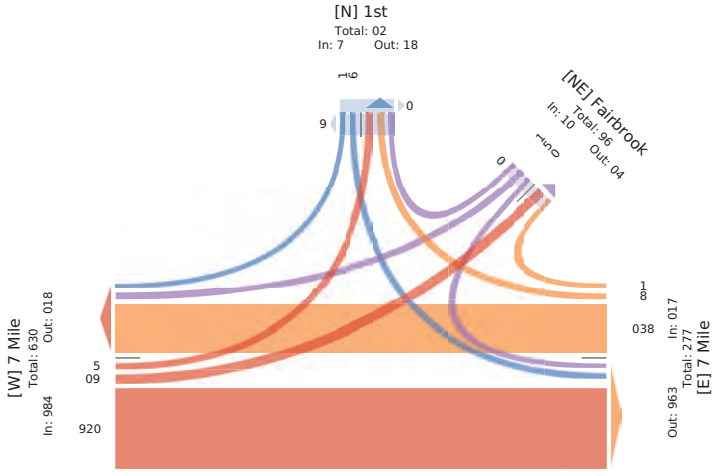
Ces DalectaoU	(l ale En)t3ouUil						(l ale p e)t3ouUil						1)t Souti 3ouUil						Hnak8loog Souti we)t3ouUil						
Tame	C	BC	T	r	F W Led*		T	R	b R	r	F W Led*		b C	C	R	r	F W Led*		b C	BR	b R	r	F W Led*		IUt
2021M0M9 (7P0F1	0	A	(A	0	**(:**	0	C0	0	0	0	**C0**	0	0	1	0	0	**1**	0	1	A	1	0	**G**	0	**1A2**
(7BCF1	A	(	(G	0	**- G**	0	88	:	0	0	**C0**	0	0	1	0	0	**1**	0	0	2	0	0	**2**	0	**1A-**
- 700F1	2	G	10(	0	**118**	0	: :	2	0	0	**: -**	0	0	1	1	0	**2**	1	1	2	0	0	**A**	0	**1- (**
- 7tCF1	8	-	9(	0	**109**	0	8-	0	1	0	**89**	0	0	A	0	0	**A**	8	0	2	0	0	**2**	2	**1: A**
TotnP	9	2A	AC2	0	**A-8**	0	20-	-	1	0	**21(**	0	0	:	1	0	**(**	C	2	9	1	0	**12**	2	**: 20**
% F W Wonci	2.A%	: .0%	91.(%	0%	**M**		M9G9%	A(%	0.C8%	0%	**M**		M0%	- G(%	18.A%	0%	**M**		M1: .(%	(G0%	- .A%	0%	**M**		M
% TotnP	1.C8%	A(%	G . - %	0%	**: 1.9%**		MAAC8%	1.A%	0.2%	0%	**AG0%**		M0%	1.0%	0.2%	0%	**1.1%**		M 0.A%	1.C8%	0.2%	0%	**1.9%**		M
Lb H	0.G	A 0.(19	0. - 22		**M0. - 82**		M 0.(--	0.AAA	0.2C0		**M0.(9-**		M	M0.C00	0.2C0		**M0.G A**		M 0.C00	0.(C0	0.2C0		**M0. : 00**		M 0. - 29
Cas i t)	9	2A	A8G	0	**A((**		M 19A	-	1	0	**202**		M	0	:	1	0 **(**		M	2	(	1	0 **10**		M C8:
% Cas i t)	100%	100%	9- .0%	0%	**9- .2%**		M92. - %	100%	100%	0%	**9A.1%**		M0%	100%	100%	0%	**100%**		M 100%	((. - %	100%	0%	**- A.8%**		M9: .1%
SaLis feM Uit Tlaucg)	0	0	G	0	**G**		M 10	0	0	0	**10**		M 0	0	0	0	**0**		M 0	0	0	0	**0**		M 1G
% SaLis feM Uit Tlaucg)	0%	0%	1.8%	0%	**1.A%**		M 8. - %	0%	0%	0%	**8. : %**		M0%	0%	0%	0%	**0%**		M 0%	0%	0%	0%	**0%**		M 2.8%
F ktaculPnted Tlaucg)	0	0	0	0	**0**		M 8	0	0	0	**8**		M 0	0	0	0	**0**		M 0	0	0	0	**0**		M 8
% F ktaculPnted Tlaucg)	0%	0%	0%	0%	**0%**		M 1.9%	0%	0%	0%	**1. - %**		M0%	0%	0%	0%	**0%**		M 0%	0%	0%	0%	**0%**		M 0. - %
Bu)e)	0	0	2	0	**2**		M 1	0	0	0	**1**		M 0	0	0	0	**0**		M 0	2	0	0	**2**		M G
% Bu)e)	0%	0%	0. : %	0%	**0.C0%**		M 0.C8%	0%	0%	0%	**0.C8%**		M0%	0%	0%	0%	**0%**		M 0%	22.2%	0%	0%	**1: .(%**		M 0. - %
Bacycle) oURond	0	0	0	0	**0**		M 0	0	0	0	**0**		M 0	0	0	0	**0**		M 0	0	0	0	**0**		M 0
% Bacycle) oURond	0%	0%	0%	0%	**0%**		M 0%	0%	0%	0%	**0%**		M0%	0%	0%	0%	**0%**		M 0%	0%	0%	0%	**0%**		M 0%
Lede)tkanU)	M	M	M	M	M	0	M	M	M	M	M	0	M	M	M	M	M	G	M	M	M	M	M	2	
% Lede)tkanU)	M	M	M	M	M		M	M	M	M	M		M	M	M	M	M00%		M	M	M	M	M00%		M
Bacycle) oU6 ko))wnlg	M	M	M	M	M	0	M	M	M	M	M	0	M	M	M	M	M	0	M	M	M	M	M	0	
% Bacycle) oU6 ko))wnlg	M	M	M	M	M		M	M	M	M	M		M	M	M	M	M 0%		M	M	M	M	M 0%		

*Lede)tkanU) nUil Bacycle) oU6 ko))wnlg. BC7Benk feft, BR7Benk kas i t, b C7b nkd feft, b R7b nkd kas i t, C7Ceft, R7Ras i t, T7Ti ku, r 7r M TukU

7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021
F1 Leng h(7A0 F1 M 7A0 F1 4
F PP6 Ph))e) hCas i t), SaLis feM Uit Tlaucg), F ktaculPnted Tlaucg), Bu)e), Lede)tkanU), Bacycle) oURond, Bacycle) oU6 ko))wnlg4
F PP1 ovemeUt)
ID7- - : 98- , CocntaoU782.82(1A: , MA8- - 281

Llovaled 3y7b ewnl? GnmaRtoUF))ocante) IUc.
: 2H5oke)t Edse Dkave, VekLbUGaP), IC, : 00: 1, r S



7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021

Fl FeLn gh(70 Fl AM70 Fl - AO4eHi66FeLn) CuP

a 6ss 6Li iei gS\ukti, dUBr 6eAy B\ut TRucni, a Rt\cu6Lieo TRucni, Ruiei, Feoeit RUEi, Rt\wc6ei CBv CLo, Rt\wc6ei CBs PGimLi6n-

a 6\il C4eI eBti

D (88. 9h8, SCcLi1UCB(h23h2517. , A873h882h1

GEWALT HAMILTON ASSOCIATES, INC.

FRC4Udeo bw(GemLfi) LI \dCBa iiCcUIrei DBc3

. 2MHCBeit Eore : Pd4e, VeBBCB) \66i, DS, . 00. 1, y d

Ser : UbcuCB	5 l \de ELi ibCuBo							5 l \de p eitbCuBo							1i t dCutkbCuBo							HLiDbICCn dCutkmeitbCuBo							
TU e	S	RS	T	y	a VW	Feo*		T	v	) v	y	a VW	Feo*		) S	S	v	y	a VW	Feo*	) S	Rv	) v	y	a VW	Feo*	
2021A0A19 h(70Fl	2	M	8M	0	92	0		171	0	0	0	171	0		0	2	0	0	2	0	0	7	1	0	h	0	229
h(hMFl	7	M	102	0	110	0		117	h	0	0	115	0		1	0	1	0	2	h	0	7	1	0	h	1	277
MJ00Fl	0	7	.	0	0	. 7	0	127	7	0	1	125	0		0	0	0	0	0	0	0	M	0	0	M	0	19M
MJ1Mfl	1	h	81	0	8.	0		118	5	7	0	128	0		0	0	0	0	0	2	0	2	7	0	M	0	219
TCUL6	.	15	728	0	7M	0		h8M	1h	7	1	M07	0		1	2	1	0	h	.	0	17	M	0	18	1	85.
% a VWRCLck	1.5%	h.8%	97.%	0%	A			9. .%	2.8%	0.%	0.2%	A			2M0%	M0.0%	2M0%	0%	A		0%	52.2%	25.8%	0%	A		A
% TCUL6	0.5%	1.9%	75.%	0%	h03%			MM.%	1.%	0.7%	0.1%	M5.%			0.1%	0.2%	0.1%	0%	0.M6		A0%	1.M%	0.%	0%	2.1%		A
F) H	0.M0	0.B00	0.B1M		A 0.B17			0.92.	0.M0	0.2M0	0.2M0	0.B. 0			A	0.2M0	0.2M0		A 0.75M		A	0.3 M0	0.h15		A 0.900		A	0.9M2
Sl\ukti	.	1.	719	0	7h1			h80	1h	7	1	h98			0	2	1	0	7		0	17	7	0	1.		8M
% Sl\ukti	100%	9h.1%	95.7%	0%	952%			99.0%	100%	100%	100%	993%			0%	100%	100%	0%	5M0%		A0%	100%	. 0.0%	0%	883%		A	95.9%
dUBr 6eAy B\ut TRucni	0	0	M	0	M			1	0	0	0	1			0	0	0	0	0		A 0	0	0	0	0		A	.
% dUBr 6eAy B\ut TRucni	0%	0%	1.M%	0%	1.h%			0.2%	0%	0%	0%	0.2%			0%	0%	0%	0%	0%		A0%	0%	0%	0%	0%		A	0.5%
a Rt\cu6Lieo TRucni	0	0	2	0	2			h	0	0	0	h			0	0	0	0	0		A 0	0	0	0	0		A	.
% a Rt\cu6Lieo TRucni	0%	0%	0.%	0%	0.%			0.B%	0%	0%	0%	0.B%			0%	0%	0%	0%	0%		A0%	0%	0%	0%	0%		A	0.5%
Ruiei	0	0	0	0	0			0	0	0	0	0			0	0	0	0	0		A 0	0	2	0	2		A	2
% Ruiei	0%	0%	0%	0%	0%			0%	0%	0%	0%	0%			0%	0%	0%	0%	0%		A0%	0%	h0.0%	0%	1.1%		A	0.2%
Rt\wc6ei CBv CLo	0	1	2	0	7			0	0	0	0	0			1	0	0	0	1		A 0	0	0	0	0		A	h
% Rt\wc6ei CBv CLo	0%	M.9%	0.%	0%	0.9%			0%	0%	0%	0%	0%			100%	0%	0%	0%	2M0%		A0%	0%	0%	0%	0%		A	0.M%
FeoeitRUEi	A	A	A	A	A	0		A	A	A	A	A	0		A	A	A	A	A	M	A	A	A	A	A	1		
% FeoeitRUEi	A	A	A	A	A			A	A	A	A	A			A	A	A	A	A87.7%		A	A	A	A	A100%		A	
Rt\wc6ei CBs PGimLi6n	A	A	A	A	A	0		A	A	A	A	A	0		A	A	A	A	A	1	A	A	A	A	A	0		
% Rt\wc6ei CBs PGimLi6n	A	A	A	A	A			A	A	A	A	A			A	A	A	A	AL.3%		A	A	A	A	A	0%		A

*FeoeitRUEi LBo Rt\wc6ei CBs PGimLi6n3RS(ReLP6eft, Rv (ReLP\Ruk,) S( ) LBo 6eft,) v ( ) LBo R\ukt, S(Seft, v (v \ukt, T(TkRu, y (y ATuHB

7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021

Fl FeLn gh(70 Fl AM70 Fl - AO4eHi66FeLn) CuP

a 6ss 6Li iei gS\ukti, dUBr 6eAy B\ut TRucni, a Rt\cu6Lieo TRucni, Ruiei, Feoeit RUEi, Rt\wc6ei CBv CLo, Rt\wc6ei CBs PGimLi6n-

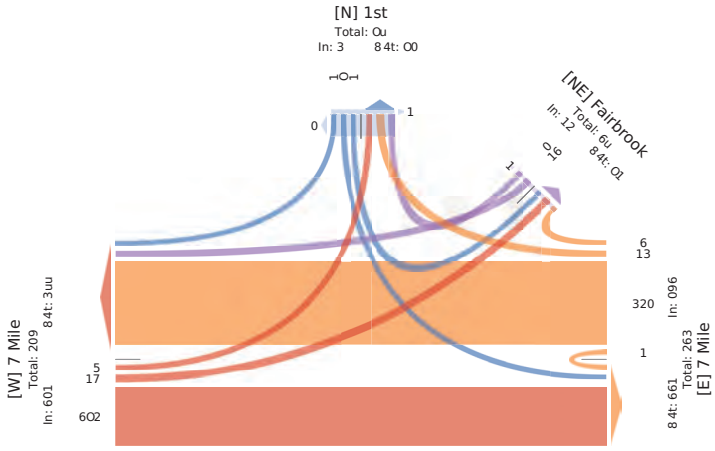
a 6\il C4eI eBti

D (88. 9h8, SCcLi1UCB(h23h2b17. , A873h882h1

GEWALT HAMILTON ASSOCIATES, INC.

FRC4Udeo Gv(HemLfi) LI \dCBa iiCcUIrei DBc3

. 2M5CBeit Eore : Pd4e, VeBBCB) \66i, DS, . 00. 1, y d



Wing & Fairbrook - TMC

Tue Oct 19, 2021

Full Length (7 AM-9 AM, 4 PM-6 PM)

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

All Movements

ID: 8869. 8, Location: 423i274. 7, -8. 3i84. . 9

GEWALT HAMILTON ASSOCIATES, INC.

Provided by: Gewalt Hamilton Associates Inc3

625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Fairbrook Eastbound							Fairbrook p estbound							p ing Worthbound							p ing Southbound							
Time	L	T	R	U		ANN	Ped*	L	T	R	U		ANN	Ped*	L	T	R	U		ANN	Ped*	L	T	R	U		ANN	Ped*	Int
2021-10-19 7:00AM	2	2	0	0		4	0	0	0	.	0		.	1	0	11	1	0		12	0	4	20	1	0		25	1	44
7:15AM	1	1	0	0		2	0	0	0	7	0		7	1	0	15	0	0		15	0	7	18	0	0		25	0	49
7:. 0AM	1	2	1	0		4	0	0	0	12	0		12	0	1	16	1	0		18	0	6	25	1	0		. 2	1	66
7:45AM	4	4	0	0		8	0	0	1	8	0		9	0	0	24	1	0		25	0	11	28	1	0		40	0	82
Hourly Total	8	9	1	0		18	0	0	1	. 0	0		. 1	2	1	66	.	0		70	0	28	91	.	0		122	2	241
8:00AM	.	.	1	0		7	1	0	0	4	0		4	0	1	12	0	0		1.	1	19	. 4	.	0		56	0	80
8:15AM	5	5	0	0		10	0	0	0	8	0		8	0	1	18	0	0		19	0	9	29	0	0		. 8	2	75
8:. 0AM	2	2	0	0		4	1	0	1	2	0		.	0	0	21	0	0		21	1	8	25	0	0		. .	1	61
8:45AM	4	1	1	0		6	0	0	0	4	0		4	2	1	19	0	0		20	0	6	26	0	0		. 2	2	62
Hourly Total	14	11	2	0		27	2	0	1	18	0		19	2	.	70	0	0		7.	2	42	114	.	0		159	5	278
4:00PM	5	1	0	0		6	0	0	.	14	0		17	1	0	19	0	0		19	0	12	29	5	0		46	.	88
4:15PM	2	1	2	0		5	0	2	1	12	0		15	.	1	18	2	0		21	0	8	29	1	0		. 8	2	79
4:. 0PM	4	1	0	0		5	0	0	.	18	0		21	1	0	42	1	0		4.	0	1.	28	2	0		4.	0	112
4:45PM	5	2	0	0		7	0	0	4	20	0		24	2	0	26	1	0		27	0	1.	44	.	0		60	0	118
Hourly Total	16	5	2	0		2.	0	2	11	64	0		77	7	1	105	4	0		110	0	46	1. 0	11	0		187	5	. 97
5:00PM	1	1	1	0		.	0	0	2	18	0		20	1	1	25	0	0		26	0	8	49	5	0		62	0	111
5:15PM	5	1	0	0		6	0	0	0	2.	0		2.	1	0	24	1	0		25	0	20	. 8	.	0		61	0	115
5:. 0PM	2	1	1	0		4	1	0	.	15	0		18	1	0	22	0	0		22	0	7	. 9	0	0		46	2	90
5:45PM	.	0	0	0		.	0	1	1	17	0		19	.	0	. .	0	0		. .	0	1.	44	4	0		61	1	116
Hourly Total	11	.	2	0		16	1	1	6	7.	0		80	6	1	104	1	0		106	0	48	170	12	0		2. 0		4. 2
Total	49	28	7	0		84	.	.	19	185	0		207	17	6	. 45	8	0		. 59	2	164	505	29	0		698	15	1. 48
% ANN each	58.3 %	. . 3 %	8.3 %	0%		-	-	1.8%	9.2%	89.8%	0%		-	-	1.7%	96.3%	2.2%	0%		-	-	2. 5%	72.3 %	4.2%	0%		-	-	-
% Total	. 6%	2.1%	0.5%	0%		6.2%	-	0.2%	1.8%	1. 7%	0%		15.8%	-	0.8%	25.6%	0.6%	0%		26.6%	-	1.2.%	. 7.5%	2.2%	0%		51.8%	-	-
Lights	48	27	7	0		82	-	2	16	179	0		197	-	5	. . 1	7	0		. 4.	1	161	495	26	0		682	-	1. 04
% Lights	98.0%	96.4%	100%	0%		97.6%	-	66.7%	84.2%	96.8%	0%		95.2%	-	8. 3 %	95.9%	87.5%	0%		95.5%	-	98.2%	98.0%	89.7%	0%		97.7%	-	96.7%
Single-Unit Trucks	1	0	0	0		1	-	1	1	1	0		.	-	0	6	0	0		6	-	0	2	0	0		2	-	12
% Single-Unit Trucks	2.0%	0%	0%	0%		1.2%	-	. . 3 %	5.3 %	0.5%	0%		1.8%	-	0%	1.7%	0%	0%		1.7%	-	0%	0.4%	0%	0%		0.1 %	-	0.9%
Articulated Trucks	0	0	0	0		0	-	0	0	0	0		0	-	0	0	0	0		0	-	0	0	0	0		0	-	0
% Articulated Trucks	0%	0%	0%	0%		0%	-	0%	0%	0%	0%		0%	-	0%	0%	0%	0%		0%	-	0%	0%	0%	0%		0%	-	0%
Buses	0	0	0	0		0	-	0	2	2	0		4	-	1	5	0	0		6	-	2	4	2	0		8	-	18
% Buses	0%	0%	0%	0%		0%	-	0%	10.5%	1.3%	0%		1.9%	-	16.7%	1.8%	0%	0%		1.7%	-	1.2%	0.8%	6.9%	0%		1.1%	-	1.3 %
Bicycles on Road	0	1	0	0		1	-	0	0	.	0		.	-	0	.	1	0		4	-	1	4	1	0		6	-	14
% Bicycles on Road	0%	. 3%	0%	0%		1.2%	-	0%	0%	1.5%	0%		1.8%	-	0%	0.9%	1.2.5%	0%		1.1%	-	0.6%	0.8%	. 3%	0%		0.9%	-	1.0%
Pedestrians	-	-	-	-		-	-	-	-	-	-		-	14	-	-	-	-		-	2	-	-	-	-		-	15	
% Pedestrians	-	-	-	-		- 100%	-	-	-	-	-		- 82.8%	-	-	-	-	-		- 100%	-	-	-	-	-		- 100%	-	-
Bicycles on Crosswalk	-	-	-	-		-	0	-	-	-	-		-	-	-	-	-	-		-	0	-	-	-	-		-	0	
% Bicycles on Crosswalk	-	-	-	-		-	0%	-	-	-	-		- 17.6%	-	-	-	-	-		-	0%	-	-	-	-		-	0%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Wing & Fairbrook - TMC

Tue Oct 19, 2021

Full Length (7 AM-9 AM, 4 PM-6 PM)

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

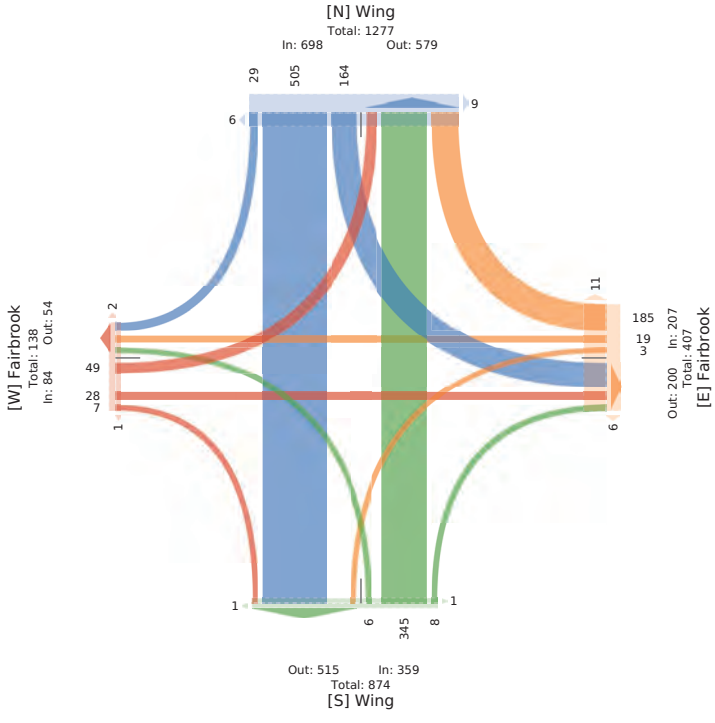
All Movements

ID: 8869. 8, Location: 423i274. 7, -8. 3i84. . 9

GEWALT HAMILTON ASSOCIATES, INC.

Provided by: Gewalt Hamilton Associates Inc3

625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Wing & Fairbrook - TMC

Tue Oct 19, 2021

F l Leng h(7A0 F l M 7A0 F l 4

F PP6 Ih)) e) hCas i t), SaLs IeM Uit Tkucg), F ktacuPnted Tkucg), Bu)e), Lede)tkanU), Bacyclt) oURond, Bacyclt) oU6 ko))wnlg4

F PP l ovemeUt)

ID7- - : 9A , CocntaoU782.82(8A(, MA8 - 8A9

GEWALT HAMILTON ASSOCIATES, INC.

Llovalded 3y7b ewnlr GnmaRtoUF))ocante) IUt.

: 2H5oke)t Edse Dkave, VekLbUGaPP), IC, : 00: 1, r S

Ces DalectaoU	5nak3kloog En)t3ouUtl					5nak3kloog p e)t3ouUtl					p aUs Wokti 3ouUtl					p aUs Souti 3ouUtl					
Tame	C	T	R	r	F NN Led*	C	T	R	r	F NN Led*	C	T	R	r	F NN Led*	C	T	R	r	F NN Led*	IUt
2021 M0M9 (7A0 F l	1	2	1	0	**8**	0	0	12	0	**12**	0	1	1:	1	0	**1-**	0	:	2H	1	0	**A2**	1	: :
(7HF l	8	8	0	0	**-**	0	0	1	-	0	**9**	0	0	28	1	0	**2H**	0	11	2-	1	0	**80**	0	**-2**
- 700 F l	A	A	1	0	**(**	1	0	0	8	0	**8**	0	1	12	0	0	**1A**	1	19	A8	A	0	**H**	0	**-0**
- 7HF l	H	H	0	0	**10**	0	0	0	-	0	**-**	0	1	1-	0	0	**19**	0	9	29	0	0	**A-**	2	**(H**
TotnP	1A	18	2	0	**29**	1	0	1	A2	0	**AA**	0	A	(0	2	0	**(H**	1	8H	11:	H	0	**1: :**	A	**A0A**
% F NNonci	88.- %	8- .A%	: .9%	0%	**M**	M	0%	A0%	9(.0%	0%	**M**	M	8.0%	9A.A%	2.(%	0%	**M**	M	2(.1%	: 9.9%	A0%	0%	**M**	M	N
% TotnP	8.A%	8.: %	0.(%	0%	**9.: %**	M	0%	0.A%	10.: %	0%	**10.9%**	M	1.0%	2A.1%	0.(%	0%	**28.- %**	M	18.9%	A- .A%	1.(%	0%	**H8.- %**	M	N
LG5	0.: H0	0.(00	0.H00		**M0.(2H**	M	M0.2H0	0.: : (		**M0.: - -**	M	0.(H0	0.(29	0.H00		**M0.(H0**	M	0.H82	0.- HA	0.81(		**M0.(81**	M	0.928
Cas t l)	1A	18	2	0	**29**	M	0	1	A2	0	**AA**	M	2	: A	2	0	**:(**	M	8H	111	8	0	**1: 0**	M	2- 9
% Cas t l)	100%	100%	100%	0%	**100%**	M	0%	100%	100%	0%	**100%**	M	: .(%	90.0%	100%	0%	**- 9.A%**	M	100%	9H(% -	0.0%	0%	**9: .8%**	M	9H8%
SaUs IeM Uit Tkucg)	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	H	0	0	**H**	M	0	1	0	0	**1**	M	:
% SaUs IeM Uit Tkucg)	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	(.1%	0%	0%	**: .(%**	M	0%	0.9%	0%	0%	**0.: %**	M	2.0%
F ktacuPnted Tkucg)	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0
% F ktacuPnted Tkucg)	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%
Bu)e)	0	0	0	0	**0**	M	0	0	0	0	**0**	M	1	2	0	0	**A**	M	0	8	1	0	**H**	M	-
% Bu)e)	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	AA.A%	2.9%	0%	0%	**8.0%**	M	0%	A8%	20.0%	0%	**A0%**	M	2.: %
Bacyclt) oURond	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0
% Bacyclt) oURond	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%
Lede)tkanU)	M	M	M	M	M 1	M	M	M	M	M	0	M	M	M	M	M	M	1	M	M	M	M	M	A	
% Lede)tkanU)	M	M	M	M	M M 00%	M	M	M	M	M	M	M	M	M	M	M	M 00%		M	M	M	M	M 00%		N
Bacyclt) oU6 ko))wnlg	M	M	M	M	M 0	M	M	M	M	M	0	M	M	M	M	M	0	M	M	M	M	M	0		
% Bacyclt) oU6 ko))wnlg	M	M	M	M	M 0%	M	M	M	M	M	M	M	M	M	M	M	0%		M	M	M	M	M 0%		N

*Lede)tkanU) nUtl Bacyclt) oU6 ko))wnRg. C7Ceft, R7Rasi t, T7Tiku, r 7r MTukU

Wing & Fairbrook - TMC

Tue Oct 19, 2021

F l Leng h(7A0 F l M 7A0 F l 4

F PP6 Ih)) e) hCas i t), SaLs IeM Uit Tkucg), F ktacuPnted Tkucg), Bu)e), Lede)tkanU), Bacyclt) oURond, Bacyclt) oU6 ko))wnlg4

F PP l ovemeUt)

ID7- - : 9A , CocntaoU782.82(8A(, MA8 - 8A9

GEWALT HAMILTON ASSOCIATES, INC.

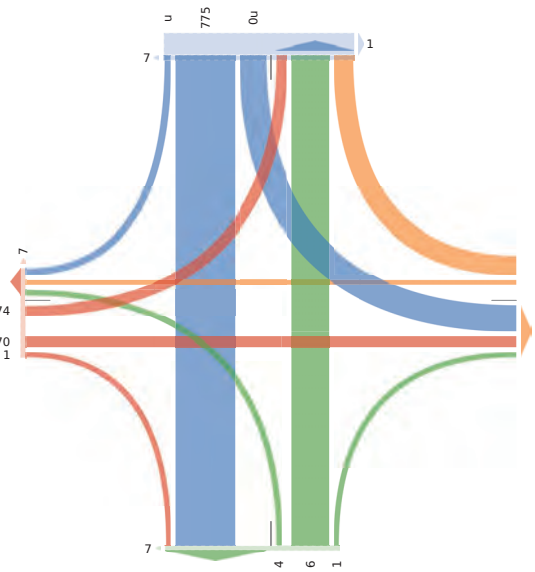
Llovalded 3y7b ewnlr GnmaRtoUF))ocante) IUt.

: 2H5oke)t Edse Dkave, VekLbUGaPP), IC, : 00: 1, r S

[N] Wing

Total: 127

9n: 755 3 Ot: 77u



[W] Fairbrook

Total: 42

9n: 18 3 Ot: 8

[E] Fairbrook

3 Ot: 57 9n: 44

Total: 80

41

7

3 Ot: 772 9n: l u

Total: 784

[S] Wing

Wing & Fairbrook - TMC

Tue Oct 19, 2021

F l FeLn gh(70 F l AM(70 F l - AO4eP L66 FeLn) CuP

a 6ls CLi i ei gS Ukti, dUBr 6eAy BtU TRucni, a Rtdu6Lieo TRucni, Ruiei, FeoeitPULBi, Rtdwc6ei CB v CLo, Rtdwc6ei CBs PCi i mLfin- a 6l GAel eBti

D (88. 978, SCcLi tCB(h23h2bh7b, A873h8h779

GEWALT HAMILTON ASSOCIATES, INC.

FPG4tdeo Ga(HemLfi) LI tdCB3 a i i Cc Ulrei IBc3

. 2M5 CPeit Eore : Pde, VePBCB) tGi, tS, . 00. 1, y d

Ser : UrecUCB	5LUPGPCn ELi tCCuBo						5LUPGPCn p ei tCCuBo						p tBr WCBkCCuBo						p tBr dCurkCCuBo						
TUl e	S	T	v	y	a NN Feo*		S	T	v	y	a NN Feo*		S	T	v	y	a NN Feo*		S	T	v	y	a NN Feo*		IBt
2021 A0A9 h(70 Fl	h	1	0	0	**M**	0	0	7	18	0	**21**	1	0	h2	1	0	**h7**	0	17	28	2	0	**h7**	0	**112**
h(hMFl	M	2	0	0	**h**	0	0	h	20	0	**2h**	2	0	2.	1	0	**2h**	0	17	hh	7	0	**. 0**	0	**118**
M00 Fl	1	1	1	0	**7**	0	0	2	18	0	**20**	1	1	2M	0	0	**2.**	0	8	h9	M	0	**. 2**	0	**111**
M1MFl	M	1	0	0	**.**	0	0	0	27	0	**27**	1	0	2h	1	0	**2M**	0	20	78	7	0	**. 1**	0	**11M**
TCtL6	1M	M	1	0	**21**	0	0	9	b9	0	**88**	M	1	11b	7	0	**121**	0	Mh	1M9	17	0	**22.**	0	**hM**
% a NNCLck	b13h%	27.B%	h.B%	0%	**A**	A	0.B%	10.2%	89.B%	0%	**A**	A	0.B%	9. .b%	2.M%	0%	**A**	A	27.9%	b0.h%	M.B%	0%	**A**	A	A
% TCtL6	7.9%	1.h %	0.2%	0%	**h.9 %**	A	0%	2.0%	1b.9%	0%	**19.9%**	A	0.2%	2M.h%	0.h%	0%	**2. M%**	A	11.B%	7h.9%	2.9%	0%	**h9.9 %**	A	A
F) 5	0.h M	1.000	0.2M		**A 0.877**	A	A 0.M7	0.B8.		A	**0.90.**	A	0.2M	0 90	0.M0	A	**0.9 92**	A	0.3 . 7	0.B18	0.h M	A	**0.991 h**	A	0.9b.
S Ukti	1h	h	1	0	**19**	A	0	.	bb	0	**87**	A	1	11M	2	0	**118**	A	M7	1M	17	0	**222**	A	hh2
% S Ukti	97.9%	80.0%	100%	0%	**90.M%**	A	0%	. . .b%	9b.M%	0%	**9h.9%**	A	100%	98.9%	. . .h%	0%	**9b.M%**	A	98.9%	98.9%	100%	0%	**98.2%**	A	9. .9%
dUBr 6eAy BtU TRucni	1	0	0	0	**1**	A	0	1	0	0	**1**	A	0	0	0	0	**0**	A	0	1	0	0	**1**	A	7
% dUBr 6eAy BtU TRucni	. .h%	0%	0%	0%	**h.B%**	A	0%	11.h%	0%	0%	**1.h%**	A	0%	0%	0%	0%	**0%**	A	0%	0.h %	0%	0%	**0.h%**	A	0.h%
a Rtdu6Lieo TRucni	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0
% a Rtdu6Lieo TRucni	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%
Ruiei	0	0	0	0	**0**	A	0	2	1	0	**7**	A	0	1	0	0	**1**	A	0	0	0	0	**0**	A	h
% Ruiei	0%	0%	0%	0%	**0%**	A	0%	22.2%	1.h%	0%	**7.h%**	A	0%	0.9%	0%	0%	**0.B%**	A	0%	0%	0%	0%	**0%**	A	0.9%
Rtdwc6ei CBv CLo	0	1	0	0	**1**	A	0	0	1	0	**1**	A	0	1	1	0	**2**	A	1	2	0	0	**7**	A	h
% Rtdwc6ei CBv CLo	0%	20.0%	0%	0%	**h.B%**	A	0%	0%	1.h%	0%	**1.h%**	A	0%	0.9%	7.7%	0%	**1.h%**	A	1.9%	1.h%	0%	0%	**1.h%**	A	1.h%
Feoe it PULBi	A	A	A	A	A 0		A	A	A	A	A h		A	A	A	A	A 0		A	A	A	A	A 0		
% Feoe it PULBi	A	A	A	A	A A		A	A	A	A	A B0.0%		A	A	A	A	A A		A	A	A	A	A A		A
Rtdwc6ei CBs PCi i mLfin	A	A	A	A	A 0		A	A	A	A	A 1		A	A	A	A	A 0		A	A	A	A	A 0		
% Rtdwc6ei CBs PCi i mLfin	A	A	A	A	A A		A	A	A	A	A 20.0%		A	A	A	A	A A		A	A	A	A	A A		A

*Feoe it PULBi LBo Rtdwc6ei CBs PCi i mLfin 3S(Seft, v (v tUkt, T(TkRu, y (y ATuPB

Wing & Fairbrook - TMC

Tue Oct 19, 2021

F l FeLn gh(70 F l AM(70 F l - AO4eP L66 FeLn) CuP

a 6ls CLi i ei gS Ukti, dUBr 6eAy BtU TRucni, a Rtdu6Lieo TRucni, Ruiei, FeoeitPULBi, Rtdwc6ei CB v CLo, Rtdwc6ei CBs PCi i mLfin- a 6l GAel eBti

D (88. 978, SCcLi tCB(h23h2bh7b, A873h8h779

GEWALT HAMILTON ASSOCIATES, INC.

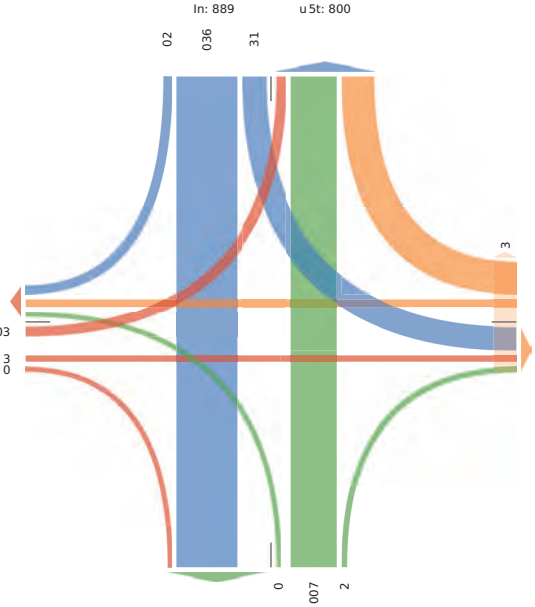
FPG4tdeo Ga(HemLfi) LI tdCB3 a i i Cc Ulrei IBc3

. 2M5 CPeit Eore : Pde, VePBCB) tGi, tS, . 00. 1, y d

[N] Wing

Total: 127

In: 889 u 5t: 800



[W] Fairbrook

Total: 11

In: 80 u 5t: 82

[E] Fairbrook

u 5t: 98 In: 44

Total: 030

76

6

u 5t: 09O In: 080

Total: 840

[S] Wing

Fairbrook & Center - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886926, Location: 42.42736, -85.482834

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
623 Forest Edge Drive, Vernon Hills, IL, 60061, US

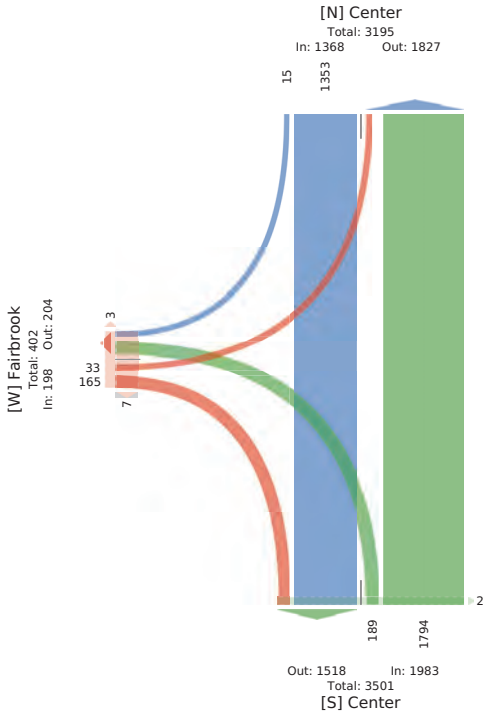
Leg / Direction	Fairbrook Eastbound					Center Northbound					Center Southbound					
Time	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	5	4	0	**7**	1	5	46	0	**49**	0	31	0	0	**31**	0	**107**
7:13AM	1	7	0	**8**	1	6	79	0	**83**	0	47	1	0	**48**	0	**141**
7:50AM	2	8	0	**10**	0	12	72	0	**84**	0	38	1	0	**39**	0	**135**
7:43AM	4	11	0	**13**	0	8	105	0	**111**	0	85	1	0	**84**	0	**210**
Hourly Total	10	50	0	**40**	2	29	500	0	**529**	0	259	5	0	**242**	0	**611**
8:00AM	1	19	0	**20**	0	4	100	0	**104**	0	108	0	0	**108**	0	**252**
8:13AM	3	11	0	**16**	0	7	108	0	**113**	0	73	0	0	**73**	0	**206**
8:50AM	5	7	0	**10**	0	2	112	0	**114**	0	67	1	0	**68**	0	**192**
8:43AM	1	6	0	**7**	0	4	102	0	**106**	0	39	0	0	**39**	0	**172**
Hourly Total	10	45	0	**35**	0	17	422	0	**459**	0	509	1	0	**510**	0	**802**
4:00PM	1	11	0	**12**	1	13	117	0	**152**	0	106	1	0	**107**	0	**231**
4:13PM	5	8	0	**11**	0	13	141	0	**136**	0	94	1	0	**93**	0	**262**
4:50PM	1	15	0	**14**	0	19	111	0	**150**	0	87	1	0	**88**	0	**252**
4:43PM	5	15	0	**16**	2	20	147	0	**167**	0	89	2	0	**91**	0	**274**
Hourly Total	8	43	0	**35**	5	69	316	0	**383**	0	576	3	0	**581**	0	**1019**
3:00PM	0	8	0	**8**	1	19	150	0	**149**	0	108	2	0	**110**	0	**267**
3:13PM	4	17	0	**21**	5	22	146	0	**168**	2	107	1	0	**108**	0	**297**
3:50PM	0	10	0	**10**	0	16	158	0	**134**	0	112	2	0	**114**	0	**278**
3:43PM	1	12	0	**15**	1	17	142	0	**139**	0	102	1	0	**105**	0	**273**
Hourly Total	3	47	0	**32**	3	74	336	0	**650**	2	429	6	0	**453**	0	**1117**
Total	55	163	0	**198**	10	189	1794	0	**1985**	2	1535	13	0	**1568**	0	**5349**
% Approach	16.7%	85.5%	0%	**-**	-	9.3%	90.3%	0%	**-**	-	98.9%	1.1%	0%	**-**	-	-
% Total	0.9%	4.6%	0%	**3.6%**	-	3.5%	30.3%	0%	**33.9%**	-	58.1%	0.4%	0%	**58.3%**	-	-
Lights	55	162	0	**193**	-	181	1773	0	**1936**	-	1523	13	0	**1540**	-	5491
% Lights	100%	98.2%	0%	**98.3%**	-	93.8%	98.9%	0%	**98.6%**	-	97.9%	100%	0%	**98.0%**	-	98.4%
Single-Unit Trucks	0	0	0	**0**	-	5	4	0	**7**	-	12	0	0	**12**	-	19
% Single-Unit Trucks	0%	0%	0%	**0%**	-	1.6%	0.2%	0%	**0.4%**	-	0.9%	0%	0%	**0.9%**	-	0.3%
Articulated Trucks	0	0	0	**0**	-	0	1	0	**1**	-	1	0	0	**1**	-	2
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0.1%	0%	**0.1%**	-	0.1%	0%	0%	**0.1%**	-	0.1%
Buses	0	2	0	**2**	-	4	3	0	**9**	-	3	0	0	**3**	-	16
% Buses	0%	1.2%	0%	**1.0%**	-	2.1%	0.5%	0%	**0.3%**	-	0.4%	0%	0%	**0.4%**	-	0.3%
Bicycles on Road	0	1	0	**1**	-	1	9	0	**10**	-	10	0	0	**10**	-	21
% Bicycles on Road	0%	0.6%	0%	**0.3%**	-	0.3%	0.3%	0%	**0.3%**	-	0.7%	0%	0%	**0.7%**	-	0.6%
Pedestrians	-	-	-	-	9	-	-	-	-	2	-	-	-	-	0	
% Pedestrians	-	-	-	-	90.0%	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	10.0%	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Fairbrook & Center - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886926, Location: 42.42736, -8b.482834

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cjy: Hewalt 5 amilton Associates Inc.
623 Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Fairbrook & Center - TMC

Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r st TdcgC, F dscu6nteB TdcgC, y uCeC,
LeBeCdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nég.P
F 6)l Rme l er tC
D 7448928, a RcntsRr 7A2.A2(M8, -43.A424MA

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB 5o7b ev n6 Gnl s6lRr F CCRcsnteCDc.
82MHRdeCl EBi e : dsne, Vedr Rr GsfiC, Da , 80081, k U

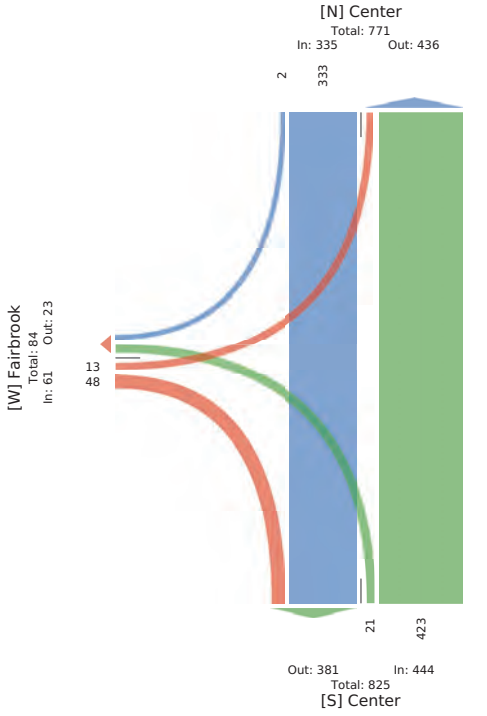
a ei / : sdectsRr	HnsEdRg; En(15RurB					) er ted NRdtS5RurB					) er ted URurtS5RurB					
Tsl e	a	w	k	Fpp	LeBª	a	T	k	Fpp	LeBª	T	w	k	Fpp	LeBª	Dt
2021-10-19 (7AMF1	A	11	0	**1M**	0	4	103	0	**111**	0	43	1	0	**4A**	0	**210**
4700F1	1	19	0	**20**	0	A	100	0	**10A**	0	104	0	0	**104**	0	**232**
47LMF1	M	11	0	**18**	0	(	104	0	**11M**	0	(M	0	0	**(M**	0	**208**
4730F1	3	(	0	**10**	0	2	112	0	**11A**	0	8(	1	0	**84**	0	**192**
TRm6	13	A4	0	**81**	0	21	A23	0	**AAA**	0	333	2	0	**33M**	0	**4A0**
% FppdRncS	21.3%	(4.(%	0%	**-**	-	A(%	9M3%	0%	**-**	-	99.A%	0.8%	0%	**-**	-	-
% TRm6	1.M%	M(%	0%	**(.3%**	-	2.M%	M0.A%	0%	**M.9%**	-	39.8%	0.2%	0%	**39.9%**	-	-
LGH	0.8M0	0.832	-	**0.(83**	-	0.8M8	0.9AA	-	**0.98M**	-	0.(89	0.M00	-	**0.((3**	-	0.90A
a si StC	13	A8	0	**M0**	-	21	A19	0	**AA0**	-	32M	2	0	**32(**	-	428
% a si StC	100%	9M4%	0%	**98.(%**	-	100%	99.1%	0%	**99.1%**	-	9(.8%	100%	0%	**9(.8%**	-	94.3%
Usr i 6e-k r st TdcgC	0	0	0	**0**	-	0	0	0	**0**	-	A	0	0	**A**	-	A
% Usr i 6e-k r st TdcgC	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	1.2%	0%	0%	**1.2%**	-	0.M%
F dscu6nteB TdcgC	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% F dscu6nteB TdcgC	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
y uCeC	0	2	0	**2**	-	0	A	0	**A**	-	3	0	0	**3**	-	9
% y uCeC	0%	A.2%	0%	**3.3%**	-	0%	0.9%	0%	**0.9%**	-	0.9%	0%	0%	**0.9%**	-	1.1%
y scoc6eCRr wRnB	0	0	0	**0**	-	0	0	0	**0**	-	1	0	0	**1**	-	1
% y scoc6eCRr wRnB	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.3%	0%	0%	**0.3%**	-	0.1%
LeBeCdsnr C	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% LeBeCdsnr C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
y scoc6eCRr) dRCCv nég.	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% y scoc6eCRr) dRCCv nég.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*LeBeCdsnr Cnr B y scoc6eCRr) dRCCv nég. a 7a eft, w7wsi St, T7T Sdu, k 7k -Tudr

Fairbrook & Center - TMC

Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r st TdcgC, F dscu6nteB TdcgC, y uCeC,
LeBeCdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nég.P
F 6)l Rme l er tC
D 7448928, a RcntsRr 7A2.A2(M8, -43.A424MA

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 Hnl s6lRr F CCRcsnteCDc.
82M5RdeCl EBi e : dsne, Vedr Rr HsfiC, Da , 80081, k U



Fairbrook & Center - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4lFeLn P 6u-
) 4lC4Laaea gs iSUa, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 4ll 6M4v ekta
mh D: 7927, s 6cLti6kDB2.823h7, (: 5.8: 2: h8

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeBboDGewL4 P Lv i46k) aa6ciLtea nhc.
72h H6-eat EBSe I -iM4, Ve-k6k P i4a, ns , 70071, d r

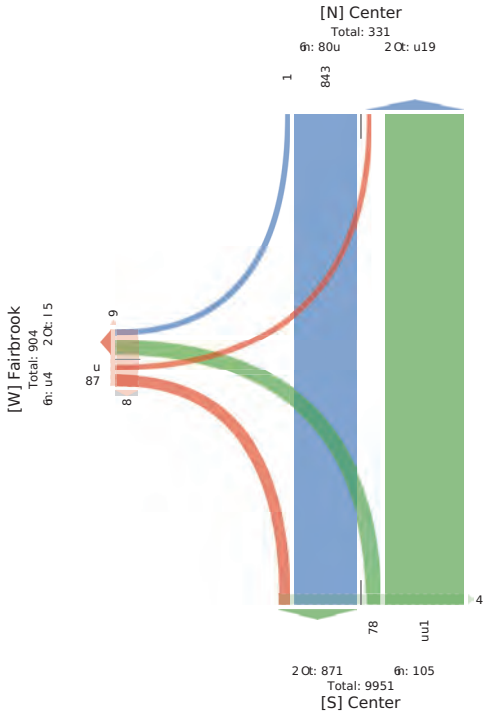
s eS l i-ect6k	HLi-b-66n ELatb6ukB				Cekte- N6-tUb6ukB				Cekte- r 6utUb6ukB				
Tiv e	s	R	d	) pp	FeB*	s	T	d	) pp	FeB*	T	R	d	) pp	FeB*	ntt
2021(10(19 hl0OFl	0	:	0	:	1	19	150	0	189	0	10:	2	0	110	0	273
hl1hFl	8	13	0	21	5	22	187	0	17:	2	103	1	0	10:	0	293
hl5OFl	0	10	0	10	0	17	15:	0	1h8	0	112	2	0	118	0	23:
hl8hFl	1	12	0	15	1	13	182	0	1h9	0	102	1	0	105	0	23h
T6tL4	h	83	0	**h2**	h	38	hh7	0	**750**	2	829	7	0	**85h**	0	**1113**
%) pp-6LcU	9.7%	90.8%	0%	**(**	(	11.3%	: : .5%	0%	**(**	(	9: .7%	1.8%	0%	**(**	(	(
% T6tL4	0.8%	8.2%	0%	**8.3%**	(	7.7%	89.: %	0%	**h7.8%**	(	5: .8%	0.h%	0%	**5: .9%**	(	(
FP H	0.515	0.791	(	**0.719**	(	0. : 79	0.9hh	(	**0.988**	(	0.987	0.3h0	(	**0.985**	(	0.9h5
s iSUa	h	83	0	**h2**	(	35	hh2	0	**72h**	(	821	7	0	**823**	(	1108
% s iSUa	100%	100%	0%	**100%**	(	9: .7%	99.5%	0%	**99.2%**	(	9: .1%	100%	0%	**9: .2%**	(	9: . : %
r ikS4e(d kit T-ucna	0	0	0	**0**	(	0	2	0	**2**	(	2	0	0	**2**	(	8
% r ikS4e(d kit T-ucna	0%	0%	0%	**0%**	(	0%	0.8%	0%	**0.5%**	(	0.h%	0%	0%	**0.h%**	(	0.8%
) -ticu4LteBT-ucna	0	0	0	**0**	(	0	0	0	**0**	(	1	0	0	**1**	(	1
%) -ticu4LteBT-ucna	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0.2%	0%	0%	**0.2%**	(	0.1%
y uaea	0	0	0	**0**	(	0	0	0	**0**	(	0	0	0	**0**	(	0
% y uaea	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	0	0	0	**0**	(	1	2	0	**5**	(	h	0	0	**h**	(	:
% y icoc4ea 6k R6LB	0%	0%	0%	**0%**	(	1.8%	0.8%	0%	**0.h%**	(	1.2%	0%	0%	**1.1%**	(	0.3%
FeBeat-iLka	(	(	(	(	h	(	(	(	(	2	(	(	(	(	0	
% FeBeat-iLka	(	(	(	(	100%	(	(	(	(	100%	(	(	(	(	(	(
y icoc4ea 6k C-6aawL4n	(	(	(	(	0	(	(	(	(	0	(	(	(	(	0	
% y icoc4ea 6k C-6aawL4n	(	(	(	(	0%	(	(	(	(	0%	(	(	(	(	(	(

*FeBeat-iLka LkB y icoc4ea 6k C-6aawL4n. s Ds eft, RDRiSUt, TDTU-u, d Dtl (Tu-k

Fairbrook & Center - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4lFeLn P 6u-
) 4lC4Laaea gs iSUa, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 4ll 6M4v ekta
mh D: 7927, s 6cLti6kDB2.823h7, (: b.8: 2: h8

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeBGoDHewL4 P Lv i46k) aa6ciLtea nhc.
72h 56-eat EBSe I -iM4, Ve-k6k P i4a, ns , 70071, d r



Wing St & Sheldon - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 7, Location: 423426297, -8. 3484. 22

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

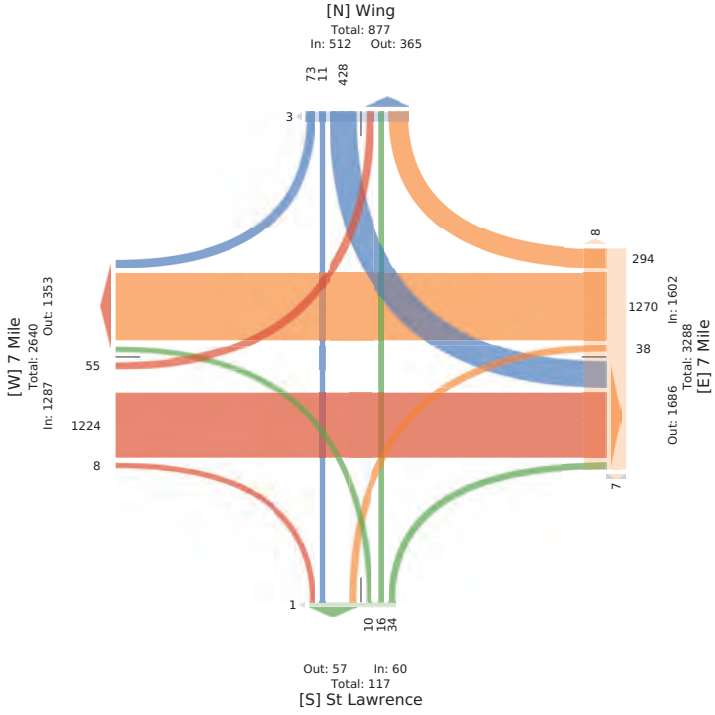
Leg Direction	7 Mile Eastbound						7 Mile p estbound						St Lawrence Worthbound						p ing Southbound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	tnt
2021-10-19 7:00AM	1	7.	0	0	**74**	0	0	.7	10	0	**47**	0	0	1	1	0	**2**	0	19	0	2	0	**21**	1	**144**
7:15AM	1	58	0	0	**59**	0	0	44	1.	0	**57**	1	0	2	2	0	**4**	0	14	0	2	0	**16**	0	**1. 6**
7:. 0AM	1	75	0	0	**76**	0	1	48	14	0	**6.**	0	0	1	2	0	**.**	0	27	0	1	0	**28**	0	**170**
7:45AM	6	70	0	0	**76**	0	1	44	18	0	**6.**	0	0	1	1	0	**2**	0	22	0	5	0	**27**	0	**168**
Hourly Total	9	276	0	0	**285**	0	2	17.	55	0	**2. 0**	1	0	5	6	0	**11**	0	82	0	10	0	**92**	1	**618**
8:00AM	.	102	0	0	**105**	0	1	59	10	0	**70**	1	1	0	4	0	**5**	0	25	1	8	0	**. 4**	0	**214**
8:15AM	.	95	2	0	**100**	0	.	44	17	0	**64**	0	1	1	1	0	**.**	0	26	0	4	0	**. 0**	2	**197**
8:. 0AM	7	6.	1	0	**71**	0	1	55	17	0	**7.**	1	0	0	5	0	**5**	0	19	0	5	0	**24**	0	**17.**
8:45AM	1	59	0	0	**60**	0	2	54	25	0	**81**	1	0	.	.	0	**6**	0	2.	2	2	0	**27**	0	**174**
Hourly Total	14	. 19	.	0	**. . 6**	0	7	212	69	0	**288**	.	2	4	1.	0	**19**	0	9.	.	19	0	**115**	2	**758**
4:00PM	.	77	1	0	**81**	0	2	109	15	0	**126**	0	2	1	.	0	**6**	0	24	1	4	0	**29**	0	**242**
4:15PM	2	74	0	0	**76**	0	4	94	17	0	**115**	4	1	1	.	0	**5**	0	26	1	6	0	**. .**	0	**229**
4:. 0PM	.	86	0	0	**89**	0	5	114	. 6	0	**155**	1	1	0	1	0	**2**	0	2.	0	4	0	**27**	0	**27.**
4:45PM	5	94	2	0	**101**	0	4	96	21	0	**121**	.	1	1	2	0	**4**	1	. 9	1	5	0	**45**	0	**271**
Hourly Total	1.	. . 1	.	0	**. 47**	0	15	41.	89	0	**517**	8	5	.	9	0	**17**	1	112	.	19	0	**1. 4**	0	**1015**
5:00PM	4	65	0	0	**69**	0	2	122	19	0	**14.**	1	1	2	0	0	**.**	0	40	2	6	0	**48**	0	**26.**
5:15PM	8	7.	1	0	**82**	0	2	120	17	0	**1. 9**	0	1	0	4	0	**5**	0	. 4	2	4	0	**40**	0	**266**
5:. 0PM	.	74	1	0	**78**	0	7	122	19	0	**148**	0	1	1	1	0	**.**	0	. 0	0	8	0	**. 8**	0	**267**
5:45PM	4	86	0	0	**90**	0	.	108	26	0	**1. 7**	2	0	1	1	0	**2**	0	. 7	1	7	0	**45**	0	**274**
Hourly Total	19	298	2	0	**. 19**	0	14	472	81	0	**567**	.	.	4	6	0	**1.**	0	141	5	25	0	**171**	0	**1070**
Total	55	1224	8	0	**1287**	0	. 8	1270	294	0	**1602**	15	10	16	. 4	0	**60**	1	428	11	7.	0	**512**		**. 461**
% ANNoach	43 %	953.%	0.6%	0%	**-**	-	2.8%	793 %	18.8%	0%	**-**	-	163%	263%	56.3%	0%	**-**	-	8. 3%	23.%	143 %	0%	**-**	-	-
% Total	1.6%	. 53.%	0.2%	0%	**. 72%**	-	13.%	. 63%	8.5%	0%	**463 %**	-	03 %	0.3%	1.0%	0%	**13%**	-	12.8%	03 %	23.%	0%	**143%**	-	-
Lights	54	1200	8	0	**1262**	-	. 5	1242	280	0	**1557**	-	9	16	. 1	0	**56**	-	422	8	72	0	**502**	-	. . 77
% Lights	98.2%	98.0%	100%	0%	**98.1%**	-	92.1%	97.8%	95.2%	0%	**97.2%**	-	90.0%	100%	91.2%	0%	**9. 3 %**	-	98.6%	72.3%	98.6%	0%	**98.0%**	-	97.6%
Single-Unit Trucks	0	14	0	0	**14**	-	2	22	8	0	**. 2**	-	1	0	0	0	**1**	-	2	0	1	0	**.**	-	50
% Single-Unit Trucks	0%	1.1%	0%	0%	**1.1%**	-	53 %	1.7%	2.7%	0%	**2.0%**	-	10.0%	0%	0%	0%	**1.7%**	-	0.5%	0%	1.4%	0%	**0.8%**	-	1.4%
Articulated Trucks	0	4	0	0	**4**	-	0	.	0	0	**.**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	7
% Articulated Trucks	0%	0.3 %	0%	0%	**0.3 %**	-	0%	0.2%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.2%
Buses	1	.	0	0	**4**	-	1	.	5	0	**9**	-	0	0	.	0	**.**	-	.	1	0	0	**4**	-	20
% Buses	1.8%	0.2%	0%	0%	**0.3 %**	-	2.6%	0.2%	1.7%	0%	**0.6%**	-	0%	0%	0.8%	0%	**5.0%**	-	0.7%	9.3%	0%	0%	**0.8%**	-	0.6%
Bicycles on Road	0	.	0	0	**.**	-	0	0	1	0	**1**	-	0	0	0	0	**0**	-	1	2	0	0	**.**	-	7
% Bicycles on Road	0%	0.2%	0%	0%	**0.2%**	-	0%	0%	0.3 %	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0.2%	18.2%	0%	0%	**0.6%**	-	0.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	1.	-	-	-	-	-	1	-	-	-	-	-	-	.
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	86.3%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	.2	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	1. 3 %	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Wing St & Sheldon - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 7, Location: 423426297, -8. 3484. 22

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Wing St & Sheldon - TMC

Tue Oct 19, 2021

F l Leng h(F l 79 F l A

F NW M44e4 hP Cl4, a 6s) M7 s 6 TS ucg4, F St6cuMteUTS ucg4, r u4e4, LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMgA

F NW doeRest4

wm((19D , Pdcnt6lsm82.821 29: , 7(D8(8D22

GEWALT HAMILTON ASSOCIATES, INC.

LSlo6LeU3kmb ey nMGnR6Wds F44dc6nte4 wc.

I 2H5dSe4t EU) e v Sloe, VeSi ds G6NW(vP, I 00I 1, i a

Pe) v 6ectGls	: l 6M Ea43dus U					: l 6M p e43dus U					at Pny Sesce WdStC3dus U					p 6i) adutC3dus U					
T6Re	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	wt
2021710719 (m0F l	D 102	0	0	**10H**	0	1 H9	10	0	**: 0**	1	1 0	8	0	**H**	0	2H 1	(	0	**D8**	0	**218**
(mHF l	D 9H	2	0	**100**	0	D 88	1:	0	**18**	0	1 1	1	0	**D**	0	2I 0	8	0	**D0**	2	**19:**
(m0F l	: 1D	1	0	**: 1**	0	1 HH	1:	0	**: D**	1	0 0	H	0	**H**	0	19 0	H	0	**28**	0	**1: D**
(mF l	1 H9	0	0	**10**	0	2 H8	2H	0	**(1**	1	0 D	D	0	**I**	0	2D 2	2	0	**2:**	0	**1: 8**
TdmM	18 DI9	D	0	**DDI**	0	: 212	19	0	**2((**	D	2 8	1D	0	**19**	0	9D D	19	0	**11H**	2	**: H(**
% F NNSdncC	8.2% 98.9%	0.9%	0%	**7**	7	2.8% : DI % 28.0%	0%		**7**	7	10.H% 21.1%	I (.8%	0%	**7**	7	(0.9% 2.1 % 1I.H%	0%		**7**	7	7
% TdmM	1.(% 82.1%	0.8%	0%	**88.I%**	7	0.9% 2(.0%	9.1%	0%	**D(.0%**	7	0.D% 0.H%	1.: %	0%	**2.H%**	7	12.D% 0.8%	2.H%	0%	**1H2%**	7	7
LG5	0.HD0 0.: : 9	0.D	H	7 **0.: 9(**	7	0.H(D 0.(9(	0.190		7 **0.((9**	7	0.HD0 0.IDD	0.1 HD		7 **0.: 92**	7	0.(98 0.D H	0.HB8		7 **0.(8I**	7	0.((8
PQ C14	18 DI0	D	0	**D2:**	7	: 20I 1:		0	**2(0**	7	1 8	12	0	**1:**	7	90 2	19	0	**111**	7	: DH
% PQ C14	100% 9: .2%	100%	0%	**9: .I%**	7	100% 9: .2% 9: .1%	0%		**9: .2%**	7	H0.0% 100%	92.I%	0%	**(9.H%**	7	9I .(% I1 .: %	100%	0%	**9I .H%**	7	9: .0%
a 6s) M7 s 6 TS ucg4	0 I	0	0	**I**	7	0 I	2	0	**(**	7	1 0	0	0	**1**	7	0 0	0	0	**0**	7	1H
% a 6s) M7 s 6 TS ucg4	0% 1.9%	0%	0%	**1.(%**	7	0% 2.(% 2.9%	0%		**2.(%**	7	H0.0% 0%	0%	0%	**HD0%**	7	0% 0%	0%	0%	**0%**	7	2.0%
F S6cuMteUTS ucg4	0 1	0	0	**1**	7	0 0	0	0	**0**	7	0 0	0	0	**0**	7	0 0	0	0	**0**	7	1
% F S6cuMteUTS ucg4	0.D% 0%	0%	0%	**0.D%**	7	0% 0%	0%	0%	**0%**	7	0% 0%	0%	0%	**0%**	7	0% 0%	0%	0%	**0%**	7	0.1%
r u4e4	0 1	0	0	**1**	7	0 0	0	0	**0**	7	0 0	1	0	**1**	7	D 1	0	0	**8**	7	I
% r u4e4	0.D% 0%	0%	0%	**0.D%**	7	0% 0%	0%	0%	**0%**	7	0% 0%	: .: %	0%	**HD0%**	7	D2% CDD%	0.HB8	0%	**DH8%**	7	0.(%
r 6ckcM4 ds BdnU	0 1	0	0	**1**	7	0 0	0	0	**0**	7	0 0	0	0	**0**	7	0 0	0	0	**0**	7	1
% r 6ckcM4 ds BdnU	0% 0.D%	0%	0%	**0.D%**	7	0% 0%	0%	0%	**0%**	7	0% 0%	0%	0%	**0%**	7	0% 0%	0%	0%	**0%**	7	0.1%
LeUe4tSns 4	7 7	7	7	7	0	7 7	7	7	7 D		7 7	7	7	7	0	7 7	7	7	7	2	
% LeUe4tSns 4	7 7	7	7	7	7	7 7	7	7	7 100%		7 7	7	7	7	7	7 7	7	7	7	100%	7
r 6ckcM4 ds - Sl44y nMgl	7 7	7	7	7	0	7 7	7	7	7 0		7 7	7	7	7	0	7 7	7	7	7	0	
% r 6ckcM4 ds - Sl44y nMgl	7 7	7	7	7	7	7 7	7	7	7 0%		7 7	7	7	7	7	7 7	7	7	7	0%	7

*LeUe4tSns 4 ns Ur 6ckcM4 ds - Sl44y nMgl PmPeft, BmB6) Cl, TmTCSu, i m 7TuSs

Wing St & Sheldon - TMC

Tue Oct 19, 2021

F l Leng h(F l 79 F l A

F NW M44e4 hP Cl4, a 6s) M7 s 6 TS ucg4, F St6cuMteUTS ucg4, r u4e4, LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMgA

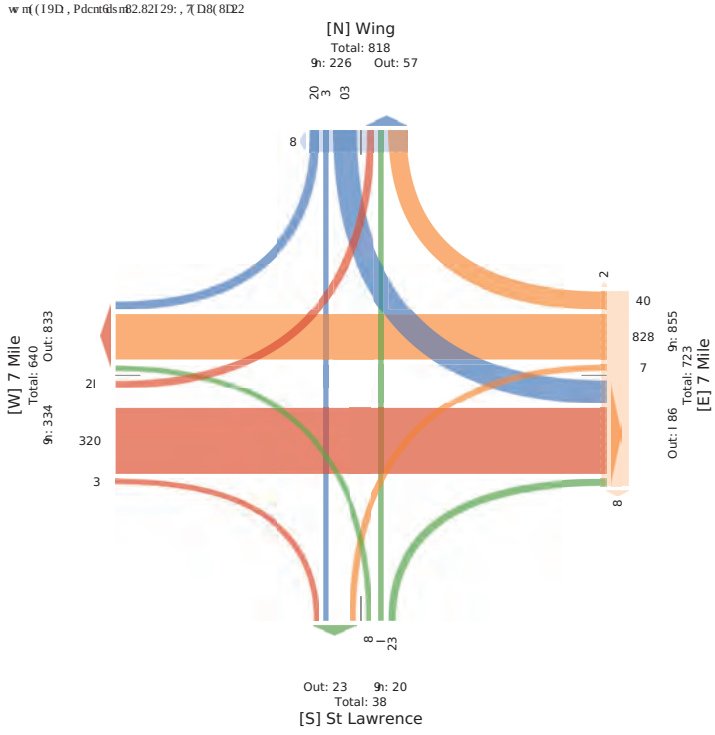
F NW doeRest4

wm((19D , Pdcnt6lsm82.821 29: , 7(D8(8D22

GEWALT HAMILTON ASSOCIATES, INC.

LSlo6LeU3kmb ey nMGnR6Wds F44dc6nte4 wc.

I 2H5dSe4t EU) e v Sloe, VeSi ds G6NW(vP, I 00I 1, i a



Wing St & Sheldon - TMC

Tue Oct 19, 2021

Fl FeLn gh(70 Fl AM70 Fl - AO4ePL66FeLn) CuP

a 6ss Cl iiei gSUkti, dUBr6eAy BtUTBucni, a RtdwCl eo TBucni, Ruiei, FeoeitPUEBi, RUdwc6ei CBv CLo, RUdwc6ei CBs PCiimLfin-

a 6Sl C4eI eBti

D (88. 973, SCcLr1CDB(h2lh2. 293, A87lh8h722

GEWALT HAMILTON ASSOCIATES, INC.

FRC41deo Ge(HemLfi) LI UdCB a ii Cc Ulrei DBcb

. 2M5CReit Eore : Pd4e, VeBBCB) U6i, IS, . 00. 1, y d

Ser : UecrtdEB	3 1 UBe EUrtCUnBo						3 1 UBe p eitCUnBo						dt SLmRcBce WCRkCUnBo						p UBr dCmkCUnBo						
TUe	S	T	v	y	a NN Feo*		S	T	v	y	a NN Feo*		S	T	v	y	a NN Feo*		S	T	v	y	a NN Feo*	
2021A0A19 h(70Fl	7 8.	0	0	**89**	0	M 11h	7.	0	**1hM**	1	1 0	1	0	**2**	0	27 0	h	0	**23**	0	**237**
h(hMFl	M 9h	2	0	**101**	0	h 9.	21	0	**121**	7	1 1	2	0	**h**	1	79 1	M	0	**hM**	0	**231**
MJ00Fl	h . M	0	0	**. 9**	0	2 122	19	0	**1h7**	1	1 2	0	0	**7**	0	h0 2	.	0	**h8**	0	**2. 7**
M1MFl	8 37	1	0	**82**	0	2 120	13	0	**179**	0	1 0	h	0	**M**	0	7h 2	h	0	**h0**	0	**2. .**
TCUL6	20 718	7	0	**7h1**	0	17 hM	97	0	**MM**	M	h 7	3	0	**1h**	1	17. M	19	0	**1. 0**	0	**1037**
% a NNCLck	M9% 97I7%	0I9%	0%	**A**	A	2I9% 81h0%	1. I8%	0%	**A**	A	28h % 21I%	M0h%	0%	**A**	A	8M0% 7I1%	11I9%	0%	**A**	A	A
% TCUL6	1I9% 29h %	0I7%	0%	**71I8%**	A	11I% h2I1%	8I8%	0%	**M10%**	A	0Ih% 0I5%	0I8%	0%	**1I7%**	A	12I8% 0IM%	1I8%	0%	**1hI9%**	A	A
F) 5	0h 2M 0I8M	0I3M	A	**0I8M0**	A	0h M 0I92.	0h h.	A	**0I900**	A	1h000 0I73M	0h78	A	**0I800**	A	0I8hh 0I73M	0I892	A	**0I818**	A	0I887
S Uki	20 712	7	0	**77M**	A	17 hh.	91	0	**M0**	A	h 7	3	0	**1h**	A	17h 7	19	0	**1M**	A	10M
% S Uki	100% 98I1%	100%	0%	**98I2%**	A	100% 98I8%	93I8%	0%	**98h %**	A	100% 100%	100%	0%	**100%**	A	98IM% . 0I0%	100%	0%	**93IM%**	A	98I7%
d Uh6eAy BtUTBucni	0 h	0	0	**h**	A	0 .	1	0	**3**	A	0 0	0	0	**0**	A	1 0	0	0	**1**	A	12
% d Uh6eAy BtUTBucni	0% 1I7%	0%	0%	**1I2%**	A	0% 1I7%	1Ih1%	0%	**1I7%**	A	0% 0%	0%	0%	**0%**	A	0I2% 0%	0%	0%	**0h %**	A	1Ih1%
a RUdwCleo TBucni	0 1	0	0	**1**	A	0 0	0	0	**0**	A	0 0	0	0	**0**	A	0 0	0	0	**0**	A	1
% a RUdwCleo TBucni	0% 0I7%	0%	0%	**0I5%**	A	0% 0%	0%	0%	**0%**	A	0% 0%	0%	0%	**0%**	A	0% 0%	0%	0%	**0%**	A	0Ih1%
Ruiei	0 0	0	0	**0**	A	0 0	1	0	**1**	A	0 0	0	0	**0**	A	0 0	0	0	**0**	A	1
% Ruiei	0% 0%	0%	0%	**0%**	A	0% 0%	1Ih1%	0%	**0I2%**	A	0% 0%	0%	0%	**0%**	A	0% 0%	0%	0%	**0%**	A	0Ih1%
RUdwCleo CBv CLo	0 1	0	0	**1**	A	0 0	0	0	**0**	A	0 0	0	0	**0**	A	1 2	0	0	**7**	A	h
% RUdwCleo CBv CLo	0% 0I7%	0%	0%	**0I5%**	A	0% 0%	0%	0%	**0%**	A	0% 0%	0%	0%	**0%**	A	0I2% h0I6%	0%	0%	**1I9%**	A	0Ih%
FeoeitPUEBi	A A	A	A	A	A 0	A A	A	A	A h		A A	A	A	A	A 1	A A	A	A	A	A 0	
% FeoeitPUEBi	A A	A	A	A	A	A A	A	A	A A8I8%		A A	A	A	A	A A100%	A A	A	A	A	A	A
RUdwCleo CBs PCiimLfin	A A	A	A	A	A 0	A A	A	A	A A 1		A A	A	A	A	A 0	A A	A	A	A	A 0	
% RUdwCleo CBs PCiimLfin	A A	A	A	A	A	A A	A	A	A A20I8%		A A	A	A	A	A 0%	A A	A	A	A	A	A

*FeoeitPUEBi LBo RUdwC6ei CBs PCiimLfinbS(Seft, v (v Uki, T(TkRu, y (y ATuBB

Wing St & Sheldon - TMC

Tue Oct 19, 2021

Fl FeLn gh(70 Fl AM70 Fl - AO4ePL66FeLn) CuP

a 6ss Cl iiei gSUkti, dUBr6eAy BtUTBucni, a RtdwCl eo TBucni, Ruiei, FeoeitPUEBi, RUdwc6ei CBv CLo, RUdwc6ei CBs PCiimLfin-

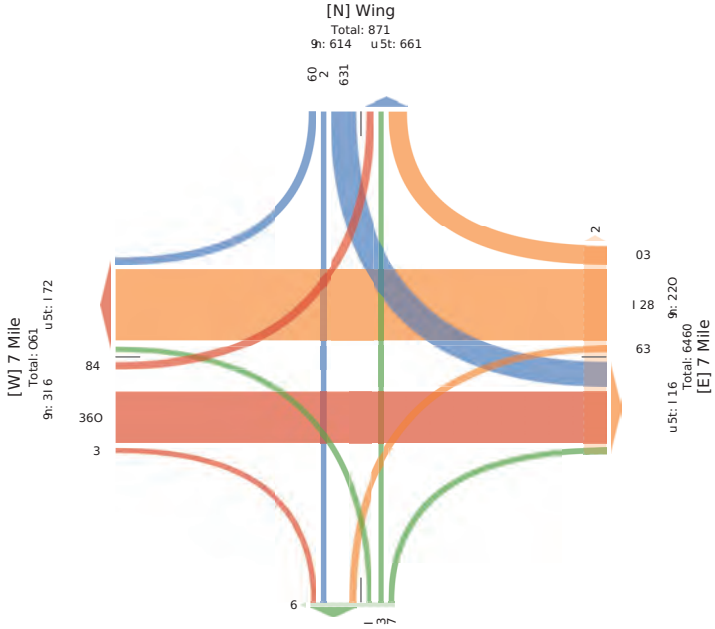
a 6Sl C4eI eBti

D (88. 973, SCcLr1CDB(h2lh2. 293, A87lh8h722

GEWALT HAMILTON ASSOCIATES, INC.

FRC41deo Ge(HemLfi) LI UdCB a ii Cc Ulrei DBcb

. 2M5CReit Eore : Pd4e, VeBBCB) U6i, IS, . 00. 1, y d



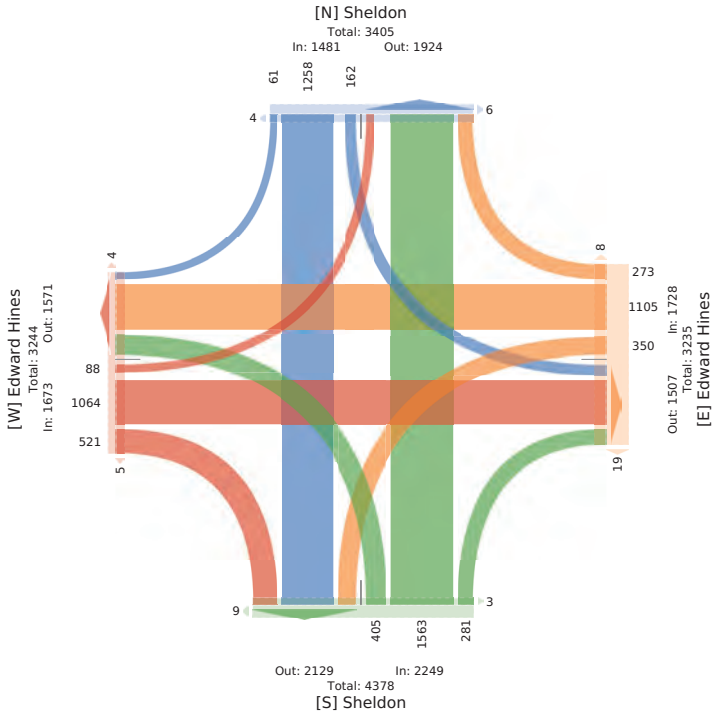
GEWALT HAMILTON ASSOCIATES, INC.
Provided Cy: Hewalt 5 amilton Associates Inc3
62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Leg Direction	Edward 5 ines EastGound					Edward 5 ines p estGound					Sheldon WorthGound					Sheldon SouthGound					
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	2	. 6	b2	0	**90**	0	7	bb	.	0	**4.**	0	11	b4	7	0	**. 2**	0	1	. 4	1	0	**. 6**	0	**24b**
7:1. AM	2	49	20	0	**71**	1	7	42	6	0	**. .**	0	18	76	2	0	**96**	1	4	4.	0	0	**49**	0	**271**
7:b0AM	0	6.	41	0	**106**	0	6	bb	14	0	**. b**	0	2b	69	4	0	**96**	0	4	62	2	0	**68**	0	**b2b**
7:4. AM	.	8	29	0	**92**	0	2b	b7	14	0	**74**	0	20	92	1b	0	**12.**	0	.	84	2	0	**91**	0	**b82**
5 ourly Total	9	228	122	0	**b. 9**	1	4b	14.	b9	0	**227**	0	72	271	26	0	**b69**	1	14	24.	.	0	**264**	0	**1219**
8:00AM	.	6b	. 9	0	**127**	0	17	4b	7	0	**67**	2	26	94	19	0	**1b9**	0	4	121	. 2	0	**127**	0	**460**
8:1. AM	4	71	49	0	**124**	0	22	46	11	0	**79**	1	1.	99	21	0	**1b.**	0	10	72	4	0	**86**	0	**424**
8:b0AM	4	62	26	0	**92**	0	12	b.	10	0	**. 7**	0	24	100	2.	0	**149**	0	10	. 1	.	0	**66**	1	**b64**
8:4. AM	4	.	2.	0	**84**	0	19	49	1.	0	**8b**	1	14	92	1b	0	**119**	0	8	. 7	4	0	**69**	0	**b. .**
5 ourly Total	17	2. 1	1. 9	0	**427**	0	70	17b	4b	0	**286**	4	79	b8.	78	0	**. 42**	0	b2	b01	1.	0	**b48**	1	**160b**
4:00PM	10	68	24	0	**102**	1	22	87	27	0	**1b6**	7	29	99	22	0	**1. 0**	1	8	9b	8	0	**109**	1	**497**
4:1. PM	4	69	bb	0	**106**	0	28	88	26	0	**142**	1	29	12b	2.	0	**177**	1	1b	87	.	0	**10.**	0	**. b0**
4:b0PM	4	7.	b6	0	**11.**	1	18	122	21	0	**161**	1	b2	101	b8	0	**171**	1	1b	76	8	0	**97**	1	**. 44**
4:4. PM	1b	79	b7	0	**129**	2	bb	87	b0	0	**1. 0**	2	b4	128	28	0	**190**	2	21	76	4	0	**101**	0	**. 70**
5 ourly Total	b1	291	1b0	0	**4. 2**	4	101	b84	104	0	**. 89**	11	124	4. 1	11b	0	**688**	.	. .	bb2	2.	0	**412**	2	**2141**
. :00PM	4	62	b2	0	**98**	0	4.	109	b0	0	**184**	2	2b	107	1.	0	**14.**	1	1b	96	.	0	**114**	2	**. 41**
. :1. PM	6	79	26	0	**111**	2	29	101	2b	0	**1. b**	.	b6	122	2b	0	**181**	0	19	88	b	0	**110**	0	**. . .**
. :b0PM	11	68	29	0	**108**	1	27	94	16	0	**1b7**	4	41	112	12	0	**16.**	b	16	100	b	0	**119**	.	**. 29**
. :4. PM	10	8.	2b	0	**118**	1	b.	99	18	0	**1. 2**	1	b0	11.	14	0	**1. 9**	2	1b	96	.	0	**114**	0	**. 4b**
5 ourly Total	b1	294	110	0	**4b.**	4	1b6	40b	87	0	**626**	12	1b0	4. 6	64	0	**6. 0**	6	61	b80	16	0	**4. 7**	7	**2168**
Total	88	1064	. 21	0	**167b**	9	b. 0	110.	27b	0	**1728**	27	40.	1. 6b	281	0	**2249**	12	162	12. 8	61	0	**1481**	10	**71b1**
% ANNtoach	. 3%	6b.3%	b1.3%	0%	**-**	-	20.3%	6b.3%	1. 3%	0%	**-**	-	18.0%	693 %	123 %	0%	**-**	-	10.9%	84.9%	43%	0%	**-**	-	-
% Total	1.2%	143%	7.3%	0%	**2b.1 %**	-	4.3%	1. 3 %	b.1%	0%	**242%**	-	. 3%	21.3%	b.9%	0%	**b.13 %**	-	2.b%	17.6%	0.9%	0%	**203%**	-	-
Lights	88	1047	. 07	0	**1642**	-	b44	108b	26b	0	**1690**	-	b90	1. 48	276	0	**2214**	-	1. b	1248	. 9	0	**1460**	-	7006
% Lights	100%	98.3%	97.3%	0%	**98.1%**	-	98.1%	98.0%	96.1%	0%	**97.1%**	-	96.1%	99.0%	98.2%	0%	**98.1%**	-	94.1%	99.2%	96.7%	0%	**98.0%**	-	98.2%
Single-Unit Trucks	0	6	7	0	**1b**	-	b	9	2	0	**14**	-	10	.	2	0	**17**	-	0	6	2	0	**8**	-	. 2
% Single-Unit Trucks	0%	0.b%	1.3%	0%	**0.b%**	-	0.9%	0.8%	0.7%	0%	**0.b%**	-	2.3 %	0.b%	0.7%	0%	**0.b%**	-	0%	0.5 %	b.1%	0%	**0.5 %**	-	0.7%
Articulated Trucks	0	.	1	0	**6**	-	1	6	0	0	**7**	-	1	0	b	0	**4**	-	1	1	0	0	**2**	-	19
% Articulated Trucks	0%	0.3 %	0.2%	0%	**0.3%**	-	0.1%	0.3 %	0%	0%	**0.3%**	-	0.2%	0%	1.1%	0%	**0.2%**	-	0.5%	0.1%	0%	0%	**0.1%**	-	0.1%
Buses	0	b	.	0	**8**	-	1	.	1	0	**7**	-	4	8	0	0	**12**	-	4	b	0	0	**7**	-	b4
% Buses	0%	0.1%	1.0%	0%	**0.3 %**	-	0.1%	0.3 %	0.1%	0%	**0.3%**	-	1.0%	0.3 %	0%	0%	**0.3 %**	-	2.3 %	0.2%	0%	0%	**0.3 %**	-	0.3 %
Bicycles on Road	0	b	1	0	**4**	-	1	2	7	0	**10**	-	0	2	0	0	**2**	-	4	0	0	0	**4**	-	20
% Bicycles on Road	0%	0.1%	0.2%	0%	**0.2%**	-	0.1%	0.2%	2.6%	0%	**0.6%**	-	0%	0.1%	0%	0%	**0.1%**	-	2.3 %	0%	0%	0%	**0.1%**	-	0.1%
Pedestrians	-	-	-	-	-	8	-	-	-	-	-	14	-	-	-	-	-	12	-	-	-	-	-	9	
% Pedestrians	-	-	-	-	-	88.9%	-	-	-	-	-	1.3%	-	-	-	-	-	100%	-	-	-	-	-	90.0%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	1b	-	-	-	-	-	0	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	11.1%	-	-	-	-	-	48.3%	-	-	-	-	-	0%	-	-	-	-	-	10.0%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Center Street/Sheldon & Seven Mile - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 88692. , Location: 42342. 947, -8b3482646

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cy: Hewalt 5 amilton Associates Inc3
62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Center Street/Sheldon & Seven Mile - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeCha si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC, LeBeCdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP
F 6)l RmeI er tC
D 744892M a RcntsRr 7A2. A2M9A(, -43. A428A8

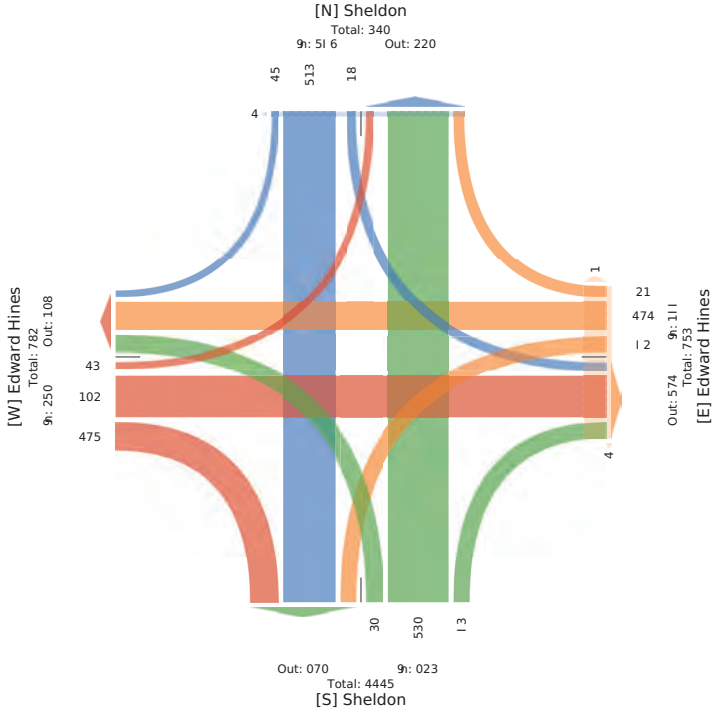
GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 HnI s6Rr F CCRcsnteCDc.
82M5RdeCt EBi e : dsne, Vedr Rr Hs6C, Da , 80081, k U

a ei : sdectsRr	EBv ndB Hsr eC EnCIbRur B					EBv ndB Hsr eC p eCIbRur B					USeEBRr WRtISbRur B					USeEBRr URutSbRur B					
Tsl e	a	T	w	k	FNN	LeEP*	a	T	w	k	FNN	LeEP*	a	T	w	k	FNN	LeEP*	a	T	w	k	FNN	LeEP*	Dt
2021-10-19 (7AMF l	M	M.	29	0	**92**	0	23	3(	1A	0	**(A**	0	20	92	13	0	**12M**	0	M	4A	2	0	**91**	0	**342**
47I0F l	M	83	M	0	**12(**	0	1(	A3	(	0	**8(**	2	28	9A	19	0	**139**	0	A	121	2	0	**12(**	0	**A80**
47MF l	A	(1	A	0	**12A**	0	22	A8	11	0	**(9**	1	1M	99	21	0	**13M**	0	10	(2	A	0	**48**	0	**A2A**
47I0F l	A	82	28	0	**92**	0	12	3M	10	0	**M(**	0	2A	100	2M	0	**1A9**	0	10	M	M	0	**88**	1	**38A**
TRm6	14	2MA	183	0	**A3M**	0	(A	181	A2	0	**2((**	3	4M	34M	(4	0	**M4**	0	29	324	13	0	**3(0**	1	**1830**
% F NNBRnCS	A.1%	M.A%	3(.M%	0%	**-**	-	28.(%	M.1%	1M2%	0%	**-**	-	1MM%	(0.3%	1A.2%	0%	**-**	-	(.4%	44.8%	3.M%	0%	**-**	-	-
% TRm6	1.1%	1M8%	10.0%	0%	**28.(%**	-	A.M%	9.9%	2.8%	0%	**1(.0%**	-	M2%	23.8%	A.4%	0%	**33.8%**	-	1.4%	20.1%	0.4%	0%	**22.(%**	-	-
LH5	0.900	0.49.A	0.891	-	**0.4M**	-	0.40.A	0.4(M	0.(M	-	**0.4((**	-	0.41(	0.983	0.(40	-	**0.919**	-	0.(2M	0.8(4	0.8M	-	**0.(24**	-	0.448
a si StC	14	2A(	1M	0	**A2A**	-	(1	1M2	Al	0	**28A**	-	(9	341	(8	0	**M8**	-	28	323	12	0	**381**	-	1M4
% a si StC	100%	9(.2%	9(.M%	0%	**9(.M%**	-	9M.9%	9A.A%	9(.8%	0%	**9M.9%**	-	92.9%	99.0%	9(.A%	0%	**9(.4%**	-	49.(%	94.M%	92.3%	0%	**9(.8%**	-	9(.2%
Usr i 6e-k r st TducgC	0	2	2	0	**A**	-	2	M	0	0	**(**	-	M	1	1	0	**(**	-	0	3	1	0	**A**	-	22
% Usr i 6e-k r st TducgC	0%	0.4%	1.2%	0%	**0.9%**	-	2.(%	3.1%	0%	0%	**2.M%**	-	M.9%	0.3%	1.3%	0%	**1.3%**	-	0%	0.9%	(.(%	0%	**1.1%**	-	1.3%
F dscu6nteB TducgC	0	2	0	0	**2**	-	1	2	0	0	**3**	-	0	0	1	0	**1**	-	0	0	0	0	**0**	-	8
% F dscu6nteB TducgC	0%	0.4%	0%	0%	**0.M%**	-	1.A%	1.2%	0%	0%	**1.1%**	-	0%	0%	1.3%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0.A%
y uCeC	0	3	2	0	**M**	-	0	2	1	0	**3**	-	1	3	0	0	**A**	-	3	2	0	0	**M**	-	1(
% y uCeC	0%	1.2%	1.2%	0%	**1.1%**	-	0%	1.2%	2.A%	0%	**1.1%**	-	1.2%	0.4%	0%	0%	**0.(%**	-	10.3%	0.8%	0%	0%	**1.A%**	-	1.0%
y scoc6eCRr wRnB	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% y scoc6eCRr wRnB	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
LeBeCdsnr C	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	
% LeBeCdsnr C	-	-	-	-	-	-	-	-	-	-	-	88.(%	-	-	-	-	-	-	-	-	-	-	-	100%	
y scoc6eCRr) dRCCv nfg	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% y scoc6eCRr) dRCCv nfg	-	-	-	-	-	-	-	-	-	-	-	33.3%	-	-	-	-	-	-	-	-	-	-	-	0%	

*LeBeCdsnr Cnr B y scoc6eCRr) dRCCv nfg. a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

Center Street/Sheldon & Seven Mile - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeCha si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC, LeBeCdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP
F 6)l RmeI er tC
D 744892M a RcntsRr 7A2. A2M9A(, -43. A428A8

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 HnI s6Rr F CCRcsnteCDc.
82M5RdeCt EBi e : dsne, Vedr Rr Hs6C, Da , 80081, k U



Center Street/Sheldon & Seven Mile - TMC

Tue Oct 19, 2021

Fl FeLn gh(70 Fl AM70 Fl - AO4eHl66FeLn) CuP

a 6ss 6Li i ei gSUkti, dUBr 6eAy BtiTRucni, a RUdu6Lieo TRucni, Ruiei, FeoeitRUEli, RUdwc6ei CBs vCLo, RUdwc6ei CBs PCiimLfin-

a 6l C4eI eBti

D (88. 92M, SCcLrUCB(h23h2M9hb, A873h82. h.

GEWALT HAMILTON ASSOCIATES, INC.

FRC4Udeo Gv(HemLfi) LI UdCBa ii Cc Ulrei DBc3

. 2M5CReit Eore : Pde, VeBBCB) U66, D5, . 00. 1, y d

Ser : UBrcUB	EomLBo) UBei ELitCUuBo					EomLBo) UBei p eitCUuBo					dke6oCB vCBkCUuBo					dke6oCB dCuukCUuBo					
TUI e	S	T	v	y	a NN	Feo*	S	T	v	y	a NN	Feo*	S	T	v	y	a NN	Feo*	S	T	v	y	a NN	Feo*	DBt
2021A0.A9 lq70Fl	h	bM	7.	0	**11M**	1	18	122	21	0	**1. 1**	1	72	101	78	0	**1b1**	1	17	b.	8	0	**9b**	1	**Mih**
h0hMFl	17	b9	7b	0	**129**	2	77	8b	70	0	**1M0**	2	7h	128	28	0	**190**	2	21	b.	h	0	**101**	0	**Mi0**
MJ00Fl	h	. 2	72	0	**98**	0	hM	109	70	0	**18h**	2	27	10b	1M	0	**1hM**	1	17	9.	M	0	**11h**	2	**Mi1**
MJ1Fl	.	b9	2.	0	**111**	2	29	101	27	0	**1M**	M	7.	122	27	0	**181**	0	19	88	7	0	**110**	0	**MiM**
TCtL6	2b	29M	171	0	**hM**	M	12M	h19	10h	0	**. h8**	10	12M	hM	10h	0	**. 8b**	h	. .	77.	20	0	**h22**	7	**2210**
% a NNCLck	. 1%	. M1%	283%	0%	**A**	A	193%	. h3%	1. 1%	0%	**A**	A	182%	. . 3%	1M1%	0%	**A**	A	1M1%	b93 %	h3h%	0%	**A**	A	A
% TCtL6	132%	173%	M9%	0%	**203M6**	A	M6%	193%	h3h%	0%	**293%**	A	M6%	203%	h1h%	0%	**713%**	A	79%	1M2%	03%	0%	**193%**	A	A
F) 5	03M9	03h2h	03B8M	A	**03Bb9**	A	03 89	03EM9	03Bh2	A	**03BbM**	A	03. 8	03B91	03 8h	A	**03901**	A	03b. 2	03BbM03	2M	A	**03929**	A	03Bb0
StaKti	2b	289	128	0	**hhh**	A	127	h1M	100	0	**. 78**	A	12h	hM	102	0	**. b9**	A	. 7	77.	20	0	**h19**	A	2180
% StaKti	100%	98 03%	9b3%	0%	**98D%**	A	983%	993%	9. 3%	0%	**983M6**	A	992%	983%	983%	0%	**983%**	A	9MM%	100%	100%	0%	**993%**	A	983 %
dUBr 6eAy BtiTRucni	0	2	2	0	**h**	A	1	1	1	0	**7**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	b
% dUBr 6eAy BtiTRucni	0%	03%	13M6	0%	**03%**	A	03B%	02%	13B%	0%	**03M6**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	03%
a RUdu6Lieo TRucni	0	1	1	0	**2**	A	0	7	0	0	**7**	A	0	0	2	0	**2**	A	1	0	0	0	**1**	A	8
% a RUdu6Lieo TRucni	0%	03%	03B%	0%	**03h%**	A	0%	03h%	0%	0%	**03M6**	A	0%	0%	13%	0%	**03%**	A	13M6	0%	0%	0%	**02%**	A	03h%
Ruiei	0	0	0	0	**0**	A	0	0	0	0	**0**	A	1	7	0	0	**h**	A	0	0	0	0	**0**	A	h
% Ruiei	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	03B%	03h%	0%	0%	**03 %**	A	0%	0%	0%	0%	**0%**	A	02%
RUdwc6ei CBs vCLo	0	7	0	0	**7**	A	1	0	7	0	**h**	A	0	2	0	0	**2**	A	2	0	0	0	**2**	A	11
% RUdwc6ei CBs vCLo	0%	13%	0%	0%	**03h%**	A	03B%	0%	23%	0%	**03 %**	A	0%	03h%	0%	0%	**03%**	A	73%	0%	0%	0%	**03M6**	A	03M6
FeoeitRUEli	A	A	A	A	A	M	A	A	A	A	A	M	A	A	A	A	A	h	A	A	A	A	A	7	
% FeoeitRUEli	A	A	A	A	A	100%	A	A	A	A	AM03%		A	A	A	A	A	100%	A	A	A	A	A	100%	A
RUdwc6ei CBs PCiimLfin	A	A	A	A	A	0	A	A	A	A	A	M	A	A	A	A	A	0	A	A	A	A	A	0	
% RUdwc6ei CBs PCiimLfin	A	A	A	A	A	0%	A	A	A	A	AM03%		A	A	A	A	A	0%	A	A	A	A	A	0%	A

*FeoeitRUEli LBo RUdwc6ei CBs PCiimLfin3S(Seft, v (v Uki, T(TkRi, y (y AUuBB

Center Street/Sheldon & Seven Mile - TMC

Tue Oct 19, 2021

Fl FeLn gh(70 Fl AM70 Fl - AO4eHl66FeLn) CuP

a 6ss 6Li i ei gSUkti, dUBr 6eAy BtiTRucni, a RUdu6Lieo TRucni, Ruiei, FeoeitRUEli, RUdwc6ei CBs vCLo, RUdwc6ei CBs PCiimLfin-

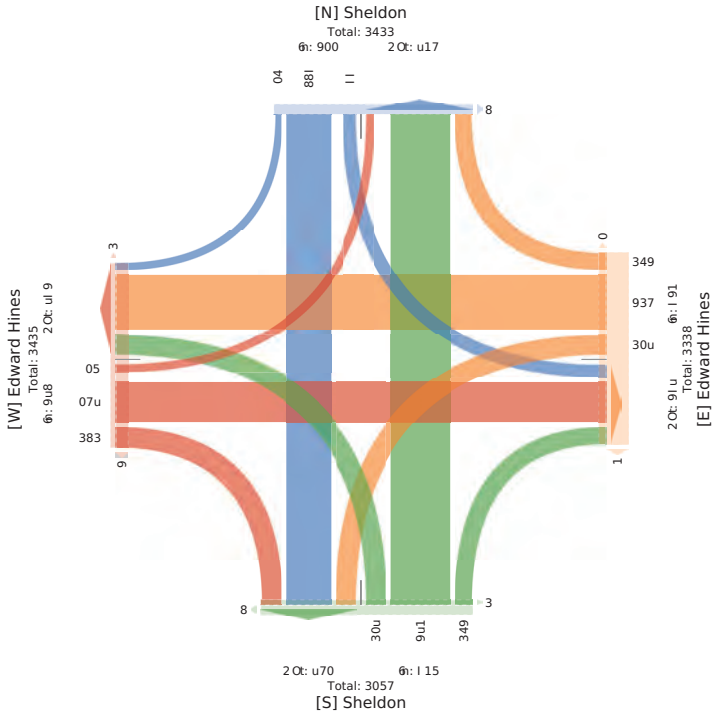
a 6l C4eI eBti

D (88. 92M, SCcLrUCB(h23h2M9hb, A873h82. h.

GEWALT HAMILTON ASSOCIATES, INC.

FRC4Udeo Gv(HemLfi) LI UdCBa ii Cc Ulrei DBc3

. 2M5CReit Eore : Pde, VeBBCB) U66, D5, . 00. 1, y d



Hines Drive & Seven Mile - TMC

Tue Oct 19, 2021

Full Length (7 AM-9 AM, 4 PM-6 PM)

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

All Movements

ID: 8869. 2, Location: 423 42b. b8, -8. 348027.

GEWALT HAMILTON ASSOCIATES, INC.

Provided Gy: Hewalt 5 amilton Associates Inc3

62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Leg Direction	7 Mile p estGound					5 ines WorthGound					5 ines SouthGound					
Time	L	R	U	**ANN**	Ped*	T	R	U	**ANN**	Ped*	L	T	U	**ANN**	Ped*	**Int**
2021-10-19 7:00AM	1	2b	0	**26**	0	19	.	0	**22**	0	. 7	24	0	**61**	0	**109**
7:1bAM	1	. b	0	**. 6**	0	24	0	0	**24**	0	. 8	1b	0	**b.**	0	**11.**
7:. 0AM	0	. 0	0	**. 0**	0	2.	2	0	**2b**	0	4b	24	0	**69**	0	**124**
7:4bAM	.	b0	0	**b.**	0	28	.	0	**. 1**	0	b.	. 1	0	**84**	0	**168**
5 ourly Total	b	140	0	**14b**	0	94	8	0	**102**	0	17.	94	0	**267**	0	**b14**
8:00AM	1	b.	0	**b4**	0	19	4	0	**2.**	0	60	2.	0	**8.**	0	**160**
8:1bAM	2	b1	0	**b.**	0	2.	b	0	**28**	0	7.	. 1	0	**104**	0	**18b**
8:. 0AM	4	. b	0	**. 9**	0	22	b	0	**27**	0	7.	24	0	**97**	0	**16.**
8:4bAM	1	b.	0	**b4**	0	. 0	4	0	**. 4**	0	b9	19	0	**78**	0	**166**
5 ourly Total	8	192	0	**200**	0	94	18	0	**112**	0	26b	97	0	**. 62**	0	**674**
4:00PM	14	91	0	**10b**	0	41	7	0	**48**	0	64	. 6	0	**100**	0	**2b.**
4:1bPM	16	96	0	**112**	0	44	b	0	**49**	0	69	40	0	**109**	0	**270**
4:. 0PM	22	110	0	**1. 2**	0	48	9	0	**b7**	0	80	b1	0	**1. 1**	0	**. 20**
4:4bPM	16	99	0	**11b**	0	b9	1.	0	**72**	0	72	b6	0	**128**	0	**. 1b**
5 ourly Total	68	. 96	0	**464**	0	192	. 4	0	**226**	0	28b	18.	0	**468**	0	**11b8**
b:00PM	12	1. 2	0	**144**	0	61	19	0	**80**	1	47	4b	0	**92**	0	**. 16**
b:1bPM	16	102	0	**118**	0	49	10	0	**b9**	0	81	49	0	**1. 0**	0	**. 07**
b:. 0PM	24	8.	0	**107**	0	b4	17	0	**71**	0	70	. 6	0	**106**	0	**284**
b:4bPM	11	92	0	**10.**	0	b9	20	0	**79**	0	79	4b	0	**124**	1	**. 06**
5 ourly Total	6.	409	0	**472**	0	22.	66	0	**289**	1	277	17b	0	**4b2**	1	**121.**
Total	144	11. 7	0	**1281**	0	60.	126	0	**729**	1	1000	b49	0	**1b49**	1	**. bb9**
% ANNroach	112%	883%	0%	**-**	-	823%	173 %	0%	**-**	-	643%	. b3%	0%	**-**	-	-
% Total	43%	. 13%	0%	**. 63%**	-	163%	. 3%	0%	**203%**	-	283 %	1b3%	0%	**4. 3%**	-	-
Lights	1. 7	1107	0	**1244**	-	b91	12b	0	**716**	-	979	b. 0	0	**1b09**	-	. 469
% Lights	9b3%	973%	0%	**973%**	-	983%	992%	0%	**983%**	-	973%	963%	0%	**973%**	-	973%
Single-Unit Trucks	0	17	0	**17**	-	4	0	0	**4**	-	12	0	0	**12**	-	. .
% Single-Unit Trucks	0%	13%	0%	**13 %**	-	03%	0%	0%	**03%**	-	12%	0%	0%	**03%**	-	03%
Articulated Trucks	0	8	0	**8**	-	0	0	0	**0**	-	9	0	0	**9**	-	17
% Articulated Trucks	0%	03%	0%	**03%**	-	0%	0%	0%	**0%**	-	03%	0%	0%	**03%**	-	03%
Buses	0	4	0	**4**	-	1	0	0	**1**	-	0	7	0	**7**	-	12
% Buses	0%	03%	0%	**03 %**	-	02%	0%	0%	**03%**	-	0%	13 %	0%	**03%**	-	03 %
Bicycles on Road	7	1	0	**8**	-	7	1	0	**8**	-	0	12	0	**12**	-	28
% Bicycles on Road	43%	03%	0%	**03%**	-	12%	03%	0%	**13%**	-	0%	23%	0%	**03%**	-	03%
Pedestrians	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	0%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	100%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Hines Drive & Seven Mile - TMC

Tue Oct 19, 2021

Full Length (7 AM-9 AM, 4 PM-6 PM)

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

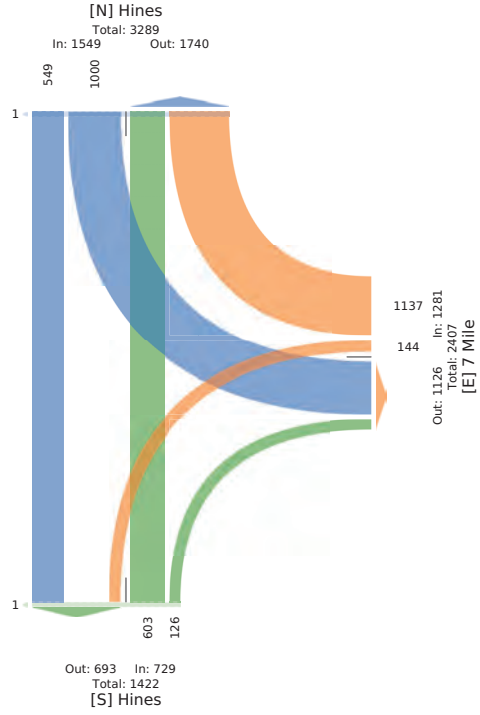
All Movements

ID: 8869. 2, Location: 423 42b. b8, -8. 348027.

GEWALT HAMILTON ASSOCIATES, INC.

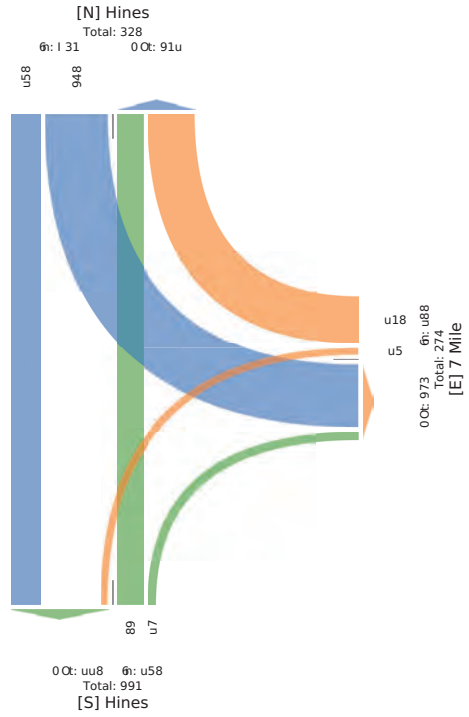
Provided Gy: Hewalt 5 amilton Associates Inc3

62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US



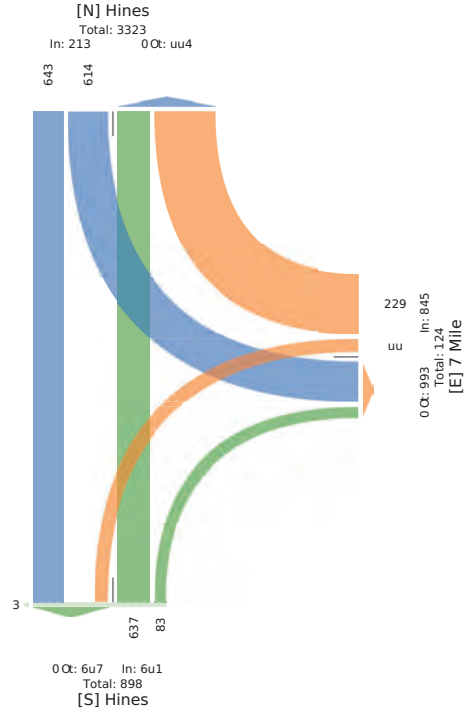
a ei : sdectsRr	(l sRe p eCbRurB					Hsr eC. WRdtSbRurB					Hsr eC URutSbRurB					
Tsl e	a	w	k	F NN	LeB*	T	w	k	F NN	LeB*	a	T	k	F NN	LeB*	Dt
2021-10-19 (7AMF l	.	M	0	M	0	24	.	0	. 1	0	M	. 1	0	4A	0	184
47h0F l	1	M	0	MA	0	19	A	0	2.	0	80	2.	0	4.	0	180
47LMF l	2	M	0	M	0	2.	M	0	24	0	(.	. 1	0	10A	0	14M
47. 0F l	A	. M	0	. 9	0	22	M	0	2(	0	(.	2A	0	9(	0	18.
TRn6	10	149	0	**199**	0	92	1(	0	**109**	0	2M	109	0	**. 84**	0	**8(8**
% F NNRncS	M	9M	0%	**-**	-	4A	1M	0%	**-**	-	(0	29	0%	**-**	-	-
% TRn6	1	24	0%	**29**	-	1. 3	2	0%	**183**	-	. 43 %	183 %	0%	**M3**	-	-
LH5	0	2M	-	**0**	-	0	1	-	**0(9**	-	0	4(	-	**0**	-	0
a si StC	10	1(4	0	**144**	-	44	1(	0	**10M**	-	2M	102	0	**. MA**	-	8A(
% a si StC	100%	9A	0%	**9A**	-	9M	100%	0%	**983 %**	-	9(3 %	9. 3	0%	**982**	-	9M
Usri 6e-k r st TducgC	0	8	0	**8**	-	A	0	0	**A**	-	.	0	0	.	-	1.
% Usri 6e-k r st TducgC	0%	. 3	0%	**. 3**	-	A3 %	0%	0%	**. 3 %**	-	13	0%	0%	**03**	-	13
F dscu6niteB TducgC	0	A	0	**A**	-	0	0	0	**0**	-	A	0	0	**A**	-	4
% F dscu6niteB TducgC	0%	23	0%	**23**	-	0%	0%	0%	**0%**	-	13	0%	0%	**13**	-	13
y uCeC	0	1	0	**1**	-	0	0	0	**0**	-	0	8	0	**8**	-	(
% y uCeC	0%	03	0%	**03**	-	0%	0%	0%	**0%**	-	0%	M	0%	**13**	-	13
y scoc6eCRr wRnB	0	0	0	**0**	-	0	0	0	**0**	-	0	1	0	**1**	-	1
% y scoc6eCRr wRnB	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	03	0%	**03 %**	-	03
LeBeCdcsnr C	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% LeBeCdcsnr C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
y scoc6eCRr) dRCCv nfg	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% y scoc6eCRr) dRCCv nfg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*LeBeCdcsnr Cnr B y scoc6eCRr) dRCCv nfg3a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr



Ser : URectUCB	b l UBe p eitCCuBo					) UBei WCPkCCuBo					) UBei dCurkCCuBo					
TUl e	S	v	y	a NN	Feo*	T	v	y	a NN	Feo*	S	T	y	a NN	Feo*	Dh
2021A10A19 h(70Fl	22	110	0	**172**	0	h8	9	0	**Mh**	0	80	M	0	**171**	0	**720**
h(hMFl	1.	99	0	**11M**	0	M9	17	0	**h2**	0	h2	M	0	**128**	0	**71M**
M00Fl	12	172	0	**1hh**	0	. 1	19	0	**80**	1	hh	hM	0	**92**	0	**71.**
Mh1Mfl	1.	102	0	**118**	0	h9	10	0	**M9**	0	81	h9	0	**170**	0	**70h**
TCtL6	. .	hh7	0	**M9**	0	21h	M	0	**2. 8**	1	280	201	0	**h81**	0	**12M**
% a NNRCLck	173	8h3	0%	**A**	A	813	193	0%	**A**	A	M32	h13	0%	**A**	A	A
% TCtL6	M2	7M2	0%	**h03**	A	1h32	h3	0%	**213**	A	223	1. 3	0%	**782**	A	A
F) 5	03h	0	A	**038**	A	0	03 b1	A	**0328**	A	0	3h7	A	**0391**	A	0387
SUkti	. 7	h78	0	**M1**	A	21h	M	0	**2. M**	A	2b7	192	0	**h. M**	A	1271
% SUkti	9M	983	0%	**983**	A	983 %	100%	0%	**983**	A	9b3	9M	0%	**9. 3**	A	9b3
dUBr6eAy BtU TRucni	0	7	0	**7**	A	0	0	0	**0**	A	h	0	0	**h**	A	b
% dUBr6eAy BtU TRucni	0%	03	0%	**03 %**	A	0%	0%	0%	**0%**	A	13	0%	0%	**03**	A	03 %
a PtUduGLreo TRucni	0	2	0	**2**	A	0	0	0	**0**	A	7	0	0	**7**	A	M
% a PtUduGLreo TRucni	0%	03	0%	**03**	A	0%	0%	0%	**0%**	A	13 %	0%	0%	**03 %**	A	03
Ruiei	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% Ruiei	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
RUdwc6ei CBv CLo	7	0	0	**7**	A	7	0	0	**7**	A	0	9	0	**9**	A	1M
% RUdwc6ei CBv CLo	h3	0%	0%	**03 %**	A	13	0%	0%	**13**	A	0%	h3	0%	**13**	A	13
FeoeitPULPi	A	A	A	A	0	A	A	A	A	1	A	A	A	A	0	
% FeoeitPULPi	A	A	A	A	A	A	A	A	A	100%	A	A	A	A	A	A
RUdwc6ei CBs PCiimLfn	A	A	A	A	0	A	A	A	A	0	A	A	A	A	0	
% RUdwc6ei CBs PCiimLfn	A	A	A	A	A	A	A	A	A	0%	A	A	A	A	A	A

*FeoeitPULPi LBo RUdwc6ei CBs PCiimLfn3S(Seft, v (v Uki, T(TkRu, y (y AfuPB



River & Seven Mile - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 1, Location: 423425607, -8. 3476888

Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

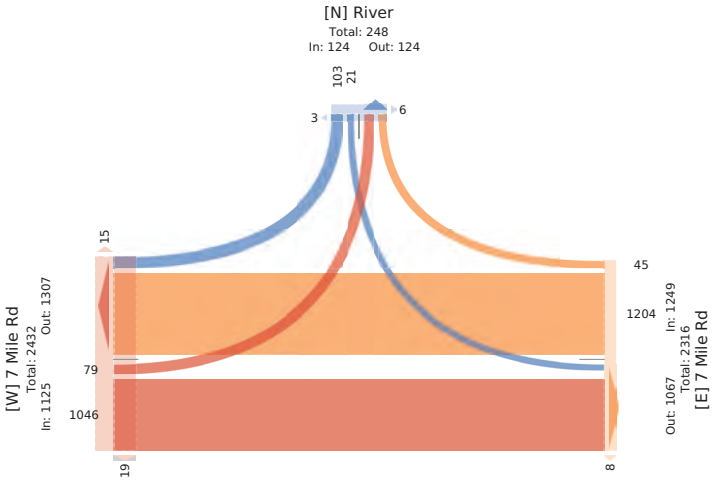
Leg Direction	7 Mile Rd Eastbound					7 Mile Rd p estbound					River Southbound					
Time	L	T	U	AWV	Ped*	T	R	U	AWV	Ped*	L	R	U	AWV	Ped*	Int
2021-10-19 7:00AM	5	. 8	0	4.	1	26	0	0	26	0	1	1	0	2	0	71
7:15AM	2	40	0	42	2	. 5	0	0	. 5	1	0	2	0	2	0	79
7:. 0AM	1	4.	0	44	1	28	4	0	. 2	0	0	6	0	6	0	82
7:45AM	4	50	0	54	0	45	1	0	46	0	1	6	0	7	0	107
Hourly Total	12	171	0	18.	4	1. 4	5	0	1. 9	1	2	15	0	17	0	. . 9
8:00AM	5	58	0	6.	0	54	1	0	55	0	0	2	0	2	0	120
8:15AM	6	72	0	78	2	48	1	0	49	0	2	4	0	6	0	1. .
8:. 0AM	5	71	0	76	1	. 6	4	0	40	0	2	2	0	4	2	120
8:45AM	2	60	0	62	0	5.	.	0	56	0	1	1	0	2	0	120
Hourly Total	18	261	0	279	.	191	9	0	200	0	5	9	0	14	2	49.
4:00PM	4	70	0	74	8	105	0	0	105	0	1	1	0	2	0	181
4:15PM	4	69	0	7.	1	109	2	0	111	0	1	9	0	10	0	194
4:. 0PM	6	81	0	87	2	116	8	0	124	0	1	12	0	1.	0	224
4:45PM	11	76	0	87	4	110	5	0	115	0	1	8	0	9	2	211
Hourly Total	25	296	0	. 21	15	440	15	0	455	0	4	. 0	0	. 4	2	810
5:00PM	7	61	0	68	4	1. 2	4	0	1. 6	4	1	11	0	12	1	216
5:15PM	5	85	0	90	2	109	5	0	114	2	.	14	0	17	1	221
5:. 0PM	6	78	0	84	2	96	4	0	100	0	4	10	0	14	1	198
5:45PM	6	94	0	100	4	102	.	0	105	1	2	14	0	16	2	221
Hourly Total	24	. 18	0	. 42	12	4. 9	16	0	455	7	10	49	0	59	5	856
Total	79	1046	0	1125	. 4	1204	45	0	1249	8	21	10.	0	124	9	2498
% AWVroach	7 0%	9. 30%	0%	-	-	963 8%	. 6%	0%	-	-	163 9%	8. 3 %	0%	-	-	-
% Total	. 2%	41 9%	0%	45 0%	-	48 2%	1 8%	0%	50 0%	-	0 8%	43 %	0%	5 0%	-	-
Lights	75	1025	0	1100	-	117.	44	0	1217	-	21	89	0	110	-	2427
% Lights	94 9%	98 0%	0%	97 8%	-	97 8%	97 8%	0%	97 8%	-	100%	86 8%	0%	88 9%	-	97 2%
Single-Unit Trucks	0	12	0	12	-	15	1	0	16	-	0	1	0	1	-	29
% Single-Unit Trucks	0%	1 1%	0%	1 1%	-	1 2%	2 2%	0%	1 3 %	-	0%	1 0%	0%	0 8%	-	1 2%
Articulated Trucks	1	8	0	9	-	8	0	0	8	-	0	.	0	.	-	20
% Articulated Trucks	1 3 %	0 8%	0%	0 8%	-	0 7%	0%	0%	0 6%	-	0%	2 9%	0%	2 8%	-	0 8%
Buses	0	0	0	0	-	4	0	0	4	-	0	0	0	0	-	4
% Buses	0%	0%	0%	0%	-	0 3 %	0%	0%	0 3 %	-	0%	0%	0%	0%	-	0 2%
Bicycles on Road	.	1	0	4	-	4	0	0	4	-	0	10	0	10	-	18
% Bicycles on Road	. 3 8%	0 1 %	0%	0 3 %	-	0 3 %	0%	0%	0 3 %	-	0%	9 7%	0%	8 1 %	-	0 7%
Pedestrians	-	-	-	-	25	-	-	-	-	8	-	-	-	-	7	
% Pedestrians	-	-	-	-	7. 5%	-	-	-	-	100%	-	-	-	-	77 8%	-
Bicycles on Crosswalk	-	-	-	-	9	-	-	-	-	0	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	26 5%	-	-	-	-	0%	-	-	-	-	22 2%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

River & Seven Mile - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 1, Location: 423 42b607, -8. 3476888

Provided Cy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US



River & Seven Mile - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Wl M44e4 hP Q C14, a 6) M7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nAg A
F Wl doeR est4
w m((19 DI, Pdcnt6ls m 28 2. 1 03, 7(D8 3I (((

LSlo6LeU5kmb ey nMGnR6Wls F 44dc6nte4 vsc8
I 2. HtSe4t EU) e v Sne, VeSs ds GeNWl vP, I 00I 1, i a

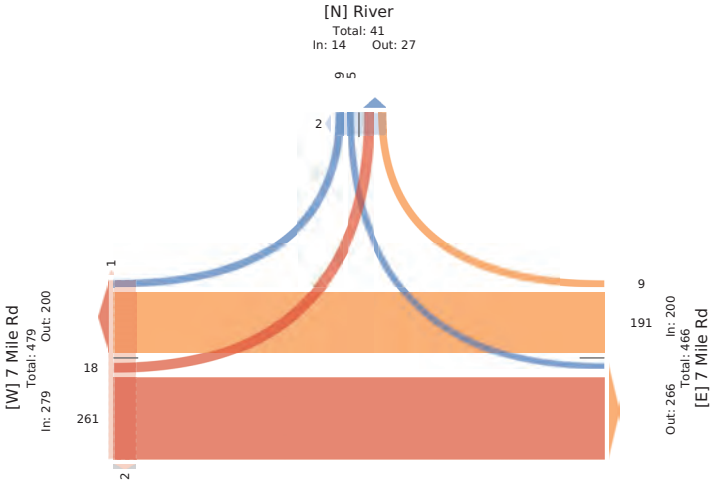
Pe) v 6ect6ls	3 1 6vBU En4 5dus U					3 1 6vBU p e4 5dus U					B6oeS adut C5dus U					
T6Re	P	T	i	F Wl V	LeU*	T	B	i	F Wl V	LeU*	P	B	i	F Wl V	LeU*	wt
2021710719 (n0 F1	.	. (	0	1 D	0	. :	1	0	. .	0	0	2	0	2	0	120
(n. F1	I	32	0	3(	2	: (	1	0	: 9	0	2	:	0	I	0	1 DD
(n0 F1	.	31	0	3I	1	DI	:	0	: 0	0	2	2	0	:	2	120
(m. F1	2	1 0	0	1 2	0	. D	D	0	. 1	0	1	1	0	2	0	120
TdmM	1(	21 1	0	239	D	191	9	0	200	0	.	9	0	1:	2	: 9D
% F W6IncC	1 8 %	9D 8 %	0%	7	7	9. 8 %	: 8 %	0%	7	7	D 8%	1 : 8%	0%	7	7	7
% TdmM	D 8%	. 28 9%	0%	. I 8 %	7	D(8%	18(%	0%	: 08 %	7	18 9%	18(%	0%	28(%	7	7
LGH	08. 0	08 90I	7	08(9:	7	08((:	08 I D	7	08(9D	7	08 I 2.	08 I D	7	08 (D	7	08923
P Q C14	1(	2. 2	0	230	7	1((:	9	0	19D	7	.	(	0	1D	7	: 3I
% P Q C14	100%	91 8 %	0%	91 8 %	7	91 83%	100%	0%	91 8 %	7	100%	((8%	0%	92 8%	7	91 8 %
a 6) M7 s 6 TSucg4	0	.	0	.	7	:	0	0	:	7	0	0	0	0	7	9
% a 6) M7 s 6 TSucg4	0%	18 9%	0%	18 %	7	28 %	0%	0%	28 0%	7	0%	0%	0%	0%	7	18 %
F St6cuMteUTSucg4	0	:	0	:	7	2	0	0	2	7	0	1	0	1	7	3
% F St6cuMteUTSucg4	0%	18 %	0%	18 %	7	18 0%	0%	0%	18 0%	7	0%	11 8 %	0%	38 %	7	18 %
r u4e4	0	0	0	0	7	1	0	0	1	7	0	0	0	0	7	1
% r u4e4	0%	0%	0%	0%	7	08 %	0%	0%	08 %	7	0%	0%	0%	0%	7	08%
r 6ckcM4 ds BdnU	0	0	0	0	7	0	0	0	0	7	0	0	0	0	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%
LeUe4tSns 4	7	7	7	7	D	7	7	7	7	0	7	7	7	7	2	
% LeUe4tSns 4	7	7	7	7	100%	7	7	7	7	7	7	7	7	7	100%	7
r 6ckcM4 ds - Sl44y nAg	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6ckcM4 ds - Sl44y nAg	7	7	7	7	0%	7	7	7	7	7	7	7	7	7	0%	7

*LeUe4tSns 4 ns Ur 6ckcM4 ds - Sl44y nAg 8 PmPeft, BmB6) Cl, TmlTCSu, i mi 7TuSs

River & Seven Mile - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Wl M44e4 hP Q C14, a 6) M7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nAg A
F Wl doeR est4
w m((19 DI, Pdcnt6ls m 28 2. 1 03, 7(D8 3I (((

LSlo6LeUbkmGey nMHnR6Wls F 44dc6nte4 vsc8
I 2. 5dSe4t EU) e v Sne, VeSs ds H6WWl vP, I 00I 1, i a



River & Seven Mile - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM70 Fl - AO4eEL66FeLn) CuP
a 6ss GLiiei gSUkti, dUBr6eAy BtU TRucni, a RUduGLeo TRucni, Ruiei,
FeoeitRULEi, RUdwc6ei CBvCLo, RUdwc6ei CBs PGimLfin-
a 6Gl C4eI eBti
D (88. 971, SCcLnUCB(h23h2M 05, A873h5. 888

GEWALT HAMILTON ASSOCIATES, INC.
FIC4Udeo bw(GemLfi) LI UdCBa iiCcUlrei DBc3
. 2MHCReit Eore : Pde, VeBBCB) U6i, DS, . 00. 1, y d

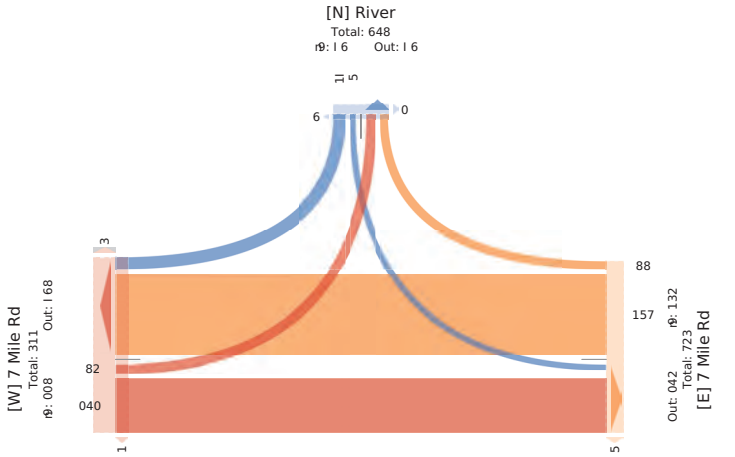
Ser . UBect0CB	5 l Ude v o ELitbCuBo					5 l Ude v o p eitbCuBo					v UdeP dCuckbCuBo					
TUe	S	T	y	a V6V	Feo*	T	v	y	a V6V	Feo*	S	v	y	a V6V	Feo*	DBt
2021A10A19 h(70Fl	.	81	0	**85**	2	11.	8	0	**12h**	0	1	12	0	**17**	0	**22h**
h(hMFl	11	5.	0	**85**	h	110	M	0	**11M**	0	1	8	0	**9**	2	**211**
M00Fl	5	. 1	0	**. 8**	h	172	h	0	**17.**	h	1	11	0	**12**	1	**21.**
M1MFl	M	8M	0	**90**	2	109	M	0	**11h**	2	7	1h	0	**15**	1	**221**
TCL6	29	707	0	**772**	12	h. 5	22	0	**h89**	.	.	hM	0	**M**	h	**852**
% a V6VRLck	83%	913%	0%	**A**	A	9MM%	h3M%	0%	**A**	A	113%	883%	0%	**A**	A	A
% TCL6	73%	7h3%	0%	**783%**	A	M3 %	23M%	0%	**M3%**	A	03%	M2%	0%	**M8%**	A	A
F) H	03 7.	038 88	A	**039 15**	A	0389	03 88	A	**0390h**	A	03M0	0325	A	**03. .**	A	0395.
SUkti	28	29.	0	**72h**	A	h. 2	22	0	**h8h**	A	.	h0	0	**h.**	A	8Mh
% SUkti	9. 3 %	953%	0%	**953 %**	A	983%	100%	0%	**993%**	A	100%	883%	0%	**902%**	A	953%
dUBr6eAy BtU TRucni	0	h	0	**h**	A	2	0	0	**2**	A	0	1	0	**1**	A	5
% dUBr6eAy BtU TRucni	0%	13%	0%	**132%**	A	03%	0%	0%	**03%**	A	0%	232%	0%	**239%**	A	038%
a RUduGLeo TRucni	0	2	0	**2**	A	2	0	0	**2**	A	0	2	0	**2**	A	.
% a RUduGLeo TRucni	0%	03%	0%	**03 %**	A	03%	0%	0%	**03%**	A	0%	h3%	0%	**739%**	A	035%
Ruiei	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% Ruiei	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
RUdwc6ei CBvCLo	1	1	0	**2**	A	1	0	0	**1**	A	0	2	0	**2**	A	M
% RUdwc6ei CBvCLo	73%	03%	0%	**03 %**	A	032%	0%	0%	**032%**	A	0%	h3%	0%	**739%**	A	03 %
FeoeitRULEi	A	A	A	A	11	A	A	A	A	.	A	A	A	A	h	
% FeoeitRULEi	A	A	A	A	913%	A	A	A	A	100%	A	A	A	A	100%	A
RUdwc6ei CBs PGimLfin	A	A	A	A	1	A	A	A	A	0	A	A	A	A	0	
% RUdwc6ei CBs PGimLfin	A	A	A	A	83%	A	A	A	A	0%	A	A	A	A	0%	A

*FeoeitRULEi LBo RUdwc6ei CBs PGimLfin3S(Seft, v (v Ukt, T(TkRu, y (y AUuBB

River & Seven Mile - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM70 Fl - AO4eEL66FeLn) CuP
a 6ss GLiiei gSUkti, dUBr6eAy BtU TRucni, a RUduGLeo TRucni, Ruiei,
FeoeitRULEi, RUdwc6ei CBvCLo, RUdwc6ei CBs PGimLfin-
a 6Gl C4eI eBti
D (88. 971, SCcLnUCB(h23h2M 0b, A873hb. 888

GEWALT HAMILTON ASSOCIATES, INC.
FIC4Udeo Gv(HemLfi) LI UdCBa iiCcUlrei DBc3
. 2M5CReit Eore : Pde, VeBBCB) U6i, DS, . 00. 1, y d



Northville & 7 Mile (north) - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886946, Location: 42.423699, -85.474513

Provided by: Gewalt Hamilton Associates Inc.
623 Forest Edge Drive, Vernon Hills, IL, 60061, US

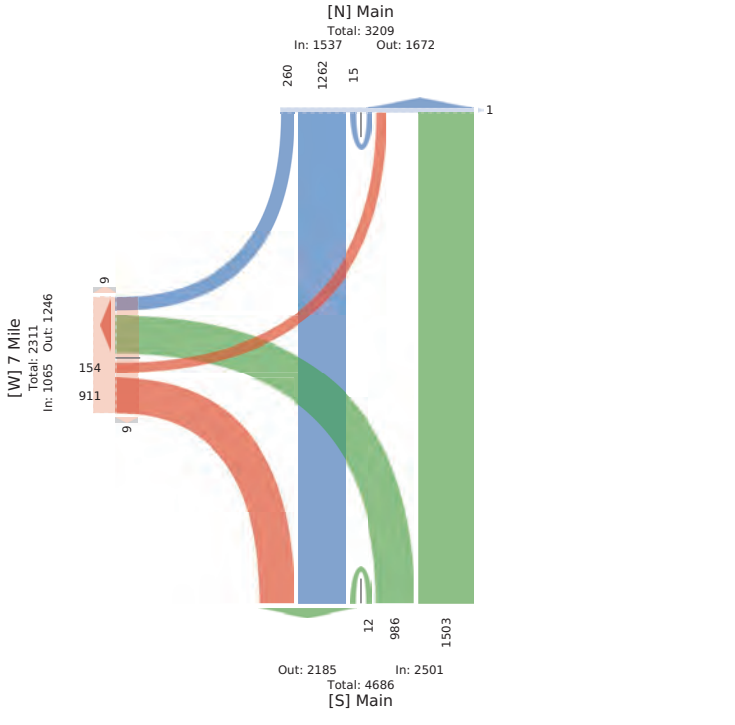
Leg Direction	7 Mile Eastbound					Main Northbound					Main Southbound					
Time	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	2	40	0	**42**	10	20	59	1	**60**	0	51	7	1	**59**	0	**141**
7:13AM	5	59	0	**42**	6	23	57	0	**62**	0	27	8	0	**53**	0	**159**
7:50AM	5	59	0	**42**	0	18	30	0	**68**	0	61	11	0	**72**	0	**182**
7:43AM	8	40	0	**48**	0	58	71	0	**109**	0	68	9	1	**78**	0	**253**
Hourly Total	16	138	0	**174**	16	101	197	1	**299**	0	187	53	2	**224**	0	**697**
8:00AM	7	43	0	**32**	0	42	82	0	**124**	0	46	12	1	**39**	0	**253**
8:13AM	11	62	0	**75**	0	43	64	0	**109**	0	66	7	0	**75**	0	**233**
8:50AM	18	32	0	**70**	0	26	73	0	**101**	0	69	15	1	**85**	0	**234**
8:43AM	9	44	0	**35**	0	41	98	1	**140**	0	65	17	2	**82**	1	**273**
Hourly Total	43	205	0	**248**	0	134	519	1	**474**	0	244	49	4	**297**	1	**1019**
4:00PM	12	66	0	**78**	0	87	93	2	**184**	0	92	19	0	**111**	0	**575**
4:13PM	8	63	0	**75**	1	93	97	0	**192**	0	88	22	2	**112**	0	**577**
4:50PM	8	77	0	**83**	0	104	145	2	**249**	0	118	20	0	**158**	0	**472**
4:43PM	20	37	0	**77**	0	82	123	2	**209**	0	104	23	2	**151**	0	**417**
Hourly Total	48	263	0	**515**	1	568	460	6	**854**	0	402	86	4	**492**	0	**1659**
3:00PM	10	34	0	**64**	0	114	120	1	**253**	0	110	27	0	**157**	0	**456**
3:13PM	12	69	0	**81**	0	95	147	0	**240**	0	108	50	1	**159**	0	**460**
3:50PM	13	77	0	**92**	1	73	116	5	**194**	0	109	18	1	**128**	0	**414**
3:43PM	8	83	0	**95**	0	81	144	0	**223**	0	102	13	5	**120**	0	**458**
Hourly Total	43	283	0	**550**	1	565	327	4	**894**	0	429	90	3	**324**	0	**1748**
Total	134	911	0	**1063**	18	986	1305	12	**2301**	0	1262	260	13	**1357**	1	**3105**
% Approach	14.3%	83.3%	0%	**-**	-	59.4%	60.1%	0.3%	**-**	-	82.1%	16.9%	1.0%	**-**	-	-
% Total	5.0%	17.9%	0%	**20.9%**	-	19.5%	29.3%	0.2%	**49.0%**	-	24.7%	3.1%	0.5%	**50.1%**	-	-
Lights	147	897	0	**1044**	-	960	1479	11	**2430**	-	1245	234	13	**1312**	-	3006
% Lights	93.3%	98.3%	0%	**98.0%**	-	97.4%	98.4%	91.7%	**98.0%**	-	98.3%	97.7%	100%	**98.4%**	-	98.1%
Single-Unit Trucks	5	9	0	**12**	-	14	15	1	**28**	-	7	2	0	**9**	-	49
% Single-Unit Trucks	1.9%	1.0%	0%	**1.1%**	-	1.4%	0.9%	8.5%	**1.1%**	-	0.6%	0.8%	0%	**0.6%**	-	1.0%
Articulated Trucks	5	4	0	**7**	-	7	5	0	**10**	-	4	0	0	**4**	-	21
% Articulated Trucks	1.9%	0.4%	0%	**0.7%**	-	0.7%	0.2%	0%	**0.4%**	-	0.5%	0%	0%	**0.5%**	-	0.4%
Buses	0	0	0	**0**	-	3	8	0	**15**	-	8	0	0	**8**	-	21
% Buses	0%	0%	0%	**0%**	-	0.3%	0.3%	0%	**0.3%**	-	0.6%	0%	0%	**0.3%**	-	0.4%
Bicycles on Road	1	1	0	**2**	-	0	0	0	**0**	-	0	4	0	**4**	-	6
% Bicycles on Road	0.6%	0.1%	0%	**0.2%**	-	0%	0%	0%	**0%**	-	0%	1.3%	0%	**0.5%**	-	0.1%
Pedestrians	-	-	-	-	18	-	-	-	-	0	-	-	-	-	1	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Northville & 7 Mile (north) - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886946, Location: 42.423699, -8b.474b13

Provided Gy: Hewalt 5 amilton Associates Inc.
623 Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Northville & 7 Mile (north) - TMC

Tue Oct 19, 2021

F1 Leng h(F1 79 F1 A

F Nt M44e4 hP9 Ct4, a6) M7 s6 TSucg4, F StGcuMteUTSucg4, r u4e4,
LeUe4tSns4, r 6kkcM4 ds BdnU, r 6kkcM4 ds - Sl44y nMA
F Nt doeRest4
wm((I 9D1 , Pdcnt6lsmD2:D28I 99, 7(. :D3D. 18

Pe) v 6ect6ls	3 1 0t En45dus U				I nfs NdSC5dus U					I nfs adutC5dus U					
T6Re	P	B	i	F pp	LeU*	P	T	i	F pp	LeU*	T	B	i	F pp	LeU*	wt
2021710719 (m0F1	3	D8	0	**82**	0	D2	(2	0	**12D**	0	D1	12	1	**89**	0	**2. 8**
(n86F1	11	I 2	0	**3.**	0	D8	I D	0	**109**	0	I I	3	0	**3.**	0	**288**
(m0F1	1(	82	0	**30**	0	2I	38	0	**101**	0	19	1.	1	**(.**	0	**28D**
(n86F1	9	DD	0	**8.**	0	DI	9(	1	**1DD**	0	1.	13	2	**(2**	1	**238**
TdmM	D8	20.	0	**2D(**	0	18D	. 19	1	**D8D**	0	2DD	D9	D	**293**	1	**1019**
% F ppSlncC	1(:1%	(1:9%	0%	**7**	7	. 2:8%	I3:. %	0:2%	**7**	7	(2:2%	1I :8%	1:. %	**7**	7	7
% TdmM	DD%	19:9%	0%	**2D. %**	7	18:1%	. 1:. %	0:1%	**D1 :8%**	7	2. :9%	D(%	0:D%	**29:1%**	7	7
LGH	0:I 28	0:(19	7	**0:(D9**	7	0:(8I	0:(1D	0:280	**0:(D**	7	0:((D	0:321	0:800	**0:(98**	7	0:92I
P9 C4	D2	19(	0	**2DD**	7	1DB	. 0(	1	**DBI**	7	2. 8	D9	D	**2((**	7	9(D
% P9 C4	9. :. %	93:8%	0%	**9I :(%**	7	98:8%	9I :I %	100%	**9I :2%**	7	9I :. %	100%	100%	**93:0%**	7	9I :I %
a6) M6 s8 TSucg4	2	.	0	**8**	7	8	D	0	**9**	7	2	0	0	**2**	7	11
% a6) M6 s8 TSucg4	DD%	1:8%	0%	**2:0%**	7	. :2%	1:. %	0%	**1:9%**	7	0:(%	0%	0%	**0:3%**	7	1:I %
F StGcuMteUTSucg4	1	2	0	.	7	1	2	0	.	7	2	0	0	**2**	7	(
% F StGcuMteUTSucg4	2:2%	1:0%	0%	**1:2%**	7	0:I %	0:I %	0%	**0:I %**	7	0:(%	0%	0%	**0:3%**	7	0:(%
r u4e4	0	0	0	**0**	7	1	8	0	**I**	7	8	0	0	**8**	7	11
% r u4e4	0%	0%	0%	**0%**	7	0:I %	1:I %	0%	**1:. %**	7	2:0%	0%	0%	**1:3%**	7	1:I %
r 6kkcM4 ds BdnU	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% r 6kkcM4 ds BdnU	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
LeUe4tSns4	7	7	7	7	0	7	7	7	7	0	7	7	7	7	1	
% LeUe4tSns4	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%	7
r 6kkcM4 ds - Sl44y nMJ	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6kkcM4 ds - Sl44y nMJ	7	7	7	7	7	7	7	7	7	7	7	7	7	7	0%	7

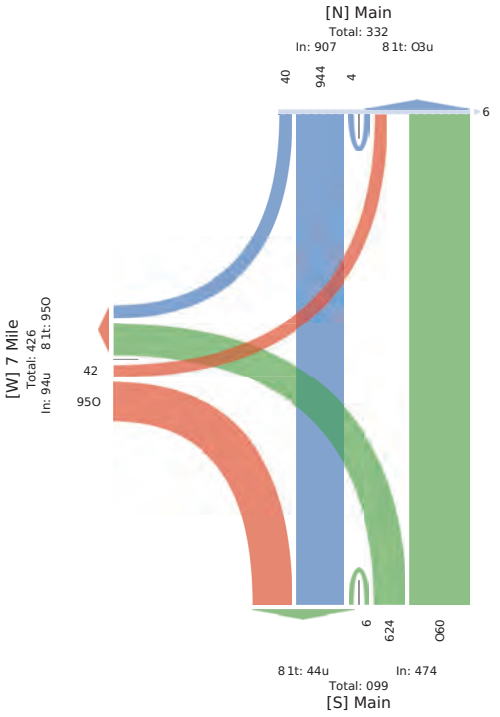
*LeUe4tSns4 nsUr 6kkcM4 ds - Sl44y nMJ: PmPeft, BmB9 Ct, TmTCSu, i mi 7TuSs

Northville & 7 Mile (north) - TMC

Tue Oct 19, 2021

F1 Leng h(F1 79 F1 A

F Nt M44e4 hP9 Ct4, a6) M7 s6 TSucg4, F StGcuMteUTSucg4, r u4e4,
LeUe4tSns4, r 6kkcM4 ds BdnU, r 6kkcM4 ds - Sl44y nMA
F Nt doeRest4
wm((I 9D1 , Pdcnt6lsmD2:D28I 99, 7(. :D3D. 18



Northville & 7 Mile (north) - TMC

Tue Oct 19, 2021

F1 FeLn gh(70 F1 AM(70 F1 - AO4ePL66FeLn) CuP
a 6s sLiiei gSUkti, dUBr6eAy BtTRucni, a PkduGLreo TRucni, Ruiei,
FeoeitPULBi, RLdwc6ei CBv CLo, RLdwc6ei CBs PCiimLén-
a 6s1 C4eI eBti
D (88. 9h. , SCcLrUCB(h23h2M 99, A873h5h71M

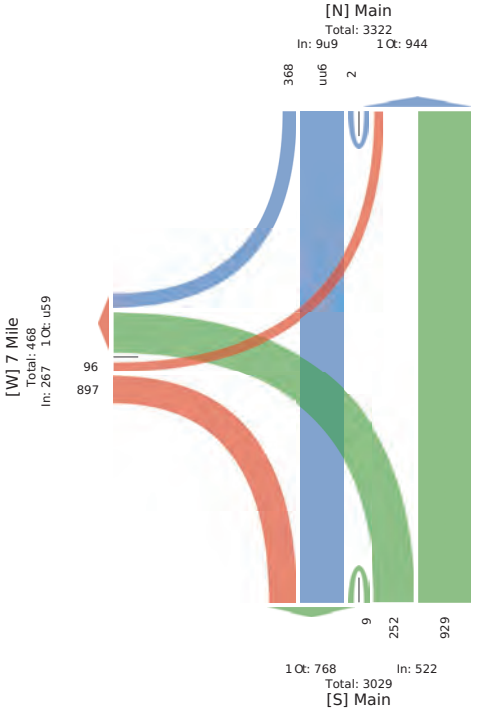
Ser : U6ectUCB	5 1 U6e ELi tbCuBo					I LUB NCIRkbCuBo					I LUB dCuRkbCuBo					
TUI e	S	v	y	**a pp**	Feo*	S	T	y	**a pp**	Feo*	T	v	y	**a pp**	Feo*	**DB**
2021A0A9 h(70Fl	8	55	0	**8M**	0	10h	1h7	2	**2h9**	0	118	20	0	**178**	0	**h52**
h(hMFl	20	M5	0	**55**	0	82	12M	2	**209**	0	10h	2M	2	**171**	0	**h15**
M00Fl	10	M5	0	**. h**	0	11h	120	1	**27M**	0	110	25	0	**175**	0	**h7.**
M1MFl	12	. 9	0	**81**	0	97	1h5	0	**2h0**	0	108	70	1	**179**	0	**h. 0**
TCU6	**M0**	**2M5**	**0**	**705**	0	797	MTM	M	**977**	0	hh0	102	7	**M5M**	0	**158M**
% a ppRCLck	1. 3%	87:5%	0%	**A**	A	h23:%	M:3%	0:M%	**A**	A	80:5%	18:5%	0:3 %	**A**	A	A
% TCU6	2:8%	1h:3%	0%	**152%**	A	22:0%	70:0%	0:3%	**M:3%**	A	2h:3 %	M:5%	0:2%	**70:M%**	A	A
F) H	0:3 2M	0:8h2	A	**0:911**	A	0:8. 2	0:910	0:3 2M	**0:975**	A	0:972	0:8h2	0:75M	**0:958**	A	0:9h.
SUkti	h9	**2M**	0	**700**	A	789	MT2	M	**92.**	A	h75	101	7	**M:1**	A	15. 5
% SUkti	98:0%	95:5%	0%	**95:5%**	A	99:0%	99:6%	100%	**99:2%**	A	99:7%	99:0%	100%	**99:7%**	A	99:0%
dUBr6eAy BtTRucni	0	h	0	**h**	A	2	7	0	**M**	A	2	0	0	**2**	A	11
% dUBr6eAy BtTRucni	0%	1:3 %	0%	**1:7%**	A	0:M%	0:3 %	0%	**0:M%**	A	0:M%	0%	0%	**0:h%**	A	0:3 %
a PkduGLreo TRucni	1	1	0	**2**	A	2	0	0	**2**	A	1	0	0	**1**	A	M
% a PkduGLreo TRucni	2:0%	0:h%	0%	**0:5%**	A	0:M%	0%	0%	**0:2%**	A	0:2%	0%	0%	**0:2%**	A	0:7%
Ruiei	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% Ruiei	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
RLdwc6ei CBv CLo	0	1	0	**1**	A	0	0	0	**0**	A	0	1	0	**1**	A	2
% RLdwc6ei CBv CLo	0%	0:h%	0%	**0:7%**	A	0%	0%	0%	**0%**	A	0%	1:0%	0%	**0:2%**	A	0:1%
FeoeitPULBi	A	A	A	A	0	A	A	A	A	0	A	A	A	A	0	
% FeoeitPULBi	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
RLdwc6ei CBs PCiimLén	A	A	A	A	0	A	A	A	A	0	A	A	A	A	0	
% RLdwc6ei CBs PCiimLén	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

*FeoeitPULBi LBo RLdwc6ei CBs PCiimLén3S(Seft, v (v Lkt, T(TkRu, y (y AFuHB

Northville & 7 Mile (north) - TMC

Tue Oct 19, 2021

F1 FeLn gh(70 F1 AM(70 F1 - AO4ePL66FeLn) CuP
a 6s sLiiei gSUkti, dUBr6eAy BtTRucni, a PkduGLreo TRucni, Ruiei,
FeoeitPULBi, RLdwc6ei CBv CLo, RLdwc6ei CBs PCiimLén-
a 6s1 C4eI eBti
D (88. 9h. , SCcLrUCB(h23h2M 99, A873hbh71M



Northville & 7 Mile (south) - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 88694. , Location: 423424b44, -8b347b927

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Hewalt 5 amilton Associates Inc3
62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US

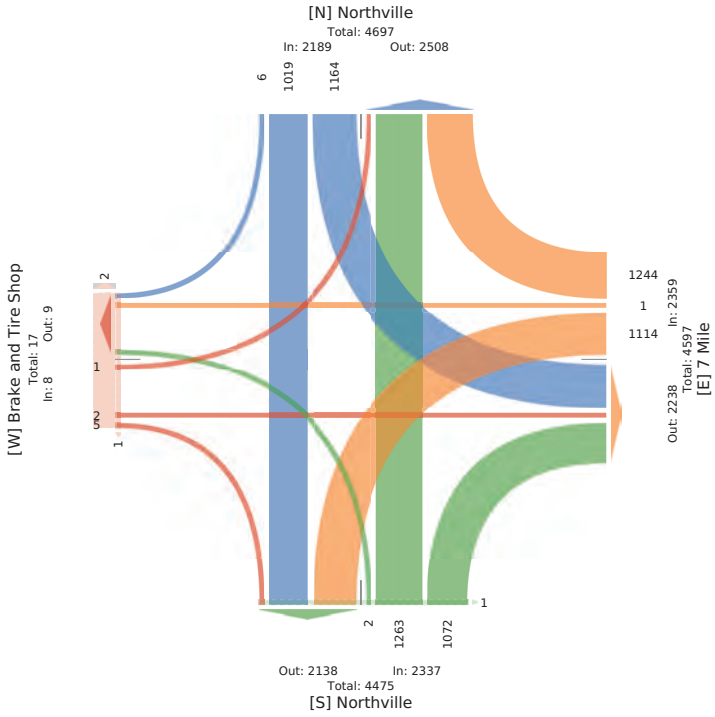
Leg Direction	Brake and Tire Shop EastBound						7 Mile NorthBound						Northville WestBound						Northville SouthBound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	0	0	0	0	**0**	0	27	0	2b	0	**.0**	0	0	b8	27	0	**6.**	0	4.	b0	0	0	**7.**	0	**190**
7:1. AM	0	0	0	0	**0**	0	22	1	28	0	**.1**	0	0	b4	b6	0	**70**	0	47	18	0	0	**6.**	0	**186**
7:b0AM	0	0	0	0	**0**	0	62	0	b4	0	**96**	0	0	b4	44	0	**78**	0	64	b8	0	0	**102**	0	**276**
7:4. AM	0	0	0	0	**0**	0	91	0	..	0	**146**	0	0	..	69	0	**124**	0	.b	.0	b	0	**106**	0	**b76**
5 ourly Total	0	0	0	0	**0**	0	202	1	140	0	**b4b**	0	0	161	176	0	**bb7**	0	209	1b6	b	0	**b48**	0	**1028**
8:00AM	0	0	0	0	**0**	0	82	0	41	0	**12b**	0	1	81	68	0	**1. 0**	0	. 7	b2	1	0	**90**	0	**b6b**
8:1. AM	0	0	0	0	**0**	0	. 7	0	. 1	0	**108**	0	0	. 9	69	0	**128**	0	79	. b	0	0	**1b2**	0	**b68**
8:b0AM	0	0	0	0	**0**	1	71	0	49	0	**120**	0	0	. 2	70	0	**122**	0	74	42	0	0	**116**	0	**b. 8**
8:4. AM	0	0	0	0	**0**	0	. 6	0	. 7	0	**11b**	0	0	86	74	0	**160**	0	64	41	0	0	**10.**	0	**b78**
5 ourly Total	0	0	0	0	**0**	1	266	0	198	0	**464**	0	1	278	281	0	**. 60**	0	274	168	1	0	**44b**	0	**1467**
4:00PM	1	0	0	0	**1**	0	80	0	104	0	**184**	0	0	8b	82	0	**16.**	0	92	80	1	0	**17b**	0	**. 2b**
4:1. PM	0	0	0	0	**0**	1	71	0	8.	0	**1. 6**	0	0	10.	. b	0	**1. 8**	0	78	79	0	0	**1. 7**	0	**471**
4:b0PM	0	0	4	0	**4**	0	109	0	1b4	0	**24b**	0	0	11.	80	0	**19.**	0	90	92	0	0	**182**	0	**624**
4:4. PM	0	1	1	0	**2**	0	89	0	112	0	**201**	0	0	96	89	0	**18.**	0	81	87	0	0	**168**	0	**. . 6**
5 ourly Total	1	1	.	0	**7**	1	b49	0	4b.	0	**784**	0	0	b99	b04	0	**70b**	0	b41	bb8	1	0	**680**	0	**2174**
. :00PM	0	0	0	0	**0**	0	79	0	1b1	0	**210**	0	0	107	84	0	**191**	0	86	82	0	0	**168**	0	**. 69**
. :1. PM	0	0	0	0	**0**	0	70	0	120	0	**190**	0	0	117	8b	0	**200**	0	8b	92	0	0	**17.**	0	**. 6.**
. :b0PM	0	1	0	0	**1**	1	71	0	109	0	**180**	0	0	84	7.	0	**1. 9**	1	82	102	1	0	**18.**	0	**. 2.**
. :4. PM	0	0	0	0	**0**	0	77	0	111	0	**188**	0	1	117	69	0	**187**	0	89	101	0	0	**190**	0	**. 6.**
5 ourly Total	0	1	0	0	**1**	1	297	0	471	0	**768**	0	1	42.	b11	0	**7b7**	1	b40	b77	1	0	**718**	0	**2224**
Total	1	2	.	0	**8**	b	1114	1	1244	0	**2b. 9**	0	2	126b	1072	0	**2bb7**	1	1164	1019	6	0	**2189**	0	**689b**
% Approach	12**3** %	2. 3**0**%	62**3** %	0%	**-**	-	47**3**2%	0% . 2**3**%	0%		**-**	-	0**3**% . 4**3**0%	4. 3**9**%	0%		**-**	-	. b**3**2%	46**3**6%	0**3**b%	0%	**-**	-	-
% Total	0%	0%	0**3**%	0%	**0** **3**%	-	16**3**2%	0%	18**3**0%	0%	**b** **43**2%	-	0%	18**3**b%	1. **3**6%	0%	**bb** **3**9%	-	16**3**9%	14**3**8%	0**3**1%	0%	**b1** **3**8%	-	-
Lights	0	2	.	0	**7**	-	1090	1	1216	0	**2b07**	-	2	1240	10. 4	0	**2296**	-	1148	100b	.	0	**21. 6**	-	6766
% Lights	0%	100%	100%	0%	**873** %	-	97**3**8%	100%	97**3**7%	0%	**973**8%	-	100%	98**3**2%	98**3**b%	0%	**983**2%	-	98**3**6%	98**3**8%	8b**3**b%	0%	**983** %	-	98**3**2%
Single-Unit Trucks	1	0	0	0	**1**	-	12	0	18	0	**b0**	-	0	10	11	0	**21**	-	7	7	1	0	**1.**	-	67
% Single-Unit Trucks	100%	0%	0%	0%	**123** %	-	1**3**%	0%	1**3**%	0%	**13**b%	-	0%	0**3**%	1**3**0%	0%	**03**9%	-	0**3**6%	0**3**7%	163**3**%	0%	**03**7%	-	130%
Articulated Trucks	0	0	0	0	**0**	-	.	0	.	0	**10**	-	0	.	1	0	**6**	-	.	2	0	0	**7**	-	2b
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0**3**%	0%	0**3**%	0%	**03**%	-	0%	0**3**%	0**3**%	0%	**03**%	-	0**3**%	0**3**2%	0%	0%	**03**%	-	0**3**%
Buses	0	0	0	0	**0**	-	6	0	.	0	**11**	-	0	8	6	0	**14**	-	4	.	0	0	**9**	-	b4
% Buses	0%	0%	0%	0%	**0%**	-	0**3** %	0%	0**3**%	0%	**03** %	-	0%	0**3**%	0**3**%	0%	**03**%	-	0**3**%	0**3** %	0%	0%	**03**%	-	0**3** %
Bicycles on Road	0	0	0	0	**0**	-	1	0	0	0	**1**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	b
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0**3**%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0**3**2%	0%	0%	**03**%	-	0%
Pedestrians	-	-	-	-	-	b	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	- 100%		-	-	-	-	-		-	-	-	-	- 100%		-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-		-	-	-	-	-	0%	-	-	-	-	-		

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Northville & 7 Mile (south) - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 88694. , Location: 423424b44, -8b347b927

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Hewalt 5 amilton Associates Inc3
62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Northville & 7 Mile (south) - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Nl M44e4 hP Q C14, a 6) Nb7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns 4, r 6ckcNd ds BdnU, r 6ckcNd ds - Sl44y nNgA
F Nl doeRest4
wm((19D , Pdcnt6lsm D28D2D DD) 7(. 8D8. 923

GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeUbkmGey nMHnR 6Nls F 44dc6nte4 vsc8
I2: 5dSe4t EU) e v Sne, VeSs ds H6NNl vP, I 00I 1, i a

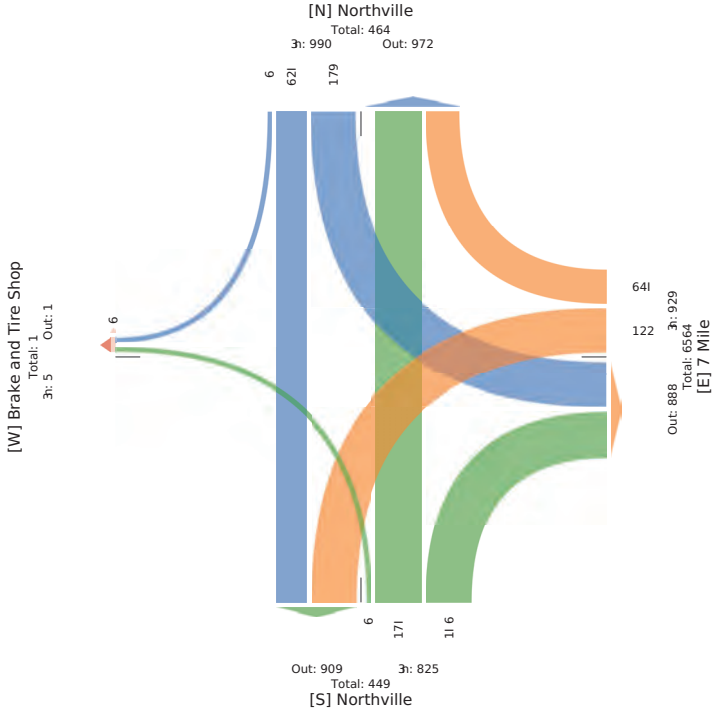
Pe) v 6ect6ls	r Sn ge ns U T6e a C ip En4bdus U						31 6M N e4bdus U						Wd StCo6Nt Wd StCbdus U						Wd StCo6Nt a dutCbdus U						
T6Re	P	T	B	i	**F pp**	LeU*	P	T	B	i	**F pp**	LeU*	P	T	B	i	**F pp**	LeU*	P	T	B	i	**F pp**	LeU*	**Nnt**
2021710719 (m0F1	0	0	0	0	**0**	0	(2	0	D(	0	**12.**	0	1	(1	1(	0	**1: 0**	0	: 3	. 2	1	0	**90**	0	**. I .**
(n: F1	0	0	0	0	**0**	0	: 3	0	: 1	0	**10(**	0	0	: 9	19	0	**12(**	0	39	:.	0	0	**1. 2**	0	**. I (**
(m0F1	0	0	0	0	**0**	1	31	0	D9	0	**120**	0	0	: 2	30	0	**122**	0	3D	D2	0	0	**11I**	0	**. : (**
(:i0 F1	0	0	0	0	**0**	0	: 1	0	: 3	0	**11.**	0	0	(1	3D	0	**110**	0	1D	D(	0	0	**10:**	0	**. 3(**
TdmM	0	0	0	0	**0**	1	2I1	0	19(	0	**I D D**	0	1	23(	2(1	0	**: I 0**	0	23D	1I (	1	0	**DD.**	0	**1D I 3**
% F ppSlncC	0%	0%	0%	0%	**7**	7	: 38 %	0%	D2I8%	0%	**7**	7	08**2**%	D8I %	: 08**2**%	0%	**7**	7	I 18**9**%	. 38**9**%	08**2**%	0%	**7**	7	7
% TdmM	0%	0%	0%	0%	**0%**	7	1(8**3**%	0%	1. 8 %	0%	**. I 8 %**	7	08**3** %	19**8**0%	19**8**2%	0%	**. (82%**	7	1(8**3**%	118 %	08**3** %	0%	**. 082%**	7	7
LH5	7	7	7	7	**7**	7	08(11	7	08(I (	7	**08 9D**	7	08**2**: 0	08(0(	08 9D	7	**08(3:**	7	08(I 3	08892	08**2**: 0	7	**08(. 9**	7	08930
P Q C14	0	0	0	0	**0**	7	2I 0	0	191	0	**D 1**	7	1	2I 3	231	0	**: . 9**	7	2I I	1I 2	1	0	**I D9**	7	1D I9
% P Q C14	0%	0%	0%	0%	**7**	7	938**3**%	0%	9I 8 %	0%	**938 2%**	7	100%	9I 8**0**%	9I 8**3**%	0%	**9I 8 %**	7	938**3**%	9I 8**3**%	100%	0%	**9I 8 (%**	7	9I 88%
a 6) Nl s 6 TSucg4	0	0	0	0	**0**	7	D	0	.	0	**3**	7	0	:	I	0	**11**	7	2	.	0	0	**:**	7	2.
% a 6) Nl s 6 TSucg4	0%	0%	0%	0%	**7**	7	18 %	0%	18 %	0%	**18 %**	7	0%	18**3**%	28**3**%	0%	**28 0%**	7	08**3**%	18**3**%	0%	0%	**18 1%**	7	18 %
F StcuMteUTSucg4	0	0	0	0	**0**	7	2	0	2	0	**D**	7	0	2	1	0	**.**	7	.	1	0	0	**D**	7	11
% F StcuMteUTSucg4	0%	0%	0%	0%	**7**	7	08(%	0%	18**0**%	0%	**08 9%**	7	0%	08**3**%	08**3**%	0%	**08 %**	7	18**3**%	08**3**%	0%	0%	**08 9%**	7	08**3**%
r u4e4	0	0	0	0	**0**	7	0	0	2	0	**2**	7	0	D	.	0	**3**	7	.	2	0	0	**:**	7	1D
% r u4e4	0%	0%	0%	0%	**7**	7	0%	0%	18**0**%	0%	**08 3%**	7	0%	18**3**%	18**3**%	0%	**18 %**	7	18**3**%	18**2**%	0%	0%	**18 1%**	7	18**0**%
r 6ckcNd ds BdnU	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0
% r 6ckcNd ds BdnU	0%	0%	0%	0%	**7**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%
LeUe4tSns 4	7	7	7	7	7	1	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	
% LeUe4tSns 4	7	7	7	7	7	100%	7	7	7	7	7		7	7	7	7	7		7	7	7	7	7		7
r 6ckcNd ds - Sl44y nNgA	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	
% r 6ckcNd ds - Sl44y nNgA	7	7	7	7	7	0%	7	7	7	7	7		7	7	7	7	7		7	7	7	7	7		7

*LeUe4tSns 4 ns Ur 6ckcNd ds - Sl44y nNgA8PmPeft, BmB6) Cl, TmlTCSu, i mi 7TuSs

Northville & 7 Mile (south) - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Nl M44e4 hP Q C14, a 6) Nb7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns 4, r 6ckcNd ds BdnU, r 6ckcNd ds - Sl44y nNgA
F Nl doeRest4
wm((19D , Pdcnt6lsm D28D2D DD) 7(. 8D8. 923

GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeUbkmGey nMHnR 6Nls F 44dc6nte4 vsc8
I2: 5dSe4t EU) e v Sne, VeSs ds H6NNl vP, I 00I 1, i a



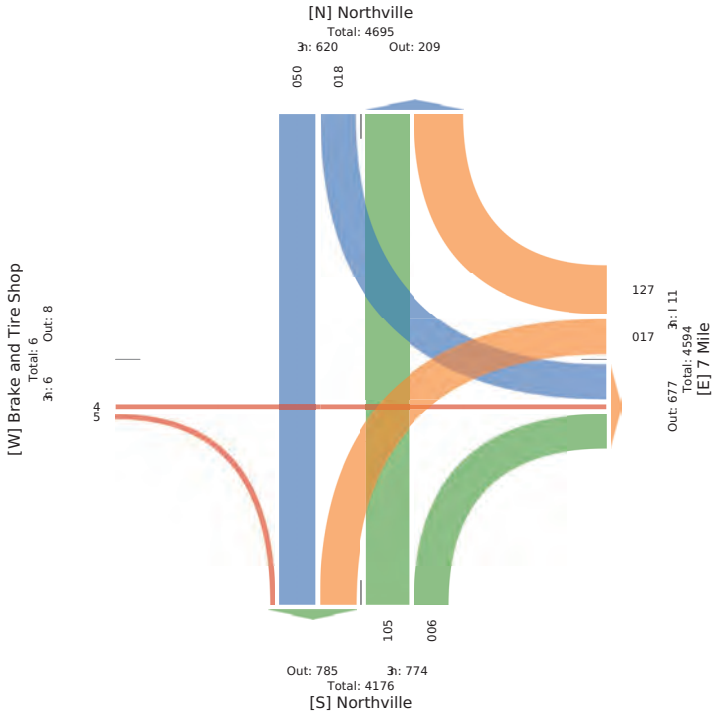
GEWALT HAMILTON ASSOCIATES, INC.

Ser	RiUne LiBo TUe dkCp							bl Ue							WCRk4Ue							WCRk4Ue							
- UBect0CB	EUitCCuBo							NeitCCuBo							WCRkCCuBo							dCurkCCuBo							
TUe	S	T	v	y	a pp	Feo*		S	T	v	y	a pp	Feo*		S	T	v	y	a pp	Feo*		S	T	v	y	a pp	Feo*		DIt
2021A10A19 h(70Fl	0	0	h	0	**h**	0		109	0	17h	0	**2h7**	0		0	11M	80	0	**19M**	0		90	92	0	0	**182**	0		.2h
h(hMFl	0	1	1	0	**2**	0		89	0	112	0	**201**	0		0	9.	89	0	**18M**	0		81	8b	0	0	**1. 8**	0		Md
M00Fl	0	0	0	0	**0**	0		b9	0	171	0	**210**	0		0	10b	8h	0	**191**	0		8.	82	0	0	**1. 8**	0		M9
M1MFl	0	0	0	0	**0**	0		b0	0	120	0	**190**	0		0	11b	87	0	**200**	0		87	92	0	0	**1bM**	0		MM
TOl6	0	1	M	0	.	0		7hb	0	h9b	0	**8hh**	0		0	h7M	77.	0	**bb1**	0		7h0	7M	0	0	**. 97**	0		**271h**
% a ppPCLck	0%	1. 3%	87	3%	0%	**A**	A	h13	1%	0%	M	39%	0%	**A**	A	0%	M 3%	h73	%	0%	**A**	A	h93	1%	M	39%	0%	0%	**A**	A	A
% TOl6	0%	0%	0	2%	0%	**03%**	A	1M	0%	0%	21	3M	0%	**7. 3M**	A	0%	183	8%	1h	3M	0%	**773%**	A	1h	3%	1M	7%	0%	0%	**293%**	A	A
F) 5	A	03	M	0	7	17	**A**	03	h9.	A	03	92b	A	**03. 8**	A	A	0	329	03	hh	A	**03. h**	A	03	hh	03	M	A	A	**03M**	A	0328
Slkki	0	1	M	0	.		A	7h0	0	h97	0	**877**	A		0	h71	77h	0	**b. M**	A		77b	7hb	0	0	**. 8h**	A		2288
% Slkki	0%	100%	100%	0%	**100%**		A	983	0%	0%	993	2%	0%	**983%**	A	0%	993	1%	993	h%	0%	**993%**	A	993	1%	983	7%	0%	0%	**983%**	A	9839%
dUbr6eAy BtdTRucni	A	0	0	0	0	**0**	A	h	0	h	0	**8**	A		0	1	2	0	**7**	A		2	7	0	0	**M**	A		1.
% dUbr6eAy BtdTRucni	0%	0%	0%	0%	**0%**		A	12%	0%	0%	8%	0%	**039%**		A	0%	02%	0%	3	0%	**03%**		A	03 %	0%	8%	0%	0%	**03%**	A	03%
a RUduGLeo TRucni	A	0	0	0	0	**0**	A	7	0	0	0	**7**	A		0	1	7	0	0	**7**	A		A	1	1	0	0	**2**	A	8
% a RUduGLeo TRucni	0%	0%	0%	0%	**0%**		A	03%	0%	0%	0%	**03%**		A	0%	03%	0%	0%	**03%**		A	03%	03%	0%	0%	**03%**		A	03%
Ruiei	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A		0	0	0	0	**0**	A		0	1	0	0	**1**	A		1
% Ruiei	0%	0%	0%	0%	**0%**		A	0%	0%	0%	0%	**0%**	A		0%	0%	0%	0%	**0%**	A		0%	03%	0%	0%	**03%**	A		0%
RUcwc6ei CBs vCLo	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A		0	0	0	0	**0**	A		0	1	0	0	**1**	A		1
% RUcwc6ei CBs vCLo	0%	0%	0%	0%	**0%**		A	0%	0%	0%	0%	**0%**	A		0%	0%	0%	0%	**0%**	A		0%	03%	0%	0%	**03%**	A		0%
Feoei tRUEBi	A	A	A	A	A	0		A	A	A	A	A	0		A	A	A	A	A	0		A	A	A	A	A	0		
% Feoei tRUEBi	A	A	A	A	A	A		A	A	A	A	A	A		A	A	A	A	A	A		A	A	A	A	A	A		A
RUcwc6ei CBs PCimLfn	A	A	A	A	A	0		A	A	A	A	A	0		A	A	A	A	A	0		A	A	A	A	A	0		
% RUcwc6ei CBs PCimLfn	A	A	A	A	A	A		A	A	A	A	A	A		A	A	A	A	A	A		A	A	A	A	A	A		A

*Feoei tRUEBi LBo RUcwc6ei CBs PCimLfn3S(Seft, v (v lkkt, T(TkRu, y (y AUuBB

Northville & 7 Mile (south) - TMC
Tue Oct 19, 2021

GEWALT HAMILTON ASSOCIATES, INC.



WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

INTERVAL TIMING (SECONDS)

CYCLE LENGTH: 80 | OFFSET: 40 | SEC: MINIMUM TIME | HOURS OF OPERATION: 6AM – 1AM, 7 DAYS

DESCRIPTION	SEC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	FLASH
SHELDON	G	G	G	G	G	Y	Y	R	R	R	R	R	R	R	R											Y
E. N. HINES DRIVE	R	R	R	R	R	R	R	G	G	G	G	G	Y	Y	R											R
SHELDON PED	W	W	FD	FD	FD	FD	D	D	D	D	D	D	D	D	D											
E.N. HINES PED	D	D	D	D	D	D	D	D	D	W	FD	FD	FD	D	D											
DIAL 1		3.0	19.0	10.0	7.0	3.0	0.6	2.4	3.0	4.0	12.0	10.4	2.6	1.0	2.0											
DIAL 2																										
DIAL 3																										
DIAL 4																										

SIGNAL PLAN -- CYCLE SEQUENCE CHART

LOCATION: E.N. HINES - SHELDON
S.I. NO: 505 vi
ASS'N: 00507
PREPARED BY: APK
APPROVED BY: PM
ISSUED: 08-05-14
FLASHER SCHEDULE: 1:00 AM - 6:00 AM, 7 DAYS
INSTALLED: 08-18-14
RIP PRE-EMPT, FIRE PRE-EMPT, INTERSECTION = 40 SEC, FROM NOMINAL

REMARKS: UPDATED PER 2011 MMUTCD

EPIC

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

INTERVAL TIMING (SECONDS)

CYCLE LENGTH: 60 | OFFSET: 0 | SEC: FULL TIME | HOURS OF OPERATION: MINIMUM TIME

DESCRIPTION	SEC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	FLASH
SHELDON	G	G	G	G	Y	Y	R	R	R	R	R	R	R	R												R
MAIN	R	R	R	R	R	R	R	G	G	G	Y	Y	R													R
SHELDON PEDS	W	W	FD	FD	D	D	D	D	D	D	D	D	D													
MAIN PEDS	D	D	D	D	D	D	D	W	W	FD	FD	D	D													
DIAL 1		3.0	22.7	7.8	2.5	0.5	2.5	3.0	5.5	7.3	2.2	0.8	2.2													
DIAL 2																										
DIAL 3																										
DIAL 4																										

SIGNAL PLAN -- CYCLE SEQUENCE CHART

LOCATION: MAIN – SHELDON (CENTER)
S.I. NO: 109 v
ASS'N: 05400
PREPARED BY: AA
APPROVED BY:
ISSUED: 5-5-17
City of Northville
FLASHER SCHEDULE: NONE
INSTALLED:
RR PRESEMPT, FIRE PRE-EMPT, INTERSECTION = 0 SEC, FROM NOMINAL

REMARKS: UPDATED PER 2011 MMUTCD

EPIC

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

CYCLE LENGTH	OFFSET	HOURS OF OPERATION	INTERVAL TIMING (SECONDS) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SEC	SEC	MINIMUM TIME	3.0	4.0	4.0	4.0	2.2	0.1	7.0	4.0	2.4	10.0	6.0	4.0	2.4											
DIAL 1	40	FULL TIME	3.0	21.6	4.0	4.0	2.2	0.1	16.3	4.0	2.4	10.0	6.0	4.0	2.4											
80																										
DIAL 2																										
DIAL 3																										
DIAL 4																										

DESCRIPTION	SIGNAL PLAN -- CYCLE SEQUENCE CHART 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	FLASH
SEVEN MILE (NEAR)	G	G	Y	R	R	R	R	R	R	G	G	G													R
SEVEN MILE (FAR) RIGHT	GR	GR	GR	Y	R	R	R	R	R	GR	GR	GR	GR												R
SEVEN MILE (FAR) LEFT	GL	GL	GL	Y	R	R	R	R	R	R	R	R	R												R
NORTHVILLE NB	R	R	R	R	R	G	G	Y	R	R	R	R	R												R
NORTHVILLE SB	R	R	R	R	R	G	G	G	G	G	G	Y	R												R
NORTHVILLE SB LEFT	R	R	R	R	R	R	FR	FR	FR	GL	GL	Y	R												R
NTOR F.O. CASE SIGN										ON	ON	ON	ON												

REMARKS

Pre-empt cycles (dwells) on Interval No. 6.
UPDATED PER 2011 MMUTCD

LOCATION: NORTHVILLE - SEVEN MILE

FLASHER SCHEDULE: NONE

S.L. NO	PREPARED BY	ISSUED	INSTALLED	RR PRE-EMPT X / FIRE PRE-EMPT / INITIALIZE TIME = 10 SEC
76 v	AA	5-19-17		
ATS NO	APPROVED BY			PROM NUMBER
00077				EPIC

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

CYCLE LENGTH	OFFSET	HOURS OF OPERATION	INTERVAL TIMING (SECONDS) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SEC	SEC	MINIMUM TIME	3.0	4.0	3.0	6.3	3.0	2.5	3.0	4.0	3.0	6.0	3.0	2.3												
DIAL 1	25	7AM – 1AM 7 DAYS	3.0	20.9	3.0	6.3	3.0	2.5	3.0	4.0	3.0	6.0	3.0	2.3												
60																										
DIAL 2																										
DIAL 3																										
DIAL 4																										

DESCRIPTION	SIGNAL PLAN -- CYCLE SEQUENCE CHART 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	FLASH
MAIN	G	G	G	G	Y	R	R	R	R	R	R	R													Y
HUTTON	R	R	R	R	R	R	G	G	G	G	Y	R													R
MAIN PED	W	W	FD	FD	FD	D	D	D	D	D	D	D													
HUTTON PED	D	D	D	D	D	D	W	W	FD	FD	FD	D													

REMARKS

SIGNAL PLAN 1
Normal Operation

See Signal Plan 2 for Special Flashing Operation

UPDATED PER 2011 MMUTCD

LOCATION: HUTTON - MAIN

FLASHER SCHEDULE: 1AM – 7AM, 7 DAYS

S.L. NO	PREPARED BY	ISSUED	INSTALLED	RR PRE-EMPT / FIRE PRE-EMPT / INITIALIZE TIME = 10 SEC
284 v	AA	4-17-17		
ATS NO	APPROVED BY			PROM NUMBER
05558	PM			EPIC

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

CYCLE LENGTH	OFFSET	HOURS OF OPERATION	INTERVAL TIMING (SECONDS) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SEC	SEC	MINIMUM TIME	3	3	1	1	4	0	3	3	1	1	4	0												
DIAL 1	55	6:00A – 11:00P 7 DAYS	3.9	27.0	5.0	1.0	4.0	0.1	3.9	5.0	5.0	1.0	4.0	0.1												
60																										
DIAL 2																										
DIAL 3																										
DIAL 4																										

DESCRIPTION	SIGNAL PLAN -- CYCLE SEQUENCE CHART 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	FLASH
SHELDON	G	G	G	G	Y	R	R	R	R	R	R	R													Y
DUNLAP	R	R	R	R	R	R	G	G	G	G	Y	R													R
SHELDON PEDS	W	W	FD	FD	FD	D	D	D	D	D	D	D													
DUNLAP PEDS	D	D	D	D	D	D	W	W	FD	FD	FD	D													

REMARKS

*USE SIGNAL PLAN #2
DIAL 2-1-1
FOR DOWNTOWN R+R FLASH-
-24HR

LOCATION: DUNLAP - SHELDON

FLASHER SCHEDULE: 11:00PM – 6:00AM DAILY X NONE

S.L. NO	PREPARED BY	ISSUED	INSTALLED	RR PRE-EMPT / FIRE PRE-EMPT / INITIALIZE TIME = 10 SEC
600 vi	JW	12-1-99	2-17-00 R. H. J.	
ATS NO	APPROVED BY			PROM NUMBER
05401				EPIC

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

CYCLE LENGTH	OFFSET	HOURS OF OPERATION	INTERVAL TIMING (SECONDS) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SEC	SEC	MINIMUM TIME	3	4	13.7	2.6	0.4	2.6	3	4	13.8	2.8	0.8	2.2												
DIAL 1	0	7A-1A 7 DAYS	3.6	10.5	13.7	2.6	0.4	2.6	3.0	4.0	13.8	2.8	0.8	2.2												
60																										
DIAL 2																										
DIAL 3																										
DIAL 4																										

DESCRIPTION	SIGNAL PLAN -- CYCLE SEQUENCE CHART 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	FLASH
MAIN	G	G	G	Y	Y	R	R	R	R	R	R	R													Y
GRISWOLD	R	R	R	R	R	R	G	G	G	Y	Y	R													R
MAIN PED	W	W	FD	FD	D	D	D	D	D	D	D	D													
GRISWOLD PED	D	D	D	D	D	D	W	W	FD	FD	D	D													

REMARKS

UPDATED PER 2011 MMUTCD

LOCATION: GRISWOLD - MAIN

FLASHER SCHEDULE: 1 A.M. – 7 A.M. 7 DAYS

S.L. NO	PREPARED BY	ISSUED	INSTALLED	RR PRE-EMPT / FIRE PRE-EMPT / INITIALIZE TIME = 10 SEC
696 ii	SK	12-13-17		
ATS NO	APPROVED BY			PROM NUMBER
00179	PM			STD2V2P

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Northville Downs PUD	**Organization:**	Fleis & VandenBrink Engineering
Project Location:	Northville, Michigan	**Performed By:**	F&V
Scenario Description:		**Date:**	12/1/2021
Analysis Year:	2021	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				41	25	16
Restaurant				0		
Cinema/Entertainment				0		
Residential				226	63	163
Hotel				0		
All Other Land Uses[2]				0		
				267	88	179

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.10	0%	0%	1.10	0%	0%
Retail	1.10	0%	0%	1.10	0%	0%
Restaurant	1.10	0%	0%	1.10	0%	0%
Cinema/Entertainment	1.10	0%	0%	1.10	0%	0%
Residential	1.10	0%	0%	1.10	0%	0%
Hotel	1.10	0%	0%	1.10	0%	0%
All Other Land Uses[2]	1.10	0%	0%	1.10	0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	1	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	294	97	197
Internal Capture Percentage	2%	3%	2%
External Vehicle-Trips[5]	262	86	176
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	7%	6%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	1%	1%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.
[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).
[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.
[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.
[6]Person-Trips
*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Northville Downs PUD	**Organization:**	Fleis & VandenBrink Engineering
Project Location:	Northville, Michigan	**Performed By:**	F&V
Scenario Description:		**Date:**	12/1/2021
Analysis Year:	2021	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				115	58	57
Restaurant				0		
Cinema/Entertainment				0		
Residential				260	153	107
Hotel				0		
All Other Land Uses[2]				0		
				375	211	164

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.10	0%	0%	1.10	0%	0%
Retail	1.10	0%	0%	1.10	0%	0%
Restaurant	1.10	0%	0%	1.10	0%	0%
Cinema/Entertainment	1.10	0%	0%	1.10	0%	0%
Residential	1.10	0%	0%	1.10	0%	0%
Hotel	1.10	0%	0%	1.10	0%	0%
All Other Land Uses[2]	1.10	0%	0%	1.10	0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	16	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	6	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	413	232	181
Internal Capture Percentage	11%	9%	12%
External Vehicle-Trips[5]	336	191	145
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	9%	25%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	10%	5%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.
[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).
[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be
[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.
[6]Person-Trips
*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

SEMCOG | Southeast Michigan Council of Governments

Community Profiles

YOU ARE VIEWING DATA FOR:

City of Northville

215 W Main St
Northville, MI 48167-1599
http://www.ci.northville.mi.us/

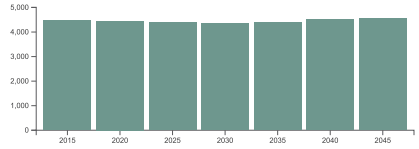
SEMCOG MEMBER

Census 2010 Population: 5,970
Area: 2 square miles

Economy & Jobs

Link to American Community Survey (ACS) Profiles: **Select a Year** 2012-2016 ▼ **Economic**

Forecasted Jobs



Source: **SEMCOG 2045 Regional Development Forecast**

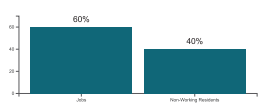
Forecasted Jobs by Industry Sector

Forecasted Jobs By Industry Sector	2015	2020	2025	2030	2035	2040	2045	Change 2015-2045	Pct Change 2015-2045
Natural Resources, Mining, & Construction	98	103	97	99	100	102	101	3	3.1%
Manufacturing	120	110	90	83	79	69	59	-61	-50.8%
Wholesale Trade	67	64	68	62	64	63	67	0	0%
Retail Trade	330	307	297	283	267	279	283	-47	-14.2%
Transportation, Warehousing, & Utilities	135	102	86	74	65	60	55	-80	-59.3%
Information & Financial Activities	881	863	822	811	792	849	839	-42	-4.8%
Professional and Technical Services & Corporate HQ	500	501	514	522	549	564	568	68	13.6%
Administrative, Support, & Waste Services	277	287	290	293	301	309	314	37	13.4%
Education Services	486	499	496	494	496	502	506	20	4.1%
Healthcare Services	487	524	536	551	582	617	651	164	33.7%
Leisure & Hospitality	511	529	527	529	535	551	558	47	9.2%
Other Services	432	434	428	424	425	424	419	-13	-3%
Public Administration	136	132	132	132	132	132	132	-4	-2.9%
Total Employment Numbers	4,460	4,455	4,383	4,357	4,387	4,521	4,552	92	2.1%

Source: **SEMCOG 2045 Regional Development Forecast**

Daytime Population

Daytime Population	SEMCOG and ACS 2015
Jobs	4,460
Non-Working Residents	2,984
Age 15 and under	1,014
Not in labor force	1,724
Unemployed	246
Daytime Population	7,444



Source: **SEMCOG 2045 Regional Development Forecast** and **2015 American Community Survey 5-Year Estimates**

Note: The number of residents attending school outside Southeast Michigan is not available. Likewise, the number of students commuting into Southeast Michigan to attend school is also not known.

SEMCOG | Southeast Michigan Council of Governments

Community Profiles

YOU ARE VIEWING DATA FOR:

City of Northville

215 W Main St
Northville, MI 48167-1599
http://www.ci.northville.mi.us/

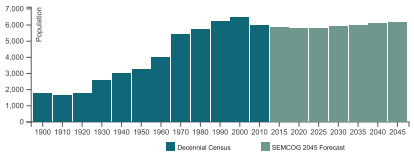
SEMCOG MEMBER

Census 2010 Population: 5,970
Area: 2 square miles

Population and Households

Link to American Community Survey (ACS) Profiles: **Select a Year** 2012-2016 ▼ **Social** | **Demographic**
Population and Household Estimates for Southeast Michigan, 2017

Population Forecast



Note for City of Northville : Incorporated as a city in 1955 from Village of Northville. Village of Northville incorporated in 1867. Oakland County portion of the Village of Northville was annexed into the village in the early 1900s but not reported separately in the Census until 1930. Population numbers prior to 1955 are of the village.

Population and Households

Population and Households	Census 2010	Change 2000-2010	Pct Change 2000-2010	SEMCOG Jul 2017	SEMCOG 2045
Total Population	5,970	-489	-7.6%	5,835	6,183
Group Quarters Population	34	-4	-10.5%	34	36
Household Population	5,936	-485	-7.6%	5,801	6,147
Housing Units	2,767	-34	-1.2%	2,648	-
Households (Occupied Units)	2,596	-124	-4.6%	2,495	2,602
Residential Vacancy Rate	6.2%	3.3%	-	5.8%	-
Average Household Size	2.29	-0.07	-	2.33	2.36

Source: **U.S. Census Bureau**, **SEMCOG Population and Household Estimates**, and **SEMCOG 2045 Regional Development Forecast**

Components of Population Change

Components of Population Change	2000-2005 Avg.	2006-2010 Avg.	2011-2015 Avg.
Natural Increase (Births - Deaths)	109	90	33
Births	231	230	130
Deaths	122	140	97
Net Migration (Movement In - Movement Out)	-157	-140	-61
Population Change (Natural Increase + Net Migration)	-48	-50	-28

Source: **Michigan Department of Community Health Vital Statistics**, **U.S. Census Bureau**, and SEMCOG

SCALE

100 0 50 100 200 400

(IN FEET)

Scale: 1 inch = 100 ft.

PARK OPEN SPACE

BASIN AREA	=	2.66 AC.
RIVER AREA	=	3.96 AC.
PARK AREA	=	5.37 AC.
TOTAL	=	11.99 AC.

LEGEND

EXISTING	PROPOSED	
		PAVEMENT (ASPHALT)
		SIDE WALK (CONCRETE)
		CONCRETE CURB AND GUTTER
		STORM SEWER
		SANITARY SEWER
		WATER MAIN
		MANHOLE
		CATCH BASIN W/STREAM GUARD
		CURB INLET W/SILT SAC
		END SECTION
		GATE VALVE
		HYDRANT
		FLOOD PLAIN
1000	1000	CONTOURS
1000.0	1000.00 T/C	SPOT ELEVATION
		SURFACE DRAINAGE
		OVERFLOW ROUTE
		TREE FENCE
		SILT FENCE
		PROPOSED DRIVEWAY LOCATION
		LIMIT OF DISTURBANCE

P.U.D. ELIGIBILITY SITE PLAN

SECTION 3, T1S, R8E, CITY OF NORTHVILLE
WAYNE COUNTY, MICHIGAN

REVISIONS

NO.	ITEM	DATE

UTILITY WARNING

UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

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

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.

DATE: 11-23-21 | DESIGNED BY: A.A. | CHECKED BY: R.E. | JOB NUMBER: 21-001 | DWG.: 210011Y-SP-NEW LAYOUT -11-23-21 PS.DWG

PARK OPEN SPACE

SEIBER, KEAST ENGINEERING, L.L.C.
CONSULTING ENGINEERS
39205 COUNTRY CLUB DRIVE • SUITE C8 • FARMINGTON HILLS, MI • 48331
PHONE: 248.308.3331 EMAIL: info@seiberkeast.com

SHEET 1

C:\Civil 3D Data\--WORK IN PROGRESS\NORTHVILLE\21-001 LAYOUT -11-23-21 PS.DWG, 11/23/2021 3:53 PM

Appendix B

EXISTING TRAFFIC CONDITIONS

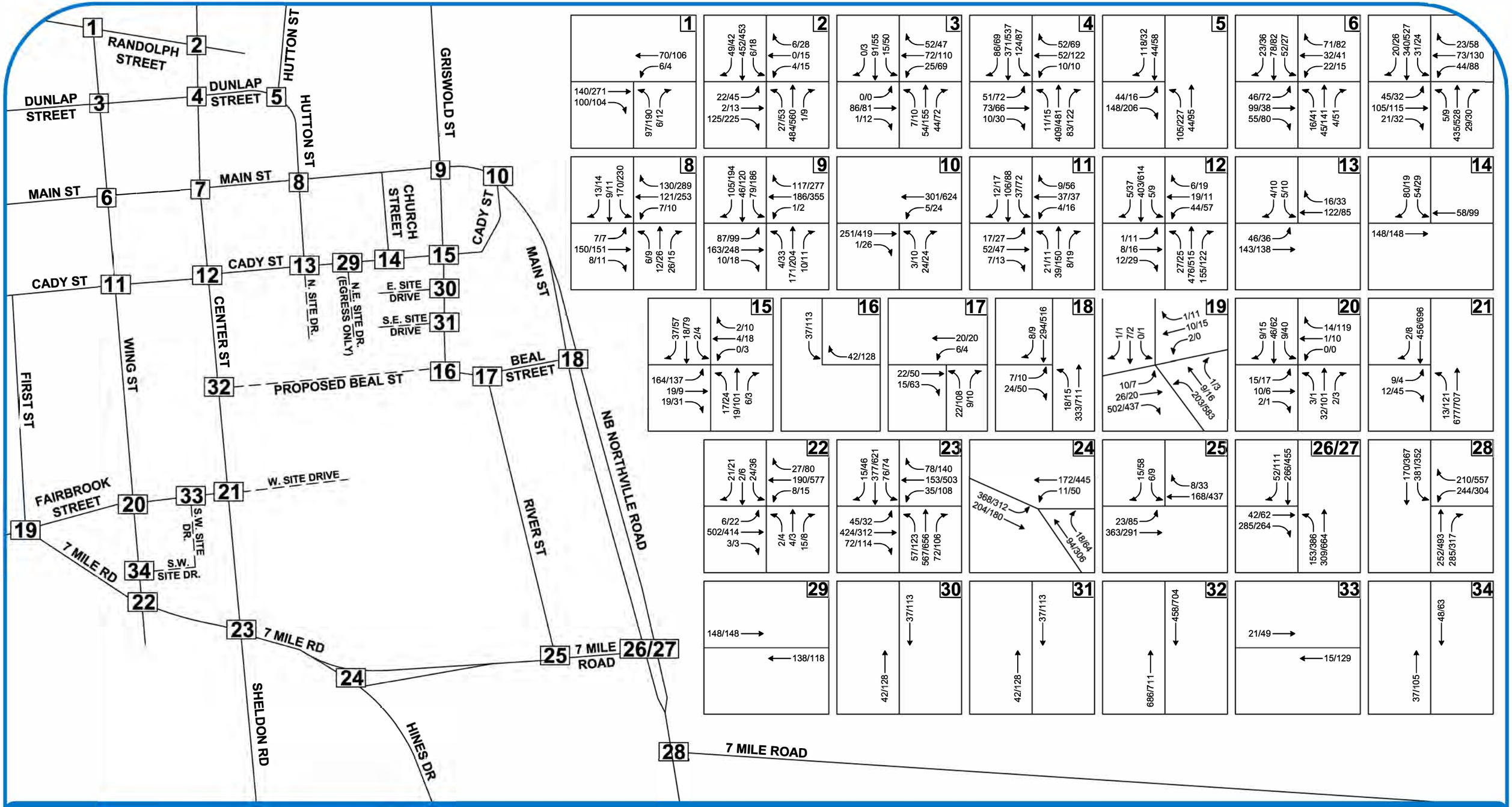


FIGURE 3
EXISTING TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

NORTH

SCALE: NOT TO SCALE

F&V

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	140	100	6	70	97	9
Future Vol, veh/h	140	100	6	70	97	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	60	60	77	77
Heavy Vehicles, %	3	3	2	2	4	4
Mvmt Flow	147	105	10	117	126	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	252	0	337	200
Stage 1	-	-	-	-	200	-
Stage 2	-	-	-	-	137	-
Critical Hdwy	-	-	4.12	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.218	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1313	-	654	836
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	885	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1313	-	649	836
Mov Cap-2 Maneuver	-	-	-	-	649	-
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	878	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	662	-	-	1313	-
HCM Lane V/C Ratio	0.208	-	-	0.008	-
HCM Control Delay (s)	11.9	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	2	125	4	0	6	27	484	1	6	452	49
Future Vol, veh/h	22	2	125	4	0	6	27	484	1	6	452	49
Conflicting Peds, #/hr	0	0	0	0	0	0	5	0	4	4	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	75	75	75	91	91	91	69	69	69
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	2	2	2
Mvmt Flow	33	3	189	5	0	8	30	532	1	9	655	71

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1311	1311	696	1402	1346	537	731	0	0	537	0	0
Stage 1	714	714	-	597	597	-	-	-	-	-	-	-
Stage 2	597	597	-	805	749	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	136	160	443	119	153	548	873	-	-	1031	-	-
Stage 1	424	436	-	493	495	-	-	-	-	-	-	-
Stage 2	491	493	-	379	422	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	129	152	441	64	145	546	869	-	-	1027	-	-
Mov Cap-2 Maneuver	129	152	-	64	145	-	-	-	-	-	-	-
Stage 1	407	430	-	474	476	-	-	-	-	-	-	-
Stage 2	467	474	-	213	416	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	39.5	34.3	0.5	0.1
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	869	-	-	319	136	1027	-	-
HCM Lane V/C Ratio	0.034	-	-	0.708	0.098	0.008	-	-
HCM Control Delay (s)	9.3	-	-	39.5	34.3	8.5	-	-
HCM Lane LOS	A	-	-	E	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	5.1	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	86	1	25	72	52	7	54	44	15	91	0
Future Vol, veh/h	0	86	1	25	72	52	7	54	44	15	91	0
Peak Hour Factor	0.78	0.78	0.78	0.73	0.73	0.73	0.84	0.84	0.84	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	4	4	4
Mvmt Flow	0	110	1	34	99	71	8	64	52	17	103	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	9	8.5	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	0%	17%	14%
Vol Thru, %	51%	99%	48%	86%
Vol Right, %	42%	1%	35%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	87	149	106
LT Vol	7	0	25	15
Through Vol	54	86	72	91
RT Vol	44	1	52	0
Lane Flow Rate	125	112	204	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.159	0.146	0.252	0.163
Departure Headway (Hd)	4.591	4.714	4.444	4.872
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	758	806	734
Service Time	2.636	2.758	2.482	2.917
HCM Lane V/C Ratio	0.16	0.148	0.253	0.163
HCM Control Delay	8.5	8.6	9	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.5	1	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	73	10	10	52	52	11	409	83	124	371	86
Future Volume (veh/h)	51	73	10	10	52	52	11	409	83	124	371	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	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	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	58	83	11	12	61	61	12	445	90	159	476	110
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	364	422	56	391	223	223	488	977	198	654	951	220
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1262	1701	225	1294	899	899	829	1588	321	868	1546	357
Grp Volume(v), veh/h	58	0	94	12	0	122	12	0	535	159	0	586
Grp Sat Flow(s),veh/h/ln	1262	0	1926	1294	0	1798	829	0	1910	868	0	1903
Q Serve(g_s), s	2.3	0.0	2.3	0.4	0.0	3.3	0.2	0.0	0.0	5.2	0.0	10.3
Cycle Q Clear(g_c), s	5.6	0.0	2.3	2.8	0.0	3.3	10.5	0.0	0.0	5.2	0.0	10.3
Prop In Lane	1.00		0.12	1.00		0.50	1.00		0.17	1.00		0.19
Lane Grp Cap(c), veh/h	364	0	478	391	0	447	488	0	1174	654	0	1170
V/C Ratio(X)	0.16	0.00	0.20	0.03	0.00	0.27	0.02	0.00	0.46	0.24	0.00	0.50
Avail Cap(c_a), veh/h	364	0	478	391	0	447	488	0	1174	654	0	1170
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	17.8	18.9	0.0	18.2	1.5	0.0	0.0	5.4	0.0	6.4
Incr Delay (d2), s/veh	0.9	0.0	0.9	0.1	0.0	1.5	0.1	0.0	1.3	0.9	0.0	1.5
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	0.7	0.0	1.1	0.1	0.0	1.5	0.0	0.0	0.4	0.9	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	0.0	18.7	19.1	0.0	19.7	1.6	0.0	1.3	6.3	0.0	8.0
LnGrp LOS	C	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		152			134			547			745	
Approach Delay, s/veh		19.7			19.6			1.3			7.6	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2			4		6		8			
Phs Duration (G+Y+Rc), s		41.0			19.0		41.0		19.0			
Change Period (Y+Rc), s		* 4.1			* 4.1		* 4.1		* 4.1			
Max Green Setting (Gmax), s		* 37			* 15		* 37		* 15			
Max Q Clear Time (g_c+I1), s		12.5			7.6		12.3		5.3			
Green Ext Time (p_c), s		4.0			0.3		5.6		0.4			

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

Notes

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	148	105	44	44	18
Future Vol, veh/h	4	148	105	44	44	18
Conflicting Peds, #/hr	0	0	0	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	84	84	74	74
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	4	159	125	52	59	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	177	0	-	0	323	156
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	172	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1393	-	-	-	675	895
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1393	-	-	-	673	891
Mov Cap-2 Maneuver	-	-	-	-	673	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	863	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1393	-	-	-	724
HCM Lane V/C Ratio	0.003	-	-	-	0.116
HCM Control Delay (s)	7.6	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	99	55	22	32	71	16	45	4	52	78	23
Future Vol, veh/h	46	99	55	22	32	71	16	45	4	52	78	23
Peak Hour Factor	0.81	0.81	0.81	0.76	0.76	0.76	0.93	0.93	0.93	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	5	5	5	2	2	2
Mvmt Flow	57	122	68	29	42	93	17	48	4	67	100	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	8.9	8.9	9.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	23%	18%	34%
Vol Thru, %	69%	49%	26%	51%
Vol Right, %	6%	28%	57%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	200	125	153
LT Vol	16	46	22	52
Through Vol	45	99	32	78
RT Vol	4	55	71	23
Lane Flow Rate	70	247	164	196
Geometry Grp	1	1	1	1
Degree of Util (X)	0.101	0.321	0.21	0.27
Departure Headway (Hd)	5.215	4.679	4.598	4.952
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	681	763	775	720
Service Time	3.298	2.737	2.662	3.02
HCM Lane V/C Ratio	0.103	0.324	0.212	0.272
HCM Control Delay	8.9	10	8.9	9.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1.4	0.8	1.1

HCM 6th Signalized Intersection Summary
7: Center Street & Main Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	105	21	44	73	23	5	435	29	31	340	20
Future Volume (veh/h)	45	105	21	44	73	23	5	435	29	31	340	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	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	1984	1984	1984	1969	1969	1953	1953	1953	1953	1953	1953	1953
Adj Flow Rate, veh/h	52	121	24	50	83	26	6	524	35	34	378	22
Peak Hour Factor	0.87	0.87	0.87	0.88	0.88	0.88	0.83	0.83	0.83	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	3	3	3
Cap, veh/h	156	331	57	179	276	74	63	1006	67	104	938	52
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.56	0.56	1.00	1.00	1.00	1.00
Sat Flow, veh/h	304	1256	216	380	1050	280	5	1802	119	70	1680	93
Grp Volume(v), veh/h	197	0	0	159	0	0	565	0	0	434	0	0
Grp Sat Flow(s),veh/h/ln	1777	0	0	1709	0	0	1927	0	0	1844	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.0	0.0	0.0	4.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26		0.12	0.31		0.16	0.01		0.06	0.08		0.05
Lane Grp Cap(c), veh/h	544	0	0	529	0	0	1136	0	0	1094	0	0
V/C Ratio(X)	0.36	0.00	0.00	0.30	0.00	0.00	0.50	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	544	0	0	529	0	0	1136	0	0	1094	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.1	0.0	0.0	17.8	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	1.5	0.0	0.0	1.6	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	1.9	0.0	0.0	4.2	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	0.0	0.0	19.2	0.0	0.0	9.8	0.0	0.0	1.1	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		197			159			565			434	
Approach Delay, s/veh		20.0			19.2			9.8			1.1	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2			4		6		8			
Phs Duration (G+Y+Rc), s		39.0			21.0		39.0		21.0			
Change Period (Y+Rc), s		5.5			* 5.2		5.5		* 5.2			
Max Green Setting (Gmax), s		33.5			* 16		33.5		* 16			
Max Q Clear Time (g_c+I1), s		13.0			7.0		2.0		6.0			
Green Ext Time (p_c), s		4.0			0.7		3.3		0.6			
Intersection Summary												
HCM 6th Ctrl Delay			9.6									
HCM 6th LOS			A									

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

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	150	8	7	121	130	6	12	26	170	9	13
Future Volume (veh/h)	7	150	8	7	121	130	6	12	26	170	9	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	1969	1969	1969	2000	2000	2000	1969	1969	1969
Adj Flow Rate, veh/h	8	176	9	8	138	148	9	17	38	200	11	15
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	2	2	2	0	0	0	2	2	2
Cap, veh/h	77	1081	833	85	1054	820	98	161	278	474	20	397
Arrive On Green	1.00	1.00	1.00	0.18	0.18	0.18	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	26	1953	1506	38	1905	1483	111	602	1042	1340	74	1490
Grp Volume(v), veh/h	184	0	9	146	0	148	64	0	0	211	0	15
Grp Sat Flow(s),veh/h/ln	1979	0	1506	1944	0	1483	1755	0	0	1414	0	1490
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	5.7	0.0	0.4
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.7	0.0	5.1	1.6	0.0	0.0	7.3	0.0	0.4
Prop In Lane	0.04		1.00	0.05		1.00	0.14		0.59	0.95		1.00
Lane Grp Cap(c), veh/h	1158	0	833	1139	0	820	537	0	0	494	0	397
V/C Ratio(X)	0.16	0.00	0.01	0.13	0.00	0.18	0.12	0.00	0.00	0.43	0.00	0.04
Avail Cap(c_a), veh/h	1158	0	833	1139	0	820	537	0	0	494	0	397
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.5	0.0	13.0	16.7	0.0	0.0	18.6	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.5	0.5	0.0	0.0	2.7	0.0	0.2
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	0.1	0.0	0.0	1.6	0.0	1.7	0.7	0.0	0.0	2.7	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.0	12.7	0.0	13.5	17.2	0.0	0.0	21.3	0.0	16.5
LnGrp LOS	A	A	A	B	A	B	B	A	A	C	A	B
Approach Vol, veh/h		193			294			64			226	
Approach Delay, s/veh		0.3			13.1			17.2			21.0	
Approach LOS		A			B			B			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.7		21.3		38.7		21.3				
Change Period (Y+Rc), s		5.5		* 5.3		5.5		* 5.3				
Max Green Setting (Gmax), s		33.2		* 16		33.2		* 16				
Max Q Clear Time (g_c+I1), s		2.0		9.3		7.1		3.6				
Green Ext Time (p_c), s		1.2		0.7		1.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			12.6									
HCM 6th LOS			B									

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

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	163	10	1	186	117	4	171	10	79	46	105
Future Volume (veh/h)	87	163	10	1	186	117	4	171	10	79	46	105
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	1984	1984	1984	1938	1938	1938	1984	1984	1984	1984	1953	1953
Adj Flow Rate, veh/h	106	199	12	1	224	141	5	194	11	88	51	117
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.88	0.88	0.88	0.88	0.90	0.90
Percent Heavy Veh, %	1	1	1	4	4	4	1	1	1	3	3	3
Cap, veh/h	443	925	58	61	1004	601	66	639	36	226	147	247
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	733	1996	126	1	2167	1297	12	1843	103	424	423	713
Grp Volume(v), veh/h	147	0	170	200	0	166	210	0	0	256	0	0
Grp Sat Flow(s),veh/h/ln	1072	0	1783	1937	0	1528	1958	0	0	1560	0	0
Q Serve(g_s), s	3.6	0.0	3.4	0.0	0.0	3.9	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	3.4	3.7	0.0	3.9	4.7	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.72		0.07	0.01		0.85	0.02		0.05	0.34		0.46
Lane Grp Cap(c), veh/h	600	0	826	958	0	708	740	0	0	622	0	0
V/C Ratio(X)	0.25	0.00	0.21	0.21	0.00	0.23	0.28	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	600	0	826	958	0	708	740	0	0	622	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.0	0.0	9.6	9.6	0.0	9.7	14.3	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.6	0.5	0.0	0.8	1.0	0.0	0.0	2.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	1.3	1.5	0.0	1.3	2.0	0.0	0.0	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.0	0.0	10.1	10.1	0.0	10.5	15.3	0.0	0.0	17.0	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		317			366			210			256	
Approach Delay, s/veh		11.0			10.3			15.3			17.0	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21				
Max Q Clear Time (g_c+I1), s		9.6		8.9		5.9		6.7				
Green Ext Time (p_c), s		2.0		1.2		2.3		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			12.9									
HCM 6th LOS			B									

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

HCM 6th TWSC
10: Cady Street & Main Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	251	1	5	301	3	24
Future Vol, veh/h	251	1	5	301	3	24
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	87	87	79	79
Heavy Vehicles, %	1	1	3	3	5	5
Mvmt Flow	285	1	6	346	4	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	287	0	472	144
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	185	-
Critical Hdwy	-	-	4.16	-	6.9	7
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.23	-	3.55	3.35
Pot Cap-1 Maneuver	-	-	1265	-	513	868
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	819	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1264	-	509	867
Mov Cap-2 Maneuver	-	-	-	-	509	-
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	814	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	804	-	-	1264	-
HCM Lane V/C Ratio	0.043	-	-	0.005	-
HCM Control Delay (s)	9.7	-	-	7.9	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th AWSC
11: Wing Street & Cady Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	52	7	4	37	9	21	39	8	37	106	12
Future Vol, veh/h	17	52	7	4	37	9	21	39	8	37	106	12
Peak Hour Factor	0.63	0.63	0.63	0.82	0.82	0.82	0.90	0.90	0.90	0.81	0.81	0.81
Heavy Vehicles, %	1	1	1	3	3	3	5	5	5	2	2	2
Mvmt Flow	27	83	11	5	45	11	23	43	9	46	131	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	8	8.1	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	31%	22%	8%	24%
Vol Thru, %	57%	68%	74%	68%
Vol Right, %	12%	9%	18%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	76	50	155
LT Vol	21	17	4	37
Through Vol	39	52	37	106
RT Vol	8	7	9	12
Lane Flow Rate	76	121	61	191
Geometry Grp	1	1	1	1
Degree of Util (X)	0.097	0.154	0.078	0.237
Departure Headway (Hd)	4.621	4.597	4.622	4.452
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	776	781	775	808
Service Time	2.647	2.623	2.652	2.474
HCM Lane V/C Ratio	0.098	0.155	0.079	0.236
HCM Control Delay	8.1	8.5	8	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.3	0.9

HCM 6th TWSC
12: Center Street & Cady Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	8	12	44	19	6	27	476	155	5	403	5
Future Vol, veh/h	1	8	12	44	19	6	27	476	155	5	403	5
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	82	82	82	90	90	90	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	2	13	20	54	23	7	30	529	172	6	453	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1161	1230	458	1161	1147	617	460	0	0	701	0	0
Stage 1	469	469	-	675	675	-	-	-	-	-	-	-
Stage 2	692	761	-	486	472	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	174	179	607	174	201	494	1096	-	-	896	-	-
Stage 1	579	564	-	447	456	-	-	-	-	-	-	-
Stage 2	437	417	-	566	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	149	169	606	151	190	493	1095	-	-	896	-	-
Mov Cap-2 Maneuver	149	169	-	151	190	-	-	-	-	-	-	-
Stage 1	552	558	-	426	435	-	-	-	-	-	-	-
Stage 2	388	398	-	529	556	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.5	44.9	0.3	0.1
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1095	-	-	284	171	896	-	-
HCM Lane V/C Ratio	0.027	-	-	0.123	0.492	0.006	-	-
HCM Control Delay (s)	8.4	0	-	19.5	44.9	9	0	-
HCM Lane LOS	A	A	-	C	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	2.4	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	143	0	0	122	16	0	0	0	5	0	4
Future Vol, veh/h	46	143	0	0	122	16	0	0	0	5	0	4
Conflicting Peds, #/hr	4	0	0	0	0	4	1	0	3	3	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	66	66	66	92	92	92	75	75	75
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	11	11	11
Mvmt Flow	55	170	0	0	185	24	0	0	0	7	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	213	0	0	170	0	0	481	493	173	484	481	202
Stage 1	-	-	-	-	-	-	280	280	-	201	201	-
Stage 2	-	-	-	-	-	-	201	213	-	283	280	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.21	6.61	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.599	4.099	3.399
Pot Cap-1 Maneuver	1363	-	-	1413	-	-	495	477	871	479	472	816
Stage 1	-	-	-	-	-	-	727	679	-	781	718	-
Stage 2	-	-	-	-	-	-	801	726	-	705	663	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1358	-	-	1413	-	-	474	454	869	459	449	812
Mov Cap-2 Maneuver	-	-	-	-	-	-	474	454	-	459	449	-
Stage 1	-	-	-	-	-	-	694	648	-	743	715	-
Stage 2	-	-	-	-	-	-	795	723	-	671	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0	0	11.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1358	-	-	1413	-	-	569
HCM Lane V/C Ratio	-	0.04	-	-	-	-	-	0.021
HCM Control Delay (s)	0	7.8	0	-	0	-	-	11.5
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	148	58	0	54	80
Future Vol, veh/h	0	148	58	0	54	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	64	64	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	183	91	0	71	105

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	274	91
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	183	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	720	972
Stage 1	0	-	-	0	938	-
Stage 2	0	-	-	0	853	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	720	972
Mov Cap-2 Maneuver	-	-	-	-	720	-
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	853	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	852
HCM Lane V/C Ratio	-	-	0.207
HCM Control Delay (s)	-	-	10.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.8

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	164	19	19	0	4	2	17	19	6	2	18	37
Future Vol, veh/h	164	19	19	0	4	2	17	19	6	2	18	37
Conflicting Peds, #/hr	5	0	0	0	0	5	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	60	60	60	85	85	85	76	76	76
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	4	4	4
Mvmt Flow	180	21	21	0	7	3	20	22	7	3	24	49

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	134	127	52	142	148	31	76	0	0	29	0	0
Stage 1	56	58	-	66	66	-	-	-	-	-	-	-
Stage 2	76	69	-	76	82	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.1	-	-	4.14	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.2	-	-	2.236	-	-
Pot Cap-1 Maneuver	840	765	1019	832	747	1049	1536	-	-	1571	-	-
Stage 1	956	849	-	950	844	-	-	-	-	-	-	-
Stage 2	936	839	-	938	831	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	816	751	1016	789	734	1044	1532	-	-	1571	-	-
Mov Cap-2 Maneuver	816	751	-	789	734	-	-	-	-	-	-	-
Stage 1	941	845	-	938	833	-	-	-	-	-	-	-
Stage 2	909	828	-	894	827	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	9.5	3	0.3
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1532	-	-	825	815	1571	-	-
HCM Lane V/C Ratio	0.013	-	-	0.269	0.012	0.002	-	-
HCM Control Delay (s)	7.4	0	-	11	9.5	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0	0	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	15	6	20	22	9
Future Vol, veh/h	22	15	6	20	22	9
Conflicting Peds, #/hr	0	0	0	0	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	62	72	72	70	70
Heavy Vehicles, %	5	5	0	0	7	7
Mvmt Flow	35	24	8	28	31	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	59	0	92	48
Stage 1	-	-	-	-	47	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.1	-	6.47	6.27
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	-	-	2.2	-	3.563	3.363
Pot Cap-1 Maneuver	-	-	1558	-	896	1007
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	965	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1558	-	891	1006
Mov Cap-2 Maneuver	-	-	-	-	891	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	959	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	922	-	-	1558	-
HCM Lane V/C Ratio	0.048	-	-	0.005	-
HCM Control Delay (s)	9.1	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	24	18	333	294	8
Future Vol, veh/h	7	24	18	333	294	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	88	88	91	91
Heavy Vehicles, %	4	4	3	3	2	2
Mvmt Flow	11	39	20	378	323	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	557	166	332	0	-	0
Stage 1	328	-	-	-	-	-
Stage 2	229	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.16	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.23	-	-	-
Pot Cap-1 Maneuver	456	843	1217	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	446	843	1217	-	-	-
Mov Cap-2 Maneuver	446	-	-	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	781	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1217	-	702	-	-
HCM Lane V/C Ratio	0.017	-	0.072	-	-
HCM Control Delay (s)	8	0.1	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	10	2	0	1	14	3	32	2	9	46	9
Future Vol, veh/h	15	10	2	0	1	14	3	32	2	9	46	9
Peak Hour Factor	0.73	0.73	0.73	0.69	0.69	0.69	0.75	0.75	0.75	0.74	0.74	0.74
Heavy Vehicles, %	0	0	0	0	0	0	11	11	11	4	4	4
Mvmt Flow	21	14	3	0	1	20	4	43	3	12	62	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	6.8	7.5	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	56%	0%	14%
Vol Thru, %	86%	37%	7%	72%
Vol Right, %	5%	7%	93%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	27	15	64
LT Vol	3	15	0	9
Through Vol	32	10	1	46
RT Vol	2	2	14	9
Lane Flow Rate	49	37	22	86
Geometry Grp	1	1	1	1
Degree of Util (X)	0.058	0.043	0.022	0.097
Departure Headway (Hd)	4.238	4.219	3.603	4.051
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	842	840	979	882
Service Time	2.281	2.287	1.677	2.088
HCM Lane V/C Ratio	0.058	0.044	0.022	0.098
HCM Control Delay	7.5	7.5	6.8	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.3

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	12	0	0	0	13	677	0	0	456	2
Future Vol, veh/h	9	0	12	0	0	0	13	677	0	0	456	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	92	92	92	90	90	90	88	88	88
Heavy Vehicles, %	5	5	5	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	0	18	0	0	0	14	752	0	0	518	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1299	1299	519	1308	1300	752	520	0	0	752	0	0
Stage 1	519	519	-	780	780	-	-	-	-	-	-	-
Stage 2	780	780	-	528	520	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	136	159	551	136	161	410	1046	-	-	858	-	-
Stage 1	534	528	-	388	406	-	-	-	-	-	-	-
Stage 2	384	401	-	534	532	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	134	155	551	129	157	410	1046	-	-	858	-	-
Mov Cap-2 Maneuver	134	155	-	129	157	-	-	-	-	-	-	-
Stage 1	522	528	-	379	397	-	-	-	-	-	-	-
Stage 2	375	392	-	516	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.6	0	0.2	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1046	-	-	236	-	858	-	-
HCM Lane V/C Ratio	0.014	-	-	0.135	-	-	-	-
HCM Control Delay (s)	8.5	0	-	22.6	0	0	-	-
HCM Lane LOS	A	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	-	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	502	3	8	190	27	2	4	15	24	3	21
Future Vol, veh/h	6	502	3	8	190	27	2	4	15	24	3	21
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	89	89	89	79	79	79	85	85	85
Heavy Vehicles, %	2	2	2	3	3	3	10	10	10	4	4	4
Mvmt Flow	8	628	4	9	213	30	3	5	19	28	4	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	245	0	0	632	0	0	907	909	633	909	896	230
Stage 1	-	-	-	-	-	-	646	646	-	248	248	-
Stage 2	-	-	-	-	-	-	261	263	-	661	648	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.2	6.6	6.3	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.14	5.54	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.59	4.09	3.39	3.536	4.036	3.336
Pot Cap-1 Maneuver	1321	-	-	946	-	-	248	267	466	254	278	804
Stage 1	-	-	-	-	-	-	447	455	-	751	698	-
Stage 2	-	-	-	-	-	-	727	676	-	448	463	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1318	-	-	946	-	-	235	262	465	236	273	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	235	262	-	236	273	-
Stage 1	-	-	-	-	-	-	444	452	-	745	690	-
Stage 2	-	-	-	-	-	-	694	668	-	421	460	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	15.3	17.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	375	1318	-	-	946	-	-	346
HCM Lane V/C Ratio	0.071	0.006	-	-	0.01	-	-	0.163
HCM Control Delay (s)	15.3	7.7	-	-	8.8	-	-	17.4
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	424	72	35	153	78	57	567	72	76	377	15
Future Volume (veh/h)	45	424	72	35	153	78	57	567	72	76	377	15
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	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	53	499	85	38	166	85	62	616	78	88	438	17
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh, %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	440	607	103	167	712	603	401	835	106	240	918	36
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1137	1652	281	818	1938	1640	936	1713	217	750	1882	73
Grp Volume(v), veh/h	53	0	584	38	166	85	62	0	694	88	0	455
Grp Sat Flow(s),veh/h/ln	1137	0	1933	818	1938	1640	936	0	1930	750	0	1956
Q Serve(g_s), s	2.7	0.0	21.9	3.5	4.7	2.8	3.8	0.0	23.0	8.5	0.0	12.4
Cycle Q Clear(g_c), s	7.4	0.0	21.9	25.4	4.7	2.8	16.2	0.0	23.0	31.5	0.0	12.4
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.11	1.00		0.04
Lane Grp Cap(c), veh/h	440	0	710	167	712	603	401	0	941	240	0	953
V/C Ratio(X)	0.12	0.00	0.82	0.23	0.23	0.14	0.15	0.00	0.74	0.37	0.00	0.48
Avail Cap(c_a), veh/h	440	0	710	167	712	603	401	0	941	240	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	22.9	34.5	17.5	16.9	19.1	0.0	16.4	29.0	0.0	13.7
Incr Delay (d2), s/veh	0.6	0.0	10.4	3.2	0.8	0.5	0.8	0.0	5.2	4.3	0.0	1.7
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	0.7	0.0	11.2	0.8	2.1	1.1	0.9	0.0	10.3	1.7	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	0.0	33.3	37.6	18.3	17.4	19.9	0.0	21.6	33.3	0.0	15.4
LnGrp LOS	C	A	C	D	B	B	B	A	C	C	A	B
Approach Vol, veh/h		637			289			756			543	
Approach Delay, s/veh		32.2			20.5			21.4			18.3	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	45.0		35.0		45.0		35.0	
Change Period (Y+Rc), s	6.0		5.6		6.0		5.6	
Max Green Setting (Gmax), s	39.0		29.4		39.0		29.4	
Max Q Clear Time (g_c+I1), s	25.0		23.9		33.5		27.4	
Green Ext Time (p_c), s	4.3		1.9		1.6		0.3	

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	363	168	8	6	15
Future Vol, veh/h	23	363	168	8	6	15
Conflicting Peds, #/hr	3	0	0	3	2	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	83	83	71	71
Heavy Vehicles, %	2	2	5	5	6	6
Mvmt Flow	25	399	202	10	8	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	215	0	-	0	661	213
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	451	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	1355	-	-	-	421	817
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	633	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1351	-	-	-	408	812
Mov Cap-2 Maneuver	-	-	-	-	408	-
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	631	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1351	-	-	-	633
HCM Lane V/C Ratio	0.019	-	-	-	0.047
HCM Control Delay (s)	7.7	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	42	285	0	153	0	0	0	0	0	266	52
Future Volume (Veh/h)	0	42	285	0	153	0	0	0	0	0	266	52
Sign Control		Stop			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.88	0.88	0.88	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	52	352	0	174	0	0	0	0	0	280	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	394	308	168	518	335	0	335			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	394	308	168	518	335	0	335			0		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	7.0	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	91	58	100	70	100	100			100		
cM capacity (veh/h)	414	605	847	237	577	1075	1221			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	52	352	174	187	148
Volume Left	0	0	0	0	0
Volume Right	0	352	0	0	55
cSH	605	847	577	1700	1700
Volume to Capacity	0.09	0.42	0.30	0.11	0.09
Queue Length 95th (ft)	7	52	32	0	0
Control Delay (s)	11.5	12.2	13.9	0.0	0.0
Lane LOS	B	B	B		
Approach Delay (s)	12.1		13.9	0.0	
Approach LOS	B		B		

Intersection Summary				
Average Delay	8.0			
Intersection Capacity Utilization	46.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	0	153	309	0	0
Future Volume (Veh/h)	42	0	153	309	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	52	0	174	351	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				511		
pX, platoon unblocked						
vC, conflicting volume	524	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524	0	0			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	100	89			
cM capacity (veh/h)	431	1084	1600			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	52	291	234
Volume Left	52	174	0
Volume Right	0	0	0
cSH	431	1600	1700
Volume to Capacity	0.12	0.11	0.14
Queue Length 95th (ft)	10	9	0
Control Delay (s)	14.5	4.9	0.0
Lane LOS	B	A	
Approach Delay (s)	14.5	2.7	
Approach LOS	B		

Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	47.7%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM 6th Signalized Intersection Summary
28: Northville Road & S. Seven Mile Road

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	244	210	252	285	381	170
Future Volume (veh/h)	244	210	252	285	381	170
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	1953	1953	1938	1938	1984	1984
Adj Flow Rate, veh/h	284	244	265	300	438	195
Peak Hour Factor	0.86	0.86	0.95	0.95	0.87	0.87
Percent Heavy Veh, %	3	3	4	4	1	1
Cap, veh/h	665	923	377	337	470	1829
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1860	1655	1938	1642	1890	3870
Grp Volume(v), veh/h	284	244	265	300	438	195
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1890	1885
Q Serve(g_s), s	9.3	0.0	10.7	14.2	14.2	2.2
Cycle Q Clear(g_c), s	9.3	0.0	10.7	14.2	14.2	2.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	665	923	377	337	470	1829
V/C Ratio(X)	0.43	0.26	0.70	0.89	0.93	0.11
Avail Cap(c_a), veh/h	665	923	377	337	470	1829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	9.2	29.5	30.9	29.8	11.2
Incr Delay (d2), s/veh	2.0	0.7	10.4	27.9	27.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	2.1	5.5	7.9	10.7	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.5	9.9	40.0	58.8	57.4	11.3
LnGrp LOS	C	A	D	E	E	B
Approach Vol, veh/h	528		565			633
Approach Delay, s/veh	16.1		50.0			43.2
Approach LOS	B		D			D

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	22.4	22.8			45.2	34.8
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	16.0	16.4			38.8	28.6
Max Q Clear Time (g_c+I1), s	16.2	16.2			4.2	11.3
Green Ext Time (p_c), s	0.0	0.1			1.2	1.6

Intersection Summary			
HCM 6th Ctrl Delay			37.1
HCM 6th LOS			D

HCM 6th TWSC
1: Wing Street & Randolph Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	271	104	4	106	190	12
Future Vol, veh/h	271	104	4	106	190	12
Conflicting Peds, #/hr	0	11	11	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	81	81	78	78
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	311	120	5	131	244	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	442	0	523	386
Stage 1	-	-	-	-	382	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	-	-	4.1	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.2	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1129	-	516	664
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	888	-
Platoon blocked, %	-	-			-	
Mov Cap-1 Maneuver	-	-	1117	-	508	655
Mov Cap-2 Maneuver	-	-	-	-	508	-
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	884	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	18.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	515	-	-	1117	-
HCM Lane V/C Ratio	0.503	-	-	0.004	-
HCM Control Delay (s)	18.9	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.8	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	55

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	13	225	15	15	28	53	560	9	18	453	42
Future Vol, veh/h	45	13	225	15	15	28	53	560	9	18	453	42
Conflicting Peds, #/hr	2	0	5	5	0	2	15	0	12	12	0	15
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	91	91	91	87	87	87	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	54	15	268	16	16	31	61	644	10	25	621	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1512	1503	670	1630	1527	663	694	0	0	666	0	0
Stage 1	715	715	-	783	783	-	-	-	-	-	-	-
Stage 2	797	788	-	847	744	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	100	123	460	92	119	465	911	-	-	928	-	-
Stage 1	425	438	-	390	407	-	-	-	-	-	-	-
Stage 2	383	405	-	359	424	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	75	109	451	27	105	459	898	-	-	917	-	-
Mov Cap-2 Maneuver	75	109	-	27	105	-	-	-	-	-	-	-
Stage 1	391	420	-	359	375	-	-	-	-	-	-	-
Stage 2	318	373	-	136	407	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	265.4	154.6	0.8	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	898	-	-	232	76	917	-	-
HCM Lane V/C Ratio	0.068	-	-	1.452	0.839	0.027	-	-
HCM Control Delay (s)	9.3	-	-	265.4	154.6	9	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	19.6	4.2	0.1	-	-

HCM 6th AWSC
3: Wing Street & Dunlap Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	81	12	69	110	47	10	155	72	50	55	3
Future Vol, veh/h	0	81	12	69	110	47	10	155	72	50	55	3
Peak Hour Factor	0.77	0.77	0.77	0.75	0.75	0.75	0.87	0.87	0.87	0.73	0.73	0.73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	0	105	16	92	147	63	11	178	83	68	75	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	12.1	11.4	10.3
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	31%	46%
Vol Thru, %	65%	87%	49%	51%
Vol Right, %	30%	13%	21%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	237	93	226	108
LT Vol	10	0	69	50
Through Vol	155	81	110	55
RT Vol	72	12	47	3
Lane Flow Rate	272	121	301	148
Geometry Grp	1	1	1	1
Degree of Util (X)	0.387	0.182	0.432	0.229
Departure Headway (Hd)	5.11	5.439	5.165	5.561
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	706	658	696	645
Service Time	3.142	3.48	3.198	3.599
HCM Lane V/C Ratio	0.385	0.184	0.432	0.229
HCM Control Delay	11.4	9.7	12.1	10.3
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.8	0.7	2.2	0.9

HCM 6th Signalized Intersection Summary
4: Center Street & Dunlap Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	66	30	10	122	69	15	481	122	87	537	69
Future Volume (veh/h)	72	66	30	10	122	69	15	481	122	87	537	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.93	0.95		0.93	1.00		0.98	0.99		0.98
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	2000	2000	2000	2000	2000	1969	1969	1969	2000	2000	2000	2000
Adj Flow Rate, veh/h	82	75	34	11	133	75	16	523	133	112	688	88
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	0	0	0	0	0	2	2	2	0	0	0	
Cap, veh/h	301	315	143	368	289	163	371	927	236	602	1066	136
Arrive On Green	0.25	0.25	0.25	0.33	0.33	0.33	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1148	1267	575	1235	1163	656	695	1508	383	784	1734	222
Grp Volume(v), veh/h	82	0	109	11	0	208	16	0	656	112	0	776
Grp Sat Flow(s),veh/h/ln	1148	0	1842	1235	0	1820	695	0	1892	784	0	1955
Q Serve(g_s), s	3.9	0.0	2.8	0.4	0.0	5.4	0.6	0.0	0.0	3.9	0.0	15.2
Cycle Q Clear(g_c), s	9.3	0.0	2.8	3.2	0.0	5.4	15.8	0.0	0.0	3.9	0.0	15.2
Prop In Lane	1.00		0.31	1.00		0.36	1.00		0.20	1.00		0.11
Lane Grp Cap(c), veh/h	301	0	457	368	0	452	371	0	1163	602	0	1203
V/C Ratio(X)	0.27	0.00	0.24	0.03	0.00	0.46	0.04	0.00	0.56	0.19	0.00	0.65
Avail Cap(c_a), veh/h	301	0	457	368	0	452	371	0	1163	602	0	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	18.0	17.2	0.0	16.9	3.3	0.0	0.0	5.2	0.0	7.4
Incr Delay (d2), s/veh	2.2	0.0	1.2	0.2	0.0	3.4	0.2	0.0	2.0	0.7	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	1.2	0.0	1.3	0.1	0.0	2.5	0.1	0.0	0.6	0.6	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	0.0	19.2	17.4	0.0	20.3	3.5	0.0	2.0	5.9	0.0	10.1
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	B
Approach Vol, veh/h		191			219			672			888	
Approach Delay, s/veh		21.8			20.1			2.0			9.5	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		19.0		41.0		19.0				
Change Period (Y+Rc), s		* 4.1		* 4.1		* 4.1		* 4.1				
Max Green Setting (Gmax), s		* 37		* 15		* 37		* 15				
Max Q Clear Time (g_c+I1), s		17.8		11.3		17.2		7.4				
Green Ext Time (p_c), s		4.9		0.3		6.9		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		9.3	
HCM 6th LOS		A	

Notes
User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	206	227	95	58	32
Future Vol, veh/h	16	206	227	95	58	32
Conflicting Peds, #/hr	19	0	0	19	10	20
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	89	89
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	17	224	247	103	65	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	369	0	-	0	586	338
Stage 1					318	
Stage 2	-	-	-	-	268	-
Critical Hdwy	4.1	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.2	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1201	-	-	-	474	706
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1179	-	-	-	450	680
Mov Cap-2 Maneuver	-	-	-	-	450	-
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	765	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1179	-	-	-	512
HCM Lane V/C Ratio	0.015	-	-	-	0.198
HCM Control Delay (s)	8.1	0	-	-	13.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

HCM 6th AWSC
6: Wing Street & Main Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	38	80	15	41	82	41	141	51	27	82	36
Future Vol, veh/h	72	38	80	15	41	82	41	141	51	27	82	36
Peak Hour Factor	0.82	0.82	0.82	0.80	0.80	0.80	0.91	0.91	0.91	0.76	0.76	0.76
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	0	0	2
Mvmt Flow	88	46	98	19	51	103	45	155	56	36	108	47
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	10.9			9.9			11.3			10.3		
HCM LOS	B			A			B			B		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	38%	11%	19%
Vol Thru, %	61%	20%	30%	57%
Vol Right, %	22%	42%	59%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	233	190	138	145
LT Vol	41	72	15	27
Through Vol	141	38	41	82
RT Vol	51	80	82	36
Lane Flow Rate	256	232	172	191
Geometry Grp	1	1	1	1
Degree of Util (X)	0.369	0.335	0.246	0.279
Departure Headway (Hd)	5.191	5.198	5.142	5.26
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	691	690	697	683
Service Time	3.227	3.236	3.183	3.299
HCM Lane V/C Ratio	0.37	0.336	0.247	0.28
HCM Control Delay	11.3	10.9	9.9	10.3
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.7	1.5	1	1.1

HCM 6th Signalized Intersection Summary
7: Center Street & Main Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	115	32	88	130	58	9	528	30	24	527	26
Future Volume (veh/h)	32	115	32	88	130	58	9	528	30	24	527	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.96		0.94	0.99		0.98	1.00		0.98
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	1984	1984	1984	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	36	129	36	101	149	67	9	556	32	25	555	27
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	0	0	0	1	1	1
Cap, veh/h	119	342	85	193	237	94	66	1034	59	82	1005	48
Arrive On Green	0.26	0.26	0.26	0.44	0.44	0.44	0.56	0.56	0.56	1.00	1.00	1.00
Sat Flow, veh/h	184	1297	323	431	900	357	8	1853	105	35	1799	85
Grp Volume(v), veh/h	201	0	0	317	0	0	597	0	0	607	0	0
Grp Sat Flow(s),veh/h/ln	1805	0	0	1687	0	0	1967	0	0	1919	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.2	0.0	0.0	8.5	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.18		0.18	0.32		0.21	0.02		0.05	0.04		0.04
Lane Grp Cap(c), veh/h	546	0	0	523	0	0	1159	0	0	1134	0	0
V/C Ratio(X)	0.37	0.00	0.00	0.61	0.00	0.00	0.52	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	546	0	0	523	0	0	1159	0	0	1134	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	0.0	14.6	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	5.1	0.0	0.0	1.6	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	3.4	0.0	0.0	4.6	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.1	0.0	0.0	19.7	0.0	0.0	10.0	0.0	0.0	1.8	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		201			317			597			607	
Approach Delay, s/veh		20.1			19.7			10.0			1.8	
Approach LOS		C			B			B			A	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	39.0		21.0		39.0		21.0	
Change Period (Y+Rc), s	5.5		* 5.2		5.5		* 5.2	
Max Green Setting (Gmax), s	33.5		* 16		33.5		* 16	
Max Q Clear Time (g_c+I1), s	13.5		7.2		2.0		10.5	
Green Ext Time (p_c), s	4.3		0.7		5.0		0.9	

Intersection Summary	
HCM 6th Ctrl Delay	10.1
HCM 6th LOS	B

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

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	151	11	10	253	289	9	26	15	239	11	14
Future Volume (veh/h)	7	151	11	10	253	289	9	26	15	239	11	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.98		0.98	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	8	178	13	11	291	332	12	33	19	263	12	15
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	76	1073	827	74	1098	827	71	154	65	278	7	388
Arrive On Green	1.00	1.00	1.00	0.55	0.55	0.55	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	25	1939	1494	21	1965	1494	0	577	243	601	27	1457
Grp Volume(v), veh/h	186	0	13	302	0	332	64	0	0	275	0	15
Grp Sat Flow(s),veh/h/ln	1964	0	1494	1986	0	1494	820	0	0	628	0	1457
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	4.8	0.0	7.7	16.0	0.0	0.0	16.0	0.0	0.5
Prop In Lane	0.04		1.00	0.04		1.00	0.19		0.30	0.96		1.00
Lane Grp Cap(c), veh/h	1149	0	827	1161	0	827	290	0	0	285	0	388
V/C Ratio(X)	0.16	0.00	0.02	0.26	0.00	0.40	0.22	0.00	0.00	0.97	0.00	0.04
Avail Cap(c_a), veh/h	1149	0	827	1161	0	827	290	0	0	285	0	388
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	7.0	0.0	7.7	17.4	0.0	0.0	25.1	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.5	0.0	1.5	1.7	0.0	0.0	45.1	0.0	0.2
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	0.1	0.0	0.0	1.9	0.0	2.4	0.8	0.0	0.0	7.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.0	7.6	0.0	9.2	19.1	0.0	0.0	70.2	0.0	16.5
LnGrp LOS	A	A	A	A	A	A	B	A	A	E	A	B
Approach Vol, veh/h		199			634			64			290	
Approach Delay, s/veh		0.3			8.4			19.1			67.5	
Approach LOS		A			A			B			E	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	38.7		21.3		38.7		21.3	
Change Period (Y+Rc), s	5.5		* 5.3		5.5		* 5.3	
Max Green Setting (Gmax), s	33.2		* 16		33.2		* 16	
Max Q Clear Time (g_c+I1), s	2.0		18.0		9.7		18.0	
Green Ext Time (p_c), s	1.2		0.0		3.2		0.0	

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

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

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	248	18	2	355	277	33	204	11	186	120	194
Future Volume (veh/h)	99	248	18	2	355	277	33	204	11	186	120	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	116	292	21	2	374	292	36	222	12	198	128	206
Peak Hour Factor	0.85	0.85	0.85	0.95	0.95	0.95	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	315	902	69	61	919	703	113	566	28	270	147	211
Arrive On Green	0.15	0.15	0.15	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	466	1947	148	2	1983	1518	130	1632	82	540	423	609
Grp Volume(v), veh/h	176	0	253	376	0	292	270	0	0	532	0	0
Grp Sat Flow(s),veh/h/ln	783	0	1778	1983	0	1519	1844	0	0	1572	0	0
Q Serve(g_s), s	8.0	0.0	7.6	0.0	0.0	7.7	0.0	0.0	0.0	13.7	0.0	0.0
Cycle Q Clear(g_c), s	15.6	0.0	7.6	7.5	0.0	7.7	6.2	0.0	0.0	20.0	0.0	0.0
Prop In Lane	0.66		0.08	0.01		1.00	0.13		0.04	0.37		0.39
Lane Grp Cap(c), veh/h	462	0	824	979	0	704	707	0	0	627	0	0
V/C Ratio(X)	0.38	0.00	0.31	0.38	0.00	0.42	0.38	0.00	0.00	0.85	0.00	0.00
Avail Cap(c_a), veh/h	462	0	824	979	0	704	707	0	0	627	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.7	0.0	16.8	10.7	0.0	10.7	14.8	0.0	0.0	18.9	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	1.0	1.1	0.0	1.8	1.6	0.0	0.0	13.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	3.4	3.2	0.0	2.6	2.7	0.0	0.0	8.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	0.0	17.8	11.8	0.0	12.5	16.4	0.0	0.0	32.3	0.0	0.0
LnGrp LOS	C	A	B	B	A	B	B	A	A	C	A	A
Approach Vol, veh/h		429			668			270			532	
Approach Delay, s/veh		20.4			12.1			16.4			32.3	
Approach LOS		C			B			B			C	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	33.4		26.6		33.4		26.6	
Change Period (Y+Rc), s	5.6		* 5.8		5.6		* 5.8	
Max Green Setting (Gmax), s	27.8		* 21		27.8		* 21	
Max Q Clear Time (g_c+I1), s	17.6		22.0		9.7		8.2	
Green Ext Time (p_c), s	2.2		0.0		4.4		1.2	

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

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

HCM 6th TWSC
10: Cady Street & Main Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	419	26	24	624	10	24
Future Vol, veh/h	419	26	24	624	10	24
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	95	95	75	75
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	517	32	25	657	13	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	551	0	914	277
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	379	-
Critical Hdwy	-	-	4.12	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.21	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1022	-	276	726
Stage 1	-	-	-	-	557	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1020	-	265	725
Mov Cap-2 Maneuver	-	-	-	-	265	-
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	642	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	480	-	-	1020	-
HCM Lane V/C Ratio	0.094	-	-	0.025	-
HCM Control Delay (s)	13.3	-	-	8.6	0.2
HCM Lane LOS	B	-	-	A	A
HCM 95th %ile Q(veh)	0.3	-	-	0.1	-

HCM 6th AWSC
11: Wing Street & Cady Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	47	13	16	37	56	11	150	19	72	88	17
Future Vol, veh/h	27	47	13	16	37	56	11	150	19	72	88	17
Peak Hour Factor	0.83	0.83	0.83	0.90	0.90	0.90	0.90	0.90	0.90	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	0	0	2
Mvmt Flow	33	57	16	18	41	62	12	167	21	81	99	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	8.9			8.6			9.3			9.4		
HCM LOS	A			A			A			A		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	31%	15%	41%
Vol Thru, %	83%	54%	34%	50%
Vol Right, %	11%	15%	51%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	180	87	109	177
LT Vol	11	27	16	72
Through Vol	150	47	37	88
RT Vol	19	13	56	17
Lane Flow Rate	200	105	121	199
Geometry Grp	1	1	1	1
Degree of Util (X)	0.258	0.144	0.158	0.26
Departure Headway (Hd)	4.649	4.958	4.691	4.706
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	770	719	759	760
Service Time	2.698	3.019	2.749	2.755
HCM Lane V/C Ratio	0.26	0.146	0.159	0.262
HCM Control Delay	9.3	8.9	8.6	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.5	0.6	1

Intersection	
Int Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	16	29	57	11	19	25	515	122	9	614	37
Future Vol, veh/h	11	16	29	57	11	19	25	515	122	9	614	37
Conflicting Peds, #/hr	23	0	2	2	0	23	13	0	1	1	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	0	0	0	1	1	1	0	0	0
Mvmt Flow	14	21	37	73	14	24	26	542	128	9	646	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1397	1420	681	1374	1375	630	698	0	0	671	0	0
Stage 1	697	697	-	659	659	-	-	-	-	-	-	-
Stage 2	700	723	-	715	716	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	117	135	447	124	147	485	903	-	-	929	-	-
Stage 1	428	440	-	456	464	-	-	-	-	-	-	-
Stage 2	427	428	-	425	437	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	94	125	441	94	136	474	892	-	-	928	-	-
Mov Cap-2 Maneuver	94	125	-	94	136	-	-	-	-	-	-	-
Stage 1	402	428	-	434	441	-	-	-	-	-	-	-
Stage 2	365	407	-	364	425	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37.7	132.3	0.3	0.1
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	892	-	-	180	120	928	-	-
HCM Lane V/C Ratio	0.03	-	-	0.399	0.929	0.01	-	-
HCM Control Delay (s)	9.2	0	-	37.7	132.3	8.9	0	-
HCM Lane LOS	A	A	-	E	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.8	6	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	138	0	0	85	33	0	0	0	10	0	10
Future Vol, veh/h	36	138	0	0	85	33	0	0	0	10	0	10
Conflicting Peds, #/hr	3	0	0	0	0	3	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	84	84	84	92	92	92	71	71	71
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	0	0	0
Mvmt Flow	40	155	0	0	101	39	0	0	0	14	0	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	143	0	0	155	0	0	365	378	155	359	359	126
Stage 1	-	-	-	-	-	-	235	235	-	124	124	-
Stage 2	-	-	-	-	-	-	130	143	-	235	235	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.12	6.52	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.518	4.018	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1446	-	-	1438	-	-	591	554	891	600	571	930
Stage 1	-	-	-	-	-	-	768	710	-	885	797	-
Stage 2	-	-	-	-	-	-	874	779	-	773	714	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1442	-	-	1438	-	-	567	536	891	584	552	926
Mov Cap-2 Maneuver	-	-	-	-	-	-	567	536	-	584	552	-
Stage 1	-	-	-	-	-	-	745	689	-	856	795	-
Stage 2	-	-	-	-	-	-	859	777	-	750	693	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0	0	10.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1442	-	-	1438	-	-	716
HCM Lane V/C Ratio	-	0.028	-	-	-	-	-	0.039
HCM Control Delay (s)	0	7.6	0	-	0	-	-	10.2
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	148	99	0	29	19
Future Vol, veh/h	0	148	99	0	29	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	90	90	72	72
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	156	110	0	40	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	266	110
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	156	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	727	949
Stage 1	0	-	-	0	920	-
Stage 2	0	-	-	0	877	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	727	949
Mov Cap-2 Maneuver	-	-	-	-	727	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	877	-

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

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	801
HCM Lane V/C Ratio	-	-	0.083
HCM Control Delay (s)	-	-	9.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	137	9	31	3	18	10	24	101	3	4	79	57
Future Vol, veh/h	137	9	31	3	18	10	24	101	3	4	79	57
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	68	68	68	88	88	88	83	83	83
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	165	11	37	4	26	15	27	115	3	5	95	69

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	334	315	133	335	348	117	167	0	0	118	0	0
Stage 1	143	143	-	171	171	-	-	-	-	-	-	-
Stage 2	191	172	-	164	177	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	621	602	919	622	579	941	1423	-	-	1483	-	-
Stage 1	862	780	-	836	761	-	-	-	-	-	-	-
Stage 2	813	758	-	843	756	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	577	586	916	577	563	941	1419	-	-	1483	-	-
Mov Cap-2 Maneuver	577	586	-	577	563	-	-	-	-	-	-	-
Stage 1	842	775	-	819	746	-	-	-	-	-	-	-
Stage 2	756	743	-	794	751	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	11	1.4	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	618	649	1483	-	-
HCM Lane V/C Ratio	0.019	-	-	0.345	0.07	0.003	-	-
HCM Control Delay (s)	7.6	0	-	13.9	11	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.5	0.2	0	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	50	63	4	20	108	10
Future Vol, veh/h	50	63	4	20	108	10
Conflicting Peds, #/hr	0	1	1	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	79	79	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	54	68	5	25	121	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	123	0	124	95
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	35	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1477	-	876	967
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	-	993	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1476	-	872	961
Mov Cap-2 Maneuver	-	-	-	-	872	-
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	879	-	-	1476	-
HCM Lane V/C Ratio	0.151	-	-	0.003	-
HCM Control Delay (s)	9.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	50	15	711	516	9
Future Vol, veh/h	10	50	15	711	516	9
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	92	92	95	95
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	12	60	16	773	543	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	970	279	555	0	-	0
Stage 1	551	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.12	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.21	-	-	-
Pot Cap-1 Maneuver	254	724	1018	-	-	-
Stage 1	547	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	245	722	1015	-	-	-
Mov Cap-2 Maneuver	245	-	-	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1015	-	545	-	-
HCM Lane V/C Ratio	0.016	-	0.133	-	-
HCM Control Delay (s)	8.6	0.1	12.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	6	1	0	10	119	1	101	3	40	62	15
Future Vol, veh/h	17	6	1	0	10	119	1	101	3	40	62	15
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.69	0.69	0.69	0.91	0.91	0.91
Heavy Vehicles, %	5	5	5	5	5	5	1	1	1	0	0	0
Mvmt Flow	20	7	1	0	11	131	1	146	4	44	68	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	8.1			7.9			8.5			8.3		
HCM LOS	A			A			A			A		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	71%	0%	34%
Vol Thru, %	96%	25%	8%	53%
Vol Right, %	3%	4%	92%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	24	129	117
LT Vol	1	17	0	40
Through Vol	101	6	10	62
RT Vol	3	1	119	15
Lane Flow Rate	152	29	142	129
Geometry Grp	1	1	1	1
Degree of Util (X)	0.187	0.039	0.162	0.158
Departure Headway (Hd)	4.418	4.898	4.106	4.433
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	814	732	875	810
Service Time	2.438	2.923	2.124	2.454
HCM Lane V/C Ratio	0.187	0.04	0.162	0.159
HCM Control Delay	8.5	8.1	7.9	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.6	0.6

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	45	0	0	0	121	707	0	0	696	8
Future Vol, veh/h	4	0	45	0	0	0	121	707	0	0	696	8
Conflicting Peds, #/hr	1	0	0	0	0	1	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	94	94	94	91	91	91
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	0	0	0
Mvmt Flow	5	0	55	0	0	0	129	752	0	0	765	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1785	1784	774	1807	1788	753	778	0	0	752	0	0
Stage 1	774	774	-	1010	1010	-	-	-	-	-	-	-
Stage 2	1011	1010	-	797	778	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	64	83	402	61	81	410	843	-	-	867	-	-
Stage 1	394	411	-	289	317	-	-	-	-	-	-	-
Stage 2	291	320	-	380	407	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	51	61	400	42	59	410	840	-	-	867	-	-
Mov Cap-2 Maneuver	51	61	-	42	59	-	-	-	-	-	-	-
Stage 1	289	409	-	213	233	-	-	-	-	-	-	-
Stage 2	214	236	-	328	405	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.2	0	1.5	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	840	-	-	257	-	867	-	-
HCM Lane V/C Ratio	0.153	-	-	0.233	-	-	-	-
HCM Control Delay (s)	10.1	0	-	23.2	0	0	-	-
HCM Lane LOS	B	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.9	-	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	414	3	15	577	80	4	3	8	36	6	21
Future Vol, veh/h	22	414	3	15	577	80	4	3	8	36	6	21
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	5	5	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	26	487	4	17	641	89	6	4	11	44	7	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	730	0	0	492	0	0	1278	1306	495	1274	1264	686
Stage 1	-	-	-	-	-	-	542	542	-	720	720	-
Stage 2	-	-	-	-	-	-	736	764	-	554	544	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	874	-	-	1071	-	-	144	161	579	145	170	449
Stage 1	-	-	-	-	-	-	528	523	-	421	434	-
Stage 2	-	-	-	-	-	-	414	416	-	519	521	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	874	-	-	1070	-	-	126	154	576	134	162	449
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	154	-	134	162	-
Stage 1	-	-	-	-	-	-	512	507	-	408	427	-
Stage 2	-	-	-	-	-	-	378	409	-	487	505	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	22.3	39.4
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	230	874	-	-	1070	-	-	179
HCM Lane V/C Ratio	0.093	0.03	-	-	0.016	-	-	0.429
HCM Control Delay (s)	22.3	9.2	-	-	8.4	-	-	39.4
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	312	114	108	503	140	123	656	106	74	621	46
Future Volume (veh/h)	32	312	114	108	503	140	123	656	106	74	621	46
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	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	347	127	114	529	147	129	691	112	79	661	49
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	198	509	186	236	735	622	236	812	132	175	889	66
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	769	1385	507	934	2000	1693	745	1665	270	683	1824	135
Grp Volume(v), veh/h	36	0	474	114	529	147	129	0	803	79	0	710
Grp Sat Flow(s),veh/h/ln	769	0	1892	934	2000	1693	745	0	1935	683	0	1960
Q Serve(g_s), s	3.4	0.0	16.9	9.4	18.2	4.8	13.5	0.0	29.1	9.2	0.0	23.3
Cycle Q Clear(g_c), s	21.6	0.0	16.9	26.3	18.2	4.8	36.8	0.0	29.1	38.3	0.0	23.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.14	1.00		0.07
Lane Grp Cap(c), veh/h	198	0	695	236	735	622	236	0	943	175	0	955
V/C Ratio(X)	0.18	0.00	0.68	0.48	0.72	0.24	0.55	0.00	0.85	0.45	0.00	0.74
Avail Cap(c_a), veh/h	198	0	695	236	735	622	236	0	943	175	0	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.0	0.0	21.4	32.4	21.8	17.5	31.2	0.0	18.0	34.7	0.0	16.5
Incr Delay (d2), s/veh	2.0	0.0	5.3	6.9	6.0	0.9	8.8	0.0	9.6	8.2	0.0	5.2
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	0.7	0.0	7.9	2.5	9.1	1.9	2.9	0.0	13.9	1.9	0.0	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	0.0	26.7	39.4	27.8	18.4	40.0	0.0	27.5	43.0	0.0	21.7
LnGrp LOS	C	A	C	D	C	B	D	A	C	D	A	C
Approach Vol, veh/h		510			790			932			789	
Approach Delay, s/veh		27.1			27.7			29.3			23.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		35.0		45.0		35.0				
Change Period (Y+Rc), s		6.0		5.6		6.0		5.6				
Max Green Setting (Gmax), s		39.0		29.4		39.0		29.4				
Max Q Clear Time (g_c+I1), s		38.8		23.6		40.3		28.3				
Green Ext Time (p_c), s		0.2		1.6		0.0		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	291	437	33	9	58
Future Vol, veh/h	85	291	437	33	9	58
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	93	93	88	88
Heavy Vehicles, %	2	2	1	1	0	0
Mvmt Flow	93	320	470	35	10	66

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	505	0	-	0	994	489
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	506	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1060	-	-	-	274	583
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	610	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1060	-	-	-	245	582
Mov Cap-2 Maneuver	-	-	-	-	245	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	610	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1060	-	-	-	491
HCM Lane V/C Ratio	0.088	-	-	-	0.155
HCM Control Delay (s)	8.7	0	-	-	13.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	62	264	0	386	0	0	0	0	0	455	111
Future Volume (Veh/h)	0	62	264	0	386	0	0	0	0	0	455	111
Sign Control		Stop			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	67	287	0	406	0	0	0	0	0	479	117
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	740	538	298	560	596	0	596			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	740	538	298	560	596	0	596			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	85	59	100	3	100	100			100		
cM capacity (veh/h)	33	449	698	215	417	1088	976			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	67	287	406	319	277
Volume Left	0	0	0	0	0
Volume Right	0	287	0	0	117
cSH	449	698	417	1700	1700
Volume to Capacity	0.15	0.41	0.97	0.19	0.16
Queue Length 95th (ft)	13	50	291	0	0
Control Delay (s)	14.4	13.7	69.2	0.0	0.0
Lane LOS	B	B	F		
Approach Delay (s)	13.8		69.2	0.0	
Approach LOS	B		F		

Intersection Summary				
Average Delay	24.3			
Intersection Capacity Utilization	67.6%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	62	0	386	664	0	0
Future Volume (Veh/h)	62	0	386	664	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	68	0	406	699	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				511		
pX, platoon unblocked	0.85					
vC, conflicting volume	1162	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	829	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	66	100	75			
cM capacity (veh/h)	199	1091	1629			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	68	639	466
Volume Left	68	406	0
Volume Right	0	0	0
cSH	199	1629	1700
Volume to Capacity	0.34	0.25	0.27
Queue Length 95th (ft)	36	25	0
Control Delay (s)	32.2	5.9	0.0
Lane LOS	D	A	
Approach Delay (s)	32.2	3.4	
Approach LOS	D		

Intersection Summary			
Average Delay		5.1	
Intersection Capacity Utilization		68.9%	ICU Level of Service C
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	304	557	493	317	352	367
Future Volume (veh/h)	304	557	493	317	352	367
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	1984	1984	1984	1984	1969	1969
Adj Flow Rate, veh/h	323	593	524	337	383	399
Peak Hour Factor	0.94	0.94	0.94	0.94	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	2	2
Cap, veh/h	676	938	451	290	465	1814
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1890	1682	2301	1414	1875	3839
Grp Volume(v), veh/h	323	593	449	412	383	399
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1730	1875	1870
Q Serve(g_s), s	10.6	3.3	16.4	16.4	11.6	4.9
Cycle Q Clear(g_c), s	10.6	3.3	16.4	16.4	11.6	4.9
Prop In Lane	1.00	1.00		0.82	1.00	
Lane Grp Cap(c), veh/h	676	938	386	355	465	1814
V/C Ratio(X)	0.48	0.63	1.16	1.16	0.82	0.22
Avail Cap(c_a), veh/h	676	938	386	355	465	1814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	12.1	31.8	31.8	28.9	11.9
Incr Delay (d2), s/veh	2.4	3.2	97.4	99.9	15.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	7.0	17.4	16.2	8.0	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.3	15.3	129.2	131.7	44.1	12.2
LnGrp LOS	C	B	F	F	D	B
Approach Vol, veh/h	916		861			782
Approach Delay, s/veh	17.8		130.4			27.8
Approach LOS	B		F			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	22.4	22.8			45.2	34.8
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	16.0	16.4			38.8	28.6
Max Q Clear Time (g_c+I1), s	13.6	18.4			6.9	12.6
Green Ext Time (p_c), s	0.3	0.0			2.7	3.1

Intersection Summary	
HCM 6th Ctrl Delay	58.7
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
2: Center Street & Randolph Street/Private Drive

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	13	225	15	15	28	53	560	9	18	453	42
Future Volume (veh/h)	45	13	225	15	15	28	53	560	9	18	453	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	54	15	268	16	16	31	61	644	10	25	621	58
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.87	0.87	0.87	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	1	1	1
Cap, veh/h	112	37	306	137	141	196	406	1158	18	581	1153	98
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	1.00	1.00	1.00	0.59	0.59	0.59
Sat Flow, veh/h	182	158	1321	266	607	845	772	1964	30	781	1785	167
Grp Volume(v), veh/h	337	0	0	63	0	0	61	0	654	25	0	679
Grp Sat Flow(s),veh/h/ln	1661	0	0	1718	0	0	772	0	1994	781	0	1952
Q Serve(g_s), s	7.5	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.8	0.0	13.1
Cycle Q Clear(g_c), s	11.7	0.0	0.0	1.6	0.0	0.0	15.2	0.0	0.0	0.8	0.0	13.1
Prop In Lane	0.16		0.80	0.25		0.49	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	455	0	0	474	0	0	406	0	1176	581	0	1151
V/C Ratio(X)	0.74	0.00	0.00	0.13	0.00	0.00	0.15	0.00	0.56	0.04	0.00	0.59
Avail Cap(c_a), veh/h	479	0	0	496	0	0	406	0	1176	581	0	1151
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.83	0.00	0.83	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	18.3	0.0	0.0	2.8	0.0	0.0	5.2	0.0	7.7
Incr Delay (d2), s/veh	5.8	0.0	0.0	0.1	0.0	0.0	0.6	0.0	1.6	0.1	0.0	2.2
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	5.0	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.5	0.1	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	0.0	0.0	18.5	0.0	0.0	3.5	0.0	1.6	5.4	0.0	10.0
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		337			63			715			704	
Approach Delay, s/veh		27.9			18.5			1.7			9.8	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2			4			6			8	
Phs Duration (G+Y+Rc), s		40.9			19.1			40.9			19.1	
Change Period (Y+Rc), s		5.5			* 5.2			5.5			* 5.2	
Max Green Setting (Gmax), s		34.5			* 15			34.5			* 15	
Max Q Clear Time (g_c+I1), s		17.2			13.7			15.1			3.6	
Green Ext Time (p_c), s		4.9			0.3			5.2			0.2	
Intersection Summary												
HCM 6th Ctrl Delay			10.3									
HCM 6th LOS			B									

Notes

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

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	151	11	10	253	289	9	26	15	239	11	14
Future Volume (veh/h)	7	151	11	10	253	289	9	26	15	239	11	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97	0.99		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	8	178	13	11	291	332	12	33	19	263	12	15
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	70	664	504	70	670	504	183	489	253	747	32	711
Arrive On Green	0.11	0.11	0.11	0.34	0.34	0.34	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	23	1943	1474	23	1961	1474	234	1022	530	1317	66	1487
Grp Volume(v), veh/h	186	0	13	302	0	332	64	0	0	275	0	15
Grp Sat Flow(s),veh/h/ln	1966	0	1474	1984	0	1474	1785	0	0	1383	0	1487
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	11.5	0.0	0.0	0.0	6.3	0.0	0.3
Cycle Q Clear(g_c), s	5.1	0.0	0.5	7.0	0.0	11.5	1.1	0.0	0.0	7.4	0.0	0.3
Prop In Lane	0.04		1.00	0.04		1.00	0.19		0.30	0.96		1.00
Lane Grp Cap(c), veh/h	734	0	504	740	0	504	925	0	0	779	0	711
V/C Ratio(X)	0.25	0.00	0.03	0.41	0.00	0.66	0.07	0.00	0.00	0.35	0.00	0.02
Avail Cap(c_a), veh/h	734	0	504	740	0	504	925	0	0	779	0	711
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	17.7	15.3	0.0	16.8	8.5	0.0	0.0	10.0	0.0	8.2
Incr Delay (d2), s/veh	0.8	0.0	0.1	1.7	0.0	6.6	0.1	0.0	0.0	1.3	0.0	0.1
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	2.5	0.0	0.2	3.3	0.0	4.5	0.4	0.0	0.0	2.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	0.0	17.8	17.0	0.0	23.4	8.6	0.0	0.0	11.2	0.0	8.3
LnGrp LOS	C	A	B	B	A	C	A	A	A	B	A	A
Approach Vol, veh/h		199			634			64			290	
Approach Delay, s/veh		20.4			20.3			8.6			11.1	
Approach LOS		C			C			A			B	
Timer - Assigned Phs		2			4			6			8	
Phs Duration (G+Y+Rc), s		26.0			34.0			26.0			34.0	
Change Period (Y+Rc), s		5.5			* 5.3			5.5			* 5.3	
Max Green Setting (Gmax), s		20.5			* 29			20.5			* 29	
Max Q Clear Time (g_c+I1), s		7.1			9.4			13.5			3.1	
Green Ext Time (p_c), s		0.9			1.7			1.9			0.3	
Intersection Summary												
HCM 6th Ctrl Delay			17.5									
HCM 6th LOS			B									

Notes

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

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	248	18	2	355	277	33	204	11	186	120	194
Future Volume (veh/h)	99	248	18	2	355	277	33	204	11	186	120	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99			0.99	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	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	116	292	21	2	374	292	36	222	12	198	128	206
Peak Hour Factor	0.85	0.85	0.85	0.95	0.95	0.95	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	230	684	53	61	707	540	133	747	38	315	198	274
Arrive On Green	0.12	0.12	0.12	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	366	1917	148	2	1981	1515	142	1649	83	521	436	605
Grp Volume(v), veh/h	176	0	253	376	0	292	270	0	0	532	0	0
Grp Sat Flow(s),veh/h/ln	654	0	1777	1983	0	1515	1875	0	0	1562	0	0
Q Serve(g_s), s	8.5	0.0	7.9	0.0	0.0	9.2	0.0	0.0	0.0	10.9	0.0	0.0
Cycle Q Clear(g_c), s	17.7	0.0	7.9	9.0	0.0	9.2	5.2	0.0	0.0	16.1	0.0	0.0
Prop In Lane	0.66		0.08	0.01		1.00	0.13		0.04	0.37		0.39
Lane Grp Cap(c), veh/h	333	0	634	768	0	540	918	0	0	790	0	0
V/C Ratio(X)	0.53	0.00	0.40	0.49	0.00	0.54	0.29	0.00	0.00	0.67	0.00	0.00
Avail Cap(c_a), veh/h	333	0	634	768	0	540	918	0	0	790	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.8	0.0	20.5	15.3	0.0	15.4	10.4	0.0	0.0	13.0	0.0	0.0
Incr Delay (d2), s/veh	5.9	0.0	1.9	2.2	0.0	3.8	0.8	0.0	0.0	4.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	3.8	4.2	0.0	3.5	2.1	0.0	0.0	5.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	0.0	22.4	17.5	0.0	19.2	11.2	0.0	0.0	17.5	0.0	0.0
LnGrp LOS	C	A	C	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		429			668			270			532	
Approach Delay, s/veh		26.7			18.3			11.2			17.5	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2			4			6			8	
Phs Duration (G+Y+Rc), s		27.0			33.0			27.0			33.0	
Change Period (Y+Rc), s		5.6			* 5.8			5.6			* 5.8	
Max Green Setting (Gmax), s		21.4			* 27			21.4			* 27	
Max Q Clear Time (g_c+I1), s		19.7			18.1			11.2			7.2	
Green Ext Time (p_c), s		0.5			2.5			3.2			1.5	
Intersection Summary												
HCM 6th Ctrl Delay			19.0									
HCM 6th LOS			B									

Notes

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

HCM 6th Signalized Intersection Summary
12: Center Street & Cady Street

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	16	29	57	11	19	25	515	122	9	614	37
Future Volume (veh/h)	11	16	29	57	11	19	25	515	122	9	614	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.92	0.94		0.92	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1938	1938	1938	2000	2000	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	14	21	37	73	14	24	26	542	128	9	646	39
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	0	0	0	1	1	1	0	0	0
Cap, veh/h	95	97	127	230	51	50	83	1001	230	65	1238	74
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.67	0.67	0.67	1.00	1.00	1.00
Sat Flow, veh/h	154	636	835	857	332	328	30	1495	344	7	1850	111
Grp Volume(v), veh/h	72	0	0	111	0	0	696	0	0	694	0	0
Grp Sat Flow(s),veh/h/ln	1626	0	0	1517	0	0	1870	0	0	1968	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	3.6	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.19		0.51	0.66		0.22	0.04		0.18	0.01		0.06
Lane Grp Cap(c), veh/h	319	0	0	330	0	0	1314	0	0	1378	0	0
V/C Ratio(X)	0.23	0.00	0.00	0.34	0.00	0.00	0.53	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	466	0	0	463	0	0	1314	0	0	1378	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.5	0.0	0.0	23.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.0	1.5	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.4	0.0	0.0	3.7	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	0.0	23.6	0.0	0.0	6.7	0.0	0.0	1.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		72			111			696			694	
Approach Delay, s/veh		22.9			23.6			6.7			1.3	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2			4			6			8	
Phs Duration (G+Y+Rc), s		45.7			14.3			45.7			14.3	
Change Period (Y+Rc), s		5.5			* 5.2			5.5			* 5.2	
Max Green Setting (Gmax), s		34.5			* 15			34.5			* 15	
Max Q Clear Time (g_c+I1), s		13.3			4.3			2.0			5.6	
Green Ext Time (p_c), s		5.6			0.2			6.0			0.3	
Intersection Summary												
HCM 6th Ctrl Delay			6.2									
HCM 6th LOS			A									

Notes

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

HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	312	114	108	503	140	123	656	106	74	621	46
Future Volume (veh/h)	32	312	114	108	503	140	123	656	106	74	621	46
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	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	347	127	114	529	147	129	691	112	79	661	49
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	198	539	186	236	735	622	236	967	817	236	889	66
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	769	1385	507	934	2000	1693	745	1984	1677	683	1824	135
Grp Volume(v), veh/h	36	0	474	114	529	147	129	691	112	79	0	710
Grp Sat Flow(s),veh/h/ln	769	0	1892	934	2000	1693	745	1984	1677	683	0	1960
Q Serve(g_s), s	3.4	0.0	16.9	9.4	18.2	4.8	13.5	21.9	2.9	8.2	0.0	23.3
Cycle Q Clear(g_c), s	21.6	0.0	16.9	26.3	18.2	4.8	36.8	21.9	2.9	30.1	0.0	23.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	198	0	695	236	735	622	236	967	817	236	0	955
V/C Ratio(X)	0.18	0.00	0.68	0.48	0.72	0.24	0.55	0.71	0.14	0.33	0.00	0.74
Avail Cap(c_a), veh/h	198	0	695	236	735	622	236	967	817	236	0	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	31.0	0.0	21.4	32.4	21.8	17.5	31.2	16.1	11.3	28.0	0.0	16.5
Incr Delay (d2), s/veh	2.0	0.0	5.3	6.9	6.0	0.9	8.8	4.5	0.3	3.8	0.0	5.2
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	0.7	0.0	7.9	2.5	9.1	1.9	2.9	10.0	1.1	1.5	0.0	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	0.0	26.7	39.4	27.8	18.4	40.0	20.6	11.6	31.8	0.0	21.7
LnGrp LOS	C	A	C	D	C	B	D	C	B	C	A	C
Approach Vol, veh/h		510			790			932			789	
Approach Delay, s/veh		27.1			27.7			22.2			22.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs		2			4			6			8	
Phs Duration (G+Y+Rc), s		45.0			35.0			45.0			35.0	
Change Period (Y+Rc), s		6.0			5.6			6.0			5.6	
Max Green Setting (Gmax), s		39.0			29.4			39.0			29.4	
Max Q Clear Time (g_c+I1), s		38.8			23.6			32.1			28.3	
Green Ext Time (p_c), s		0.1			1.6			3.0			0.5	
Intersection Summary												
HCM 6th Ctrl Delay			24.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
26: SB Northville Road & N. Seven Mile Road

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	62	264	386	664	455	111
Future Volume (veh/h)	62	264	386	664	455	111
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	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	67	287	406	699	479	117
Peak Hour Factor	0.92	0.92	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	1	1	1	1
Cap, veh/h	206	738	876	2762	963	234
Arrive On Green	0.11	0.11	0.67	1.00	0.32	0.32
Sat Flow, veh/h	1875	1668	1890	3870	3107	730
Grp Volume(v), veh/h	67	287	406	699	299	297
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1853
Q Serve(g_s), s	2.6	8.8	4.9	0.0	10.3	10.4
Cycle Q Clear(g_c), s	2.6	8.8	4.9	0.0	10.3	10.4
Prop In Lane	1.00	1.00	1.00			0.39
Lane Grp Cap(c), veh/h	206	738	876	2762	603	593
V/C Ratio(X)	0.32	0.39	0.46	0.25	0.50	0.50
Avail Cap(c_a), veh/h	206	738	876	2762	603	593
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	15.0	3.1	0.0	22.0	22.0
Incr Delay (d2), s/veh	4.1	1.5	1.8	0.2	2.9	3.0

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	304	557	493	317	352	367	
Future Volume (veh/h)	304	557	493	317	352	367	
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	1984	1984	1984	1984	1969	1969	
Adj Flow Rate, veh/h	323	593	524	337	383	399	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.92	0.92	
Percent Heavy Veh, %	1	1	1	1	2	2	
Cap, veh/h	491	807	622	399	524	2179	
Arrive On Green	0.26	0.26	0.28	0.28	0.29	0.77	
Sat Flow, veh/h	1890	1682	2301	1414	1875	3839	
Grp Volume(v), veh/h	323	593	449	412	383	399	
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1730	1875	1870	
Q Serve(g_s), s	12.2	5.1	17.9	18.0	9.4	2.2	
Cycle Q Clear(g_c), s	12.2	5.1	17.9	18.0	9.4	2.2	
Prop In Lane	1.00	1.00		0.82	1.00		
Lane Grp Cap(c), veh/h	491	807	533	489	524	2179	
V/C Ratio(X)	0.66	0.73	0.84	0.84	0.73	0.18	
Avail Cap(c_a), veh/h	491	807	533	489	524	2179	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	26.4	16.7	27.0	27.0	24.0	4.0	
Incr Delay (d2), s/veh	6.7	5.9	14.9	16.2	8.7	0.2	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	6.1	9.0	9.6	9.0	6.3	0.8	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	33.2	22.6	41.9	43.2	32.7	4.2	
LnGrp LOS	C	C	D	D	C	A	
Approach Vol, veh/h	916		861			782	
Approach Delay, s/veh	26.3		42.6			18.1	
Approach LOS	C		D			B	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	24.0	29.0				53.0	27.0
Change Period (Y+Rc), s	6.4	6.4				6.4	6.2
Max Green Setting (Gmax), s	17.6	22.6				46.6	20.8
Max Q Clear Time (g_c+I1), s	11.4	20.0				4.2	14.2
Green Ext Time (p_c), s	0.7	1.3				2.8	2.0

Intersection Summary		
HCM 6th Ctrl Delay	29.3	
HCM 6th LOS	C	

Appendix C

BACKGROUND TRAFFIC CONDITIONS

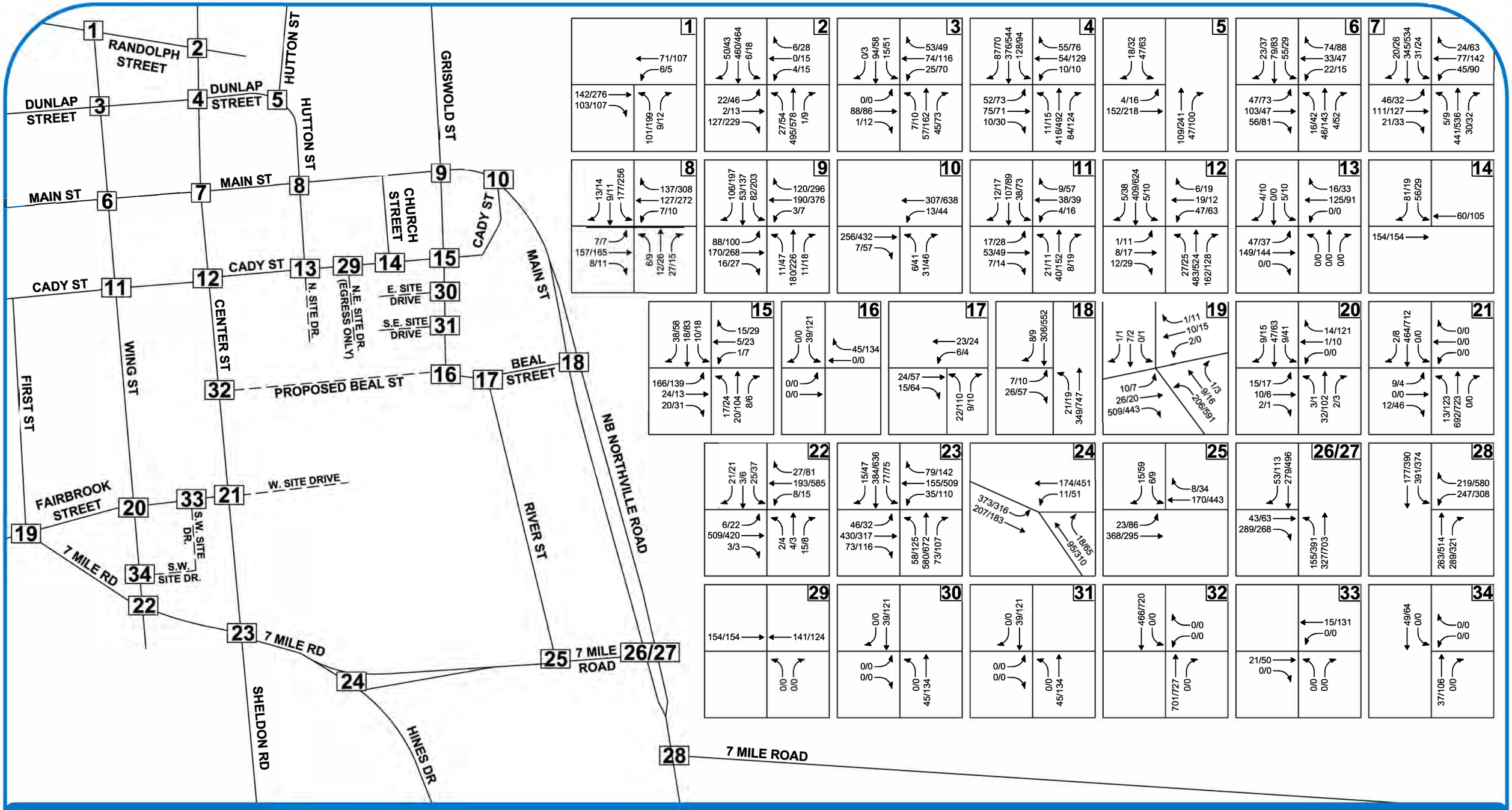


FIGURE 4
BACKGROUND TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

NORTH

SCALE: NOT TO SCALE

F&V

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	142	103	6	71	101	9
Future Vol, veh/h	142	103	6	71	101	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	60	60	77	77
Heavy Vehicles, %	3	3	2	2	4	4
Mvmt Flow	149	108	10	118	131	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	257	0	341	203
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	-	-	4.12	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.218	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1308	-	651	833
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1308	-	646	833
Mov Cap-2 Maneuver	-	-	-	-	646	-
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	877	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	658	-	-	1308	-
HCM Lane V/C Ratio	0.217	-	-	0.008	-
HCM Control Delay (s)	12	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	2	127	4	0	6	27	495	1	6	460	50
Future Vol, veh/h	22	2	127	4	0	6	27	495	1	6	460	50
Conflicting Peds, #/hr	0	0	0	0	0	0	5	0	4	4	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	75	75	75	91	91	91	69	69	69
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	2	2	2
Mvmt Flow	33	3	192	5	0	8	30	544	1	9	667	72

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1335	1335	708	1428	1371	549	744	0	0	549	0	0
Stage 1	726	726	-	609	609	-	-	-	-	-	-	-
Stage 2	609	609	-	819	762	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	131	154	436	114	147	539	864	-	-	1021	-	-
Stage 1	417	431	-	486	488	-	-	-	-	-	-	-
Stage 2	484	487	-	372	416	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	124	146	434	60	139	537	860	-	-	1017	-	-
Mov Cap-2 Maneuver	124	146	-	60	139	-	-	-	-	-	-	-
Stage 1	401	425	-	467	469	-	-	-	-	-	-	-
Stage 2	460	468	-	204	410	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	42.6	36.4	0.5	0.1
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	860	-	-	312	128	1017	-	-
HCM Lane V/C Ratio	0.035	-	-	0.733	0.104	0.009	-	-
HCM Control Delay (s)	9.3	-	-	42.6	36.4	8.6	-	-
HCM Lane LOS	A	-	-	E	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	5.4	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	88	1	25	74	53	7	57	45	15	94	0
Future Vol, veh/h	0	88	1	25	74	53	7	57	45	15	94	0
Peak Hour Factor	0.78	0.78	0.78	0.73	0.73	0.73	0.84	0.84	0.84	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	4	4	4
Mvmt Flow	0	113	1	34	101	73	8	68	54	17	107	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	9.1	8.6	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	0%	16%	14%
Vol Thru, %	52%	99%	49%	86%
Vol Right, %	41%	1%	35%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	109	89	152	109
LT Vol	7	0	25	15
Through Vol	57	88	74	94
RT Vol	45	1	53	0
Lane Flow Rate	130	114	208	124
Geometry Grp	1	1	1	1
Degree of Util (X)	0.166	0.15	0.259	0.169
Departure Headway (Hd)	4.619	4.744	4.471	4.898
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	773	753	802	730
Service Time	2.666	2.791	2.51	2.945
HCM Lane V/C Ratio	0.168	0.151	0.259	0.17
HCM Control Delay	8.6	8.6	9.1	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.5	1	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	75	10	10	54	55	11	416	84	128	376	87
Future Volume (veh/h)	52	75	10	10	54	55	11	416	84	128	376	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	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	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	59	85	11	12	64	65	12	452	91	164	482	112
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	424	55	390	221	225	482	978	197	650	950	221
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1255	1706	221	1292	892	906	823	1590	320	862	1544	359
Grp Volume(v), veh/h	59	0	96	12	0	129	12	0	543	164	0	594
Grp Sat Flow(s),veh/h/ln	1255	0	1927	1292	0	1797	823	0	1910	862	0	1903
Q Serve(g_s), s	2.4	0.0	2.4	0.4	0.0	3.5	0.3	0.0	0.0	5.4	0.0	10.5
Cycle Q Clear(g_c), s	5.9	0.0	2.4	2.8	0.0	3.5	10.7	0.0	0.0	5.4	0.0	10.5
Prop In Lane	1.00		0.11	1.00		0.50	1.00		0.17	1.00		0.19
Lane Grp Cap(c), veh/h	359	0	479	390	0	446	482	0	1175	650	0	1170
V/C Ratio(X)	0.16	0.00	0.20	0.03	0.00	0.29	0.02	0.00	0.46	0.25	0.00	0.51
Avail Cap(c_a), veh/h	359	0	479	390	0	446	482	0	1175	650	0	1170
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	17.8	19.0	0.0	18.3	1.5	0.0	0.0	5.5	0.0	6.5
Incr Delay (d2), s/veh	1.0	0.0	0.9	0.1	0.0	1.6	0.1	0.0	1.3	0.9	0.0	1.6
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	0.8	0.0	1.1	0.1	0.0	1.6	0.0	0.0	0.4	0.9	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	18.8	19.1	0.0	19.9	1.6	0.0	1.3	6.4	0.0	8.0
LnGrp LOS	C	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		155			141			555			758	
Approach Delay, s/veh		19.9			19.8			1.3			7.7	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2			4		6			8		
Phs Duration (G+Y+Rc), s		41.0			19.0		41.0			19.0		
Change Period (Y+Rc), s		* 4.1			* 4.1		* 4.1			* 4.1		
Max Green Setting (Gmax), s		* 37			* 15		* 37			* 15		
Max Q Clear Time (g_c+I1), s		12.7			7.9		12.5			5.5		
Green Ext Time (p_c), s		4.1			0.3		5.7			0.4		

Intersection Summary	
HCM 6th Ctrl Delay	7.7
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	152	109	47	47	18
Future Vol, veh/h	4	152	109	47	47	18
Conflicting Peds, #/hr	0	0	0	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	84	84	74	74
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	4	163	130	56	64	24

Major/Minor	Major1			Major2		
Conflicting Flow All	186	0	-	0	334	163
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	176	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1382	-	-	-	665	887
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1382	-	-	-	663	883
Mov Cap-2 Maneuver	-	-	-	-	663	-
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1382	-	-	-	712
HCM Lane V/C Ratio	0.003	-	-	-	0.123
HCM Control Delay (s)	7.6	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	103	56	22	33	74	16	46	4	55	79	23
Future Vol, veh/h	47	103	56	22	33	74	16	46	4	55	79	23
Peak Hour Factor	0.81	0.81	0.81	0.76	0.76	0.76	0.93	0.93	0.93	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	5	5	5	2	2	2
Mvmt Flow	58	127	69	29	43	97	17	49	4	71	101	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	9	9	10
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	23%	17%	35%
Vol Thru, %	70%	50%	26%	50%
Vol Right, %	6%	27%	57%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	66	206	129	157
LT Vol	16	47	22	55
Through Vol	46	103	33	79
RT Vol	4	56	74	23
Lane Flow Rate	71	254	170	201
Geometry Grp	1	1	1	1
Degree of Util (X)	0.104	0.333	0.218	0.279
Departure Headway (Hd)	5.26	4.71	4.627	4.992
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	674	758	769	715
Service Time	3.347	2.77	2.694	3.065
HCM Lane V/C Ratio	0.105	0.335	0.221	0.281
HCM Control Delay	9	10.1	9	10
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.3	1.5	0.8	1.1

HCM 6th Signalized Intersection Summary
7: Center Street & Main Street

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	111	21	45	77	24	5	441	30	31	345	20
Future Volume (veh/h)	46	111	21	45	77	24	5	441	30	31	345	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	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	1984	1984	1984	1969	1969	1953	1953	1953	1953	1953	1953	1953
Adj Flow Rate, veh/h	53	128	24	51	88	27	6	531	36	34	383	22
Peak Hour Factor	0.87	0.87	0.87	0.88	0.88	0.88	0.83	0.83	0.83	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	3	3	3
Cap, veh/h	154	336	55	176	281	73	63	1005	68	104	939	52
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.56	0.56	1.00	1.00	1.00	1.00
Sat Flow, veh/h	297	1274	208	369	1067	279	5	1800	121	70	1682	92
Grp Volume(v), veh/h	205	0	0	166	0	0	573	0	0	439	0	0
Grp Sat Flow(s),veh/h/ln	1780	0	0	1715	0	0	1926	0	0	1844	0	0
Q Serve(g_s), s	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.2	0.0	0.0	4.2	0.0	0.0	11.2	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26		0.12	0.31		0.16	0.01		0.06	0.08		0.05
Lane Grp Cap(c), veh/h	544	0	0	530	0	0	1136	0	0	1094	0	0
V/C Ratio(X)	0.38	0.00	0.00	0.31	0.00	0.00	0.50	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	544	0	0	530	0	0	1136	0	0	1094	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	0.0	17.8	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	1.5	0.0	0.0	1.6	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	2.0	0.0	0.0	4.3	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	0.0	19.4	0.0	0.0	9.9	0.0	0.0	1.1	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		205			166			573			439	
Approach Delay, s/veh		20.2			19.4			9.9			1.1	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2			4		6		8			
Phs Duration (G+Y+Rc), s		39.0			21.0		39.0		21.0			
Change Period (Y+Rc), s		5.5			* 5.2		5.5		* 5.2			
Max Green Setting (Gmax), s		33.5			* 16		33.5		* 16			
Max Q Clear Time (g_c+I1), s		13.2			7.2		2.0		6.2			
Green Ext Time (p_c), s		4.1			0.7		3.4		0.6			
Intersection Summary												
HCM 6th Ctrl Delay			9.8									
HCM 6th LOS			A									

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

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	157	8	7	127	137	6	12	27	177	9	13
Future Volume (veh/h)	7	157	8	7	127	137	6	12	27	177	9	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	1969	1969	1969	2000	2000	2000	1969	1969	1969
Adj Flow Rate, veh/h	8	185	9	8	144	156	9	17	39	208	11	15
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	2	2	2	0	0	0	2	2	2
Cap, veh/h	76	1083	833	83	1056	820	97	158	281	475	19	397
Arrive On Green	1.00	1.00	1.00	0.18	0.18	0.18	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	24	1956	1506	36	1909	1483	108	594	1053	1342	71	1490
Grp Volume(v), veh/h	193	0	9	152	0	156	65	0	0	219	0	15
Grp Sat Flow(s),veh/h/ln	1980	0	1506	1945	0	1483	1755	0	0	1413	0	1490
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	6.1	0.0	0.4
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.9	0.0	5.3	1.7	0.0	0.0	7.7	0.0	0.4
Prop In Lane	0.04		1.00	0.05		1.00	0.14		0.60	0.95		1.00
Lane Grp Cap(c), veh/h	1158	0	833	1139	0	820	536	0	0	494	0	397
V/C Ratio(X)	0.17	0.00	0.01	0.13	0.00	0.19	0.12	0.00	0.00	0.44	0.00	0.04
Avail Cap(c_a), veh/h	1158	0	833	1139	0	820	536	0	0	494	0	397
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.5	0.0	13.1	16.7	0.0	0.0	18.8	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.5	0.5	0.0	0.0	2.9	0.0	0.2
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	0.1	0.0	0.0	1.6	0.0	1.8	0.7	0.0	0.0	2.8	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.0	12.8	0.0	13.7	17.2	0.0	0.0	21.6	0.0	16.5
LnGrp LOS	A	A	A	B	A	B	B	A	A	C	A	B
Approach Vol, veh/h		202			308			65			234	
Approach Delay, s/veh		0.3			13.2			17.2			21.3	
Approach LOS		A			B			B			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.7		21.3		38.7		21.3				
Change Period (Y+Rc), s		5.5		* 5.3		5.5		* 5.3				
Max Green Setting (Gmax), s		33.2		* 16		33.2		* 16				
Max Q Clear Time (g_c+I1), s		2.0		9.7		7.3		3.7				
Green Ext Time (p_c), s		1.2		0.7		1.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			12.7									
HCM 6th LOS			B									

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

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	170	16	3	190	120	11	180	11	82	53	106
Future Volume (veh/h)	88	170	16	3	190	120	11	180	11	82	53	106
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	1984	1984	1984	1938	1938	1984	1984	1984	1984	1984	1953	1953
Adj Flow Rate, veh/h	107	207	20	4	229	145	12	205	12	91	59	118
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.88	0.88	0.88	0.88	0.90	0.90
Percent Heavy Veh, %	1	1	1	4	4	4	1	1	1	3	3	3
Cap, veh/h	429	904	91	64	1002	599	76	626	35	226	159	240
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	706	1951	197	7	2162	1293	36	1804	102	420	459	692
Grp Volume(v), veh/h	155	0	179	206	0	172	229	0	0	268	0	0
Grp Sat Flow(s),veh/h/ln	1085	0	1770	1933	0	1529	1943	0	0	1571	0	0
Q Serve(g_s), s	3.7	0.0	3.6	0.0	0.0	4.1	0.0	0.0	0.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	7.8	0.0	3.6	3.8	0.0	4.1	5.2	0.0	0.0	7.1	0.0	0.0
Prop In Lane	0.69		0.11	0.02		0.85	0.05		0.05	0.34		0.44
Lane Grp Cap(c), veh/h	604	0	820	957	0	708	737	0	0	625	0	0
V/C Ratio(X)	0.26	0.00	0.22	0.22	0.00	0.24	0.31	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	604	0	820	957	0	708	737	0	0	625	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.0	0.0	9.6	9.7	0.0	9.7	14.5	0.0	0.0	15.0	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.6	0.5	0.0	0.8	1.1	0.0	0.0	2.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	1.4	1.6	0.0	1.4	2.2	0.0	0.0	2.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	0.0	10.2	10.2	0.0	10.5	15.6	0.0	0.0	17.2	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		334			378			229			268	
Approach Delay, s/veh		11.1			10.3			15.6			17.2	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21				
Max Q Clear Time (g_c+I1), s		9.8		9.1		6.1		7.2				
Green Ext Time (p_c), s		2.1		1.2		2.4		1.0				
Intersection Summary												
HCM 6th Ctrl Delay			13.1									
HCM 6th LOS			B									

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

HCM 6th TWSC
10: Cady Street & Main Street

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	256	7	13	307	6	31
Future Vol, veh/h	256	7	13	307	6	31
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	87	87	79	79
Heavy Vehicles, %	1	1	3	3	5	5
Mvmt Flow	291	8	15	353	8	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	300	0	503	151
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	207	-
Critical Hdwy	-	-	4.16	-	6.9	7
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.23	-	3.55	3.35
Pot Cap-1 Maneuver	-	-	1251	-	491	859
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1250	-	483	858
Mov Cap-2 Maneuver	-	-	-	-	483	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	787	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	762	-	-	1250	-
HCM Lane V/C Ratio	0.061	-	-	0.012	-
HCM Control Delay (s)	10	-	-	7.9	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 6th AWSC
11: Wing Street & Cady Street

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	53	7	4	38	9	21	40	8	38	107	12
Future Vol, veh/h	17	53	7	4	38	9	21	40	8	38	107	12
Peak Hour Factor	0.63	0.63	0.63	0.82	0.82	0.82	0.90	0.90	0.90	0.81	0.81	0.81
Heavy Vehicles, %	1	1	1	3	3	3	5	5	5	2	2	2
Mvmt Flow	27	84	11	5	46	11	23	44	9	47	132	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	8.1	8.2	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	22%	8%	24%
Vol Thru, %	58%	69%	75%	68%
Vol Right, %	12%	9%	18%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	77	51	157
LT Vol	21	17	4	38
Through Vol	40	53	38	107
RT Vol	8	7	9	12
Lane Flow Rate	77	122	62	194
Geometry Grp	1	1	1	1
Degree of Util (X)	0.099	0.156	0.08	0.24
Departure Headway (Hd)	4.63	4.608	4.636	4.461
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	774	779	772	806
Service Time	2.658	2.635	2.665	2.484
HCM Lane V/C Ratio	0.099	0.157	0.08	0.241
HCM Control Delay	8.2	8.5	8.1	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0.3	0.9

HCM 6th TWSC
12: Center Street & Cady Street

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	8	12	47	19	6	27	483	162	5	409	5
Future Vol, veh/h	1	8	12	47	19	6	27	483	162	5	409	5
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	82	82	82	90	90	90	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	2	13	20	57	23	7	30	537	180	6	460	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1180	1253	465	1180	1166	629	467	0	0	717	0	0
Stage 1	476	476	-	687	687	-	-	-	-	-	-	-
Stage 2	704	777	-	493	479	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	159	174	602	169	196	486	1089	-	-	884	-	-
Stage 1	574	560	-	440	450	-	-	-	-	-	-	-
Stage 2	431	410	-	562	558	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	144	164	601	147	185	485	1088	-	-	884	-	-
Mov Cap-2 Maneuver	144	164	-	147	185	-	-	-	-	-	-	-
Stage 1	546	554	-	419	429	-	-	-	-	-	-	-
Stage 2	382	391	-	525	552	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.9	48.7	0.3	0.1
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1088	-	-	277	166	884	-	-
HCM Lane V/C Ratio	0.028	-	-	0.126	0.529	0.006	-	-
HCM Control Delay (s)	8.4	0	-	19.9	48.7	9.1	0	-
HCM Lane LOS	A	A	-	C	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	2.6	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	149	0	0	125	16	0	0	0	5	0	4
Future Vol, veh/h	47	149	0	0	125	16	0	0	0	5	0	4
Conflicting Peds, #/hr	4	0	0	0	0	4	1	0	3	3	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	66	66	66	92	92	92	75	75	75
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	11	11	11
Mvmt Flow	56	177	0	0	189	24	0	0	0	7	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	217	0	0	177	0	0	494	506	180	497	494	206
Stage 1	-	-	-	-	-	-	289	289	-	205	205	-
Stage 2	-	-	-	-	-	-	205	217	-	292	289	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.21	6.61	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.599	4.099	3.399
Pot Cap-1 Maneuver	1359	-	-	1405	-	-	486	469	863	469	464	812
Stage 1	-	-	-	-	-	-	719	673	-	777	715	-
Stage 2	-	-	-	-	-	-	797	723	-	697	657	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1354	-	-	1405	-	-	466	446	861	449	441	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	466	446	-	449	441	-
Stage 1	-	-	-	-	-	-	686	642	-	738	712	-
Stage 2	-	-	-	-	-	-	791	720	-	663	627	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0	0	11.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1354	-	-	1405	-	-	559
HCM Lane V/C Ratio	-	0.041	-	-	-	-	-	0.021
HCM Control Delay (s)	0	7.8	0	-	0	-	-	11.6
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBT	SBR
Lane Configurations									
Traffic Vol, veh/h	0	154	60	0	56	81			
Future Vol, veh/h	0	154	60	0	56	81			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Free	Free	Free	Free	Stop	Stop			
RT Channelized	-	None	-	None	-	None			
Storage Length	-	-	-	-	0	-			
Veh in Median Storage, #	-	0	0	-	0	-			
Grade, %	-	0	0	-	0	-			
Peak Hour Factor	81	81	64	64	76	76			
Heavy Vehicles, %	1	1	1	1	0	0			
Mvmt Flow	0	190	94	0	74	107			

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	-	0	-	284	94	
Stage 1	-	-	-	-	-	-	94	-	
Stage 2	-	-	-	-	-	-	190	-	
Critical Hdwy	-	-	-	-	-	-	6.4	6.2	
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	-	
Follow-up Hdwy	-	-	-	-	-	-	3.5	3.3	
Pot Cap-1 Maneuver	0	-	-	-	0	-	710	968	
Stage 1	0	-	-	-	0	-	935	-	
Stage 2	0	-	-	-	0	-	847	-	
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	-	-	-	-	-	-	710	968	
Mov Cap-2 Maneuver	-	-	-	-	-	-	710	-	
Stage 1	-	-	-	-	-	-	935	-	
Stage 2	-	-	-	-	-	-	847	-	

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	843
HCM Lane V/C Ratio	-	-	0.214
HCM Control Delay (s)	-	-	10.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.8

Intersection	
Int Delay, s/veh	8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	166	24	20	1	5	15	17	20	8	10	18	38
Future Vol, veh/h	166	24	20	1	5	15	17	20	8	10	18	38
Conflicting Peds, #/hr	5	0	0	0	0	5	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	60	60	60	85	85	85	76	76	76
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	4	4	4
Mvmt Flow	182	26	22	2	8	25	20	24	9	13	24	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	168	151	52	168	172	34	77	0	0	33	0	0
Stage 1	76	76	-	69	69	-	-	-	-	-	-	-
Stage 2	92	75	-	99	103	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.1	-	-	4.14	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.2	-	-	2.236	-	-
Pot Cap-1 Maneuver	798	742	1019	800	725	1045	1535	-	-	1566	-	-
Stage 1	933	832	-	946	841	-	-	-	-	-	-	-
Stage 2	920	836	-	912	814	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	753	723	1016	748	707	1040	1531	-	-	1566	-	-
Mov Cap-2 Maneuver	753	723	-	748	707	-	-	-	-	-	-	-
Stage 1	918	822	-	934	830	-	-	-	-	-	-	-
Stage 2	873	825	-	856	804	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	9.1	2.8	1.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1531	-	-	768	920	1566	-	-
HCM Lane V/C Ratio	0.013	-	-	0.3	0.038	0.008	-	-
HCM Control Delay (s)	7.4	0	-	11.7	9.1	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.3	0.1	0	-	-

Intersection Sign configuration not allowed in HCM analysis.

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	15	6	23	22	9
Future Vol, veh/h	24	15	6	23	22	9
Conflicting Peds, #/hr	0	0	0	0	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	62	72	72	70	70
Heavy Vehicles, %	5	5	0	0	7	7
Mvmt Flow	39	24	8	32	31	13

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	0	0	63	0	100	52			
Stage 1	-	-	-	-	51	-			
Stage 2	-	-	-	-	49	-			
Critical Hdwy	-	-	4.1	-	6.47	6.27			
Critical Hdwy Stg 1	-	-	-	-	5.47	-			
Critical Hdwy Stg 2	-	-	-	-	5.47	-			
Follow-up Hdwy	-	-	2.2	-	3.563	3.363			
Pot Cap-1 Maneuver	-	-	1553	-	887	1002			
Stage 1	-	-	-	-	959	-			
Stage 2	-	-	-	-	961	-			
Platoon blocked, %	-	-		-					
Mov Cap-1 Maneuver	-	-	1553	-	882	1001			
Mov Cap-2 Maneuver	-	-	-	-	882	-			
Stage 1	-	-	-	-	959	-			
Stage 2	-	-	-	-	955	-			

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	914	-	-	1553	-
HCM Lane V/C Ratio	0.048	-	-	0.005	-
HCM Control Delay (s)	9.1	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	26	21	349	306	8
Future Vol, veh/h	7	26	21	349	306	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	88	88	91	91
Heavy Vehicles, %	4	4	3	3	2	2
Mvmt Flow	11	43	24	397	336	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	588	173	345	0	-	0
Stage 1	341	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.16	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.23	-	-	-
Pot Cap-1 Maneuver	435	834	1203	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	424	834	1203	-	-	-
Mov Cap-2 Maneuver	424	-	-	-	-	-
Stage 1	668	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1203	-	692	-	-
HCM Lane V/C Ratio	0.02	-	0.078	-	-
HCM Control Delay (s)	8.1	0.1	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

HCM Unsignalized Intersection Capacity Analysis — Background Conditions #1 (Pre-COVID)
19: Seven Mile Road & Fairbrook Street & First Street — AM Peak Hour

Intersection Sign configuration not allowed in HCM analysis.

HCM 6th AWSC — Background Conditions #1 (Pre-COVID)
20: Wing Street & Fairbrook Street — AM Peak Hour

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	10	2	0	1	14	3	32	2	9	47	9
Future Vol, veh/h	15	10	2	0	1	14	3	32	2	9	47	9
Peak Hour Factor	0.73	0.73	0.73	0.69	0.69	0.69	0.75	0.75	0.75	0.74	0.74	0.74
Heavy Vehicles, %	0	0	0	0	0	0	11	11	11	4	4	4
Mvmt Flow	21	14	3	0	1	20	4	43	3	12	64	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	6.8	7.5	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	56%	0%	14%
Vol Thru, %	86%	37%	7%	72%
Vol Right, %	5%	7%	93%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	27	15	65
LT Vol	3	15	0	9
Through Vol	32	10	1	47
RT Vol	2	2	14	9
Lane Flow Rate	49	37	22	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.058	0.043	0.022	0.099
Departure Headway (Hd)	4.239	4.22	3.605	4.052
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	841	840	978	882
Service Time	2.283	2.291	1.681	2.089
HCM Lane V/C Ratio	0.058	0.044	0.022	0.1
HCM Control Delay	7.5	7.5	6.8	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.3

HCM 6th TWSC — Background Conditions #1 (Pre-COVID)
21: Center Street & Fairbrook Street/W. Site Drive — AM Peak Hour

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	12	0	0	0	13	692	0	0	464	2
Future Vol, veh/h	9	0	12	0	0	0	13	692	0	0	464	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	92	92	92	90	90	90	88	88	88
Heavy Vehicles, %	5	5	5	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	0	18	0	0	0	14	769	0	0	527	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1325	1325	528	1334	1326	769	529	0	0	769	0	0
Stage 1	528	528	-	797	797	-	-	-	-	-	-	-
Stage 2	797	797	-	537	529	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	131	154	544	131	156	401	1038	-	-	845	-	-
Stage 1	528	523	-	380	399	-	-	-	-	-	-	-
Stage 2	376	394	-	528	527	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	129	150	544	124	152	401	1038	-	-	845	-	-
Mov Cap-2 Maneuver	129	150	-	124	152	-	-	-	-	-	-	-
Stage 1	515	523	-	371	389	-	-	-	-	-	-	-
Stage 2	367	385	-	510	527	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.2	0	0.2	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1038	-	-	229	-	845	-	-
HCM Lane V/C Ratio	0.014	-	-	0.139	-	-	-	-
HCM Control Delay (s)	8.5	0	-	23.2	0	0	-	-
HCM Lane LOS	A	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	-	0	-	-

HCM 6th TWSC — Background Conditions #1 (Pre-COVID)
22: St. Lawrence Blvd/Wing Street & Seven Mile Road — AM Peak Hour

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	509	3	8	193	27	2	4	15	25	3	21
Future Vol, veh/h	6	509	3	8	193	27	2	4	15	25	3	21
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	89	89	89	79	79	79	85	85	85
Heavy Vehicles, %	2	2	2	3	3	3	10	10	10	4	4	4
Mvmt Flow	8	636	4	9	217	30	3	5	19	29	4	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	249	0	0	640	0	0	919	921	641	921	908	234
Stage 1	-	-	-	-	-	-	654	654	-	252	252	-
Stage 2	-	-	-	-	-	-	265	267	-	669	656	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.2	6.6	6.3	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.14	5.54	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.59	4.09	3.39	3.536	4.036	3.336
Pot Cap-1 Maneuver	1317	-	-	939	-	-	244	262	461	249	273	800
Stage 1	-	-	-	-	-	-	443	451	-	748	695	-
Stage 2	-	-	-	-	-	-	723	674	-	444	459	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1314	-	-	939	-	-	231	257	460	231	268	798
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	257	-	231	268	-
Stage 1	-	-	-	-	-	-	440	448	-	742	687	-
Stage 2	-	-	-	-	-	-	690	666	-	417	456	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	15.5	17.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	370	1314	-	-	939	-	-	336
HCM Lane V/C Ratio	0.072	0.006	-	-	0.01	-	-	0.172
HCM Control Delay (s)	15.5	7.8	-	-	8.9	-	-	17.9
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6

HCM 6th Signalized Intersection Summary — Background Conditions #1 (Pre-COVID)
23: Sheldon Avenue/Center Street & Seven Mile Road — AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	430	73	35	155	79	58	580	73	77	384	15
Future Volume (veh/h)	46	430	73	35	155	79	58	580	73	77	384	15
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	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	54	506	86	38	168	86	63	630	79	90	447	17
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh, %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	439	607	103	162	712	603	395	836	105	230	919	35
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1134	1653	281	812	1938	1640	928	1715	215	740	1884	72
Grp Volume(v), veh/h	54	0	592	38	168	86	63	0	709	90	0	464
Grp Sat Flow(s),veh/h/ln	1134	0	1933	812	1938	1640	928	0	1930	740	0	1956
Q Serve(g_s), s	2.8	0.0	22.3	3.6	4.8	2.8	3.9	0.0	23.8	9.0	0.0	12.8
Cycle Q Clear(g_c), s	7.6	0.0	22.3	25.9	4.8	2.8	16.7	0.0	23.8	32.8	0.0	12.8
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.11	1.00		0.04
Lane Grp Cap(c), veh/h	439	0	711	162	712	603	395	0	941	230	0	953
V/C Ratio(X)	0.12	0.00	0.83	0.23	0.24	0.14	0.16	0.00	0.75	0.39	0.00	0.49
Avail Cap(c_a), veh/h	439	0	711	162	712	603	395	0	941	230	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	23.1	34.9	17.5	16.9	19.4	0.0	16.6	29.9	0.0	13.8
Incr Delay (d2), s/veh	0.6	0.0	11.0	3.4	0.8	0.5	0.9	0.0	5.6	4.9	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	11.5	0.8	2.2	1.1	0.9	0.0	10.7	1.8	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	0.0	34.1	38.3	18.3	17.4	20.2	0.0	22.2	34.8	0.0	15.6
LnGrp LOS	C	A	C	D	B	B	C	A	C	C	A	B
Approach Vol, veh/h		646			292			772			554	
Approach Delay, s/veh		33.0			20.6			22.0			18.7	
Approach LOS		C			C			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		35.0		45.0		35.0				
Change Period (Y+Rc), s		6.0		5.6		6.0		5.6				
Max Green Setting (Gmax), s		39.0		29.4		39.0		29.4				
Max Q Clear Time (g_c+I1), s		25.8		24.3		34.8		27.9				
Green Ext Time (p_c), s		4.3		1.8		1.3		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

HCM Unsignalized Intersection Capacity Analysis — Background Conditions #1 (Pre-COVID)
24: Hines Drive & Seven Mile Road — AM Peak Hour

Intersection Sign configuration not allowed in HCM analysis.

HCM 6th TWSC
25: Seven Mile Road & River Street

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	368	170	8	6	15
Future Vol, veh/h	23	368	170	8	6	15
Conflicting Peds, #/hr	3	0	0	3	2	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	83	83	71	71
Heavy Vehicles, %	2	2	5	5	6	6
Mvmt Flow	25	404	205	10	8	21

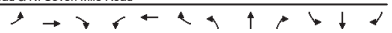
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	218	0	-	0	669	216
Stage 1	-	-	-	-	213	-
Stage 2	-	-	-	-	456	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	1352	-	-	-	417	814
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	630	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1348	-	-	-	404	809
Mov Cap-2 Maneuver	-	-	-	-	404	-
Stage 1	-	-	-	-	791	-
Stage 2	-	-	-	-	628	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1348	-	-	-	629
HCM Lane V/C Ratio	0.019	-	-	-	0.047
HCM Control Delay (s)	7.7	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis
26: SB Northville Road & N. Seven Mile Road

Background Conditions #1 (Pre-COVID)
AM Peak Hour



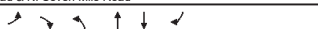
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	43	289	0	155	0	0	0	0	0	279	53
Future Volume (Veh/h)	0	43	289	0	155	0	0	0	0	0	279	53
Sign Control		Stop			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.88	0.88	0.88	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	53	357	0	176	0	0	0	0	0	294	56
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	410	322	175	530	350	0	350			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	410	322	175	530	350	0	350			0		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	7.0	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	91	57	100	89	100	100			100		
cM capacity (veh/h)	399	594	838	227	566	1075	1206			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	53	357	176	196	154
Volume Left	0	0	0	0	0
Volume Right	0	357	0	0	56
cSH	594	838	566	1700	1700
Volume to Capacity	0.09	0.43	0.31	0.12	0.09
Queue Length 95th (ft)	7	54	33	0	0
Control Delay (s)	11.7	12.4	14.2	0.0	0.0
Lane LOS	B	B	B		
Approach Delay (s)	12.3		14.2	0.0	
Approach LOS	B		B		

Intersection Summary				
Average Delay	8.1			
Intersection Capacity Utilization	47.5%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
27: NB Northville Road & N. Seven Mile Road

Background Conditions #1 (Pre-COVID)
AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	0	155	327	0	0
Future Volume (Veh/h)	43	0	155	327	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	53	0	176	372	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				511		
pX, platoon unblocked						
vC, conflicting volume	538	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	538	0	0			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	100	89			
cM capacity (veh/h)	421	1084	1600			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	53	300	248
Volume Left	53	176	0
Volume Right	0	0	0
cSH	421	1600	1700
Volume to Capacity	0.13	0.11	0.15
Queue Length 95th (ft)	11	9	0
Control Delay (s)	14.8	4.8	0.0
Lane LOS	B	A	
Approach Delay (s)	14.8	2.6	
Approach LOS	B		

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM 6th Signalized Intersection Summary
28: Northville Road & S. Seven Mile Road

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	247	219	263	289	391	177
Future Volume (veh/h)	247	219	263	289	391	177
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	1953	1953	1938	1938	1984	1984
Adj Flow Rate, veh/h	287	255	277	304	449	203
Peak Hour Factor	0.86	0.86	0.95	0.95	0.87	0.87
Percent Heavy Veh, %	3	3	4	4	1	1
Cap, veh/h	665	923	377	337	468	1829
Arrive On Green	0.36	0.36	0.20	0.20	0.49	
Sat Flow, veh/h	1860	1655	1938	1642	1890	3870
Grp Volume(v), veh/h	287	255	277	304	449	203
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1890	1885
Q Serve(g_s), s	9.4	0.0	11.3	14.4	14.9	2.3
Cycle Q Clear(g_c), s	9.4	0.0	11.3	14.4	14.9	2.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	665	923	377	337	468	1829
V/C Ratio(X)	0.43	0.28	0.73	0.90	0.96	0.11
Avail Cap(c_a), veh/h	665	923	377	337	468	1829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	9.3	29.8	31.0	30.1	11.2
Incr Delay (d2), s/veh	2.0	0.7	12.0	29.7	32.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	2.2	5.9	8.1	11.6	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.6	10.0	41.7	60.7	62.7	11.3
LnGrp LOS	C	B	D	E	E	B
Approach Vol, veh/h	542		581		652	
Approach Delay, s/veh	16.1		51.6		46.7	
Approach LOS	B		D		D	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	22.4	22.8			45.2	34.8
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	16.0	16.4			38.8	28.6
Max Q Clear Time (g_c+I1), s	16.9	16.4			4.3	11.4
Green Ext Time (p_c), s	0.0	0.0			1.3	1.6

Intersection Summary			
HCM 6th Ctrl Delay		39.0	
HCM 6th LOS		D	

HCM 6th TWSC
1: Wing Street & Randolph Street

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	6.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	276	107	5	107	199	12
Future Vol, veh/h	276	107	5	107	199	12
Conflicting Peds, #/hr	0	11	11	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	81	81	78	78
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	317	123	6	132	255	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	451	0	534	394
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	144	-
Critical Hdwy	-	-	4.1	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.2	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1120	-	509	657
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1108	-	501	648
Mov Cap-2 Maneuver	-	-	-	-	501	-
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	19.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	508	-	-	1108	-
HCM Lane V/C Ratio	0.533	-	-	0.006	-
HCM Control Delay (s)	19.9	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.1	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	63.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	13	229	15	15	28	54	578	9	18	464	43
Future Vol, veh/h	46	13	229	15	15	28	54	578	9	18	464	43
Conflicting Peds, #/hr	2	0	5	5	0	2	15	0	12	12	0	15
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	91	91	91	87	87	87	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	55	15	273	16	16	31	62	664	10	25	636	59

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1550	1541	686	1670	1565	683	710	0	0	686	0	0
Stage 1	731	731	-	805	805	-	-	-	-	-	-	-
Stage 2	819	810	-	865	760	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	94	116	451	77	113	453	899	-	-	912	-	-
Stage 1	416	430	-	379	398	-	-	-	-	-	-	-
Stage 2	372	396	-	351	417	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	70	102	442	24	100	447	886	-	-	902	-	-
Mov Cap-2 Maneuver	70	102	-	24	100	-	-	-	-	-	-	-
Stage 1	381	412	-	348	366	-	-	-	-	-	-	-
Stage 2	307	364	-	125	399	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 308.9	188.3	0.8	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	886	-	-	221	69	902	-	-
HCM Lane V/C Ratio	0.07	-	-	1.551	0.924	0.027	-	-
HCM Control Delay (s)	9.4	-	-	$ 308.9	188.3	9.1	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	21.3	4.6	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	86	12	70	116	49	10	162	73	51	58	3
Future Vol, veh/h	0	86	12	70	116	49	10	162	73	51	58	3
Peak Hour Factor	0.77	0.77	0.77	0.75	0.75	0.75	0.87	0.87	0.87	0.73	0.73	0.73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	0	112	16	93	155	65	11	186	84	70	79	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	12.6	11.8	10.5
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	30%	46%
Vol Thru, %	66%	88%	49%	52%
Vol Right, %	30%	12%	21%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	98	235	112
LT Vol	10	0	70	51
Through Vol	162	86	116	58
RT Vol	73	12	49	3
Lane Flow Rate	282	127	313	153
Geometry Grp	1	1	1	1
Degree of Util (X)	0.406	0.195	0.455	0.241
Departure Headway (Hd)	5.19	5.527	5.232	5.649
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	693	648	689	635
Service Time	3.229	3.576	3.27	3.694
HCM Lane V/C Ratio	0.407	0.196	0.454	0.241
HCM Control Delay	11.8	9.9	12.6	10.5
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2	0.7	2.4	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	71	30	10	129	76	15	492	124	94	544	70
Future Volume (veh/h)	73	71	30	10	129	76	15	492	124	94	544	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.93	0.95		0.93	1.00		0.98	0.99		0.98
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	2000	2000	2000	2000	2000	2000	1969	1969	1969	2000	2000	2000
Adj Flow Rate, veh/h	83	81	34	11	140	83	16	535	135	121	697	90
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	0	0	0	0	0	0	2	2	2	0	0	0
Cap, veh/h	290	324	136	364	283	168	365	929	234	596	1065	137
Arrive On Green	0.25	0.25	0.25	0.33	0.33	0.33	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1135	1303	547	1230	1139	675	688	1511	381	774	1731	224
Grp Volume(v), veh/h	83	0	115	11	0	223	16	0	670	121	0	787
Grp Sat Flow(s),veh/h/ln	1135	0	1850	1230	0	1814	688	0	1892	774	0	1955
Q Serve(g_s), s	4.0	0.0	3.0	0.4	0.0	5.9	0.6	0.0	0.0	4.3	0.0	15.6
Cycle Q Clear(g_c), s	9.9	0.0	3.0	3.4	0.0	5.9	16.2	0.0	0.0	4.3	0.0	15.6
Prop In Lane	1.00		0.30	1.00		0.37	1.00		0.20	1.00		0.11
Lane Grp Cap(c), veh/h	290	0	459	364	0	451	365	0	1164	596	0	1202
V/C Ratio(X)	0.29	0.00	0.25	0.03	0.00	0.49	0.04	0.00	0.58	0.20	0.00	0.65
Avail Cap(c_a), veh/h	290	0	459	364	0	451	365	0	1164	596	0	1202
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	18.1	17.4	0.0	17.1	3.4	0.0	0.0	5.3	0.0	7.4
Incr Delay (d2), s/veh	2.5	0.0	1.3	0.2	0.0	3.8	0.2	0.0	2.1	0.8	0.0	2.8
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	1.2	0.0	1.4	0.1	0.0	2.7	0.1	0.0	0.7	0.7	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	0.0	19.4	17.5	0.0	20.9	3.6	0.0	2.1	6.0	0.0	10.2
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	B
Approach Vol, veh/h		198			234			686			908	
Approach Delay, s/veh		22.1			20.8			2.1			9.7	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	41.0	19.0	41.0	19.0
Change Period (Y+Rc), s	* 4.1	* 4.1	* 4.1	* 4.1
Max Green Setting (Gmax), s	* 37	* 15	* 37	* 15
Max Q Clear Time (g_c+I1), s	18.2	11.9	17.6	7.9
Green Ext Time (p_c), s	5.0	0.2	7.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

Notes
User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	218	241	100	63	32
Future Vol, veh/h	16	218	241	100	63	32
Conflicting Peds, #/hr	19	0	0	19	10	20
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	89	89
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	17	237	262	109	71	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	390	0	-	0	617	356
Stage 1	-	-	-	-	336	-
Stage 2	-	-	-	-	281	-
Critical Hdwy	4.1	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.2	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1180	-	-	-	455	690
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	769	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1159	-	-	-	431	665
Mov Cap-2 Maneuver	-	-	-	-	431	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1159	-	-	-	489
HCM Lane V/C Ratio	0.015	-	-	-	0.218
HCM Control Delay (s)	8.2	0	-	-	14.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	47	81	15	47	88	42	143	52	29	83	37
Future Vol, veh/h	73	47	81	15	47	88	42	143	52	29	83	37
Peak Hour Factor	0.82	0.82	0.82	0.80	0.80	0.80	0.91	0.91	0.91	0.76	0.76	0.76
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	0	0	2
Mvmt Flow	89	57	99	19	59	110	46	157	57	38	109	49
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.3	10.2	11.6	10.7
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	36%	10%	19%
Vol Thru, %	60%	23%	31%	56%
Vol Right, %	22%	40%	59%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	237	201	150	149
LT Vol	42	73	15	29
Through Vol	143	47	47	83
RT Vol	52	81	88	37
Lane Flow Rate	260	245	188	196
Geometry Grp	1	1	1	1
Degree of Util (X)	0.383	0.36	0.272	0.293
Departure Headway (Hd)	5.297	5.283	5.222	5.372
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	677	679	686	667
Service Time	3.343	3.329	3.272	3.42
HCM Lane V/C Ratio	0.384	0.361	0.274	0.294
HCM Control Delay	11.6	11.3	10.2	10.7
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.8	1.6	1.1	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	127	33	90	142	63	9	536	32	24	534	26
Future Volume (veh/h)	32	127	33	90	142	63	9	536	32	24	534	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.96		0.94	0.99		0.98	1.00		0.98
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	1984	1984	1984	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	36	143	37	103	163	72	9	564	34	25	562	27
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	0	0	0	1	1	1
Cap, veh/h	116	352	82	189	242	95	66	1031	61	82	1005	47
Arrive On Green	0.26	0.26	0.26	0.44	0.44	0.44	0.56	0.56	0.56	1.00	1.00	1.00
Sat Flow, veh/h	175	1338	313	419	919	362	8	1847	110	34	1801	84
Grp Volume(v), veh/h	216	0	0	338	0	0	607	0	0	614	0	0
Grp Sat Flow(s),veh/h/ln	1825	0	0	1700	0	0	1966	0	0	1919	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.7	0.0	0.0	9.3	0.0	0.0	11.7	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.17		0.17	0.30		0.21	0.01		0.06	0.04		0.04
Lane Grp Cap(c), veh/h	551	0	0	526	0	0	1158	0	0	1134	0	0
V/C Ratio(X)	0.39	0.00	0.00	0.64	0.00	0.00	0.52	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	551	0	0	526	0	0	1158	0	0	1134	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.4	0.0	0.0	14.8	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.0	5.9	0.0	0.0	1.7	0.0	0.0	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.0	3.7	0.0	0.0	4.7	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	0.0	20.8	0.0	0.0	10.1	0.0	0.0	1.9	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	A	A	A
Approach Vol, veh/h		216			338			607			614	
Approach Delay, s/veh		20.5			20.8			10.1			1.9	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	39.0	21.0	39.0	21.0
Change Period (Y+Rc), s	5.5	* 5.2	5.5	* 5.2
Max Green Setting (Gmax), s	33.5	* 16	33.5	* 16
Max Q Clear Time (g_c+I1), s	13.7	7.7	2.0	11.3
Green Ext Time (p_c), s	4.3	0.8	5.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	10.6
HCM 6th LOS	B

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	165	11	10	272	308	9	26	15	256	11	14
Future Volume (veh/h)	7	165	11	10	272	308	9	26	15	256	11	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.98		0.98	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	8	194	13	11	313	354	12	33	19	281	12	15
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	74	1076	827	73	1089	827	71	154	65	278	7	388
Arrive On Green	1.00	1.00	1.00	0.74	0.74	0.74	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	21	1945	1494	19	1967	1494	0	577	243	601	26	1457
Grp Volume(v), veh/h	202	0	13	324	0	354	64	0	0	293	0	15
Grp Sat Flow(s),veh/h/ln	1966	0	1494	1986	0	1494	820	0	0	627	0	1457
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.3	0.0	5.5	16.0	0.0	0.0	16.0	0.0	0.5
Prop In Lane	0.04		1.00	0.03		1.00	0.19		0.30	0.96		1.00
Lane Grp Cap(c), veh/h	1150	0	827	1161	0	827	290	0	0	285	0	388
V/C Ratio(X)	0.18	0.00	0.02	0.28	0.00	0.43	0.22	0.00	0.00	1.03	0.00	0.04
Avail Cap(c_a), veh/h	1150	0	827	1161	0	827	290	0	0	285	0	388
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	4.0	0.0	4.3	17.4	0.0	0.0	25.3	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.6	0.0	1.6	1.7	0.0	0.0	61.0	0.0	0.2
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	0.1	0.0	0.0	1.2	0.0	1.5	0.8	0.0	0.0	8.8	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.0	4.6	0.0	5.9	19.1	0.0	0.0	86.3	0.0	16.5
LnGrp LOS	A	A	A	A	A	A	B	A	A	F	A	B
Approach Vol, veh/h		215			678			64			308	
Approach Delay, s/veh		0.3			5.3			19.1			82.9	
Approach LOS		A			A			B			F	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	38.7	21.3	38.7	21.3
Change Period (Y+Rc), s	5.5	* 5.3	5.5	* 5.3
Max Green Setting (Gmax), s	33.2	* 16	33.2	* 16
Max Q Clear Time (g_c+I1), s	2.0	18.0	7.5	18.0
Green Ext Time (p_c), s	1.3	0.0	3.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	268	27	7	376	296	47	226	18	203	137	197
Future Volume (veh/h)	100	268	27	7	376	296	47	226	18	203	137	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00		0.99	1.00		0.99	1.00	0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	118	315	32	7	396	312	51	246	20	216	146	210
Peak Hour Factor	0.85	0.85	0.85	0.95	0.95	0.95	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	294	883	95	65	913	703	129	517	39	269	146	193
Arrive On Green	0.15	0.15	0.15	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	425	1905	205	8	1971	1517	171	1491	112	537	421	556
Grp Volume(v), veh/h	189	0	276	403	0	312	317	0	0	572	0	0
Grp Sat Flow(s),veh/h/ln	768	0	1767	1977	0	1519	1774	0	0	1514	0	0
Q Serve(g_s), s	8.5	0.0	8.4	0.0	0.0	8.3	0.0	0.0	0.0	13.2	0.0	0.0
Cycle Q Clear(g_c), s	16.8	0.0	8.4	8.2	0.0	8.3	7.6	0.0	0.0	20.8	0.0	0.0
Prop In Lane	0.62		0.12	0.02		1.00	0.16		0.06	0.38		0.37
Lane Grp Cap(c), veh/h	453	0	819	977	0	704	685	0	0	607	0	0
V/C Ratio(X)	0.42	0.00	0.34	0.41	0.00	0.44	0.46	0.00	0.00	0.94	0.00	0.00
Avail Cap(c_a), veh/h	453	0	819	977	0	704	685	0	0	607	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.2	0.0	17.2	10.8	0.0	10.9	15.3	0.0	0.0	20.2	0.0	0.0
Incr Delay (d2), s/veh	2.8	0.0	1.1	1.3	0.0	2.0	2.2	0.0	0.0	24.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	3.9	3.5	0.0	2.9	3.4	0.0	0.0	11.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	0.0	18.3	12.1	0.0	12.9	17.5	0.0	0.0	44.9	0.0	0.0
LnGrp LOS	C	A	B	B	A	B	B	A	A	D	A	A
Approach Vol, veh/h		465			715			317			572	
Approach Delay, s/veh		21.0			12.5			17.5			44.9	
Approach LOS		C			B			B			D	
Timer - Assigned Phs		2			4		6		8			
Phs Duration (G+Y+Rc), s		33.4			26.6		33.4		26.6			
Change Period (Y+Rc), s		5.6			* 5.8		5.6		* 5.8			
Max Green Setting (Gmax), s		27.8			* 21		27.8		* 21			
Max Q Clear Time (g_c+I1), s		18.8			22.8		10.3		9.6			
Green Ext Time (p_c), s		2.3			0.0		4.6		1.4			

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	432	57	44	638	41	46
Future Vol, veh/h	432	57	44	638	41	46
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	95	95	75	75
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	533	70	46	672	55	61

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	605	0	998	304
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	428	-
Critical Hdwy	-	-	4.12	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.21	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	976	-	244	698
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	631	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	974	-	225	697
Mov Cap-2 Maneuver	-	-	-	-	225	-
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	350	-	-	974	-
HCM Lane V/C Ratio	0.331	-	-	0.048	-
HCM Control Delay (s)	20.3	-	-	8.9	0.3
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	49	14	16	39	57	11	152	19	73	89	17
Future Vol, veh/h	28	49	14	16	39	57	11	152	19	73	89	17
Peak Hour Factor	0.83	0.83	0.83	0.90	0.90	0.90	0.90	0.90	0.90	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	0	0	2
Mvmt Flow	34	59	17	18	43	63	12	169	21	82	100	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	8.7	9.4	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	31%	14%	41%
Vol Thru, %	84%	54%	35%	50%
Vol Right, %	10%	15%	51%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	91	112	179
LT Vol	11	28	16	73
Through Vol	152	49	39	89
RT Vol	19	14	57	17
Lane Flow Rate	202	110	124	201
Geometry Grp	1	1	1	1
Degree of Util (X)	0.263	0.152	0.163	0.264
Departure Headway (Hd)	4.674	4.975	4.715	4.731
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	764	716	755	754
Service Time	2.729	3.038	2.777	2.786
HCM Lane V/C Ratio	0.264	0.154	0.164	0.267
HCM Control Delay	9.4	8.9	8.7	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.5	0.6	1.1

Intersection	
Int Delay, s/veh	15.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	17	29	63	12	19	25	524	128	10	624	38
Future Vol, veh/h	11	17	29	63	12	19	25	524	128	10	624	38
Conflicting Peds, #/hr	23	0	2	2	0	23	13	0	1	1	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	0	0	0	1	1	1	0	0	0
Mvmt Flow	14	22	37	81	15	24	26	552	135	11	657	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1426	1452	692	1404	1405	644	710	0	0	688	0	0
Stage 1	712	712	-	673	673	-	-	-	-	-	-	-
Stage 2	714	740	-	731	732	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	112	129	441	118	141	476	894	-	-	916	-	-
Stage 1	420	433	-	448	457	-	-	-	-	-	-	-
Stage 2	419	420	-	416	430	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	88	119	435	88	130	465	883	-	-	915	-	-
Mov Cap-2 Maneuver	88	119	-	88	130	-	-	-	-	-	-	-
Stage 1	394	419	-	426	434	-	-	-	-	-	-	-
Stage 2	356	399	-	353	416	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	41.3	184.1	0.3	0.1
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	883	-	-	170	111	915	-	-
HCM Lane V/C Ratio	0.03	-	-	0.43	1.086	0.012	-	-
HCM Control Delay (s)	9.2	0	-	41.3	184.1	9	0	-
HCM Lane LOS	A	A	-	E	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.9	7.3	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	144	0	0	91	33	0	0	0	10	0	0
Future Vol, veh/h	37	144	0	0	91	33	0	0	0	10	0	0
Conflicting Peds, #/hr	3	0	0	0	0	3	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	84	84	84	92	92	92	71	71	71
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	0	0	0
Mvmt Flow	42	162	0	0	108	39	0	0	0	14	0	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	150	0	0	162	0	0	383	396	162	377	377	133
Stage 1	-	-	-	-	-	-	246	246	-	131	131	-
Stage 2	-	-	-	-	-	-	137	150	-	246	246	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.12	6.52	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.518	4.018	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1437	-	-	1429	-	-	575	541	883	584	558	922
Stage 1	-	-	-	-	-	-	758	703	-	877	792	-
Stage 2	-	-	-	-	-	-	866	773	-	762	706	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1433	-	-	1429	-	-	551	522	883	568	538	918
Mov Cap-2 Maneuver	-	-	-	-	-	-	551	522	-	568	538	-
Stage 1	-	-	-	-	-	-	734	681	-	846	790	-
Stage 2	-	-	-	-	-	-	851	771	-	738	683	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0	0	10.3
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1433	-	-	1429	-	-	702
HCM Lane V/C Ratio	-	0.029	-	-	-	-	-	0.04
HCM Control Delay (s)	0	7.6	0	-	0	-	-	10.3
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	154	105	0	29	19
Future Vol, veh/h	0	154	105	0	29	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	90	90	72	72
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	162	117	0	40	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	279	117
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	162	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	715	941
Stage 1	0	-	-	0	913	-
Stage 2	0	-	-	0	872	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	715	941
Mov Cap-2 Maneuver	-	-	-	-	715	-
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	872	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	790
HCM Lane V/C Ratio	-	-	0.084
HCM Control Delay (s)	-	-	10
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	139	13	31	7	23	29	24	104	6	18	83	58
Future Vol, veh/h	139	13	31	7	23	29	24	104	6	18	83	58
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	68	68	68	88	88	88	83	83	83
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	167	16	37	10	34	43	27	118	7	22	100	70

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	396	361	138	382	393	122	173	0	0	125	0	0
Stage 1	182	182	-	176	176	-	-	-	-	-	-	-
Stage 2	214	179	-	206	217	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	596	568	913	580	546	935	1416	-	-	1474	-	-
Stage 1	822	751	-	831	757	-	-	-	-	-	-	-
Stage 2	790	753	-	801	727	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	498	545	910	528	524	935	1412	-	-	1474	-	-
Mov Cap-2 Maneuver	498	545	-	528	524	-	-	-	-	-	-	-
Stage 1	802	736	-	814	741	-	-	-	-	-	-	-
Stage 2	704	737	-	739	712	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	11.2	1.4	0.8
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1412	-	-	543	669	1474	-	-
HCM Lane V/C Ratio	0.019	-	-	0.406	0.13	0.015	-	-
HCM Control Delay (s)	7.6	0	-	16.1	11.2	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2	0.4	0	-	-

Intersection Sign configuration not allowed in HCM analysis.

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↕	↰	
Traffic Vol, veh/h	57	64	4	24	110	10
Future Vol, veh/h	57	64	4	24	110	10
Conflicting Peds, #/hr	0	1	1	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	79	79	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	61	69	5	30	124	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	131	0	137	103
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	40	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1467	-	861	957
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	988	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1466	-	858	951
Mov Cap-2 Maneuver	-	-	-	-	858	-
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	865	-	-	1466	-
HCM Lane V/C Ratio	0.156	-	-	0.003	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰			↕	↕	
Traffic Vol, veh/h	10	57	19	747	552	9
Future Vol, veh/h	10	57	19	747	552	9
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	92	92	95	95
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	12	69	21	812	581	9

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1037	298	593	0	-	0		
Stage 1	589	-	-	-	-	-		
Stage 2	448	-	-	-	-	-		
Critical Hdwy	6.8	6.9	4.12	-	-	-		
Critical Hdwy Stg 1	5.8	-	-	-	-	-		
Critical Hdwy Stg 2	5.8	-	-	-	-	-		
Follow-up Hdwy	3.5	3.3	2.21	-	-	-		
Pot Cap-1 Maneuver	230	704	986	-	-	-		
Stage 1	523	-	-	-	-	-		
Stage 2	616	-	-	-	-	-		
Platoon blocked, %				-	-	-		
Mov Cap-1 Maneuver	220	702	983	-	-	-		
Mov Cap-2 Maneuver	220	-	-	-	-	-		
Stage 1	501	-	-	-	-	-		
Stage 2	614	-	-	-	-	-		

Approach	EB	NB	SB
HCM Control Delay, s	13	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	983	-	529	-	-
HCM Lane V/C Ratio	0.021	-	0.153	-	-
HCM Control Delay (s)	8.7	0.2	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection Sign configuration not allowed in HCM analysis.

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	6	1	0	10	121	1	102	3	41	63	15
Future Vol, veh/h	17	6	1	0	10	121	1	102	3	41	63	15
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.69	0.69	0.69	0.91	0.91	0.91
Heavy Vehicles, %	5	5	5	5	5	5	1	1	1	0	0	0
Mvmt Flow	20	7	1	0	11	133	1	148	4	45	69	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	7.9	8.5	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	71%	0%	34%
Vol Thru, %	96%	25%	8%	53%
Vol Right, %	3%	4%	92%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	24	131	119
LT Vol	1	17	0	41
Through Vol	102	6	10	63
RT Vol	3	1	121	15
Lane Flow Rate	154	29	144	131
Geometry Grp	1	1	1	1
Degree of Util (X)	0.189	0.039	0.165	0.161
Departure Headway (Hd)	4.425	4.91	4.115	4.441
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	811	730	874	808
Service Time	2.447	2.936	2.132	2.464
HCM Lane V/C Ratio	0.19	0.04	0.165	0.162
HCM Control Delay	8.5	8.1	7.9	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.6	0.6

HCM 6th TWSC
21: Center Street & Fairbrook Street/W. Site Drive

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	46	0	0	0	123	723	0	0	712	8
Future Vol, veh/h	4	0	46	0	0	0	123	723	0	0	712	8
Conflicting Peds, #/hr	1	0	0	0	0	1	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	94	94	94	91	91	91
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	0	0	0
Mvmt Flow	5	0	56	0	0	0	131	769	0	0	782	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1823	1822	791	1846	1826	770	795	0	0	769	0	0
Stage 1	791	791	-	1031	1031	-	-	-	-	-	-	-
Stage 2	1032	1031	-	815	795	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	80	78	393	57	77	401	831	-	-	854	-	-
Stage 1	386	404	-	281	310	-	-	-	-	-	-	-
Stage 2	284	313	-	371	399	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	47	56	392	38	56	401	828	-	-	854	-	-
Mov Cap-2 Maneuver	47	56	-	38	56	-	-	-	-	-	-	-
Stage 1	278	402	-	203	224	-	-	-	-	-	-	-
Stage 2	205	227	-	318	397	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.3	0	1.5	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	828	-	-	247	-	854	-	-
HCM Lane V/C Ratio	0.158	-	-	0.247	-	-	-	-
HCM Control Delay (s)	10.2	0	-	24.3	0	0	-	-
HCM Lane LOS	B	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	0.9	-	0	-	-

HCM 6th TWSC
22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	420	3	15	585	81	4	3	8	37	6	21
Future Vol, veh/h	22	420	3	15	585	81	4	3	8	37	6	21
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	5	5	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	26	494	4	17	650	90	6	4	11	45	7	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	740	0	0	499	0	0	1295	1323	502	1290	1280	695
Stage 1	-	-	-	-	-	-	549	549	-	729	729	-
Stage 2	-	-	-	-	-	-	746	774	-	561	551	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	867	-	-	1065	-	-	141	158	573	141	166	444
Stage 1	-	-	-	-	-	-	524	520	-	416	430	-
Stage 2	-	-	-	-	-	-	409	411	-	514	517	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	867	-	-	1064	-	-	124	151	570	130	158	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	151	-	130	158	-
Stage 1	-	-	-	-	-	-	508	504	-	404	423	-
Stage 2	-	-	-	-	-	-	373	404	-	482	501	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	22.5	41.9
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	227	867	-	-	1064	-	-	173
HCM Lane V/C Ratio	0.094	0.03	-	-	0.016	-	-	0.451
HCM Control Delay (s)	22.5	9.3	-	-	8.4	-	-	41.9
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	2.1

HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	317	116	110	509	142	125	672	107	75	636	47
Future Volume (veh/h)	32	317	116	110	509	142	125	672	107	75	636	47
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	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	352	129	116	536	149	132	707	113	80	677	50
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	194	509	186	231	735	622	226	813	130	164	890	66
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	762	1385	507	928	2000	1693	733	1669	267	672	1825	135
Grp Volume(v), veh/h	36	0	481	116	536	149	132	0	820	80	0	727
Grp Sat Flow(s),veh/h/ln	762	0	1892	928	2000	1693	733	0	1935	672	0	1960
Q Serve(g_s), s	3.4	0.0	17.2	9.7	18.5	4.9	14.3	0.0	30.1	8.9	0.0	24.2
Cycle Q Clear(g_c), s	22.0	0.0	17.2	26.9	18.5	4.9	38.5	0.0	30.1	39.0	0.0	24.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.14	1.00		0.07
Lane Grp Cap(c), veh/h	194	0	695	231	735	622	226	0	944	164	0	955
V/C Ratio(X)	0.19	0.00	0.69	0.50	0.73	0.24	0.58	0.00	0.87	0.49	0.00	0.76
Avail Cap(c_a), veh/h	194	0	695	231	735	622	226	0	944	164	0	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.3	0.0	21.5	32.9	21.9	17.5	32.4	0.0	18.2	35.9	0.0	16.7
Incr Delay (d2), s/veh	2.1	0.0	5.6	7.6	6.3	0.9	10.6	0.0	10.7	9.9	0.0	5.7
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	0.7	0.0	8.1	2.6	9.3	1.9	3.1	0.0	14.6	2.0	0.0	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	0.0	27.0	40.5	28.1	18.5	43.0	0.0	28.9	45.8	0.0	22.4
LnGrp LOS	C	A	C	D	C	B	D	A	C	D	A	C
Approach Vol, veh/h		517			801			952			807	
Approach Delay, s/veh		27.5			28.1			30.9			24.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	45.0	35.0	45.0	35.0
Change Period (Y+Rc), s	6.0	5.6	6.0	5.6
Max Green Setting (Gmax), s	39.0	29.4	39.0	29.4
Max Q Clear Time (g_c+I1), s	40.5	24.0	41.0	28.9
Green Ext Time (p_c), s	0.0	1.5	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

HCM Unsignalized Intersection Capacity Analysis
24: Hines Drive & Seven Mile Road

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection Sign configuration not allowed in HCM analysis.

HCM 6th TWSC
25: Seven Mile Road & River Street

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	86	295	443	34	9	59
Future Vol, veh/h	86	295	443	34	9	59
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	93	93	88	88
Heavy Vehicles, %	2	2	1	1	0	0
Mvmt Flow	95	324	476	37	10	67

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	513	0	-	0	1009	496
Stage 1	-	-	-	-	495	-
Stage 2	-	-	-	-	514	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1052	-	-	-	269	578
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	605	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1052	-	-	-	239	577
Mov Cap-2 Maneuver	-	-	-	-	239	-
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	605	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1052	-	-	-	486
HCM Lane V/C Ratio	0.09	-	-	-	0.159
HCM Control Delay (s)	8.8	0	-	-	13.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.6

HCM Unsignalized Intersection Capacity Analysis
26: SB Northville Road & N. Seven Mile Road

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	63	268	0	391	0	0	0	0	0	496	113
Future Volume (veh/h)	0	63	268	0	391	0	0	0	0	0	496	113
Sign Control		Stop			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	68	291	0	412	0	0	0	0	0	522	119
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	788	582	320	586	641	0	641			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	788	582	320	586	641	0	641			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	84	57	100	0	100	100			100		
cM capacity (veh/h)	0	423	675	197	393	1088	939			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	68	291	412	348	293
Volume Left	0	0	0	0	0
Volume Right	0	291	0	0	119
cSH	423	675	393	1700	1700
Volume to Capacity	0.16	0.43	1.05	0.20	0.17
Queue Length 95th (ft)	14	54	341	0	0
Control Delay (s)	15.1	14.3	91.3	0.0	0.0
Lane LOS	C	B	F		
Approach Delay (s)	14.5		91.3	0.0	
Approach LOS	B		F		

Intersection Summary				
Average Delay	30.3			
Intersection Capacity Utilization	70.1%	ICU Level of Service		C
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
27: NB Northville Road & N. Seven Mile Road

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	0	391	703	0	0
Future Volume (Veh/h)	63	0	391	703	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	69	0	412	740	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				511		
pX, platoon unblocked	0.84					
vC, conflicting volume	1194	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	840	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	64	100	75			
cM capacity (veh/h)	192	1091	1629			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	69	659	493
Volume Left	69	412	0
Volume Right	0	0	0
cSH	192	1629	1700
Volume to Capacity	0.36	0.25	0.29
Queue Length 95th (ft)	38	25	0
Control Delay (s)	33.8	5.9	0.0
Lane LOS	D	A	
Approach Delay (s)	33.8	3.3	
Approach LOS	D		

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

HCM 6th Signalized Intersection Summary
28: Northville Road & S. Seven Mile Road

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	308	580	514	321	374	390
Future Volume (veh/h)	308	580	514	321	374	390
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	1984	1984	1984	1984	1969	1969
Adj Flow Rate, veh/h	328	617	547	341	407	424
Peak Hour Factor	0.94	0.94	0.94	0.94	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	2	2
Cap, veh/h	676	938	457	285	465	1814
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1890	1682	2330	1389	1875	3839
Grp Volume(v), veh/h	328	617	462	426	407	424
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1734	1875	1870
Q Serve(g_s), s	10.8	4.5	16.4	16.4	12.8	5.3
Cycle Q Clear(g_c), s	10.8	4.5	16.4	16.4	12.8	5.3
Prop In Lane	1.00	1.00		0.80	1.00	
Lane Grp Cap(c), veh/h	676	938	386	356	465	1814
V/C Ratio(X)	0.49	0.66	1.20	1.20	0.88	0.23
Avail Cap(c_a), veh/h	676	938	386	356	465	1814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	12.4	31.8	31.8	29.3	12.0
Incr Delay (d2), s/veh	2.5	3.6	110.9	113.0	20.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	7.5	18.9	17.6	9.1	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.5	16.0	142.7	144.8	49.3	12.3
LnGrp LOS	C	B	F		F	D	B
Approach Vol, veh/h	945		888			831
Approach Delay, s/veh	18.2		143.7			30.4
Approach LOS	B		F			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	22.4	22.8			45.2	34.8
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	16.0	16.4			38.8	28.6
Max Q Clear Time (g_c+I1), s	14.8	18.4			7.3	12.8
Green Ext Time (p_c), s	0.2	0.0			2.9	3.2

Intersection Summary		
HCM 6th Ctrl Delay	63.9	
HCM 6th LOS	E	

HCM 6th TWSC
29: N.E. Site Drive (Egress Only) & Cady Street

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	154	0	0	124	0	0
Future Vol, veh/h	154	0	0	124	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	84	84	92	92
Heavy Vehicles, %	1	1	0	0	2	2
Mvmt Flow	162	0	0	148	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	310	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	148	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	682	883
Stage 1	-	0	0	-	867	-
Stage 2	-	0	0	-	880	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	682	883
Mov Cap-2 Maneuver	-	-	-	-	682	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	880	-

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

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

HCM 6th TWSC
30: Griswold Street & E. Site Drive

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	134	121	0
Future Vol, veh/h	0	0	0	134	121	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	88	88	88	88
Heavy Vehicles, %	2	2	0	0	0	0
Mvmt Flow	0	0	0	152	138	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	290	138	138	0	-	0
Stage 1	138	-	-	-	-	-
Stage 2	152	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	701	910	1458	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	701	910	1458	-	-	-
Mov Cap-2 Maneuver	701	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	876	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1458	- -	-	-
HCM Lane V/C Ratio	-	- -	-	-
HCM Control Delay (s)	0	- 0	-	-
HCM Lane LOS	A	- A	-	-
HCM 95th %tile Q(veh)	0	- -	-	-

HCM 6th TWSC
31: Griswold Street & S.E. Site Drive

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	134	121	0
Future Vol, veh/h	0	0	0	134	121	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	88	88	88	88
Heavy Vehicles, %	2	2	0	0	0	0
Mvmt Flow	0	0	0	152	138	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	290	138	138	0	-	0
Stage 1	138	-	-	-	-	-
Stage 2	152	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	701	910	1458	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	701	910	1458	-	-	-
Mov Cap-2 Maneuver	701	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	876	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1458	- -	-	-
HCM Lane V/C Ratio	-	- -	-	-
HCM Control Delay (s)	0	- 0	-	-
HCM Lane LOS	A	- A	-	-
HCM 95th %tile Q(veh)	0	- -	-	-

HCM 6th TWSC
32: Center Street & Proposed Beal Street

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	727	0	0	720
Future Vol, veh/h	0	0	727	0	0	720
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	95	95	91	91
Heavy Vehicles, %	2	2	1	1	0	0
Mvmt Flow	0	0	765	0	0	791

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1556	765	0	0	765	0
Stage 1	765	-	-	-	-	-
Stage 2	791	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	124	403	-	-	857	-
Stage 1	459	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	124	403	-	-	857	-
Mov Cap-2 Maneuver	124	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	447	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR WBLn1	SBL	SBT
Capacity (veh/h)	-	- -	857	-
HCM Lane V/C Ratio	-	- -	-	-
HCM Control Delay (s)	-	- 0	0	-
HCM Lane LOS	-	- A	A	-
HCM 95th %tile Q(veh)	-	- -	0	-

HCM 6th TWSC
33: S.W. Site Drive & Fairbrook Street

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	50	0	0	131	0	0
Future Vol, veh/h	50	0	0	131	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	91	91	92	92
Heavy Vehicles, %	0	0	5	5	2	2
Mvmt Flow	61	0	0	144	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	61	0	205	61
Stage 1	-	-	-	-	61	-
Stage 2	-	-	-	-	144	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1523	-	783	1004
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	883	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1523	-	783	1004
Mov Cap-2 Maneuver	-	-	-	-	783	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	883	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		-	-	1523	-
HCM Lane V/C Ratio		-	-	-	-
HCM Control Delay (s)		0	-	0	-
HCM Lane LOS		A	-	A	-
HCM 95th %tile Q(veh)		-	-	0	-

HCM 6th TWSC
34: Wing Street & S.W. Site Drive

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	106	0	0	64
Future Vol, veh/h	0	0	106	0	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	69	69	82	82
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	0	0	154	0	0	78

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	232	154	0	0	154	0
Stage 1	154	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	756	892	-	-	1433	-
Stage 1	874	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	756	892	-	-	1433	-
Mov Cap-2 Maneuver	756	-	-	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	945	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1433	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

HCM 6th Signalized Intersection Summary
2: Center Street & Randolph Street/Private Drive

Background Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	2	127	4	0	6	27	495	1	6	460	50
Future Volume (veh/h)	22	2	127	4	0	6	27	495	1	6	460	50
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	1984	1984	1984	2000	2000	2000	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	33	3	192	5	0	8	30	544	1	9	667	72
Peak Hour Factor	0.66	0.66	0.66	0.75	0.75	0.75	0.91	0.91	0.91	0.69	0.69	0.69
Percent Heavy Veh, %	1	1	1	0	0	0	2	2	2	2	2	2
Cap, veh/h	95	19	239	161	34	179	434	1280	2	680	1137	123
Arrive On Green	0.17	0.17	0.17	0.17	0.00	0.17	1.00	1.00	1.00	0.65	0.65	0.65
Sat Flow, veh/h	152	111	1407	460	199	1054	719	1965	4	860	1746	188
Grp Volume(v), veh/h	228	0	0	13	0	0	30	0	545	9	0	739
Grp Sat Flow(s),veh/h/ln	1670	0	0	1712	0	0	719	0	1968	860	0	1934
Q Serve(g_s), s	4.2	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.2	0.0	12.9
Cycle Q Clear(g_c), s	7.8	0.0	0.0	0.4	0.0	0.0	13.8	0.0	0.0	0.2	0.0	12.9
Prop In Lane	0.14		0.84	0.38		0.62	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	353	0	0	374	0	0	434	0	1282	680	0	1260
V/C Ratio(X)	0.65	0.00	0.00	0.03	0.00	0.00	0.07	0.00	0.43	0.01	0.00	0.59
Avail Cap(c_a), veh/h	478	0	0	487	0	0	434	0	1282	680	0	1260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.90	0.00	0.90	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	20.8	0.0	0.0	2.3	0.0	0.0	3.7	0.0	5.9
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.9	0.0	0.0	2.0
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	3.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.0	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	0.0	0.0	20.8	0.0	0.0	2.6	0.0	0.9	3.7	0.0	7.9
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		228			13			575			748	
Approach Delay, s/veh		25.8			20.8			1.0			7.9	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	44.6		15.4		44.6		15.4	
Change Period (Y+Rc), s	5.5		* 5.2		5.5		* 5.2	
Max Green Setting (Gmax), s	34.5		* 15		34.5		* 15	
Max Q Clear Time (g_c+I1), s	15.8		9.8		14.9		2.4	
Green Ext Time (p_c), s	3.9		0.6		5.7		0.0	

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

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

HCM 6th Signalized Intersection Summary
12: Center Street & Cady Street

Background Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	8	12	47	19	6	27	483	162	5	409	5
Future Volume (veh/h)	1	8	12	47	19	6	27	483	162	5	409	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	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	2000	2000	2000	2000	2000	1953	1953	1953	1969	1969	1969	1969
Adj Flow Rate, veh/h	2	13	20	57	23	7	30	537	180	6	460	6
Peak Hour Factor	0.60	0.60	0.60	0.82	0.82	0.82	0.90	0.90	0.90	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	2	2	2
Cap, veh/h	68	77	108	194	61	14	87	972	316	65	1377	18
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.72	0.72	0.72	1.00	1.00	1.00
Sat Flow, veh/h	41	725	1021	895	579	129	34	1359	442	6	1924	25
Grp Volume(v), veh/h	35	0	0	87	0	0	747	0	0	472	0	0
Grp Sat Flow(s),veh/h/ln	1788	0	0	1603	0	0	1835	0	0	1955	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	2.9	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.06		0.57	0.66		0.08	0.04		0.24	0.01		0.01
Lane Grp Cap(c), veh/h	253	0	0	269	0	0	1376	0	0	1460	0	0
V/C Ratio(X)	0.14	0.00	0.00	0.32	0.00	0.00	0.54	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	501	0	0	485	0	0	1376	0	0	1460	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.5	0.0	0.0	25.2	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	1.5	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.2	0.0	0.0	3.2	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.7	0.0	0.0	25.9	0.0	0.0	5.6	0.0	0.0	0.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		35			87			747			472	
Approach Delay, s/veh		24.7			25.9			5.6			0.6	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	48.4		11.6		48.4		11.6	
Change Period (Y+Rc), s	5.5		* 5.2		5.5		* 5.2	
Max Green Setting (Gmax), s	34.5		* 15		34.5		* 15	
Max Q Clear Time (g_c+I1), s	13.3		3.1		2.0		4.9	
Green Ext Time (p_c), s	6.1		0.1		3.5		0.2	

Intersection Summary	
HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

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

HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Background Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	430	73	35	155	79	58	580	73	77	384	15
Future Volume (veh/h)	46	430	73	35	155	79	58	580	73	77	384	15
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	1984	1984	1984	1938	1938	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	54	506	86	38	168	86	63	630	79	90	447	17
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh, %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	439	607	103	162	712	603	395	960	813	272	919	35
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1134	1653	281	812	1938	1640	928	1969	1667	740	1884	72
Grp Volume(v), veh/h	54	0	592	38	168	86	63	630	79	90	0	464
Grp Sat Flow(s),veh/h/ln	1134	0	1933	812	1938	1640	928	1969	1667	740	0	1956
Q Serve(g_s), s	2.8	0.0	22.3	3.6	4.8	2.8	3.9	19.3	2.0	8.4	0.0	12.8
Cycle Q Clear(g_c), s	7.6	0.0	22.3	25.9	4.8	2.8	16.7	19.3	2.0	27.6	0.0	12.8
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	439	0	711	162	712	603	395	960	813	272	0	953
V/C Ratio(X)	0.12	0.00	0.83	0.23	0.24	0.14	0.16	0.66	0.10	0.33	0.00	0.49
Avail Cap(c_a), veh/h	439	0	711	162	712	603	395	960	813	272	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	23.1	34.9	17.5	16.9	19.4	15.5	11.0	25.9	0.0	13.8
Incr Delay (d2), s/veh	0.6	0.0	11.0	3.4	0.8	0.5	0.9	3.5	0.2	3.2	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	11.5	0.8	2.2	1.1	0.9	8.6	0.7	1.6	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	0.0	34.1	38.3	18.3	17.4	20.2	19.0	11.3	29.1	0.0	15.6
LnGrp LOS	C	A	C	D	B	B	C	B	B	C	A	B
Approach Vol, veh/h		646			292			772			554	
Approach Delay, s/veh		33.0			20.6			18.3			17.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	45.0		35.0		45.0		35.0	
Change Period (Y+Rc), s	6.0		5.6		6.0		5.6	
Max Green Setting (Gmax), s	39.0		29.4		39.0		29.4	
Max Q Clear Time (g_c+I1), s	21.3		24.3		29.6		27.9	
Green Ext Time (p_c), s	4.5		1.8		2.4		0.2	

Intersection Summary	
HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
26: SB Northville Road & N. Seven Mile Road

Background Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	289	155	327	279	53
Future Volume (veh/h)	43	289	155	327	279	53
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	1969	1969	1922	1984	1984	1984
Adj Flow Rate, veh/h	53	357	176	372	294	56
Peak Hour Factor	0.81	0.81	0.88	0.88	0.95	0.95
Percent Heavy Veh, %	2	2	5	5	1	1
Cap, veh/h	277	822	917	2538	855	161
Arrive On Green	0.15	0.15	0.69	1.00	0.27	0.27
Sat Flow, veh/h	1875	1668	1830	3748	3266	595
Grp Volume(v), veh/h	53	357	176	372	173	177
Grp Sat Flow(s),veh/h/ln	1875	1668	1830	1826	1885	1877
Q Serve(g_s), s	2.0	11.1	1.6	0.0	5.9	6.1
Cycle Q Clear(g_c), s	2.0	11.1	1.6	0.0	5.9	6.1
Prop In Lane	1.00	1.00	1.00			0.32
Lane Grp Cap(c), veh/h	277	822	917	2538	509	507
V/C Ratio(X)	0.19	0.43	0.19	0.15	0.34	0.35
Avail Cap(c_a), veh/h	277	822	917	2538	509	507
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	13.1	2.8	0.0	23.5	23.5
Incr Delay (d2), s/veh	1.5	1.7	0.5	0.1	1.8	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	12.3	0.5	0.0	2.8	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.5	14.8	3.3	0.1	25.3	25.4
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	410			548	350	
Approach Delay, s/veh	16.9			1.1	25.4	
Approach LOS	B			A	C	

Timer - Assigned Phs	2		4	5	6	
Phs Duration (G+Y+Rc), s	62.0		18.0	34.0	28.0	
Change Period (Y+Rc), s	6.4		* 6.2	6.4	6.4	
Max Green Setting (Gmax), s	55.6		* 12	27.6	21.6	
Max Q Clear Time (g_c+I1), s	2.0		13.1	3.6	8.1	
Green Ext Time (p_c), s	2.6		0.0	0.5	1.6	

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

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

HCM 6th Signalized Intersection Summary
28: Northville Road & S. Seven Mile Road

Background Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	247	219	263	289	391	177
Future Volume (veh/h)	247	219	263	289	391	177
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	1953	1953	1938	1938	1984	1984
Adj Flow Rate, veh/h	287	255	277	304	449	203
Peak Hour Factor	0.86	0.86	0.95	0.95	0.87	0.87
Percent Heavy Veh, %	3	3	4	4	1	1
Cap, veh/h	437	815	497	443	643	2290
Arrive On Green	0.23	0.23	0.27	0.27	0.17	0.41
Sat Flow, veh/h	1860	1655	1938	1642	1890	3870
Grp Volume(v), veh/h	287	255	277	304	449	203
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1890	1885
Q Serve(g_s), s	11.2	0.0	10.3	13.3	10.8	2.6
Cycle Q Clear(g_c), s	11.2	0.0	10.3	13.3	10.8	2.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	815	497	443	643	2290
V/C Ratio(X)	0.66	0.31	0.56	0.69	0.70	0.09
Avail Cap(c_a), veh/h	437	815	497	443	643	2290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	12.2	25.1	26.2	26.7	10.1
Incr Delay (d2), s/veh	7.5	1.0	4.5	8.4	6.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.7	4.8	5.8	8.2	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.2	13.2	29.6	34.5	32.9	10.2
LnGrp LOS	D	B	C	C	C	B
Approach Vol, veh/h	542		581			652
Approach Delay, s/veh	24.8		32.2			25.8
Approach LOS	C		C			C

Timer - Assigned Phs	1	2			6		8	
Phs Duration (G+Y+Rc), s	27.0	28.0			55.0		25.0	
Change Period (Y+Rc), s	6.4	6.4			6.4		6.2	
Max Green Setting (Gmax), s	20.6	21.6			48.6		18.8	
Max Q Clear Time (g_c+I1), s	12.8	15.3			4.6		13.2	
Green Ext Time (p_c), s	0.9	1.8			1.3		1.0	

Intersection Summary			
HCM 6th Ctrl Delay		27.6	
HCM 6th LOS		C	

HCM 6th Signalized Intersection Summary
2: Center Street & Randolph Street/Private Drive

Background Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	13	229	15	15	28	54	578	9	18	464	43
Future Volume (veh/h)	46	13	229	15	15	28	54	578	9	18	464	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	55	15	273	16	16	31	62	664	10	25	636	59
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.87	0.87	0.87	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	1	1	1
Cap, veh/h	113	37	310	138	142	198	393	1153	17	570	1048	97
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	1.00	1.00	1.00	0.59	0.59	0.59
Sat Flow, veh/h	183	156	1322	266	603	842	761	1965	30	767	1786	166
Grp Volume(v), veh/h	343	0	0	63	0	0	62	0	674	25	0	695
Grp Sat Flow(s),veh/h/ln	1661	0	0	1711	0	0	761	0	1994	767	0	1952
Q Serve(g_s), s	7.7	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.8	0.0	13.7
Cycle Q Clear(g_c), s	11.9	0.0	0.0	1.6	0.0	0.0	15.9	0.0	0.0	0.8	0.0	13.7
Prop In Lane	0.16		0.80	0.25		0.49	1.00		0.01	1.00		0.08
Lane Grp Cap(c), veh/h	460	0	0	477	0	0	393	0	1170	570	0	1145
V/C Ratio(X)	0.75	0.00	0.00	0.13	0.00	0.00	0.16	0.00	0.58	0.04	0.00	0.61
Avail Cap(c_a), veh/h	479	0	0	495	0	0	393	0	1170	570	0	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.82	0.00	0.82	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	0.0	18.2	0.0	0.0	3.1	0.0	0.0	5.3	0.0	8.0
Incr Delay (d2), s/veh	6.1	0.0	0.0	0.1	0.0	0.0	0.7	0.0	1.7	0.1	0.0	2.4
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	5.1	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.6	0.1	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.1	0.0	0.0	18.3	0.0	0.0	3.8	0.0	1.7	5.4	0.0	10.3
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	B
Approach Vol, veh/h		343			63			736			720	
Approach Delay, s/veh		28.1			18.3			1.9			10.2	
Approach LOS		C			B			A			B	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		40.7		19.3		40.7		19.3	
Change Period (Y+Rc), s		5.5		* 5.2		5.5		* 5.2	
Max Green Setting (Gmax), s		34.5		* 15		34.5		* 15	
Max Q Clear Time (g_c+I1), s		17.9		13.9		15.7		3.6	
Green Ext Time (p_c), s		5.0		0.2		5.3		0.2	

Intersection Summary			
HCM 6th Ctrl Delay		10.5	
HCM 6th LOS		B	

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

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Background Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	165	11	10	272	308	9	26	15	256	11	14
Future Volume (veh/h)	7	165	11	10	272	308	9	26	15	256	11	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97	0.99		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	8	194	13	11	313	354	12	33	19	281	12	15
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	70	665	504	69	671	504	183	489	254	751	27	711
Arrive On Green	0.11	0.11	0.11	0.34	0.34	0.34	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	21	1945	1474	22	1963	1474	234	1022	530	1325	57	1487
Grp Volume(v), veh/h	202	0	13	324	0	354	64	0	0	293	0	15
Grp Sat Flow(s),veh/h/ln	1966	0	1474	1985	0	1474	1785	0	0	1382	0	1487
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	12.5	0.0	0.0	0.0	7.0	0.0	0.3
Cycle Q Clear(g_c), s	5.6	0.0	0.5	7.6	0.0	12.5	1.1	0.0	0.0	8.1	0.0	0.3
Prop In Lane	0.04		1.00	0.03		1.00	0.19		0.30	0.96		1.00
Lane Grp Cap(c), veh/h	734	0	504	740	0	504	925	0	0	778	0	711
V/C Ratio(X)	0.28	0.00	0.03	0.44	0.00	0.70	0.07	0.00	0.00	0.38	0.00	0.02
Avail Cap(c_a), veh/h	734	0	504	740	0	504	925	0	0	778	0	711
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	17.7	15.5	0.0	17.1	8.5	0.0	0.0	10.2	0.0	8.2
Incr Delay (d2), s/veh	0.9	0.0	0.1	1.9	0.0	8.0	0.1	0.0	0.0	1.4	0.0	0.1
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	2.8	0.0	0.2	3.6	0.0	5.0	0.4	0.0	0.0	2.5	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	0.0	17.8	17.4	0.0	25.1	8.6	0.0	0.0	11.5	0.0	8.3
LnGrp LOS	C	A	B	B	A	C	A	A	A	B	A	A
Approach Vol, veh/h		215			678			64			308	
Approach Delay, s/veh		20.7			21.4			8.6			11.4	
Approach LOS		C			C			A			B	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		26.0		34.0		26.0		34.0	
Change Period (Y+Rc), s		5.5		* 5.3		5.5		* 5.3	
Max Green Setting (Gmax), s		20.5		* 29		20.5		* 29	
Max Q Clear Time (g_c+I1), s		7.6		10.1		14.5		3.1	
Green Ext Time (p_c), s		1.0		1.8		1.8		0.3	

Intersection Summary			
HCM 6th Ctrl Delay		18.2	
HCM 6th LOS		B	

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

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Background Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	268	27	7	376	296	47	226	18	203	137	197
Future Volume (veh/h)	100	268	27	7	376	296	47	226	18	203	137	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		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	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	118	315	32	7	396	312	51	246	20	216	146	210
Peak Hour Factor	0.85	0.85	0.85	0.95	0.95	0.95	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	213	667	73	64	702	540	152	887	52	325	203	258
Arrive On Green	0.12	0.12	0.12	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	323	1869	205	9	1967	1515	182	1516	114	535	447	570
Grp Volume(v), veh/h	190	0	275	403	0	312	317	0	0	572	0	0
Grp Sat Flow(s),veh/h/ln	631	0	1766	1976	0	1515	1812	0	0	1551	0	0
Q Serve(g_s), s	9.1	0.0	8.7	0.0	0.0	10.0	0.0	0.0	0.0	12.0	0.0	0.0
Cycle Q Clear(g_c), s	19.1	0.0	8.7	9.8	0.0	10.0	6.3	0.0	0.0	18.3	0.0	0.0
Prop In Lane	0.62		0.12	0.02		1.00	0.16		0.06	0.38		0.37
Lane Grp Cap(c), veh/h	322	0	630	766	0	540	891	0	0	786	0	0
V/C Ratio(X)	0.59	0.00	0.44	0.53	0.00	0.58	0.36	0.00	0.00	0.73	0.00	0.00
Avail Cap(c_a), veh/h	322	0	630	766	0	540	891	0	0	786	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.4	0.0	20.9	15.6	0.0	15.6	10.7	0.0	0.0	13.5	0.0	0.0
Incr Delay (d2), s/veh	7.6	0.0	2.2	2.6	0.0	4.4	1.1	0.0	0.0	5.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	4.2	4.6	0.0	3.8	2.5	0.0	0.0	6.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	0.0	23.1	18.2	0.0	20.1	11.8	0.0	0.0	19.4	0.0	0.0
LnGrp LOS	D	A	C	B	A	C	B	A	A	B	A	A
Approach Vol, veh/h		465			715			317			572	
Approach Delay, s/veh		28.0			19.0			11.8			19.4	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0	
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8	
Max Green Setting (Gmax), s		21.4		* 27		21.4		* 27	
Max Q Clear Time (g_c+I1), s		21.1		20.3		12.0		8.3	
Green Ext Time (p_c), s		0.1		2.3		3.3		1.8	

Intersection Summary			
HCM 6th Ctrl Delay		20.0	
HCM 6th LOS		C	

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

HCM 6th Signalized Intersection Summary
12: Center Street & Cady Street

Background Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	17	29	63	12	19	25	524	128	10	624	38
Future Volume (veh/h)	11	17	29	63	12	19	25	524	128	10	624	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.92	0.94		0.92	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1938	1938	1938	2000	2000	1984	1984	1984	2000	2000	2000	2000
Adj Flow Rate, veh/h	14	22	37	81	15	24	26	552	135	11	657	40
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	0	0	0	1	1	1	0	0	0
Cap, veh/h	95	100	126	236	49	46	82	993	237	67	1233	74
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.67	0.67	0.67	1.00	1.00	1.00
Sat Flow, veh/h	153	651	826	888	323	303	30	1485	354	9	1844	111
Grp Volume(v), veh/h	73	0	0	120	0	0	713	0	0	708	0	0
Grp Sat Flow(s),veh/h/ln	1630	0	0	1514	0	0	1868	0	0	1964	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	3.9	0.0	0.0	11.8	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.19		0.51	0.67		0.20	0.04		0.19	0.02		0.06
Lane Grp Cap(c), veh/h	321	0	0	332	0	0	1312	0	0	1374	0	0
V/C Ratio(X)	0.23	0.00	0.00	0.36	0.00	0.00	0.54	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	467	0	0	463	0	0	1312	0	0	1374	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.5	0.0	0.0	23.1	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.7	0.0	0.0	1.6	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.5	0.0	0.0	3.8	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	0.0	23.7	0.0	0.0	6.9	0.0	0.0	1.4	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		73			120			713			708	
Approach Delay, s/veh		22.9			23.7			6.9			1.4	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		45.6		14.4		45.6		14.4	
Change Period (Y+Rc), s		5.5		* 5.2		5.5		* 5.2	
Max Green Setting (Gmax), s		34.5		* 15		34.5		* 15	
Max Q Clear Time (g_c+I1), s		13.8		4.3		2.0		5.9	
Green Ext Time (p_c), s		5.7		0.2		6.2		0.4	

Intersection Summary			
HCM 6th Ctrl Delay		6.4	
HCM 6th LOS		A	

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

HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Background Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	317	116	110	509	142	125	672	107	75	636	47
Future Volume (veh/h)	32	317	116	110	509	142	125	672	107	75	636	47
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	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	352	129	116	536	149	132	707	113	80	677	50
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	194	509	186	231	735	622	226	967	817	227	890	66
Arrive On Green	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	762	1385	507	928	2000	1693	733	1984	1677	672	1825	135
Grp Volume(v), veh/h	36	0	481	116	536	149	132	707	113	80	0	727
Grp Sat Flow(s),veh/h/ln	762	0	1892	928	2000	1693	733	1984	1677	672	0	1960
Q Serve(g_s), s	3.4	0.0	17.2	9.7	18.5	4.9	14.3	22.7	3.0	8.6	0.0	24.2
Cycle Q Clear(g_c), s	22.0	0.0	17.2	26.9	18.5	4.9	38.5	22.7	3.0	31.3	0.0	24.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	194	0	695	231	735	622	226	967	817	227	0	955
V/C Ratio(X)	0.19	0.00	0.69	0.50	0.73	0.24	0.58	0.73	0.14	0.35	0.00	0.76
Avail Cap(c_a), veh/h	194	0	695	231	735	622	226	967	817	227	0	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.3	0.0	21.5	32.9	21.9	17.5	32.4	16.3	11.3	28.8	0.0	16.7
Incr Delay (d2), s/veh	2.1	0.0	5.6	7.6	6.3	0.9	10.6	4.9	0.4	4.3	0.0	5.7
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	0.7	0.0	8.1	2.6	9.3	1.9	3.1	10.4	1.1	1.6	0.0	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	0.0	27.0	40.5	28.1	18.5	43.0	21.2	11.6	33.0	0.0	22.4
LnGrp LOS	C	A	C	D	C	B	D	C	B	C	A	C
Approach Vol, veh/h		517			801			952			807	
Approach Delay, s/veh		27.5			28.1			23.1

HCM 6th Signalized Intersection Summary — Background Conditions #1 (Pre-COVID) w/ IMP
26: SB Northville Road & N. Seven Mile Road — PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	268	391	703	496	113
Future Volume (veh/h)	63	268	391	703	496	113
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	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	68	291	412	740	522	119
Peak Hour Factor	0.92	0.92	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	1	1	1	1
Cap, veh/h	394	822	718	2385	824	187
Arrive On Green	0.21	0.21	0.56	1.00	0.27	0.27
Sat Flow, veh/h	1875	1668	1890	3870	3151	693
Grp Volume(v), veh/h	68	291	412	740	322	319
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1860
Q Serve(g_s), s	2.4	8.6	7.9	0.0	12.0	12.1
Cycle Q Clear(g_c), s	2.4	8.6	7.9	0.0	12.0	12.1
Prop In Lane	1.00	1.00	1.00			0.37
Lane Grp Cap(c), veh/h	394	822	718	2385	509	502
V/C Ratio(X)	0.17	0.35	0.57	0.31	0.63	0.64
Avail Cap(c_a), veh/h	394	822	718	2385	509	502
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	12.5	6.4	0.0	25.7	25.7
Incr Delay (d2), s/veh	1.0	1.2	3.3	0.3	5.9	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.0	2.5	0.1	5.9	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.9	13.7	9.8	0.3	31.6	31.8
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	359			1152	641	
Approach Delay, s/veh	16.2			3.7	31.7	
Approach LOS	B			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		57.0		23.0	29.0	28.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		50.6		* 17	22.6	21.6
Max Q Clear Time (g_c+I1), s		2.0		10.6	9.9	14.1
Green Ext Time (p_c), s		5.9		0.6	1.1	2.3

Intersection Summary		
HCM 6th Ctrl Delay		14.1
HCM 6th LOS		B

Notes

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

HCM 6th Signalized Intersection Summary — Background Conditions #1 (Pre-COVID) w/ IMP
28: Northville Road & S. Seven Mile Road — PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	308	580	514	321	374	390
Future Volume (veh/h)	308	580	514	321	374	390
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	1984	1984	1984	1984	1969	1969
Adj Flow Rate, veh/h	328	617	547	341	407	424
Peak Hour Factor	0.94	0.94	0.94	0.94	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	2	2
Cap, veh/h	491	807	630	392	518	2179
Arrive On Green	0.26	0.26	0.28	0.28	0.44	1.00
Sat Flow, veh/h	1890	1682	2330	1389	1875	3839
Grp Volume(v), veh/h	328	617	462	426	407	424
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1734	1875	1870
Q Serve(g_s), s	12.4	6.5	18.6	18.7	9.3	0.0
Cycle Q Clear(g_c), s	12.4	6.5	18.6	18.7	9.3	0.0
Prop In Lane	1.00	1.00		0.80	1.00	
Lane Grp Cap(c), veh/h	491	807	533	490	518	2179
V/C Ratio(X)	0.67	0.76	0.87	0.87	0.79	0.19
Avail Cap(c_a), veh/h	491	807	533	490	518	2179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	17.1	27.3	27.3	18.8	0.0
Incr Delay (d2), s/veh	7.0	6.8	17.2	18.5	11.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	9.8	10.3	9.6	5.8	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.5	23.9	44.5	45.8	30.3	0.2
LnGrp LOS	C	C	D	D	C	A
Approach Vol, veh/h	945		888		831	
Approach Delay, s/veh	27.2		45.1		14.9	
Approach LOS	C		D		B	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	24.0	29.0			53.0	27.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	17.6	22.6			46.6	20.8
Max Q Clear Time (g_c+I1), s	11.3	20.7			2.0	14.4
Green Ext Time (p_c), s	0.7	1.0			3.0	2.1

Intersection Summary		
HCM 6th Ctrl Delay		29.4
HCM 6th LOS		C

Appendix D

FUTURE TRAFFIC CONDITIONS

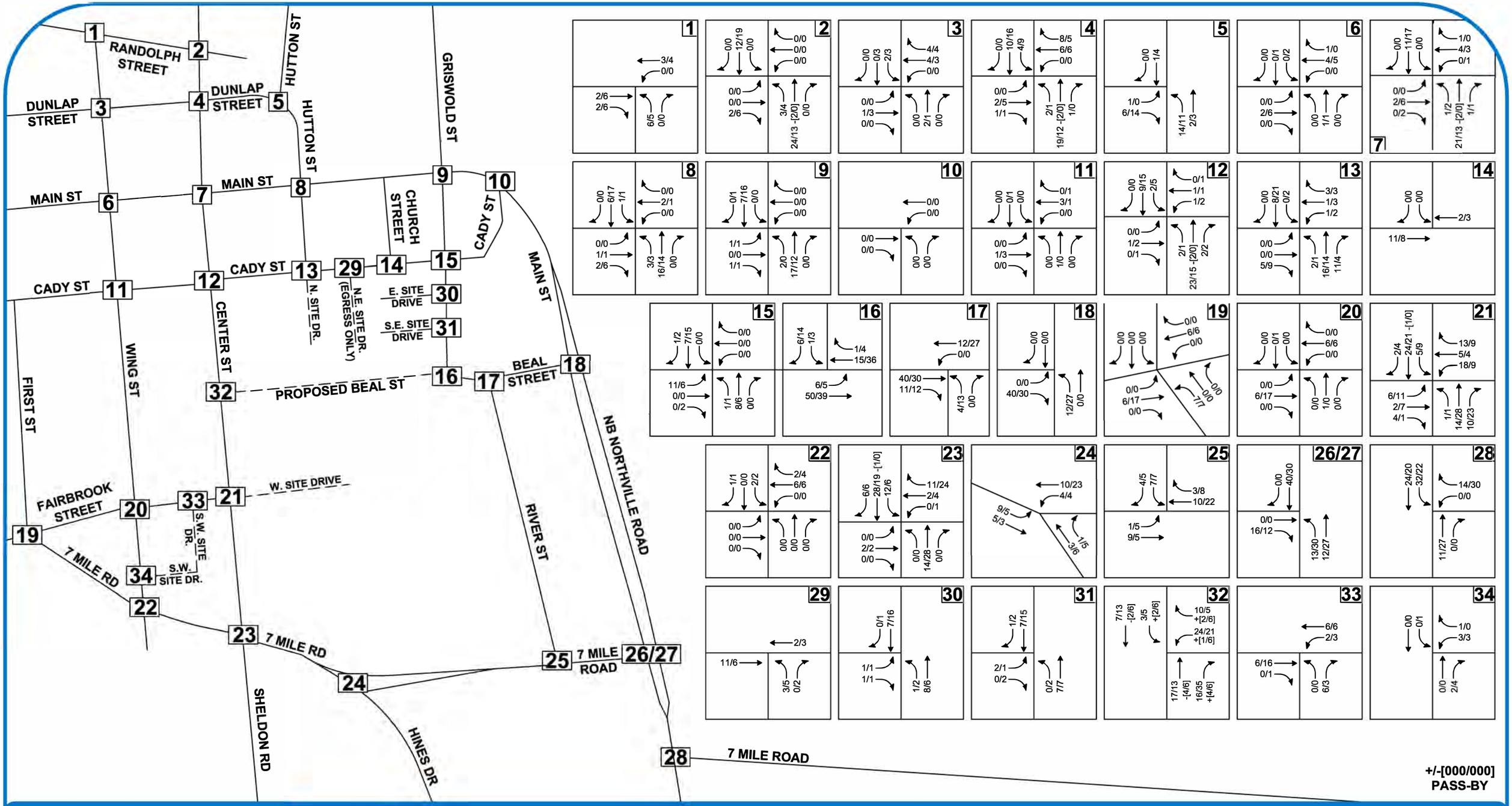


FIGURE 5
SITE-GENERATED TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

NORTH
SCALE: NOT TO SCALE

+/-[000/000] PASS-BY

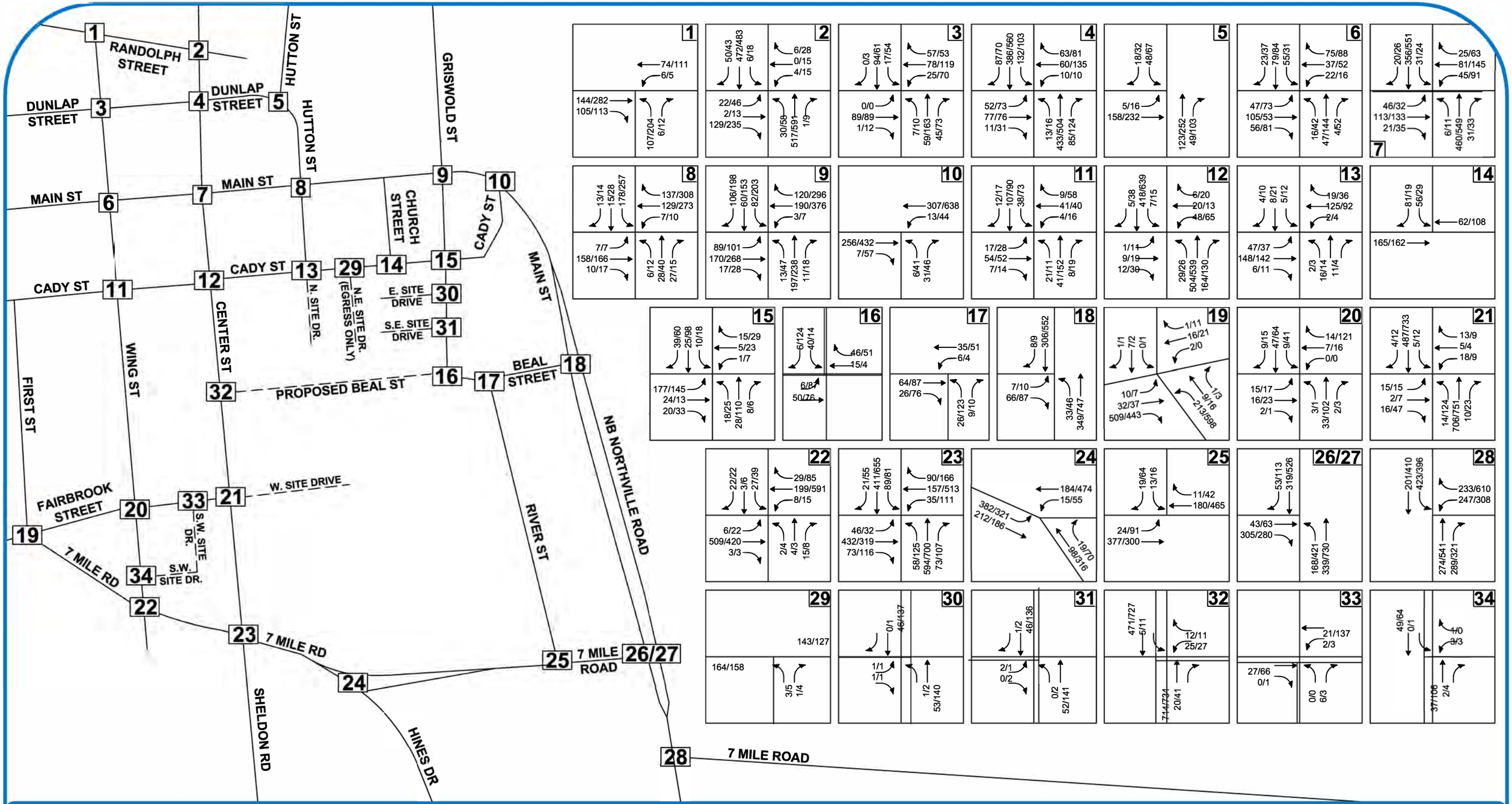


FIGURE 6
FUTURE TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

NORTH
SCALE: NOT TO SCALE

F&V

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	144	105	6	74	107	9
Future Vol, veh/h	144	105	6	74	107	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	60	60	77	77
Heavy Vehicles, %	3	3	2	2	4	4
Mvmt Flow	152	111	10	123	139	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	263	0	351	208
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	143	-
Critical Hdwy	-	-	4.12	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.218	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1301	-	642	827
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	879	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1301	-	637	827
Mov Cap-2 Maneuver	-	-	-	-	637	-
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	872	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	649	-	-	1301	-
HCM Lane V/C Ratio	0.232	-	-	0.008	-
HCM Control Delay (s)	12.2	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0	-

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	2	129	4	0	6	30	517	1	6	472	50
Future Vol, veh/h	22	2	129	4	0	6	30	517	1	6	472	50
Conflicting Peds, #/hr	0	0	0	0	0	0	5	0	4	4	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	75	75	75	91	91	91	69	69	69
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	2	2	2
Mvmt Flow	33	3	195	5	0	8	33	568	1	9	684	72

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1382	1382	725	1476	1418	573	761	0	0	573	0	0
Stage 1	743	743	-	639	639	-	-	-	-	-	-	-
Stage 2	639	639	-	837	779	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	122	145	427	105	138	523	851	-	-	1000	-	-
Stage 1	409	423	-	468	474	-	-	-	-	-	-	-
Stage 2	466	472	-	364	409	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	115	137	425	54	130	521	847	-	-	996	-	-
Mov Cap-2 Maneuver	115	137	-	54	130	-	-	-	-	-	-	-
Stage 1	391	417	-	448	454	-	-	-	-	-	-	-
Stage 2	441	452	-	193	403	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	48.3	39.7	0.5	0.1
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	847	-	-	300	117	996	-	-
HCM Lane V/C Ratio	0.039	-	-	0.773	0.114	0.009	-	-
HCM Control Delay (s)	9.4	-	-	48.3	39.7	8.6	-	-
HCM Lane LOS	A	-	-	E	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6	0.4	0	-	-

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	89	1	25	78	57	7	59	45	17	94	0
Future Vol, veh/h	0	89	1	25	78	57	7	59	45	17	94	0
Peak Hour Factor	0.78	0.78	0.78	0.73	0.73	0.73	0.84	0.84	0.84	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	4	4	4
Mvmt Flow	0	114	1	34	107	78	8	70	54	19	107	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	9.2	8.7	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	0%	16%	15%
Vol Thru, %	53%	99%	49%	85%
Vol Right, %	41%	1%	36%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	90	160	111
LT Vol	7	0	25	17
Through Vol	59	89	78	94
RT Vol	45	1	57	0
Lane Flow Rate	132	115	219	126
Geometry Grp	1	1	1	1
Degree of Util (X)	0.171	0.153	0.273	0.173
Departure Headway (Hd)	4.656	4.771	4.48	4.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	766	748	798	724
Service Time	2.708	2.823	2.525	2.987
HCM Lane V/C Ratio	0.172	0.154	0.274	0.174
HCM Control Delay	8.7	8.7	9.2	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.5	1.1	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	77	11	10	60	63	13	433	85	132	386	87
Future Volume (veh/h)	52	77	11	10	60	63	13	433	85	132	386	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	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	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	59	88	12	12	71	74	14	471	92	169	495	112
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	421	57	387	218	228	474	983	192	640	955	216
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1237	1694	231	1287	879	916	813	1599	312	846	1553	351
Grp Volume(v), veh/h	59	0	100	12	0	145	14	0	563	169	0	607
Grp Sat Flow(s),veh/h/ln	1237	0	1925	1287	0	1795	813	0	1911	846	0	1904
Q Serve(g_s), s	2.5	0.0	2.5	0.4	0.0	4.0	0.3	0.0	0.0	5.8	0.0	10.8
Cycle Q Clear(g_c), s	6.4	0.0	2.5	2.9	0.0	4.0	11.1	0.0	0.0	5.8	0.0	10.8
Prop In Lane	1.00		0.12	1.00		0.51	1.00		0.16	1.00		0.18
Lane Grp Cap(c), veh/h	345	0	478	387	0	446	474	0	1175	640	0	1171
V/C Ratio(X)	0.17	0.00	0.21	0.03	0.00	0.33	0.03	0.00	0.48	0.26	0.00	0.52
Avail Cap(c_a), veh/h	345	0	478	387	0	446	474	0	1175	640	0	1171
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	17.9	19.0	0.0	18.4	1.6	0.0	0.0	5.6	0.0	6.5
Incr Delay (d2), s/veh	1.1	0.0	1.0	0.1	0.0	1.9	0.1	0.0	1.4	1.0	0.0	1.6
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	0.8	0.0	1.2	0.1	0.0	1.8	0.0	0.0	0.5	1.0	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	0.0	18.9	19.2	0.0	20.4	1.7	0.0	1.4	6.6	0.0	8.2
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	A
Approach Vol, veh/h		159			157			577			776	
Approach Delay, s/veh		20.1			20.3			1.4			7.8	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2			4		6		8			
Phs Duration (G+Y+Rc), s		41.0			19.0		41.0		19.0			
Change Period (Y+Rc), s		* 4.1			* 4.1		* 4.1		* 4.1			
Max Green Setting (Gmax), s		* 37			* 15		* 37		* 15			
Max Q Clear Time (g_c+I1), s		13.1			8.4		12.8		6.0			
Green Ext Time (p_c), s		4.3			0.3		5.9		0.5			

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	158	123	49	48	18
Future Vol, veh/h	5	158	123	49	48	18
Conflicting Peds, #/hr	0	0	0	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	84	84	74	74
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	5	170	146	58	65	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	204	0	-	0	360	180
Stage 1	-	-	-	-	175	-
Stage 2	-	-	-	-	185	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1362	-	-	-	643	868
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	852	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1362	-	-	-	640	864
Mov Cap-2 Maneuver	-	-	-	-	640	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	852	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1362	-	-	-	689
HCM Lane V/C Ratio	0.004	-	-	-	0.129
HCM Control Delay (s)	7.7	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	105	56	22	37	75	16	47	4	55	79	23
Future Vol, veh/h	47	105	56	22	37	75	16	47	4	55	79	23
Peak Hour Factor	0.81	0.81	0.81	0.76	0.76	0.76	0.93	0.93	0.93	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	5	5	5	2	2	2
Mvmt Flow	58	130	69	29	49	99	17	51	4	71	101	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	9.1	9	10.1
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	23%	16%	35%
Vol Thru, %	70%	50%	28%	50%
Vol Right, %	6%	27%	56%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	208	134	157
LT Vol	16	47	22	55
Through Vol	47	105	37	79
RT Vol	4	56	75	23
Lane Flow Rate	72	257	176	201
Geometry Grp	1	1	1	1
Degree of Util (X)	0.106	0.337	0.227	0.28
Departure Headway (Hd)	5.281	4.721	4.639	5.014
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	671	755	767	711
Service Time	3.373	2.787	2.711	3.091
HCM Lane V/C Ratio	0.107	0.34	0.229	0.283
HCM Control Delay	9	10.2	9.1	10.1
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.4	1.5	0.9	1.1

HCM 6th Signalized Intersection Summary
7: Center Street & Main Street

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	113	21	45	81	25	6	460	31	31	356	20
Future Volume (veh/h)	46	113	21	45	81	25	6	460	31	31	356	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99			0.99	0.99		0.99	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1969	1969	1953	1953	1953	1953	1953	1953	1953
Adj Flow Rate, veh/h	53	130	24	51	92	28	7	554	37	34	396	22
Peak Hour Factor	0.87	0.87	0.87	0.88	0.88	0.88	0.83	0.83	0.83	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	3	3	3
Cap, veh/h	153	337	54	171	286	74	64	1005	67	102	941	50
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.56	0.56	1.00	1.00	1.00	1.00
Sat Flow, veh/h	294	1279	206	354	1085	282	6	1801	119	68	1686	90
Grp Volume(v), veh/h	207	0	0	171	0	0	598	0	0	452	0	0
Grp Sat Flow(s),veh/h/ln	1780	0	0	1720	0	0	1926	0	0	1843	0	0
Q Serve(g_s), s	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	0.0	4.4	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26		0.12	0.30		0.16	0.01		0.06	0.08		0.05
Lane Grp Cap(c), veh/h	544	0	0	531	0	0	1136	0	0	1094	0	0
V/C Ratio(X)	0.38	0.00	0.00	0.32	0.00	0.00	0.53	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	544	0	0	531	0	0	1136	0	0	1094	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	0.0	17.9	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	1.6	0.0	0.0	1.7	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	2.0	0.0	0.0	4.6	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	0.0	19.5	0.0	0.0	10.2	0.0	0.0	1.2	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		207			171			598			452	
Approach Delay, s/veh		20.2			19.5			10.2			1.2	
Approach LOS		C			B			B			A	
Timer - Assigned Phs		2			4		6		8			
Phs Duration (G+Y+Rc), s		39.0			21.0		39.0		21.0			
Change Period (Y+Rc), s		5.5			* 5.2		5.5		* 5.2			
Max Green Setting (Gmax), s		33.5			* 16		33.5		* 16			
Max Q Clear Time (g_c+I1), s		13.9			7.3		2.0		6.4			
Green Ext Time (p_c), s		4.2			0.7		3.5		0.6			
Intersection Summary												
HCM 6th Ctrl Delay			9.9									
HCM 6th LOS			A									

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

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	158	10	7	129	137	9	28	27	178	15	13
Future Volume (veh/h)	7	158	10	7	129	137	9	28	27	178	15	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	1969	1969	1969	2000	2000	2000	1969	1969	1969
Adj Flow Rate, veh/h	8	186	12	8	147	156	13	41	39	209	18	15
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	2	2	2	0	0	0	2	2	2
Cap, veh/h	76	1083	833	82	1057	820	99	250	202	464	30	397
Arrive On Green	1.00	1.00	1.00	0.18	0.18	0.18	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	24	1957	1506	35	1911	1483	113	936	758	1310	113	1490
Grp Volume(v), veh/h	194	0	12	155	0	156	93	0	0	227	0	15
Grp Sat Flow(s),veh/h/ln	1980	0	1506	1945	0	1483	1807	0	0	1422	0	1490
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	5.5	0.0	0.4
Cycle Q Clear(g_c), s	0.0	0.0	0.0	4.0	0.0	5.3	2.3	0.0	0.0	7.8	0.0	0.4
Prop In Lane	0.04		1.00	0.05		1.00	0.14		0.42	0.92		1.00
Lane Grp Cap(c), veh/h	1158	0	833	1140	0	820	550	0	0	495	0	397
V/C Ratio(X)	0.17	0.00	0.01	0.14	0.00	0.19	0.17	0.00	0.00	0.46	0.00	0.04
Avail Cap(c_a), veh/h	1158	0	833	1140	0	820	550	0	0	495	0	397
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.6	0.0	13.1	17.0	0.0	0.0	18.8	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.5	0.7	0.0	0.0	3.0	0.0	0.2
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	0.1	0.0	0.0	1.7	0.0	1.8	1.0	0.0	0.0	3.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.0	12.8	0.0	13.7	17.6	0.0	0.0	21.8	0.0	16.5
LnGrp LOS	A	A	A	B	A	B	B	A	A	C	A	B
Approach Vol, veh/h		206			311			93			242	
Approach Delay, s/veh		0.3			13.2			17.6			21.5	
Approach LOS		A			B			B			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.7		21.3		38.7		21.3				
Change Period (Y+Rc), s		5.5		* 5.3		5.5		* 5.3				
Max Green Setting (Gmax), s		33.2		* 16		33.2		* 16				
Max Q Clear Time (g_c+I1), s		2.0		9.8		7.3		4.3				
Green Ext Time (p_c), s		1.3		0.7		1.5		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			12.9									
HCM 6th LOS			B									

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

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	170	17	3	190	120	13	197	11	82	60	106
Future Volume (veh/h)	89	170	17	3	190	120	13	197	11	82	60	106
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	1984	1984	1984	1938	1938	1938	1984	1984	1984	1984	1953	1953
Adj Flow Rate, veh/h	109	207	21	4	229	145	15	224	12	91	67	118
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.88	0.88	0.88	0.88	0.90	0.90
Percent Heavy Veh, %	1	1	1	4	4	4	1	1	1	3	3	3
Cap, veh/h	431	895	95	64	1002	599	79	624	32	221	173	234
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	711	1931	205	7	2162	1293	45	1800	93	407	499	676
Grp Volume(v), veh/h	156	0	181	206	0	172	251	0	0	276	0	0
Grp Sat Flow(s),veh/h/ln	1078	0	1769	1933	0	1529	1938	0	0	1582	0	0
Q Serve(g_s), s	3.8	0.0	3.7	0.0	0.0	4.1	0.0	0.0	0.0	1.5	0.0	0.0
Cycle Q Clear(g_c), s	7.9	0.0	3.7	3.8	0.0	4.1	5.7	0.0	0.0	7.3	0.0	0.0
Prop In Lane	0.70		0.12	0.02		0.85	0.06		0.05	0.33		0.43
Lane Grp Cap(c), veh/h	601	0	819	957	0	708	735	0	0	628	0	0
V/C Ratio(X)	0.26	0.00	0.22	0.22	0.00	0.24	0.34	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	601	0	819	957	0	708	735	0	0	628	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	9.6	9.7	0.0	9.7	14.7	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.6	0.5	0.0	0.8	1.3	0.0	0.0	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	1.4	1.6	0.0	1.4	2.5	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	0.0	10.2	10.2	0.0	10.5	15.9	0.0	0.0	17.3	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		337			378			251			276	
Approach Delay, s/veh		11.1			10.3			15.9			17.3	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21				
Max Q Clear Time (g_c+I1), s		9.9		9.3		6.1		7.7				
Green Ext Time (p_c), s		2.1		1.3		2.4		1.1				
Intersection Summary												
HCM 6th Ctrl Delay			13.2									
HCM 6th LOS			B									

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

HCM 6th TWSC
10: Cady Street & Main Street

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	256	7	13	307	6	31
Future Vol, veh/h	256	7	13	307	6	31
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	87	87	79	79
Heavy Vehicles, %	1	1	3	3	5	5
Mvmt Flow	291	8	15	353	8	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	300	0	503	151
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	207	-
Critical Hdwy	-	-	4.16	-	6.9	7
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.23	-	3.55	3.35
Pot Cap-1 Maneuver	-	-	1251	-	491	859
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1250	-	483	858
Mov Cap-2 Maneuver	-	-	-	-	483	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	787	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	762	-	-	1250	-
HCM Lane V/C Ratio	0.061	-	-	0.012	-
HCM Control Delay (s)	10	-	-	7.9	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 6th AWSC
11: Wing Street & Cady Street

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection												
Intersection Delay, s/veh	8.6											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	54	7	4	41	9	21	41	8	38	107	12
Future Vol, veh/h	17	54	7	4	41	9	21	41	8	38	107	12
Peak Hour Factor	0.63	0.63	0.63	0.82	0.82	0.82	0.90	0.90	0.90	0.81	0.81	0.81
Heavy Vehicles, %	1	1	1	3	3	3	5	5	5	2	2	2
Mvmt Flow	27	86	11	5	50	11	23	46	9	47	132	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	8.1	8.2	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	22%	7%	24%
Vol Thru, %	59%	69%	76%	68%
Vol Right, %	11%	9%	17%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	78	54	157
LT Vol	21	17	4	38
Through Vol	41	54	41	107
RT Vol	8	7	9	12
Lane Flow Rate	78	124	66	194
Geometry Grp	1	1	1	1
Degree of Util (X)	0.1	0.159	0.085	0.241
Departure Headway (Hd)	4.646	4.617	4.647	4.476
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	772	778	770	802
Service Time	2.675	2.644	2.677	2.501
HCM Lane V/C Ratio	0.101	0.159	0.086	0.242
HCM Control Delay	8.2	8.5	8.1	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0.3	0.9

HCM 6th TWSC
12: Center Street & Cady Street

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	9	12	48	20	6	29	504	164	7	418	5
Future Vol, veh/h	1	9	12	48	20	6	29	504	164	7	418	5
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	82	82	82	90	90	90	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	2	15	20	59	24	7	32	560	182	8	470	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1223	1296	475	1223	1208	653	477	0	0	742	0	0
Stage 1	490	490	-	715	715	-	-	-	-	-	-	-
Stage 2	733	806	-	508	493	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	158	164	594	158	185	471	1080	-	-	865	-	-
Stage 1	564	552	-	425	438	-	-	-	-	-	-	-
Stage 2	415	398	-	551	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	132	153	593	134	173	470	1079	-	-	865	-	-
Mov Cap-2 Maneuver	132	153	-	134	173	-	-	-	-	-	-	-
Stage 1	534	544	-	403	415	-	-	-	-	-	-	-
Stage 2	364	377	-	511	542	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.6	58.4	0.4	0.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1079	-	-	254	152	865	-	-
HCM Lane V/C Ratio	0.03	-	-	0.144	0.594	0.009	-	-
HCM Control Delay (s)	8.4	0	-	21.6	58.4	9.2	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	3.1	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	148	6	2	125	19	2	16	11	5	8	4
Future Vol, veh/h	47	148	6	2	125	19	2	16	11	5	8	4
Conflicting Peds, #/hr	4	0	0	0	0	4	1	0	3	3	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	66	66	66	92	92	92	75	75	75
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	11	11	11
Mvmt Flow	56	176	7	3	189	29	2	17	12	7	11	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	222	0	0	183	0	0	511	520	183	523	509	209
Stage 1	-	-	-	-	-	-	292	292	-	214	214	-
Stage 2	-	-	-	-	-	-	219	228	-	309	295	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.21	6.61	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.599	4.099	3.399
Pot Cap-1 Maneuver	1353	-	-	1398	-	-	473	461	859	451	454	809
Stage 1	-	-	-	-	-	-	716	671	-	768	709	-
Stage 2	-	-	-	-	-	-	783	715	-	682	653	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1348	-	-	1398	-	-	444	437	857	413	430	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	444	437	-	413	430	-
Stage 1	-	-	-	-	-	-	683	640	-	730	705	-
Stage 2	-	-	-	-	-	-	764	711	-	622	623	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0.1	12.1	12.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	538	1348	-	-	1398	-	-	476
HCM Lane V/C Ratio	0.059	0.042	-	-	0.002	-	-	0.048
HCM Control Delay (s)	12.1	7.8	0	-	7.6	0	-	12.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	165	62	0	56	81
Future Vol, veh/h	0	165	62	0	56	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	64	64	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	204	97	0	74	107

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	301	97
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	204	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	695	965
Stage 1	0	-	-	0	932	-
Stage 2	0	-	-	0	835	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	695	965
Mov Cap-2 Maneuver	-	-	-	-	695	-
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	835	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	833
HCM Lane V/C Ratio	-	-	0.216
HCM Control Delay (s)	-	-	10.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.8

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	177	24	20	1	5	15	18	28	8	10	25	39
Future Vol, veh/h	177	24	20	1	5	15	18	28	8	10	25	39
Conflicting Peds, #/hr	5	0	0	0	0	5	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	60	60	60	85	85	85	76	76	76
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	4	4	4
Mvmt Flow	195	26	22	2	8	25	21	33	9	13	33	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	189	172	62	189	193	43	87	0	0	42	0	0
Stage 1	88	88	-	80	80	-	-	-	-	-	-	-
Stage 2	101	84	-	109	113	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.1	-	-	4.14	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.2	-	-	2.236	-	-
Pot Cap-1 Maneuver	773	723	1006	776	706	1033	1522	-	-	1554	-	-
Stage 1	922	824	-	934	832	-	-	-	-	-	-	-
Stage 2	908	827	-	901	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	729	704	1003	725	688	1028	1518	-	-	1554	-	-
Mov Cap-2 Maneuver	729	704	-	725	688	-	-	-	-	-	-	-
Stage 1	906	814	-	821	820	-	-	-	-	-	-	-
Stage 2	861	815	-	845	796	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	9.1	2.5	1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1518	-	-	745	904	1554	-	-
HCM Lane V/C Ratio	0.014	-	-	0.326	0.039	0.008	-	-
HCM Control Delay (s)	7.4	0	-	12.2	9.1	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.4	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	64	26	6	35	26	9
Future Vol, veh/h	64	26	6	35	26	9
Conflicting Peds, #/hr	0	0	0	0	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	62	72	72	70	70
Heavy Vehicles, %	5	5	0	0	7	7
Mvmt Flow	103	42	8	49	37	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	145	0	190	125
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	-	-	4.1	-	6.47	6.27
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	-	-	2.2	-	3.563	3.363
Pot Cap-1 Maneuver	-	-	1450	-	788	912
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1450	-	782	911
Mov Cap-2 Maneuver	-	-	-	-	782	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	937	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	812	-	-	1450	-
HCM Lane V/C Ratio	0.062	-	-	0.006	-
HCM Control Delay (s)	9.7	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	66	33	349	306	8
Future Vol, veh/h	7	66	33	349	306	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	88	88	91	91
Heavy Vehicles, %	4	4	3	3	2	2
Mvmt Flow	11	108	38	397	336	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	616	173	345	0	-	0
Stage 1	341	-	-	-	-	-
Stage 2	275	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.16	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.23	-	-	-
Pot Cap-1 Maneuver	418	834	1203	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	401	834	1203	-	-	-
Mov Cap-2 Maneuver	401	-	-	-	-	-
Stage 1	658	-	-	-	-	-
Stage 2	741	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1203	-	756	-	-
HCM Lane V/C Ratio	0.031	-	0.158	-	-
HCM Control Delay (s)	8.1	0.1	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	16	2	0	7	14	3	33	2	9	47	9
Future Vol, veh/h	15	16	2	0	7	14	3	33	2	9	47	9
Peak Hour Factor	0.73	0.73	0.73	0.69	0.69	0.69	0.75	0.75	0.75	0.74	0.74	0.74
Heavy Vehicles, %	0	0	0	0	0	0	11	11	11	4	4	4
Mvmt Flow	21	22	3	0	10	20	4	44	3	12	64	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7	7.6	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	45%	0%	14%
Vol Thru, %	87%	48%	33%	72%
Vol Right, %	5%	6%	67%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	33	21	65
LT Vol	3	15	0	9
Through Vol	33	16	7	47
RT Vol	2	2	14	9
Lane Flow Rate	51	45	30	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.06	0.053	0.032	0.1
Departure Headway (Hd)	4.269	4.217	3.773	4.082
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	833	839	934	873
Service Time	2.324	2.293	1.856	2.13
HCM Lane V/C Ratio	0.061	0.054	0.032	0.101
HCM Control Delay	7.6	7.5	7	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.3

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	2	16	18	5	13	14	706	10	5	487	4
Future Vol, veh/h	15	2	16	18	5	13	14	706	10	5	487	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	92	92	92	90	90	90	88	88	88
Heavy Vehicles, %	5	5	5	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	3	24	20	5	14	16	784	11	6	553	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1399	1395	556	1403	1392	790	558	0	0	795	0	0
Stage 1	598	568	-	822	822	-	-	-	-	-	-	-
Stage 2	831	827	-	581	570	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	116	139	525	117	142	390	1013	-	-	826	-	-
Stage 1	502	502	-	368	388	-	-	-	-	-	-	-
Stage 2	360	382	-	499	505	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	105	134	525	106	136	390	1013	-	-	826	-	-
Mov Cap-2 Maneuver	105	134	-	106	136	-	-	-	-	-	-	-
Stage 1	488	496	-	358	377	-	-	-	-	-	-	-
Stage 2	332	371	-	468	499	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	33.6	37.3	0.2	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1013	-	-	175	150	826	-	-
HCM Lane V/C Ratio	0.015	-	-	0.286	0.261	0.007	-	-
HCM Control Delay (s)	8.6	0	-	33.6	37.3	9.4	0	-
HCM Lane LOS	A	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	1	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	509	3	8	199	29	2	4	15	27	3	22
Future Vol, veh/h	6	509	3	8	199	29	2	4	15	27	3	22
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	89	89	89	79	79	79	85	85	85
Heavy Vehicles, %	2	2	2	3	3	3	10	10	10	4	4	4
Mvmt Flow	8	636	4	9	224	33	3	5	19	32	4	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	259	0	0	640	0	0	928	931	641	930	917	243
Stage 1	-	-	-	-	-	-	654	654	-	261	261	-
Stage 2	-	-	-	-	-	-	274	277	-	669	656	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.2	6.6	6.3	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.14	5.54	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.59	4.09	3.39	3.536	4.036	3.336
Pot Cap-1 Maneuver	1306	-	-	939	-	-	240	259	461	246	270	791
Stage 1	-	-	-	-	-	-	443	451	-	740	689	-
Stage 2	-	-	-	-	-	-	715	667	-	444	459	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1304	-	-	939	-	-	227	254	460	228	265	789
Mov Cap-2 Maneuver	-	-	-	-	-	-	227	254	-	228	265	-
Stage 1	-	-	-	-	-	-	440	448	-	734	681	-
Stage 2	-	-	-	-	-	-	681	659	-	417	456	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	15.6	18.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	367	1304	-	-	939	-	-	330
HCM Lane V/C Ratio	0.072	0.006	-	-	0.01	-	-	0.185
HCM Control Delay (s)	15.6	7.8	-	-	8.9	-	-	18.4
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	432	73	35	157	90	58	594	73	89	411	21
Future Volume (veh/h)	46	432	73	35	157	90	58	594	73	89	411	21
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	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	54	508	86	38	171	98	63	646	79	103	478	24
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh, %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	432	608	103	160	712	603	368	839	103	221	906	45
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1118	1654	280	810	1938	1640	896	1720	210	729	1859	93
Grp Volume(v), veh/h	54	0	594	38	171	98	63	0	725	103	0	502
Grp Sat Flow(s),veh/h/ln	1118	0	1934	810	1938	1640	896	0	1931	729	0	1952
Q Serve(g_s), s	2.8	0.0	22.4	3.6	4.9	3.2	4.2	0.0	24.7	10.8	0.0	14.2
Cycle Q Clear(g_c), s	7.7	0.0	22.4	26.0	4.9	3.2	18.4	0.0	24.7	35.5	0.0	14.2
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.11	1.00		0.05
Lane Grp Cap(c), veh/h	432	0	711	160	712	603	368	0	941	221	0	952
V/C Ratio(X)	0.12	0.00	0.84	0.24	0.24	0.16	0.17	0.00	0.77	0.47	0.00	0.53
Avail Cap(c_a), veh/h	432	0	711	160	712	603	368	0	941	221	0	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	0.0	23.1	35.0	17.6	17.0	20.5	0.0	16.8	31.4	0.0	14.1
Incr Delay (d2), s/veh	0.6	0.0	11.2	3.4	0.8	0.6	1.0	0.0	6.1	6.9	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	0.8	0.0	11.6	0.8	2.2	1.2	0.9	0.0	11.2	2.2	0.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	34.3	38.4	18.3	17.6	21.5	0.0	22.9	38.3	0.0	16.2
LnGrp LOS	C	A	C	D	B	B	C	A	C	D	A	B
Approach Vol, veh/h		648			307			788			605	
Approach Delay, s/veh		33.2			20.6			22.8			20.0	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	2		4		6		8		
Phs Duration (G+Y+Rc), s	45.0		35.0		45.0		35.0		
Change Period (Y+Rc), s	6.0		5.6		6.0		5.6		
Max Green Setting (Gmax), s	39.0		29.4		39.0		29.4		
Max Q Clear Time (g_c+I1), s	26.7		24.4		37.5		28.0		
Green Ext Time (p_c), s	4.3		1.8		0.6		0.2		

Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	377	180	11	13	19
Future Vol, veh/h	24	377	180	11	13	19
Conflicting Peds, #/hr	3	0	0	3	2	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	83	83	71	71
Heavy Vehicles, %	2	2	5	5	6	6
Mvmt Flow	26	414	217	13	18	27

Major/Minor	Major1			Major2		
Conflicting Flow All	233	0	-	0	695	230
Stage 1	-	-	-	-	227	-
Stage 2	-	-	-	-	468	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	1335	-	-	-	402	799
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	622	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	390	794
Mov Cap-2 Maneuver	-	-	-	-	390	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	620	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1331	-	-	-	559
HCM Lane V/C Ratio	0.02	-	-	-	0.081
HCM Control Delay (s)	7.8	0	-	-	12
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	43	305	0	168	0	0	0	0	0	319	53
Future Volume (Veh/h)	0	43	305	0	168	0	0	0	0	0	319	53
Sign Control		Stop			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.88	0.88	0.88	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	53	377	0	191	0	0	0	0	0	336	56
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	460	364	196	572	392	0	392			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	460	364	196	572	392	0	392			0		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	7.0	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	91	54	100	64	100	100			100		
cM capacity (veh/h)	351	563	812	197	536	1075	1163			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	53	377	191	224	168
Volume Left	0	0	0	0	0
Volume Right	0	377	0	0	56
cSH	563	812	536	1700	1700
Volume to Capacity	0.09	0.46	0.36	0.13	0.10
Queue Length 95th (ft)	8	62	40	0	0
Control Delay (s)	12.1	13.2	15.4	0.0	0.0
Lane LOS	B	B	C		
Approach Delay (s)	13.1		15.4	0.0	
Approach LOS	B		C		

Intersection Summary					
Average Delay	8.5				
Intersection Capacity Utilization	50.1%	ICU Level of Service	A		
Analysis Period (min)	15				

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	0	168	339	0	0
Future Volume (Veh/h)	43	0	168	339	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	53	0	191	385	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				511		
pX, platoon unblocked						
vC, conflicting volume	574	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	574	0	0			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	100	88			
cM capacity (veh/h)	395	1084	1600			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	53	319	257
Volume Left	53	191	0
Volume Right	0	0	0
cSH	395	1600	1700
Volume to Capacity	0.13	0.12	0.15
Queue Length 95th (ft)	11	10	0
Control Delay (s)	15.5	4.9	0.0
Lane LOS	C	A	
Approach Delay (s)	15.5	2.7	
Approach LOS	C		

Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	51.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	247	233	274	289	423	201
Future Volume (veh/h)	247	233	274	289	423	201
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	1953	1953	1938	1938	1984	1984
Adj Flow Rate, veh/h	287	271	288	304	486	231
Peak Hour Factor	0.86	0.86	0.95	0.95	0.87	0.87
Percent Heavy Veh, %	3	3	4	4	1	1
Cap, veh/h	665	923	377	337	468	1829
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1860	1655	1938	1642	1890	3870
Grp Volume(v), veh/h	287	271	288	304	486	231
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1890	1885
Q Serve(g_s), s	9.4	0.0	11.8	14.4	16.0	2.7
Cycle Q Clear(g_c), s	9.4	0.0	11.8	14.4	16.0	2.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	665	923	377	337	468	1829
V/C Ratio(X)	0.43	0.29	0.76	0.90	1.04	0.13
Avail Cap(c_a), veh/h	665	923	377	337	468	1829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	9.4	30.0	31.0	30.5	11.3
Incr Delay (d2), s/veh	2.0	0.8	13.6	29.7	51.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	2.4	6.3	8.1	14.6	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.6	10.2	43.6	60.7	82.4	11.4
LnGrp LOS	C	B	D	E	F	B
Approach Vol, veh/h	558		592			717
Approach Delay, s/veh	16.0		52.4			59.5
Approach LOS	B		D			E

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	22.4	22.8				45.2	34.8
Change Period (Y+Rc), s	6.4	6.4				6.4	6.2
Max Green Setting (Gmax), s	16.0	16.4				38.8	28.6
Max Q Clear Time (g_c+I1), s	18.0	16.4				4.7	11.4
Green Ext Time (p_c), s	0.0	0.0				1.5	1.7

Intersection Summary	
HCM 6th Ctrl Delay	44.3
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	164	0	0	143	3	1
Future Vol, veh/h	164	0	0	143	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	66	66	92	92
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	202	0	0	217	3	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	419	202
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	217	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	591	839
Stage 1	-	0	0	-	832	-
Stage 2	-	0	0	-	819	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	591	839
Mov Cap-2 Maneuver	-	-	-	-	591	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	819	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	638	-	-
HCM Lane V/C Ratio	0.007	-	-
HCM Control Delay (s)	10.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	1	53	46	0
Future Vol, veh/h	1	1	1	53	46	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	85	85	60	60
Heavy Vehicles, %	2	2	0	0	3	3
Mvmt Flow	1	1	1	62	77	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	141	77	77	0	-	0
Stage 1	77	-	-	-	-	-
Stage 2	64	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	852	984	1535	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	851	984	1535	-	-	-
Mov Cap-2 Maneuver	851	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1535	-	913	-	-
HCM Lane V/C Ratio	0.001	-	0.002	-	-
HCM Control Delay (s)	7.3	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	0	0	52	46	1
Future Vol, veh/h	2	0	0	52	46	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	85	85	60	60
Heavy Vehicles, %	2	2	0	0	3	3
Mvmt Flow	2	0	0	61	77	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	139	78	79	0	-	0
Stage 1	78	-	-	-	-	-
Stage 2	61	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	854	983	1532	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	854	983	1532	-	-	-
Mov Cap-2 Maneuver	854	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	962	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1532	-	854	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	0	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	12	714	20	5	471
Future Vol, veh/h	25	12	714	20	5	471
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	90	90	88	88
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	27	13	793	22	6	535

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1351	804	0	0	815	0
Stage 1	804	-	-	-	-	-
Stage 2	547	-	-	-	-	-
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	166	383	-	-	812	-
Stage 1	440	-	-	-	-	-
Stage 2	580	-	-	-	-	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	164	383	-	-	812	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	440	-	-	-	-	-
Stage 2	574	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.3	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	201	812	-
HCM Lane V/C Ratio	-	-	0.2	0.007	-
HCM Control Delay (s)	-	-	27.3	9.5	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	27	0	2	21	0	6
Future Vol, veh/h	27	0	2	21	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	66	66	69	69	92	92
Heavy Vehicles, %	5	5	0	0	2	2
Mvmt Flow	41	0	3	30	0	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	41	0	77	41
Stage 1	-	-	-	-	41	-
Stage 2	-	-	-	-	36	-
Critical Hdwy	-	-	4.1	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.2	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1581	-	926	1030
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	986	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1581	-	924	1030
Mov Cap-2 Maneuver	-	-	-	-	924	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	984	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1030	-	-	1581	-
HCM Lane V/C Ratio	0.006	-	-	0.002	-
HCM Control Delay (s)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	1	37	2	0	49
Future Vol, veh/h	3	1	37	2	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	75	75	85	85
Heavy Vehicles, %	2	2	11	11	4	4
Mvmt Flow	3	1	49	3	0	58

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	109	51	0	0	52	0
Stage 1	51	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.14	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.236	-
Pot Cap-1 Maneuver	898	1017	-	-	1541	-
Stage 1	971	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	888	1017	-	-	1541	-
Mov Cap-2 Maneuver	888	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	917	1541	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	-	-	8.9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	282	113	5	111	204	12
Future Vol, veh/h	282	113	5	111	204	12
Conflicting Peds, #/hr	0	11	11	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	81	81	78	78
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	324	130	6	137	262	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	465	0	549	404
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	149	-
Critical Hdwy	-	-	4.1	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.2	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1107	-	498	649
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	881	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1095	-	490	640
Mov Cap-2 Maneuver	-	-	-	-	490	-
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	876	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	496	-	-	1095	-
HCM Lane V/C Ratio	0.558	-	-	0.006	-
HCM Control Delay (s)	21	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.4	-	-	0	-

Intersection	
Int Delay, s/veh	76.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	13	235	15	15	28	58	591	9	18	483	43
Future Vol, veh/h	46	13	235	15	15	28	58	591	9	18	483	43
Conflicting Peds, #/hr	2	0	5	5	0	2	15	0	12	12	0	15
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	91	91	91	87	87	87	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	55	15	280	16	16	31	67	679	10	25	662	59

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1601	1592	712	1724	1616	698	736	0	0	701	0	0
Stage 1	757	757	-	830	830	-	-	-	-	-	-	-
Stage 2	844	835	-	894	786	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	86	108	436	71	105	444	879	-	-	901	-	-
Stage 1	403	419	-	367	388	-	-	-	-	-	-	-
Stage 2	361	386	-	338	406	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	63	95	428	20	92	438	866	-	-	891	-	-
Mov Cap-2 Maneuver	63	95	-	20	92	-	-	-	-	-	-	-
Stage 1	366	401	-	335	354	-	-	-	-	-	-	-
Stage 2	295	352	-	109	389	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 367.5	257.3	0.8	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	866	-	-	208	59	891	-	-
HCM Lane V/C Ratio	0.077	-	-	1.683	1.08	0.028	-	-
HCM Control Delay (s)	9.5	-	-	$ 367.5	257.3	9.2	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	23.4	5.2	0.1	-	-

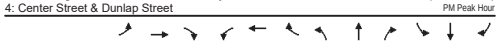
Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	89	12	70	119	53	10	163	73	54	61	3
Future Vol, veh/h	0	89	12	70	119	53	10	163	73	54	61	3
Peak Hour Factor	0.77	0.77	0.77	0.75	0.75	0.75	0.87	0.87	0.87	0.73	0.73	0.73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	0	116	16	93	159	71	11	187	84	74	84	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	13	12	10.7
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	29%	46%
Vol Thru, %	66%	88%	49%	52%
Vol Right, %	30%	12%	22%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	246	101	242	118
LT Vol	10	0	70	54
Through Vol	163	89	119	61
RT Vol	73	12	53	3
Lane Flow Rate	283	131	323	162
Geometry Grp	1	1	1	1
Degree of Util (X)	0.413	0.204	0.473	0.256
Departure Headway (Hd)	5.255	5.592	5.272	5.707
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	684	640	681	627
Service Time	3.3	3.646	3.314	3.759
HCM Lane V/C Ratio	0.414	0.205	0.474	0.258
HCM Control Delay	12	10.1	13	10.7
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2	0.8	2.5	1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	76	31	10	135	81	16	504	124	103	560	70
Future Volume (veh/h)	73	76	31	10	135	81	16	504	124	103	560	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.93	0.95		0.93	1.00		0.98	0.99		0.98
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	2000	2000	2000	2000	2000	2000	1969	1969	1969	2000	2000	2000
Adj Flow Rate, veh/h	83	86	35	11	147	88	17	548	135	132	718	90
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	0	0	0	0	0	0	2	2	2	0	0	0
Cap, veh/h	281	327	133	360	282	169	352	934	230	590	1069	134
Arrive On Green	0.25	0.25	0.25	0.33	0.33	0.33	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1125	1317	536	1225	1134	679	675	1519	374	765	1738	218
Grp Volume(v), veh/h	83	0	121	11	0	235	17	0	683	132	0	808
Grp Sat Flow(s),veh/h/ln	1125	0	1853	1225	0	1813	675	0	1893	765	0	1956
Q Serve(g_s), s	4.1	0.0	3.2	0.4	0.0	6.3	0.7	0.0	0.0	4.8	0.0	16.3
Cycle Q Clear(g_c), s	10.4	0.0	3.2	3.6	0.0	6.3	17.0	0.0	0.0	4.8	0.0	16.3
Prop In Lane	1.00		0.29	1.00		0.37	1.00		0.20	1.00		0.11
Lane Grp Cap(c), veh/h	281	0	460	360	0	450	352	0	1164	590	0	1203
V/C Ratio(X)	0.29	0.00	0.26	0.03	0.00	0.52	0.05	0.00	0.59	0.22	0.00	0.67
Avail Cap(c_a), veh/h	281	0	460	360	0	450	352	0	1164	590	0	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	18.1	17.5	0.0	17.2	3.7	0.0	0.0	5.4	0.0	7.6
Incr Delay (d2), s/veh	2.7	0.0	1.4	0.2	0.0	4.3	0.3	0.0	2.2	0.9	0.0	3.0
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	1.2	0.0	1.5	0.1	0.0	2.9	0.1	0.0	0.7	0.7	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	0.0	19.5	17.6	0.0	21.5	4.0	0.0	2.2	6.3	0.0	10.6
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	B
Approach Vol, veh/h		204			246			700			940	
Approach Delay, s/veh		22.3			21.3			2.2			10.0	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	41.0		19.0		41.0		19.0	
Change Period (Y+Rc), s	* 4.1		* 4.1		* 4.1		* 4.1	
Max Green Setting (Gmax), s	* 37		* 15		* 37		* 15	
Max Q Clear Time (g_c+I1), s	19.0		12.4		18.3		8.3	
Green Ext Time (p_c), s	5.1		0.2		7.2		0.8	

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

Notes
User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	232	252	103	67	32
Future Vol, veh/h	16	232	252	103	67	32
Conflicting Peds, #/hr	19	0	0	19	10	20
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	89	89
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	17	252	274	112	75	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	405	0	-	0	645	369
Stage 1		-	-	-	349	-
Stage 2	-	-	-	-	296	-
Critical Hdwy	4.1	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.2	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1165	-	-	-	438	679
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	757	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1144	-	-	-	415	654
Mov Cap-2 Maneuver	-	-	-	-	415	-
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	743	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1144	-	-	-	471
HCM Lane V/C Ratio	0.015	-	-	-	0.236
HCM Control Delay (s)	8.2	0	-	-	15
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.9

HCM 6th AWSC
6: Wing Street & Main Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	53	81	15	52	88	42	144	52	31	84	37
Future Vol, veh/h	73	53	81	15	52	88	42	144	52	31	84	37
Peak Hour Factor	0.82	0.82	0.82	0.80	0.80	0.80	0.91	0.91	0.91	0.76	0.76	0.76
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	0	0	2
Mvmt Flow	89	65	99	19	65	110	46	158	57	41	111	49
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB		WB		NB		SB	
Opposing Approach	WB		EB		SB		NB	
Opposing Lanes	1		1		1		1	
Conflicting Approach Left	SB		NB		EB		WB	
Conflicting Lanes Left	1		1		1		1	
Conflicting Approach Right	NB		SB		WB		EB	
Conflicting Lanes Right	1		1		1		1	
HCM Control Delay	11.6		10.4		11.8		10.8	
HCM LOS	B		B		B		B	

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	35%	10%	20%
Vol Thru, %	61%	26%	34%	55%
Vol Right, %	22%	39%	57%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	238	207	155	152
LT Vol	42	73	15	31
Through Vol	144	53	52	84
RT Vol	52	81	88	37
Lane Flow Rate	262	252	194	200
Geometry Grp	1	1	1	1
Degree of Util (X)	0.389	0.374	0.284	0.302
Departure Headway (Hd)	5.357	5.329	5.277	5.433
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	670	674	678	660
Service Time	3.405	3.378	3.33	3.485
HCM Lane V/C Ratio	0.391	0.374	0.286	0.303
HCM Control Delay	11.8	11.6	10.4	10.8
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.8	1.7	1.2	1.3

HCM 6th Signalized Intersection Summary
7: Center Street & Main Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	133	35	91	145	63	11	549	33	24	551	26
Future Volume (veh/h)	32	133	35	91	145	63	11	549	33	24	551	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.96		0.94	0.99		0.98	1.00		0.98
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	1984	1984	1984	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	36	149	39	105	167	72	12	578	35	25	580	27
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	0	0	0	1	1	1
Cap, veh/h	114	353	84	190	243	94	68	1026	61	81	1008	46
Arrive On Green	0.26	0.26	0.26	0.44	0.44	0.44	0.56	0.56	0.56	1.00	1.00	1.00
Sat Flow, veh/h	169	1342	319	423	925	357	12	1838	110	33	1805	82
Grp Volume(v), veh/h	224	0	0	344	0	0	625	0	0	632	0	0
Grp Sat Flow(s),veh/h/ln	1830	0	0	1704	0	0	1960	0	0	1920	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.9	0.0	0.0	9.5	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.16		0.17	0.31		0.21	0.02		0.06	0.04		0.04
Lane Grp Cap(c), veh/h	551	0	0	527	0	0	1155	0	0	1134	0	0
V/C Ratio(X)	0.41	0.00	0.00	0.65	0.00	0.00	0.54	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	551	0	0	527	0	0	1155	0	0	1134	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.5	0.0	0.0	14.9	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	6.2	0.0	0.0	1.8	0.0	0.0	2.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	3.8	0.0	0.0	4.9	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	0.0	0.0	21.0	0.0	0.0	10.4	0.0	0.0	2.0	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	A	A	A
Approach Vol, veh/h		224			344			625			632	
Approach Delay, s/veh		20.7			21.0			10.4			2.0	
Approach LOS		C			C			B			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.0		21.0		39.0		21.0				
Change Period (Y+Rc), s		5.5		* 5.2		5.5		* 5.2				
Max Green Setting (Gmax), s		33.5		* 16		33.5		* 16				
Max Q Clear Time (g_c+I1), s		14.2		7.9		2.0		11.5				
Green Ext Time (p_c), s		4.5		0.8		5.3		0.9				

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

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

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	166	17	10	273	308	12	40	15	257	28	14
Future Volume (veh/h)	7	166	17	10	273	308	12	40	15	257	28	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.98		0.98	0.98		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	8	195	20	11	314	354	15	51	19	282	31	15
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	74	1077	827	73	1098	827	71	181	52	268	17	388
Arrive On Green	1.00	1.00	1.00	0.74	0.74	0.74	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	21	1945	1494	19	1967	1494	0	679	195	579	64	1457
Grp Volume(v), veh/h	203	0	20	325	0	354	85	0	0	313	0	15
Grp Sat Flow(s),veh/h/ln	1967	0	1494	1986	0	1494	874	0	0	643	0	1457
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.3	0.0	5.5	16.0	0.0	0.0	16.0	0.0	0.5
Prop In Lane	0.04		1.00	0.03		1.00	0.18		0.22	0.90		1.00
Lane Grp Cap(c), veh/h	1151	0	827	1161	0	827	304	0	0	285	0	388
V/C Ratio(X)	0.18	0.00	0.02	0.28	0.00	0.43	0.28	0.00	0.00	1.10	0.00	0.04
Avail Cap(c_a), veh/h	1151	0	827	1161	0	827	304	0	0	285	0	388
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	4.0	0.0	4.3	17.5	0.0	0.0	25.2	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.6	0.0	1.6	2.3	0.0	0.0	81.6	0.0	0.2
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	0.1	0.0	0.0	1.2	0.0	1.5	1.0	0.0	0.0	10.5	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.1	4.6	0.0	5.9	19.8	0.0	0.0	106.8	0.0	16.5
LnGrp LOS	A	A	A	A	A	A	B	A	A	F	A	B
Approach Vol, veh/h		223			679			85			328	
Approach Delay, s/veh		0.3			5.3			19.8			102.6	
Approach LOS		A			A			B			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.7		21.3		38.7		21.3				
Change Period (Y+Rc), s		5.5		* 5.3		5.5		* 5.3				
Max Green Setting (Gmax), s		33.2		* 16		33.2		* 16				
Max Q Clear Time (g_c+I1), s		2.0		18.0		7.5		18.0				
Green Ext Time (p_c), s		1.4		0.0		3.6		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

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

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	268	28	7	376	296	47	238	18	203	153	198
Future Volume (veh/h)	101	268	28	7	376	296	47	238	18	203	153	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	119	315	33	7	396	312	51	259	20	216	163	211
Peak Hour Factor	0.85	0.85	0.85	0.95	0.95	0.95	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	295	878	97	65	913	703	126	521	37	261	156	187
Arrive On Green	0.15	0.15	0.15	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	426	1895	210	8	1971	1517	164	1504	108	517	450	539
Grp Volume(v), veh/h	190	0	277	403	0	312	330	0	0	590	0	0
Grp Sat Flow(s),veh/h/ln	765	0	1766	1977	0	1519	1776	0	0	1506	0	0
Q Serve(g_s), s	8.6	0.0	8.4	0.0	0.0	8.3	0.0	0.0	0.0	12.8	0.0	0.0
Cycle Q Clear(g_c), s	16.9	0.0	8.4	8.2	0.0	8.3	8.0	0.0	0.0	20.8	0.0	0.0
Prop In Lane	0.63		0.12	0.02		1.00	0.15		0.06	0.37		0.36
Lane Grp Cap(c), veh/h	452	0	818	977	0	704	685	0	0	604	0	0
V/C Ratio(X)	0.42	0.00	0.34	0.41	0.00	0.44	0.48	0.00	0.00	0.98	0.00	0.00
Avail Cap(c_a), veh/h	452	0	818	977	0	704	685	0	0	604	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.2	0.0	17.2	10.8	0.0	10.9	15.4	0.0	0.0	20.6	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.0	1.1	1.3	0.0	2.0	2.4	0.0	0.0	31.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	3.9	3.5	0.0	2.9	3.5	0.0	0.0	12.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	0.0	18.3	12.1	0.0	12.9	17.8	0.0	0.0	51.9	0.0	0.0
LnGrp LOS	C	A	B	B	A	B	B	A	A	D	A	A
Approach Vol, veh/h		467			715			330			590	
Approach Delay, s/veh		21.1			12.5			17.8			51.9	
Approach LOS		C			B			B			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21				
Max Q Clear Time (g_c+I1), s		18.9		22.8		10.3		10.0				
Green Ext Time (p_c), s		2.3		0.0		4.6		1.4				

Intersection Summary	
HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

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

HCM 6th TWSC
10: Cady Street & Main Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	432	57	44	638	41	46
Future Vol, veh/h	432	57	44	638	41	46
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	95	95	75	75
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	533	70	46	672	55	61

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	605	0	998	304
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	428	-
Critical Hdwy	-	-	4.12	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.21	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	976	-	244	698
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	631	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	974	-	225	697
Mov Cap-2 Maneuver	-	-	-	-	225	-
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	350	-	-	974	-
HCM Lane V/C Ratio	0.331	-	-	0.048	-
HCM Control Delay (s)	20.3	-	-	8.9	0.3
HCM Lane LOS	C	-	-	A	A
HCM 95th %ile Q(veh)	1.4	-	-	0.1	-

HCM 6th AWSC
11: Wing Street & Cady Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	52	14	16	40	58	11	152	19	73	90	17
Future Vol, veh/h	28	52	14	16	40	58	11	152	19	73	90	17
Peak Hour Factor	0.83	0.83	0.83	0.90	0.90	0.90	0.90	0.90	0.90	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	0	0	2
Mvmt Flow	34	63	17	18	44	64	12	169	21	82	101	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB		WB		NB		SB	
Opposing Approach	WB		EB		SB		NB	
Opposing Lanes	1		1		1		1	
Conflicting Approach Left	SB		NB		EB		WB	
Conflicting Lanes Left	1		1		1		1	
Conflicting Approach Right	NB		SB		WB		EB	
Conflicting Lanes Right	1		1		1		1	
HCM Control Delay	9		8.7		9.4		9.5	
HCM LOS	A		A		A		A	

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	30%	14%	41%
Vol Thru, %	84%	55%	35%	50%
Vol Right, %	10%	15%	51%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	94	114	180
LT Vol	11	28	16	73
Through Vol	152	52	40	90
RT Vol	19	14	58	17
Lane Flow Rate	202	113	127	202
Geometry Grp	1	1	1	1
Degree of Util (X)	0.264	0.157	0.166	0.267
Departure Headway (Hd)	4.692	4.985	4.726	4.747
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	760	715	754	752
Service Time	2.748	3.05	2.79	2.803
HCM Lane V/C Ratio	0.266	0.158	0.168	0.269
HCM Control Delay	9.4	9	8.7	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.6	0.6	1.1

Intersection	
Int Delay, s/veh	21.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	19	30	65	13	20	26	539	130	15	639	38
Future Vol, veh/h	11	19	30	65	13	20	26	539	130	15	639	38
Conflicting Peds, #/hr	23	0	2	2	0	23	13	0	1	1	0	13
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	0	0	0	1	1	1	0	0	0
Mvmt Flow	14	24	38	83	17	26	27	567	137	16	673	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1472	1497	708	1449	1449	660	726	0	0	705	0	0
Stage 1	738	738	-	691	691	-	-	-	-	-	-	-
Stage 2	734	759	-	758	758	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	104	121	431	110	132	467	882	-	-	902	-	-
Stage 1	407	421	-	438	449	-	-	-	-	-	-	-
Stage 2	409	412	-	402	418	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	80	110	425	~ 78	120	456	871	-	-	901	-	-
Mov Cap-2 Maneuver	80	110	-	~ 78	120	-	-	-	-	-	-	-
Stage 1	381	403	-	415	425	-	-	-	-	-	-	-
Stage 2	344	390	-	333	400	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.7	258.2	0.3	0.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	871	-	-	158	99	901	-	-
HCM Lane V/C Ratio	0.031	-	-	0.487	1.269	0.018	-	-
HCM Control Delay (s)	9.3	0	-	47.7	258.2	9.1	0	-
HCM Lane LOS	A	A	-	E	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.3	8.7	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	142	11	4	92	36	3	14	4	12	21	10
Future Vol, veh/h	37	142	11	4	92	36	3	14	4	12	21	10
Conflicting Peds, #/hr	3	0	0	0	0	3	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	84	84	84	92	92	92	71	71	71
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	0	0	0
Mvmt Flow	42	160	12	5	110	43	3	15	4	17	30	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	156	0	0	172	0	0	416	416	166	405	401	137
Stage 1	-	-	-	-	-	-	250	250	-	145	145	-
Stage 2	-	-	-	-	-	-	166	166	-	260	256	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.12	6.52	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.518	4.018	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1430	-	-	1417	-	-	547	527	878	560	541	917
Stage 1	-	-	-	-	-	-	754	700	-	863	781	-
Stage 2	-	-	-	-	-	-	836	761	-	749	699	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1426	-	-	1417	-	-	500	506	878	528	519	913
Mov Cap-2 Maneuver	-	-	-	-	-	-	500	506	-	528	519	-
Stage 1	-	-	-	-	-	-	729	677	-	832	776	-
Stage 2	-	-	-	-	-	-	787	756	-	704	676	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.2	11.8	11.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	549	1426	-	-	1417	-	-	580
HCM Lane V/C Ratio	0.042	0.029	-	-	0.003	-	-	0.104
HCM Control Delay (s)	11.8	7.6	0	-	7.5	0	-	11.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↕	
Traffic Vol, veh/h	0	162	108	0	29	19
Future Vol, veh/h	0	162	108	0	29	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	90	90	72	72
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	171	120	0	40	26

Major/Minor	Major1		Major2			
Conflicting Flow All	-	0	-	0	291	120
Stage 1	-	-	-	-	120	-
Stage 2	-	-	-	-	171	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	704	937
Stage 1	0	-	-	0	910	-
Stage 2	0	-	-	0	864	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	704	937
Mov Cap-2 Maneuver	-	-	-	-	704	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	864	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	781
HCM Lane V/C Ratio	-	-	0.085
HCM Control Delay (s)	-	-	10
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	145	13	33	7	23	29	25	110	6	18	98	60
Future Vol, veh/h	145	13	33	7	23	29	25	110	6	18	98	60
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	68	68	68	88	88	88	83	83	83
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	175	16	40	10	34	43	28	125	7	22	118	72

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	424	389	157	411	422	129	193	0	0	132	0	0
Stage 1	201	201	-	185	185	-	-	-	-	-	-	-
Stage 2	223	188	-	226	237	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	542	548	891	555	526	926	1392	-	-	1466	-	-
Stage 1	803	737	-	821	751	-	-	-	-	-	-	-
Stage 2	782	746	-	781	713	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	475	525	888	503	504	926	1388	-	-	1466	-	-
Mov Cap-2 Maneuver	475	525	-	503	504	-	-	-	-	-	-	-
Stage 1	783	722	-	803	734	-	-	-	-	-	-	-
Stage 2	696	730	-	717	699	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.3	11.4	1.4	0.8
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1388	-	-	520	649	1466	-	-
HCM Lane V/C Ratio	0.02	-	-	0.443	0.134	0.015	-	-
HCM Control Delay (s)	7.6	0	-	17.3	11.4	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.2	0.5	0	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕		↰	↑	↕	
Traffic Vol, veh/h	87	76	4	51	123	10
Future Vol, veh/h	87	76	4	51	123	10
Conflicting Peds, #/hr	0	1	1	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	79	79	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	94	82	5	65	138	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	177	0	211	142
Stage 1	-	-	-	-	136	-
Stage 2	-	-	-	-	75	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1411	-	782	911
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	953	-
Platoon blocked, %	-	-				
Mov Cap-1 Maneuver	-	-	1410	-	778	905
Mov Cap-2 Maneuver	-	-	-	-	778	-
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	949	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	786	-	-	1410	-
HCM Lane V/C Ratio	0.19	-	-	0.004	-
HCM Control Delay (s)	10.7	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰		↕	↑	↕	
Traffic Vol, veh/h	10	87	46	747	552	9
Future Vol, veh/h	10	87	46	747	552	9
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	92	92	95	95
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	12	105	50	812	581	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1095	298	593	0	-	0
Stage 1	589	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.12	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.21	-	-	-
Pot Cap-1 Maneuver	211	704	986	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	190	702	983	-	-	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	473	-	-	-	-	-
Stage 2	574	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	983	-	549	-	-
HCM Lane V/C Ratio	0.051	-	0.213	-	-
HCM Control Delay (s)	8.9	0.4	13.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.8	-	-

HCM 6th AWSC
20: Wing Street & Fairbrook Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	23	1	0	16	121	1	102	3	41	64	15
Future Vol, veh/h	17	23	1	0	16	121	1	102	3	41	64	15
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.69	0.69	0.69	0.91	0.91	0.91
Heavy Vehicles, %	5	5	5	5	5	5	1	1	1	0	0	0
Mvmt Flow	20	28	1	0	18	133	1	148	4	45	70	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	8.3			8.1			8.6			8.4		
HCM LOS	A			A			A			A		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	41%	0%	34%
Vol Thru, %	96%	56%	12%	53%
Vol Right, %	3%	2%	88%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	41	137	120
LT Vol	1	17	0	41
Through Vol	102	23	16	64
RT Vol	3	1	121	15
Lane Flow Rate	154	49	151	132
Geometry Grp	1	1	1	1
Degree of Util (X)	0.192	0.067	0.175	0.165
Departure Headway (Hd)	4.498	4.881	4.175	4.514
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	797	734	860	795
Service Time	2.525	2.911	2.198	2.542
HCM Lane V/C Ratio	0.193	0.067	0.176	0.166
HCM Control Delay	8.6	8.3	8.1	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.2	0.6	0.6

HCM 6th TWSC
21: Center Street & Fairbrook Street/W. Site Drive

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	7	47	9	4	9	124	751	23	9	733	12
Future Vol, veh/h	15	7	47	9	4	9	124	751	23	9	733	12
Conflicting Peds, #/hr	1	0	0	0	0	1	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	94	94	94	91	91	91
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	0	0	0
Mvmt Flow	18	9	57	10	4	10	132	799	24	10	805	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1919	1923	816	1940	1917	812	822	0	0	823	0	0
Stage 1	836	836	-	1075	1075	-	-	-	-	-	-	-
Stage 2	1083	1087	-	865	842	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	52	68	380	49	67	379	812	-	-	816	-	-
Stage 1	364	385	-	266	296	-	-	-	-	-	-	-
Stage 2	265	295	-	348	380	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	35	46	379	27	45	379	809	-	-	816	-	-
Mov Cap-2 Maneuver	35	46	-	27	45	-	-	-	-	-	-	-
Stage 1	253	375	-	186	207	-	-	-	-	-	-	-
Stage 2	176	206	-	282	370	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	133.2	134.8	1.4	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	809	-	-	98	49	816	-	-
HCM Lane V/C Ratio	0.163	-	-	0.859	0.488	0.012	-	-
HCM Control Delay (s)	10.3	0	-	133.2	134.8	9.5	0	-
HCM Lane LOS	B	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	4.8	1.8	0	-	-

HCM 6th TWSC
22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	420	3	15	591	85	4	3	8	39	6	22
Future Vol, veh/h	22	420	3	15	591	85	4	3	8	39	6	22
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	5	5	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	26	494	4	17	657	94	6	4	11	48	7	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	751	0	0	499	0	0	1304	1334	502	1299	1289	704
Stage 1	-	-	-	-	-	-	549	549	-	738	738	-
Stage 2	-	-	-	-	-	-	755	785	-	561	551	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	858	-	-	1065	-	-	139	155	573	139	164	439
Stage 1	-	-	-	-	-	-	524	520	-	411	426	-
Stage 2	-	-	-	-	-	-	404	407	-	514	517	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	858	-	-	1064	-	-	121	148	570	128	156	439
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	148	-	128	156	-
Stage 1	-	-	-	-	-	-	508	504	-	399	419	-
Stage 2	-	-	-	-	-	-	367	400	-	482	501	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	22.9	44.4
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	223	858	-	-	1064	-	-	170
HCM Lane V/C Ratio	0.096	0.03	-	-	0.016	-	-	0.481
HCM Control Delay (s)	22.9	9.3	-	-	8.4	-	-	44.4
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	2.3

HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	319	116	111	513	166	125	700	107	81	655	53
Future Volume (veh/h)	32	319	116	111	513	166	125	700	107	81	655	53
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	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	354	129	117	540	175	132	737	113	86	697	56
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	189	510	186	230	735	622	210	819	126	147	883	71
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	741	1387	505	926	2000	1693	716	1680	258	654	1812	146
Grp Volume(v), veh/h	36	0	483	117	540	175	132	0	850	86	0	753
Grp Sat Flow(s),veh/h/ln	741	0	1893	926	2000	1693	716	0	1937	654	0	1958
Q Serve(g_s), s	3.5	0.0	17.3	9.8	18.7	5.8	13.4	0.0	32.1	6.9	0.0	25.6
Cycle Q Clear(g_c), s	22.3	0.0	17.3	27.2	18.7	5.8	39.0	0.0	32.1	39.0	0.0	25.6
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.13	1.00		0.07
Lane Grp Cap(c), veh/h	189	0	696	230	735	622	210	0	944	147	0	954
V/C Ratio(X)	0.19	0.00	0.69	0.51	0.73	0.28	0.63	0.00	0.90	0.59	0.00	0.79
Avail Cap(c_a), veh/h	189	0	696	230	735	622	210	0	944	147	0	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.6	0.0	21.5	33.0	21.9	17.8	33.9	0.0	18.7	37.7	0.0	17.1
Incr Delay (d2), s/veh	2.2	0.0	5.6	7.9	6.4	1.1	13.5	0.0	13.3	16.0	0.0	6.6
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	8.2	2.6	9.4	2.3	3.3	0.0	16.0	2.3	0.0	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	0.0	27.1	40.9	28.4	19.0	47.4	0.0	32.0	53.7	0.0	23.7
LnGrp LOS	C	A	C	D	C	B	D	A	C	D	A	C
Approach Vol, veh/h		519			832			982			839	
Approach Delay, s/veh		27.6			28.1			34.1			26.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		35.0		45.0		35.0				
Change Period (Y+Rc), s		6.0		5.6		6.0		5.6				
Max Green Setting (Gmax), s		39.0		29.4		39.0		29.4				
Max Q Clear Time (g_c+I1), s		41.0		24.3		41.0		29.2				
Green Ext Time (p_c), s		0.0		1.5		0.0		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

HCM 6th TWSC
25: Seven Mile Road & River Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	91	300	465	42	16	64
Future Vol, veh/h	91	300	465	42	16	64
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	93	93	88	88
Heavy Vehicles, %	2	2	1	1	0	0
Mvmt Flow	100	330	500	45	18	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	545	0	-	0	1053	524
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	530	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1024	-	-	-	253	557
Stage 1	-	-	-	-	599	-
Stage 2	-	-	-	-	594	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1024	-	-	-	223	556
Mov Cap-2 Maneuver	-	-	-	-	223	-
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	594	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1024	-	-	-	428
HCM Lane V/C Ratio	0.098	-	-	-	0.212
HCM Control Delay (s)	8.9	0	-	-	15.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.8

HCM Unsignalized Intersection Capacity Analysis
26: SB Northville Road & N. Seven Mile Road

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	63	280	0	421	0	0	0	0	0	526	113
Future Volume (veh/h)	0	63	280	0	421	0	0	0	0	0	526	113
Sign Control		Stop			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	68	304	0	443	0	0	0	0	0	554	119
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	835	614	336	615	673	0	673			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	835	614	336	615	673	0	673			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	83	54	100	0	100	100			100		
cM capacity (veh/h)	0	406	659	177	377	1088	914			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	68	304	443	369	304
Volume Left	0	0	0	0	0
Volume Right	0	304	0	0	119
cSH	406	659	377	1700	1700
Volume to Capacity	0.17	0.46	1.17	0.22	0.18
Queue Length 95th (ft)	15	61	441	0	0
Control Delay (s)	15.6	15.0	135.0	0.0	0.0
Lane LOS	C	C	F		
Approach Delay (s)	15.2		135.0	0.0	
Approach LOS	C		F		

Intersection Summary			
Average Delay	44.0		
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	0	421	730	0	0
Future Volume (Veh/h)	63	0	421	730	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	69	0	443	768	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				511		
pX, platoon unblocked	0.83					
vC, conflicting volume	1270	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	914	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	59	100	73			
cM capacity (veh/h)	167	1091	1629			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	69	699	512
Volume Left	69	443	0
Volume Right	0	0	0
cSH	167	1629	1700
Volume to Capacity	0.41	0.27	0.30
Queue Length 95th (ft)	46	28	0
Control Delay (s)	41.0	6.0	0.0
Lane LOS	E	A	
Approach Delay (s)	41.0	3.5	
Approach LOS	E		

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	308	610	541	321	396	410
Future Volume (veh/h)	308	610	541	321	396	410
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	1984	1984	1984	1984	1969	1969
Adj Flow Rate, veh/h	328	649	576	341	430	446
Peak Hour Factor	0.94	0.94	0.94	0.94	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	2	2
Cap, veh/h	676	938	467	276	465	1814
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1890	1682	2378	1348	1875	3839
Grp Volume(v), veh/h	328	649	477	440	430	446
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1742	1875	1870
Q Serve(g_s), s	10.8	6.2	16.4	16.4	14.1	5.6
Cycle Q Clear(g_c), s	10.8	6.2	16.4	16.4	14.1	5.6
Prop In Lane	1.00	1.00		0.77	1.00	
Lane Grp Cap(c), veh/h	676	938	386	357	465	1814
V/C Ratio(X)	0.49	0.69	1.23	1.23	0.92	0.25
Avail Cap(c_a), veh/h	676	938	386	357	465	1814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	12.8	31.8	31.8	29.8	12.0
Incr Delay (d2), s/veh	2.5	4.2	125.5	127.1	26.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	8.2	20.4	19.0	10.4	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.5	16.9	157.3	158.9	56.4	12.4
LnGrp LOS	C	B	F	F	E	B
Approach Vol, veh/h	977		917		876	
Approach Delay, s/veh	18.8		158.1		34.0	
Approach LOS	B		F		C	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	22.4	22.8			45.2	34.8
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	16.0	16.4			38.8	28.6
Max Q Clear Time (g_c+I1), s	16.1	18.4			7.6	12.8
Green Ext Time (p_c), s	0.0	0.0			3.1	3.4

Intersection Summary		
HCM 6th Ctrl Delay	69.7	
HCM 6th LOS	E	

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	158	0	0	127	5	4
Future Vol, veh/h	158	0	0	127	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	84	84	92	92
Heavy Vehicles, %	1	1	0	0	2	2
Mvmt Flow	166	0	0	151	5	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	317	166
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	151	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	676	878
Stage 1	-	0	0	-	863	-
Stage 2	-	0	0	-	877	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	676	878
Mov Cap-2 Maneuver	-	-	-	-	676	-
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	877	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	753	-	-
HCM Lane V/C Ratio	0.013	-	-
HCM Control Delay (s)	9.8	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	2	140	137	1
Future Vol, veh/h	1	1	2	140	137	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	88	88	88	88
Heavy Vehicles, %	2	2	0	0	0	0
Mvmt Flow	1	1	2	159	156	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	320	157	157	0	-	0
Stage 1	157	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	673	889	1435	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	672	889	1435	-	-	-
Mov Cap-2 Maneuver	672	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1435	- 765	-	-
HCM Lane V/C Ratio	0.002	- 0.003	-	-
HCM Control Delay (s)	7.5	0 9.7	-	-
HCM Lane LOS	A	A A	-	-
HCM 95th %tile Q(veh)	0	- 0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	2	141	136	2
Future Vol, veh/h	1	2	2	141	136	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	88	88	88	88
Heavy Vehicles, %	2	2	0	0	0	0
Mvmt Flow	1	2	2	160	155	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	320	156	157	0	-	0
Stage 1	156	-	-	-	-	-
Stage 2	164	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	673	890	1435	-	-	-
Stage 1	872	-	-	-	-	-
Stage 2	865	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	672	890	1435	-	-	-
Mov Cap-2 Maneuver	672	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	865	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1435	- 803	-	-
HCM Lane V/C Ratio	0.002	- 0.004	-	-
HCM Control Delay (s)	7.5	0 9.5	-	-
HCM Lane LOS	A	A A	-	-
HCM 95th %tile Q(veh)	0	- 0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	11	734	41	11	727
Future Vol, veh/h	27	11	734	41	11	727
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	95	95	91	91
Heavy Vehicles, %	2	2	1	1	0	0
Mvmt Flow	29	12	773	43	12	799

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1618	795	0	0	816	0
Stage 1	795	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	114	388	-	-	820	-
Stage 1	445	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	111	388	-	-	820	-
Mov Cap-2 Maneuver	111	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	420	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	41.1	0	0.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 140	820	-
HCM Lane V/C Ratio	-	- 0.295	0.015	-
HCM Control Delay (s)	-	- 41.1	9.5	0
HCM Lane LOS	-	- E	A	A
HCM 95th %tile Q(veh)	-	- 1.1	0	-

HCM 6th TWSC
33: S.W. Site Drive & Fairbrook Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	66	1	3	137	0	3
Future Vol, veh/h	66	1	3	137	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	91	91	92	92
Heavy Vehicles, %	0	0	5	5	2	2
Mvmt Flow	80	1	3	151	0	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	81	0	238	81
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1498	-	750	979
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1498	-	749	979
Mov Cap-2 Maneuver	-	-	-	-	749	-
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	869	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	979	-	-	1498	-
HCM Lane V/C Ratio	0.003	-	-	0.002	-
HCM Control Delay (s)	8.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC
34: Wing Street & S.W. Site Drive

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	0	106	4	1	64
Future Vol, veh/h	3	0	106	4	1	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	69	69	82	82
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	3	0	154	6	1	78

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	237	157	0	0	160	0
Stage 1	157	-	-	-	-	-
Stage 2	80	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	751	889	-	-	1425	-
Stage 1	871	-	-	-	-	-
Stage 2	943	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	750	889	-	-	1425	-
Mov Cap-2 Maneuver	750	-	-	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	942	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	750	1425	-
HCM Lane V/C Ratio	-	-	0.004	0.001	-
HCM Control Delay (s)	-	-	9.8	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

HCM 6th Signalized Intersection Summary
2: Center Street & Randolph Street/Private Drive

Future Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	2	129	4	0	6	30	517	1	6	472	50
Future Volume (veh/h)	22	2	129	4	0	6	30	517	1	6	472	50
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
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	1984	1984	1984	2000	2000	2000	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	33	3	195	5	0	8	33	568	1	9	684	72
Peak Hour Factor	0.66	0.66	0.66	0.75	0.75	0.75	0.91	0.91	0.91	0.69	0.69	0.69
Percent Heavy Veh, %	1	1	1	0	0	0	2	2	2	2	2	2
Cap, veh/h	94	19	243	162	34	181	421	1276	2	665	1137	120
Arrive On Green	0.17	0.17	0.17	0.17	0.00	0.17	1.00	1.00	1.00	0.65	0.65	0.65
Sat Flow, veh/h	150	110	1410	459	197	1050	708	1965	3	841	1751	184
Grp Volume(v), veh/h	231	0	0	13	0	0	0	33	0	569	9	0
Grp Sat Flow(s),veh/h/ln	1671	0	0	1706	0	0	708	0	1968	841	0	1935
Q Serve(g_s), s	4.2	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	7.9	0.0	0.0	0.4	0.0	0.0	14.5	0.0	0.0	0.2	0.0	13.5
Prop In Lane	0.14		0.84	0.38		0.62	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	356	0	0	376	0	0	421	0	1279	666	0	1257
V/C Ratio(X)	0.65	0.00	0.00	0.03	0.00	0.00	0.08	0.00	0.44	0.01	0.00	0.60
Avail Cap(c_a), veh/h	478	0	0	486	0	0	421	0	1279	666	0	1257
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.89	0.00	0.89	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	0.0	20.7	0.0	0.0	2.5	0.0	0.0	3.7	0.0	6.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.0	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	3.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.4	0.0	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	0.0	0.0	20.8	0.0	0.0	2.8	0.0	1.0	3.8	0.0	8.2
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		231			13			602			765	
Approach Delay, s/veh		25.8			20.8			1.1			8.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.5		15.5		44.5		15.5				
Change Period (Y+Rc), s		5.5		* 5.2		5.5		* 5.2				
Max Green Setting (Gmax), s		34.5		* 15		34.5		* 15				
Max Q Clear Time (g_c+I1), s		16.5		9.9		15.5		2.4				
Green Ext Time (p_c), s		4.0		0.6		5.8		0.0				

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

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

HCM 6th Signalized Intersection Summary
12: Center Street & Cady Street

Future Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	9	12	48	20	6	29	504	164	7	418	5
Future Volume (veh/h)	1	9	12	48	20	6	29	504	164	7	418	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	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	2000	2000	2000	2000	2000	2000	1953	1953	1953	1969	1969	1969
Adj Flow Rate, veh/h	2	15	20	59	24	7	32	560	182	8	470	6
Peak Hour Factor	0.60	0.60	0.60	0.82	0.82	0.82	0.90	0.90	0.90	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	3	3	3	2	2	2
Cap, veh/h	67	84	104	196	62	13	88	977	308	67	1370	17
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.71	0.71	0.71	1.00	1.00	1.00
Sat Flow, veh/h	39	787	972	902	578	125	36	1367	431	8	1918	24
Grp Volume(v), veh/h	37	0	0	90	0	0	774	0	0	484	0	0
Grp Sat Flow(s),veh/h/ln	1798	0	0	1604	0	0	1834	0	0	1950	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	3.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.05		0.54	0.66		0.08	0.04		0.24	0.02		0.01
Lane Grp Cap(c), veh/h	256	0	0	271	0	0	1373	0	0	1454	0	0
V/C Ratio(X)	0.14	0.00	0.00	0.33	0.00	0.00	0.56	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	504	0	0	485	0	0	1373	0	0	1454	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.4	0.0	0.0	25.2	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.7	0.0	0.0	1.7	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.2	0.0	0.0	3.4	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.7	0.0	0.0	25.9	0.0	0.0	5.8	0.0	0.0	0.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		37			90			774			484	
Approach Delay, s/veh		24.7			25.9			5.8			0.6	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.4		11.6		48.4		11.6				
Change Period (Y+Rc), s		5.5		* 5.2		5.5		* 5.2				
Max Green Setting (Gmax), s		34.5		* 15		34.5		* 15				
Max Q Clear Time (g_c+I1), s		14.1		3.1		2.0		5.0				
Green Ext Time (p_c), s		6.3		0.1		3.7		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

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

HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Future Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	432	73	35	157	90	58	594	73	89	411	21
Future Volume (veh/h)	46	432	73	35	157	90	58	594	73	89	411	21
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
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	1984	1984	1984	1938	1938	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	54	508	86	38	171	98	63	646	79	103	478	24
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh, %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	432	608	103	160	712	603	368	960	813	263	906	45
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1118	1654	280	810	1938	1640	896	1969	1667	729	1859	93
Grp Volume(v), veh/h	54	0	594	38	171	98	63	646	79	103	0	502
Grp Sat Flow(s),veh/h/ln	1118	0	1934	810	1938	1640	896	1969	1667	729	0	1952
Q Serve(g_s), s	2.8	0.0	22.4	3.6	4.9	3.2	4.2	20.0	2.0	10.0	0.0	14.2
Cycle Q Clear(g_c), s	7.7	0.0	22.4	26.0	4.9	3.2	18.4	20.0	2.0	30.1	0.0	14.2
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	432	0	711	160	712	603	368	960	813	263	0	952
V/C Ratio(X)	0.12	0.00	0.84	0.24	0.24	0.16	0.17	0.67	0.10	0.39	0.00	0.53
Avail Cap(c_a), veh/h	432	0	711	160	712	603	368	960	813	263	0	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.2	0.0	23.1	35.0	17.6	17.0	20.5	15.6	11.0	27.1	0.0	14.1
Incr Delay (d2), s/veh	0.6	0.0	11.2	3.4	0.8	0.6	1.0	3.8	0.2	4.3	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	0.8	0.0	11.6	0.8	2.2	1.2	0.9	9.0	0.7	2.0	0.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	34.3	38.4	18.3	17.6	21.5	19.4	11.3	31.4	0.0	16.2
LnGrp LOS	C	A	C	D	B	B	C	B	B	C	A	B
Approach Vol, veh/h		648			307			788			605	
Approach Delay, s/veh		33.2			20.6			18.8			18.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		35.0		45.0		35.0				
Change Period (Y+Rc), s		6.0		5.6		6.0		5.6				
Max Green Setting (Gmax), s		39.0		29.4		39.0		29.4				
Max Q Clear Time (g_c+I1), s		22.0		24.4		32.1		28.0				
Green Ext Time (p_c), s		4.6		1.8		2.2		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
26: SB Northville Road & N. Seven Mile Road

Future Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	305	168	339	319	53
Future Volume (veh/h)	43	305	168	339	319	53
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	1969	1969	1922	1984	1984	1984
Adj Flow Rate, veh/h	53	377	191	385	336	56
Peak Hour Factor	0.81	0.81	0.88	0.88	0.95	0.95
Percent Heavy Veh, %	2	2	5	5	1	1
Cap, veh/h	253	801	914	2584	915	151
Arrive On Green	0.14	0.14	0.69	1.00	0.28	0.28
Sat Flow, veh/h	1875	1668	1830	3748	3338	534
Grp Volume(v), veh/h	53	377	191	385	194	198
Grp Sat Flow(s),veh/h/ln	1875	1668	1830	1826	1885	1888
Q Serve(g_s), s	2.0	10.8	1.7	0.0	6.6	6.7
Cycle Q Clear(g_c), s	2.0	10.8	1.7	0.0	6.6	6.7
Prop In Lane	1.00	1.00	1.00			0.28
Lane Grp Cap(c), veh/h	253	801	914	2584	533	533
V/C Ratio(X)	0.21	0.47	0.21	0.15	0.36	0.37
Avail Cap(c_a), veh/h	253	801	914	2584	533	533
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	14.0	2.7	0.0	23.0	23.0
Incr Delay (d2), s/veh	1.9	2.0	0.5	0.1	1.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	13.2	0.6	0.0	3.1	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.7	16.0	3.2	0.1	24.9	25.0
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	430			576	392	
Approach Delay, s/veh	18.0			1.1	24.9	
Approach LOS	B			A	C	

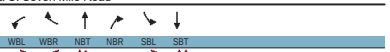
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		63.0		17.0	34.0	29.0						
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4						
Max Green Setting (Gmax), s		56.6		* 11	27.6	22.6						
Max Q Clear Time (g_c+I1), s		2.0		12.8	3.7	8.7						
Green Ext Time (p_c), s		2.7		0.0	0.5	1.8						

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

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

HCM 6th Signalized Intersection Summary
28: Northville Road & S. Seven Mile Road

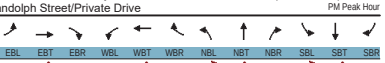
Future Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	247	233	274	289	423	201
Future Volume (veh/h)	247	233	274	289	423	201
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	1953	1953	1938	1938	1984	1984
Adj Flow Rate, veh/h	287	271	288	304	486	231
Peak Hour Factor	0.86	0.86	0.95	0.95	0.87	0.87
Percent Heavy Veh, %	3	3	4	4	1	1
Cap, veh/h	437	815	497	443	642	2290
Arrive On Green	0.23	0.23	0.27	0.27	0.17	0.41
Sat Flow, veh/h	1860	1655	1938	1642	1890	3870
Grp Volume(v), veh/h	287	271	288	304	486	231
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1890	1885
Q Serve(g_s), s	11.2	0.0	10.8	13.3	12.6	3.0
Cycle Q Clear(g_c), s	11.2	0.0	10.8	13.3	12.6	3.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	815	497	443	642	2290
V/C Ratio(X)	0.66	0.33	0.58	0.69	0.76	0.10
Avail Cap(c_a), veh/h	437	815	497	443	642	2290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	12.3	25.3	26.2	27.3	10.2
Incr Delay (d2), s/veh	7.5	1.1	4.9	8.4	8.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.9	5.1	5.8	9.4	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.2	13.4	30.1	34.5	35.4	10.3
LnGrp LOS	D	B	C	C	D	B
Approach Vol, veh/h	558		592		717	
Approach Delay, s/veh	24.6		32.4		27.3	
Approach LOS	C		C		C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	27.0	28.0			55.0	25.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	20.6	21.6			48.6	18.8
Max Q Clear Time (g_c+I1), s	14.6	15.3			5.0	13.2
Green Ext Time (p_c), s	0.9	1.9			1.5	1.0
Intersection Summary						
HCM 6th Ctrl Delay			28.1			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary
2: Center Street & Randolph Street/Private Drive

Future Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

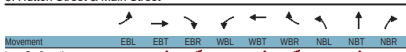


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	13	235	15	15	28	58	591	9	18	483	43
Future Volume (veh/h)	46	13	235	15	15	28	58	591	9	18	483	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	55	15	280	16	16	31	67	679	10	25	662	59
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.87	0.87	0.87	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	1	1	1
Cap, veh/h	112	37	317	138	143	199	372	1147	17	561	1046	93
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	1.00	1.00	1.00	0.58	0.58	0.58
Sat Flow, veh/h	179	154	1329	265	599	837	743	1965	29	756	1793	160
Grp Volume(v), veh/h	350	0	0	63	0	0	67	0	689	25	0	721
Grp Sat Flow(s),veh/h/ln	1661	0	0	1701	0	0	743	0	1994	756	0	1953
Q Serve(g_s), s	7.8	0.0	0.0	1.6	0.0	0.0	2.7	0.0	0.0	0.9	0.0	14.6
Cycle Q Clear(g_c), s	12.1	0.0	0.0	1.6	0.0	0.0	17.3	0.0	0.0	0.9	0.0	14.6
Prop In Lane	0.16		0.80	0.25		0.49	1.00		0.01	1.00		0.08
Lane Grp Cap(c), veh/h	465	0	0	480	0	0	372	0	1164	561	0	1140
V/C Ratio(X)	0.75	0.00	0.00	0.13	0.00	0.00	0.18	0.00	0.59	0.04	0.00	0.63
Avail Cap(c_a), veh/h	479	0	0	493	0	0	372	0	1164	561	0	1140
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.81	0.00	0.81	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	0.0	18.0	0.0	0.0	3.6	0.0	0.0	5.4	0.0	8.3
Incr Delay (d2), s/veh	6.4	0.0	0.0	0.1	0.0	0.0	0.9	0.0	1.8	0.1	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	5.3	0.0	0.0	0.7	0.0	0.0	0.3	0.0	0.6	0.1	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	0.0	0.0	18.2	0.0	0.0	4.5	0.0	1.8	5.5	0.0	10.9
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	B
Approach Vol, veh/h		350			63			756			746	
Approach Delay, s/veh		28.4			18.2			2.0			10.7	
Approach LOS		C			B			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.5		19.5		40.5		19.5				
Change Period (Y+Rc), s		5.5		* 5.2		5.5		* 5.2				
Max Green Setting (Gmax), s		34.5		* 15		34.5		* 15				
Max Q Clear Time (g_c+I1), s		19.3		14.1		16.6		3.6				
Green Ext Time (p_c), s		5.0		0.2		5.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			10.8									
HCM 6th LOS			B									

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

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Future Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	166	17	10	273	308	12	40	15	257	28	14
Future Volume (veh/h)	7	166	17	10	273	308	12	40	15	257	28	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97	0.99		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	8	195	20	11	314	354	15	51	19	282	31	15
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	70	665	504	69	671	504	174	570	194	715	66	711
Arrive On Green	0.11	0.11	0.11	0.34	0.34	0.34	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	21	1945	1474	22	1963	1474	217	1191	405	1257	138	1487
Grp Volume(v), veh/h	203	0	20	325	0	354	85	0	0	313	0	15
Grp Sat Flow(s),veh/h/ln	1966	0	1474	1984	0	1474	1814	0	0	1395	0	1487
Q Serve(g_s), s	0.0	0.0	0.7	0.0	0.0	12.5	0.0	0.0	0.0	7.1	0.0	0.3
Cycle Q Clear(g_c), s	5.6	0.0	0.7	7.7	0.0	12.5	1.5	0.0	0.0	8.6	0.0	0.3
Prop In Lane	0.04		1.00	0.03		1.00	0.18		0.22	0.90		1.00
Lane Grp Cap(c), veh/h	734	0	504	740	0	504	938	0	0	781	0	711
V/C Ratio(X)	0.28	0.00	0.04	0.44	0.00	0.70	0.09	0.00	0.00	0.40	0.00	0.02
Avail Cap(c_a), veh/h	734	0	504	740	0	504	938	0	0	781	0	711
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	17.8	15.5	0.0	17.1	8.5	0.0	0.0	10.3	0.0	8.2
Incr Delay (d2), s/veh	0.9	0.0	0.1	1.9	0.0	8.0	0.2	0.0	0.0	1.5	0.0	0.1
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	2.8	0.0	0.2	3.6	0.0	5.0	0.6	0.0	0.0	2.7	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	0.0	18.0	17.4	0.0	25.1	8.7	0.0	0.0	11.8	0.0	8.3
LnGrp LOS	C	A	B	B	A	C	A	A	A	B	A	A
Approach Vol, veh/h		223			679			85			328	
Approach Delay, s/veh		20.7			21.4			8.7			11.6	
Approach LOS		C			C			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		34.0		26.0		34.0				
Change Period (Y+Rc), s		5.5		* 5.3		5.5		* 5.3				
Max Green Setting (Gmax), s		20.5		* 29		20.5		* 29				
Max Q Clear Time (g_c+I1), s		7.6		10.6		14.5		3.5				
Green Ext Time (p_c), s		1.0		2.0		1.8		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			18.0									
HCM 6th LOS			B									

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

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

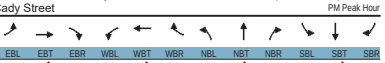
Future Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	268	28	7	376	296	47	238	18	203	153	198
Future Volume (veh/h)	101	268	28	7	376	296	47	238	18	203	153	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		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	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	119	315	33	7	396	312	51	259	20	216	163	211
Peak Hour Factor	0.85	0.85	0.85	0.95	0.95	0.95	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	213	863	75	64	702	540	147	694	50	317	217	251
Arrive On Green	0.12	0.12	0.12	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	324	1860	211	9	1967	1515	170	1531	110	518	478	555
Grp Volume(v), veh/h	190	0	277	403	0	312	330	0	0	590	0	0
Grp Sat Flow(s),veh/h/ln	628	0	1765	1976	0	1515	1812	0	0	1551	0	0
Q Serve(g_s), s	9.2	0.0	8.8	0.0	0.0	10.0	0.0	0.0	0.0	12.8	0.0	0.0
Cycle Q Clear(g_c), s	19.2	0.0	8.8	9.8	0.0	10.0	6.6	0.0	0.0	19.4	0.0	0.0
Prop In Lane	0.63		0.12	0.02		1.00	0.15		0.06	0.37		0.36
Lane Grp Cap(c), veh/h	322	0	630	766	0	540	890	0	0	785	0	0
V/C Ratio(X)	0.59	0.00	0.44	0.53	0.00	0.58	0.37	0.00	0.00	0.75	0.00	0.00
Avail Cap(c_a), veh/h	322	0	630	766	0	540	890	0	0	785	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.5	0.0	20.9	15.6	0.0	15.6	10.8	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	7.8	0.0	2.2	2.6	0.0	4.4	1.2	0.0	0.0	6.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	4.3	4.6	0.0	3.8	2.7	0.0	0.0	6.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	0.0	23.1	18.2	0.0	20.1	12.0	0.0	0.0	20.4	0.0	0.0
LnGrp LOS	D	A	C	B	A	C	B	A	A	C	A	A
Approach Vol, veh/h		467			715			330			590	
Approach Delay, s/veh		28.1			19.0			12.0			20.4	
Approach LOS		C			B			B			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		21.4		* 27		21.4		* 27				
Max Q Clear Time (g_c+I1), s		21.2		21.4		12.0		8.6				
Green Ext Time (p_c), s		0.1		2.1		3.3		1.9				
Intersection Summary												
HCM 6th Ctrl Delay			20.3									
HCM 6th LOS			C									

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

HCM 6th Signalized Intersection Summary
12: Center Street & Cady Street

Future Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	19	30	65	13	20	26	539	130	15	639	38
Future Volume (veh/h)	11	19	30	65	13	20	26	539	130	15	639	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.92	0.94		0.92	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1938	1938	1938	2000	2000	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	14	24	38	83	17	26	27	567	137	16	673	40
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	0	0	0	1	1	1	0	0	0
Cap, veh/h	94	103	125	232	53	48	83	993	234	71	1224	72
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.67	0.67	0.67	1.00	1.00	1.00
Sat Flow, veh/h	147	670	817	864	345	314	30	1486	350	15	1832	107
Grp Volume(v), veh/h	76	0	0	126	0	0	731	0	0	729	0	0
Grp Sat Flow(s),veh/h/ln	1635	0	0	1523	0	0	1866	0	0	1954	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.4	0.0	0.0	4.1	0.0	0.0	12.3	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.18		0.50	0.66		0.21	0.04		0.19	0.02		0.05
Lane Grp Cap(c), veh/h	322	0	0	333	0	0	1310	0	0	1368	0	0
V/C Ratio(X)	0.24	0.00	0.00	0.38	0.00	0.00	0.56	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	455	0	0	452	0	0	1310	0	0	1368	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.5	0.0	0.0	23.1	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.7	0.0	0.0	1.7	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.6	0.0	0.0	4.0	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	0.0	23.8	0.0	0.0	7.1	0.0	0.0	1.5	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		76			126			731			729	
Approach Delay, s/veh		22.9			23.8			7.1			1.5	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.6		14.4		45.6		14.4				
Change Period (Y+Rc), s		5.5		* 5.2		5.5		* 5.2				
Max Green Setting (Gmax), s		35.0		* 14		35.0		* 14				
Max Q Clear Time (g_c+I1), s		14.3		4.4		2.0		6.1				
Green Ext Time (p_c), s		5.9		0.2		6.6		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			6.6									
HCM 6th LOS			A									

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

HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Future Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	319	116	111	513	166	125	700	107	81	655	53
Future Volume (veh/h)	32	319	116	111	513	166	125	700	107	81	655	53
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	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	354	129	117	540	175	132	737	113	86	697	56
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	189	510	186	230	735	622	210	967	817	211	883	71
Arrive On Green	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	741	1387	505	926	2000	1693	716	1984	1677	654	1812	146
Grp Volume(v), veh/h	36	0	483	117	540	175	132	737	113	86	0	753
Grp Sat Flow(s),veh/h/ln	741	0	1893	926	2000	1693	716	1984	1677	654	0	1958
Q Serve(g_s), s	3.5	0.0	17.3	9.8	18.7	5.8	13.4	24.2	3.0	9.9	0.0	25.6
Cycle Q Clear(g_c), s	22.3	0.0	17.3	27.2	18.7	5.8	39.0	24.2	3.0	34.1	0.0	25.6
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	189	0	696	230	735	622	210	967	817	211	0	954
V/C Ratio(X)	0.19	0.00	0.69	0.51	0.73	0.28	0.63	0.76	0.14	0.41	0.00	0.79
Avail Cap(c_a), veh/h	189	0	696	230	735	622	210	967	817	211	0	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.6	0.0	21.5	33.0	21.9	17.8	33.9	16.7	11.3	30.6	0.0	17.1
Incr Delay (d2), s/veh	2.2	0.0	5.6	7.9	6.4	1.1	13.5	5.7	0.4	5.8	0.0	6.6
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	8.2	2.6	9.4	2.3	3.3	11.2	1.1	1.8	0.0	11.9
Unsig. Movement Delay, s/veh												
LnGr

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	280	421	730	526	113
Future Volume (veh/h)	63	280	421	730	526	113
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	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	68	304	443	768	554	119
Peak Hour Factor	0.92	0.92	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	1	1	1	1
Cap, veh/h	206	738	850	2762	989	212
Arrive On Green	0.11	0.11	0.67	1.00	0.32	0.32
Sat Flow, veh/h	1875	1668	1890	3870	3188	661
Grp Volume(v), veh/h	68	304	443	768	337	336
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1865
Q Serve(g_s), s	2.7	8.8	5.7	0.0	11.9	11.9
Cycle Q Clear(g_c), s	2.7	8.8	5.7	0.0	11.9	11.9
Prop In Lane	1.00	1.00	1.00			0.35
Lane Grp Cap(c), veh/h	206	738	850	2762	603	597
V/C Ratio(X)	0.33	0.41	0.52	0.28	0.56	0.56
Avail Cap(c_a), veh/h	206	738	850	2762	603	597
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	15.2	3.4	0.0	22.5	22.6
Incr Delay (d2), s/veh	4.2	1.7	2.3	0.3	3.7	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	10.9	1.6	0.1	5.6	5.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.1	16.9	5.7	0.3	26.2	26.4
LnGrp LOS	D	B	A	A	C	C
Approach Vol, veh/h	372			1211	673	
Approach Delay, s/veh	20.6			2.2	26.3	
Approach LOS	C			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.0		15.0	33.0	32.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		58.6		* 8.8	26.6	25.6
Max Q Clear Time (g_c+I1), s		2.0		10.8	7.7	13.9
Green Ext Time (p_c), s		6.2		0.0	1.3	3.2

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

Notes

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	308	610	541	321	396	410
Future Volume (veh/h)	308	610	541	321	396	410
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	1984	1984	1984	1984	1969	1969
Adj Flow Rate, veh/h	328	649	576	341	430	446
Peak Hour Factor	0.94	0.94	0.94	0.94	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	2	2
Cap, veh/h	491	807	644	381	511	2179
Arrive On Green	0.26	0.26	0.28	0.28	0.29	0.77
Sat Flow, veh/h	1890	1682	2378	1348	1875	3839
Grp Volume(v), veh/h	328	649	477	440	430	446
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1742	1875	1870
Q Serve(g_s), s	12.4	8.5	19.4	19.4	12.6	2.6
Cycle Q Clear(g_c), s	12.4	8.5	19.4	19.4	12.6	2.6
Prop In Lane	1.00	1.00		0.77	1.00	
Lane Grp Cap(c), veh/h	491	807	533	492	511	2179
V/C Ratio(X)	0.67	0.80	0.89	0.90	0.84	0.20
Avail Cap(c_a), veh/h	491	807	533	492	511	2179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	17.6	27.6	27.6	25.1	4.0
Incr Delay (d2), s/veh	7.0	8.4	20.2	21.5	15.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	10.8	11.0	10.3	8.1	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.5	26.0	47.7	49.0	40.4	4.3
LnGrp LOS	C	C	D	D	D	A
Approach Vol, veh/h	977		917			876
Approach Delay, s/veh	28.5		48.4			22.0
Approach LOS	C		D			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	24.0	29.0			53.0	27.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	17.6	22.6			46.6	20.8
Max Q Clear Time (g_c+I1), s	14.6	21.4			4.6	14.4
Green Ext Time (p_c), s	0.5	0.7			3.2	2.2

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Appendix E

WARRANT SUMMARIES

Summary of Warrants

Spot Number:	Scenario 1 - Existing		
Major Street:	Center Street	Minor Street:	Randolph Street
Intersection:	Center Street at Randolph Street		
City/Twp:	Northville		
Date Performed:	1/14/2022	Performed By:	FV
Date Volumes Collected:	10/19/2021		

Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	N/A
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
(Threshold)	HAWK	NO
(Threshold)	RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A

Issue to Be Addressed by Signalization:

0

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Center Street @ Randolph Street		
Date	1/14/2022	by	FV

2	No. of Lanes on Major St?
1	No. of Lanes on Minor St?
25	Speed limit or 85th Percentile? (MPH)
NO	Is the intersection within an Isolated community?
0	If answer 4 is Yes, then what is the of the population isolated community?
NO	Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.) N-S	Minor Volume (One Apr.) E-W	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
00:01 - 01:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	598	514	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	743	622	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	1	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	623	1441	600	150	NO	900	75	YES	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	897	1041	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A =	1
Number of Hours that met the warrant 1B =	1
Number of Hours that met the warrant 1 A & B =	0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

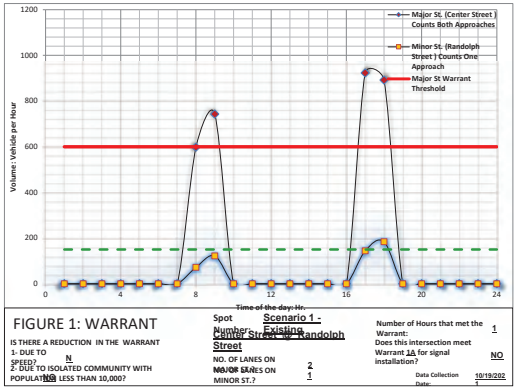


FIGURE 1: WARRANT

IS THERE A REDUCTION IN THE WARRANT 1- DUE TO SPEED?	N	Spot Number:	Scenario 1 - Existing
2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000?	NO		Center Street @ Randolph Street
		NO. OF LANES ON MAJOR ST.?	2
		NO. OF LANES ON MINOR ST.?	1
		Number of Hours that met the Warrant:	1
		Does this intersection meet Warrant 1A for signal installation?	NO
		Data Collection Date:	10/19/2021

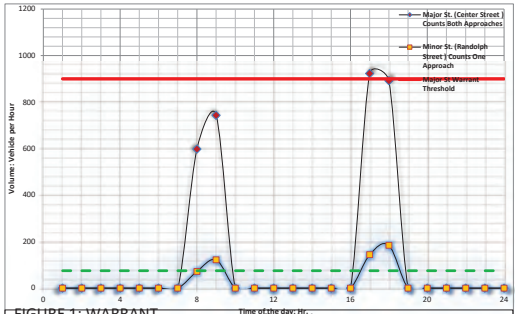


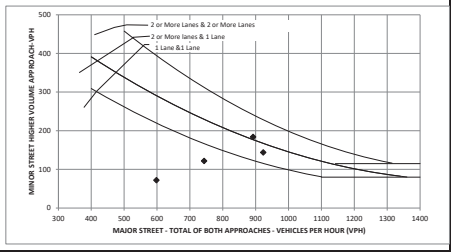
FIGURE 1: WARRANT

IS THERE A REDUCTION IN THE WARRANT 1B - THRESHOLDS TO 70% ...		Spot Number:	Scenario 1 - Existing
1- DUE TO SPEED?	NO		Center Street @ Randolph Street
2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000?	NO	NO. OF LANES ON MAJOR ST.?	2
		NO. OF LANES ON MINOR ST.?	1
		Number of Hours that met the Warrant:	1
		Does this intersection meet Warrant 1B for signal installation?	NO
		Data Collection Date:	10/19/2021

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 1 - Existing
Intersection:	Center Street @ Randolph Street
Date	1/14/2022 by FV

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

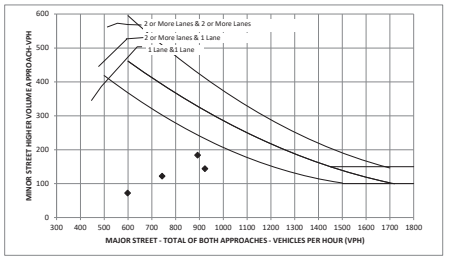


How Many Hours Are Met	1
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 1 - Existing
Intersection:	Center Street @ Randolph Street
Date	1/14/2022 by FV

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



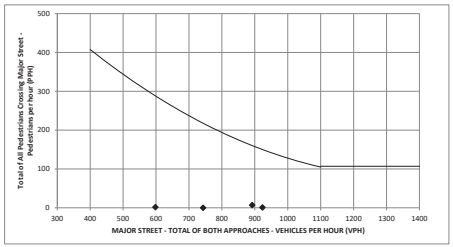
How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

W4 4HR-100%

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Four-Hour Pedestrian Volume

Spot Number:	Scenario 1 - Existing
Intersection:	Center Street @ Randolph Street
Date: 1/14/2022	by: FV

300	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



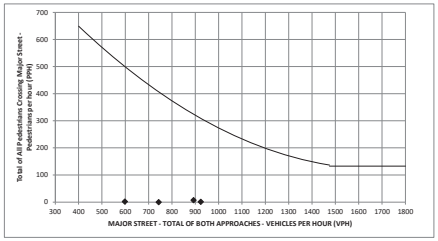
How Many Hours Are Met	0
Is Warrant 4 B (100%): Four Hour Met?	NO

W4 P-100%

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Peak-Hour Pedestrian Volume

Spot Number:	Scenario 1 - Existing
Intersection:	Center Street @ Randolph Street
Date: 1/14/2022	by: FV

300	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	0
Is Warrant 4 B (100%): Peak Hour Met?	NO

Summary of Warrants

Spot Number:	Scenario 1 - Existing		
Major Street:	Center Street	Minor Street:	Cady Street
Intersection:	Center Street at Cady Street		
City/Twp:	Northville, MI		
Date Performed:	1/14/2022	Performed By:	F&V
Date Volumes Collected:	5/15/2018		

Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	N/A
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
(Threshold)	HAWK	NO
(Threshold)	RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A

Issue to Be Addressed by Signalization:

0

W1

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Center Street @ Cady Street		
Date	1/14/2022	by	F&V

1	No. of Lanes on Major St?
1	No. of Lanes on Minor St?
25	Speed limit or 85th Percentile? (MPH)
NO	Is the intersection within an Isolated community?
0	If answer 4 is Yes, then what is the of the population isolated community?
NO	Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.) N-S	Minor Volume (One Apr.) E-W	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
00:01 - 01:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	1037	851	500	150	NO	750	75	YES	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	1007	561	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	1126	1126	500	150	NO	750	75	YES	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	1122	884	500	150	NO	750	75	YES	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A =	2
Number of Hours that met the warrant 1B =	2
Number of Hours that met the warrant 1 A & B =	0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

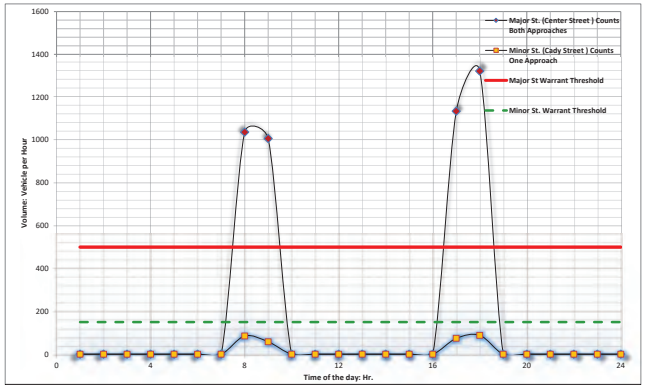


FIGURE 1: WARRANT **1A**

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Existing

Center Street @ Cady Street

NO. OF LANES ON MAJOR ST.? 1

NO. OF LANES ON MINOR ST.? 1

Number of Hours that met the Warrant: 0

Does this intersection meet Warrant 1A for signal installation? NO

Data Collection Date: 5/15/2018

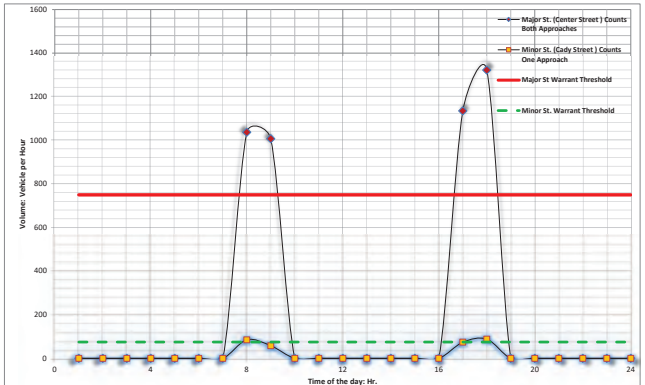


FIGURE 1: WARRANT **1B**

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Existing

Center Street @ Cady Street

NO. OF LANES ON MAJOR ST.? 1

NO. OF LANES ON MINOR ST.? 1

Number of Hours that met the Warrant: 2

Does this intersection meet Warrant 1B for signal installation? NO

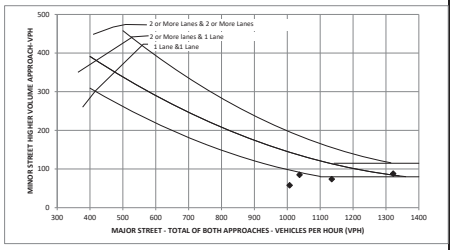
Data Collection Date: 5/15/2018

W2-100%

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 1 - Existing		
Intersection:	Center Street @ Cady Street		
Date:	1/14/2022	by:	F&V

1	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



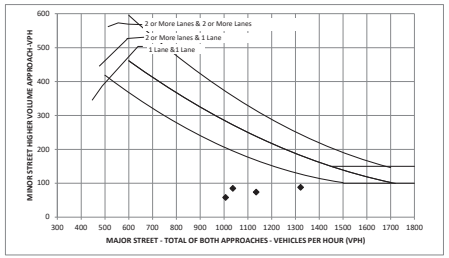
How Many Hours Are Met	1
Is Warrant 2 (100%) Met?	NO

W3B-100%

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 1 - Existing		
Intersection:	Center Street @ Cady Street		
Date:	1/14/2022	by:	F&V

1	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



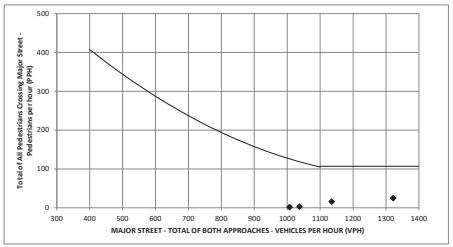
How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

W4 4HR-100%

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Four-Hour Pedestrian Volume

Spot Number:	Scenario 1 - Existing		
Intersection:	Center Street @ Cady Street		
Date:	1/14/2022	by:	F&V

300	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



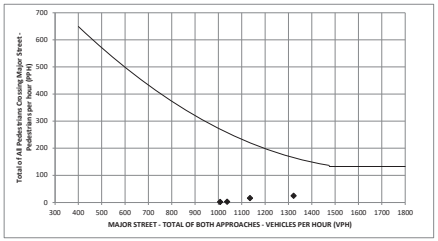
How Many Hours Are Met	0
Is Warrant 4 B (100%): Four Hour Met?	NO

W4 P-100%

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Peak-Hour Pedestrian Volume

Spot Number:	Scenario 1 - Existing		
Intersection:	Center Street @ Cady Street		
Date:	1/14/2022	by:	F&V

300	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	0
Is Warrant 4 B (100%): Peak Hour Met?	NO

Summary of Warrants

Spot Number:	Scenario 1 - Existing		
Major Street:	Northville Road	Minor Street:	7 Mile Road
Intersection:	Northville Road at 7 Mile Road		
City/Twp:	Northville		
Date Performed:	1/13/2022	Performed By:	FV
Date Volumes Collected:	10/18/2018		

Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		YES
	Condition A	YES
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	YES
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	YES
	Condition A	N/A
	Condition B	YES
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
	(Threshold) HAWK	NO
	(Threshold) RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A

Issue to Be Addressed by Signalization:

0

W1

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Northville Road @ 7 Mile Road		
Date:	1/13/2022	by:	FV

3	: No. of Lanes on Major St?
2	: No. of Lanes on Minor St?
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: If answer 4 is Yes, then what is the of the population isolated community?
NO	: Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.) N-S	Minor Volume (One Apr.) E-W	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
00:01 - 01:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	611	274	600	200	YES	900	100	NO	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	766	397	600	200	YES	900	100	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	879	269	600	200	YES	900	100	NO	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	964	300	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	971	246	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	1221	287	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	1402	220	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	1132	211	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A =	8
Number of Hours that met the warrant 1B =	8
Number of Hours that met the warrant 1 A & B =	8

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	YES
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

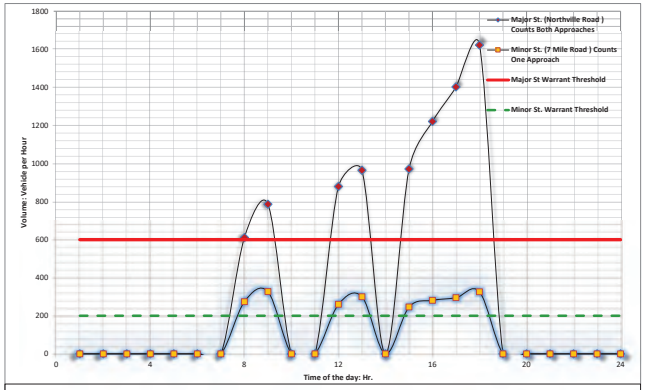


FIGURE 1: WARRANT **1A**

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Existing

Northville Road @ 7 Mile Road

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 2

Number of Hours that met the Warrant: 8

Does this intersection meet Warrant 1A for signal installation? YES

Data Collection Date: 10/18/2018

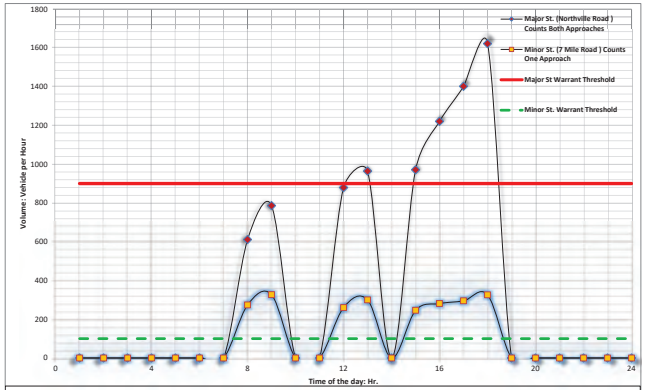


FIGURE 1: WARRANT **1B**

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Existing

Northville Road @ 7 Mile Road

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 2

Number of Hours that met the Warrant: 5

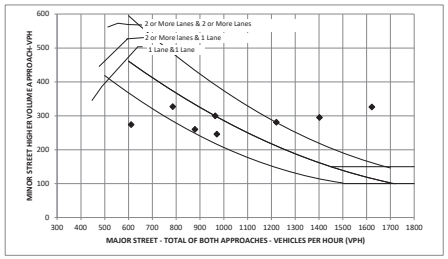
Does this intersection meet Warrant 1B for signal installation? NO

Data Collection Date: 10/18/2018

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 1 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date: 1/13/2022	by: FV

3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

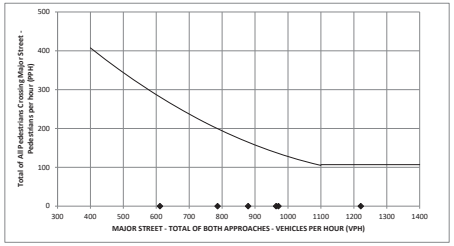


How Many Hours Are Met	3
Is Warrant 3 B (100%) Met?	YES

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Four-Hour Pedestrian Volume

Spot Number:	Scenario 1 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date: 1/13/2022	by: FV

500	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

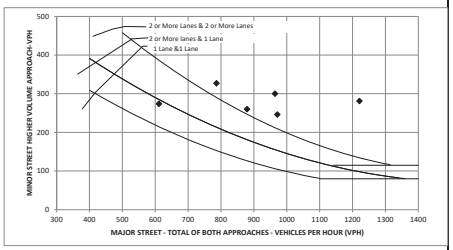


How Many Hours Are Met	0
Is Warrant 4 B (100%): Four Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 1 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date: 1/13/2022	by: FV

3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

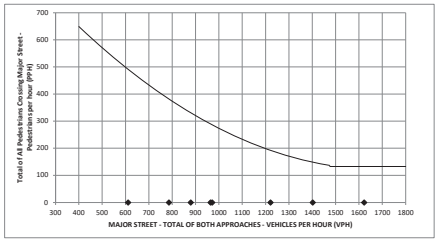


How Many Hours Are Met	7
Is Warrant 2 (100%) Met?	YES

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 4 (100%): Peak-Hour Pedestrian Volume

Spot Number:	Scenario 1 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date: 1/13/2022	by: FV

500	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	0
Is Warrant 4 B (100%): Peak Hour Met?	NO

Summary of Warrants

Spot Number:	Scenario 1 - Background		
Major Street:	Center Street	Minor Street:	Randolph Street
Intersection:	Center Street at Randolph Street		
City/Twp:	Northville		
Date Performed:	1/14/2022	Performed By:	FV
Date Volumes Collected:	10/19/2021		

Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	N/A
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
(Threshold)	HAWK	NO
(Threshold)	RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

W1

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Center Street @ Randolph Street		
Date	1/14/2022	by	FV

2	No. of Lanes on Major St?
1	No. of Lanes on Minor St?
25	Speed limit or 85th Percentile? (MPH)
NO	Is the intersection within an Isolated community?
0	If answer 4 is Yes, then what is the of the population isolated community?
NO	Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.) N-S	Minor Volume (One Apr.) E-W	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
00:01 - 01:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	672	314	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	759	524	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	1	18	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	951	147	600	150	NO	900	75	YES	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	818	168	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A =	1
Number of Hours that met the warrant 1B =	2
Number of Hours that met the warrant 1 A & B =	0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

Page 2

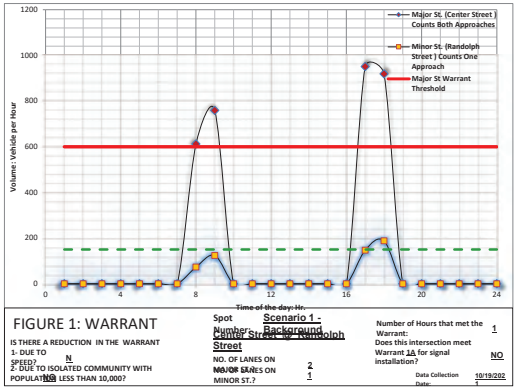


FIGURE 1: WARRANT

IS THERE A REDUCTION IN THE WARRANT 1- DUE TO SPEED?	N	Spot Number:	Scenario 1 - Background
2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000?	NO	NO. OF LANES ON MAJOR ST.?	2
		NO. OF LANES ON MINOR ST.?	1
		Intersection:	Center Street @ Randolph Street
		Number of Hours that met the Warrant:	1
		Does this intersection meet Warrant 1A for signal installation?	NO
		Data Collection Date:	10/19/2021

W2-100%

W3B-100%

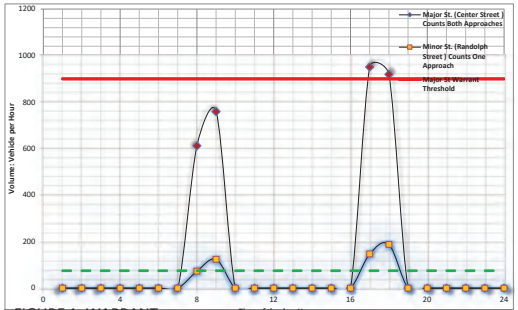


FIGURE 1: WARRANT

1B IS THERE A REDUCTION IN THE WARRANT 1- DUE TO THRESHOLDS TO 70% ... SPEED? NO 2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO		Spot Number:	Scenario 1 - Background
		NO. OF LANES ON MAJOR ST.?	2
		NO. OF LANES ON MINOR ST.?	1
		Intersection:	Center Street @ Randolph Street
		Number of Hours that met the Warrant:	2
		Does this intersection meet Warrant 1B for signal installation?	NO
		Data Collection Date:	10/19/2021

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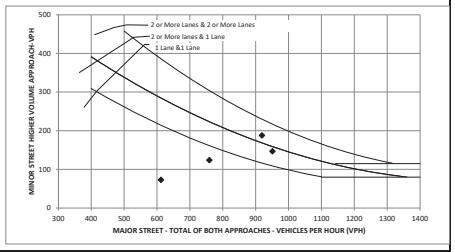
Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 1 - Background
Intersection:	Center Street @ Randolph Street
Date	1/14/2022 by FV

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

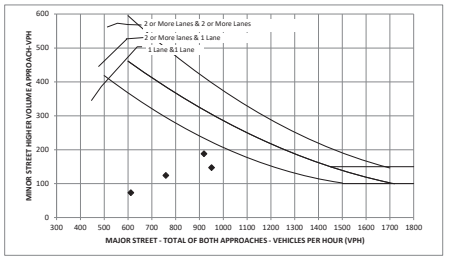


How Many Hours Are Met	1
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 1 - Background
Intersection:	Center Street @ Randolph Street
Date	1/14/2022 by FV

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

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Summary of Warrants

Spot Number:	Scenario 1 - Background		
Major Street:	Center Street	Minor Street:	Cady Street
Intersection:	Center Street at Cady Street		
City/Twp:	Northville, MI		
Date Performed:	1/14/2022	Performed By:	F&V
Date Volumes Collected:	5/15/2018		

Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	N/A
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
(Threshold)	HAWK	NO
(Threshold)	RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A

Issue to Be Addressed by Signalization:

0

W1

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Center Street @ Cady Street
Date	1/14/2022 by F&V

1	No. of Lanes on Major St?
1	No. of Lanes on Minor St?
25	Speed limit or 85th Percentile? (MPH)
NO	Is the intersection within an isolated community?
0	If answer 4 is Yes, then what is the of the population isolated community?
NO	Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.) N-S	Minor Volume (One Apr.) E-W	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
00:01 - 01:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	1056	89	500	150	NO	750	75	YES	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	1027	81	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	1139	81	500	150	NO	750	75	YES	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	1168	89	500	150	NO	750	75	YES	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A = 0
Number of Hours that met the warrant 1B = 3
Number of Hours that met the warrant 1 A & B = 0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

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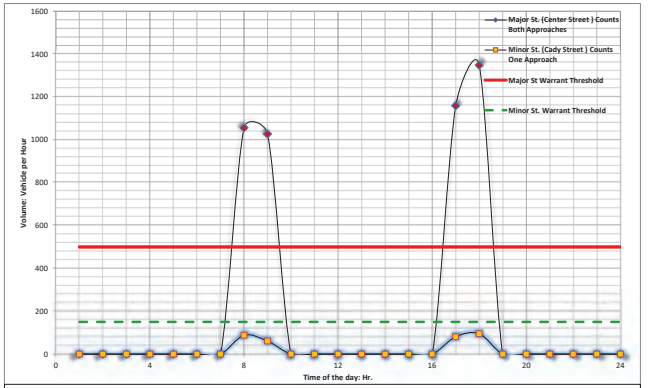

FIGURE 1: WARRANT 1A

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Background

Center Street @ Cady Street

NO. OF LANES ON MAJOR ST.? 1

NO. OF LANES ON MINOR ST.? 1

Number of Hours that met the Warrant: 0

Does this intersection meet Warrant 1A for signal installation? NO

Data Collection Date: 5/15/2018

W2-100%

W3B-100%

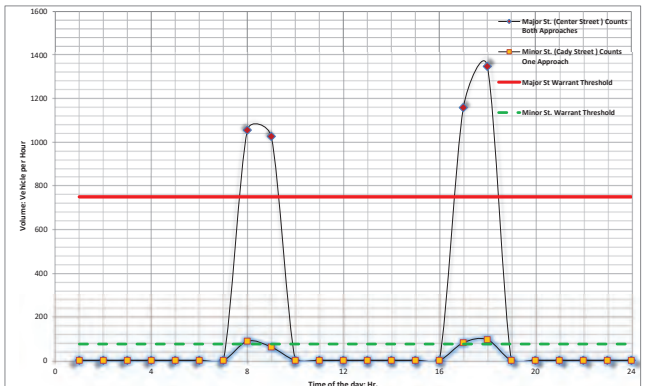

FIGURE 1: WARRANT 1B

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Background

Center Street @ Cady Street

NO. OF LANES ON MAJOR ST.? 1

NO. OF LANES ON MINOR ST.? 1

Number of Hours that met the Warrant: 3

Does this intersection meet Warrant 1B for signal installation? NO

Data Collection Date: 5/15/2018

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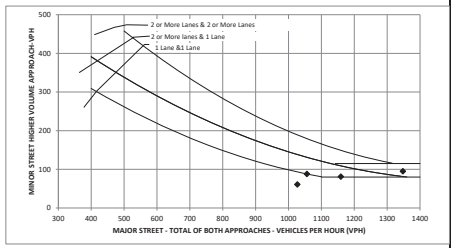
Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 1 - Background
Intersection:	Center Street @ Cady Street
Date	1/14/2022 by F&V

1	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

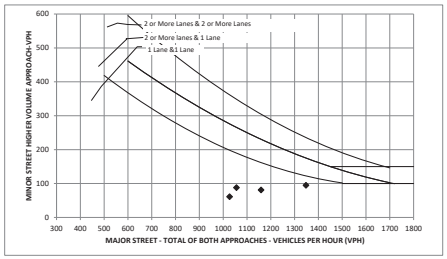


How Many Hours Are Met	3
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 1 - Background
Intersection:	Center Street @ Cady Street
Date	1/14/2022 by F&V

1	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

Page 6

Summary of Warrants

Spot Number:	Scenario 1 - Background		
Major Street:	Northville Road	Minor Street:	7 Mile Road
Intersection:	Northville Road at 7 Mile Road		
City/Twp:	Northville		
Date Performed:	1/13/2022	Performed By:	FV
Date Volumes Collected:	10/18/2018		

Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		YES
	Condition A	YES
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	YES
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	YES
	Condition A	N/A
	Condition B	YES
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
(Threshold)	HAWK	NO
(Threshold)	RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

W1

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Northville Road @ 7 Mile Road
Date	1/13/2022 by FV

3	No. of Lanes on Major St?
2	No. of Lanes on Minor St?
35	Speed limit or 85th Percentile? (MPH)
NO	Is the intersection within an Isolated community?
0	If answer 4 is Yes, then what is the of the population isolated community?
NO	Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.) N-S	Minor Volume (One Apr.) E-W	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
00:01 - 01:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	642	277	600	200	YES	900	100	NO	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	818	332	600	200	YES	900	100	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	692	283	600	200	YES	900	100	NO	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	878	304	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	986	350	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	1237	2855	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	1483	2992	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	1539	3111	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A =	8
Number of Hours that met the warrant 1B =	0
Number of Hours that met the warrant 1 A & B =	0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	YES
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

Page 2

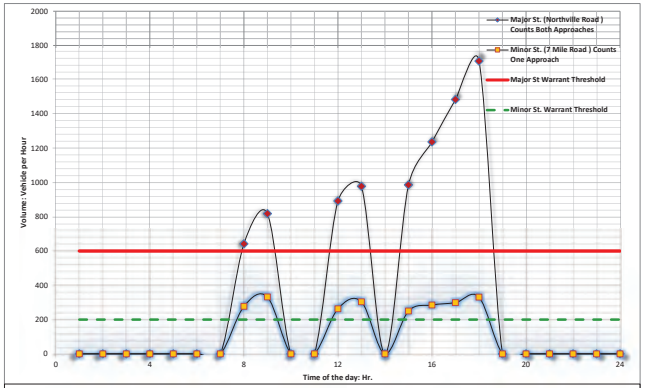


FIGURE 1: WARRANT **1A**

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Background

Northville Road @ 7 Mile Road

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 2

Number of Hours that met the Warrant: 8

Does this intersection meet Warrant 1A for signal installation? YES

Data Collection Date: 10/18/2018

W2-100%

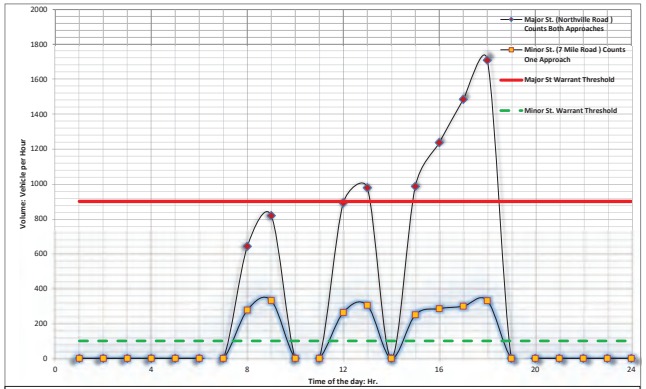


FIGURE 1: WARRANT **1B**

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Background

Northville Road @ 7 Mile Road

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 2

Number of Hours that met the Warrant: 8

Does this intersection meet Warrant 1B for signal installation? NO

Data Collection Date: 10/18/2018

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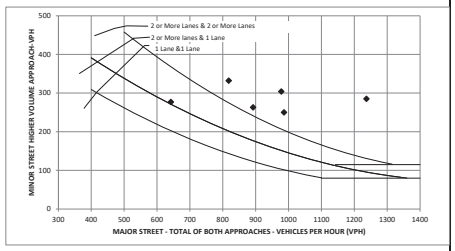
Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 1 - Background
Intersection:	Northville Road @ 7 Mile Road
Date	1/13/2022 by FV

3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



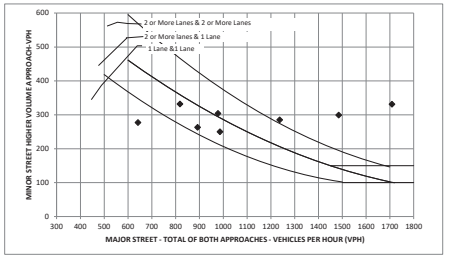
How Many Hours Are Met	7
Is Warrant 2 (100%) Met?	YES

W3B-100%

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 1 - Background
Intersection:	Northville Road @ 7 Mile Road
Date	1/13/2022 by FV

3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	3
Is Warrant 3 B (100%) Met?	YES

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Summary of Warrants

Spot Number:	Scenario 1 - Future		
Major Street:	Center Street	Minor Street:	Randolph Street
Intersection:	Center Street at Randolph Street		
City/Twp:	Northville		
Date Performed:	1/14/2022	Performed By:	FV
Date Volumes Collected:	10/19/2021		

Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	N/A
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
(Threshold)	HAWK	NO
(Threshold)	RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

W1

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Center Street @ Randolph Street
Date	1/14/2022 by FV

2	No. of Lanes on Major St?
1	No. of Lanes on Minor St?
25	Speed limit or 85th Percentile? (MPH)
NO	Is the intersection within an Isolated community?
0	If answer 4 is Yes, then what is the of the population isolated community?
NO	Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.) N-S	Minor Volume (One Apr.) E-W	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
00:01 - 01:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	549	151	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	706	589	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	1	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	947	153	600	150	YES	900	75	YES	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	859	164	600	150	YES	900	75	YES	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	0	0	600	150	NO	900	75	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A = 2
Number of Hours that met the warrant 1B = 2
Number of Hours that met the warrant 1 A & B = 0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

Page 2

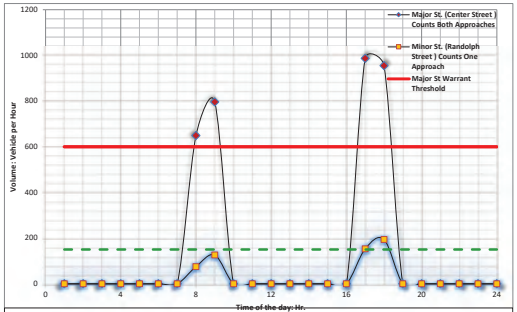


FIGURE 1: WARRANT

IS THERE A REDUCTION IN THE WARRANT 1- DUE TO SPEED? N
2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Future
Center Street @ Randolph Street
NO. OF LANES ON MAJOR ST.? 2
NO. OF LANES ON MINOR ST.? 1

Number of Hours that met the Warrant: 2
Does this intersection meet Warrant 1A for signal installation? NO
Data Collection Date: 10/19/2021

W2-100%

W3B-100%

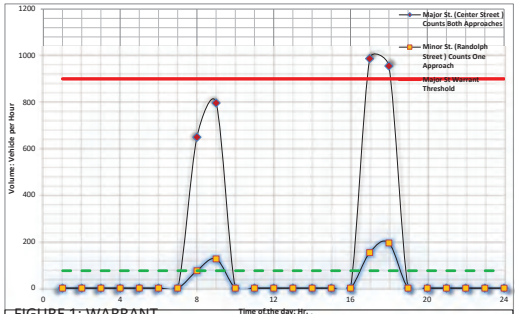


FIGURE 1: WARRANT

1B

IS THERE A REDUCTION IN THE WARRANT 1- DUE TO THRESHOLDS TO 70% ... SPEED? NO
2- DUE TO ISOLATED COMMUNITY WITH POPULATION AND LESS THAN 10,000?

Spot Number: Scenario 1 - Future
Center Street @ Randolph Street
NO. OF LANES ON MAJOR ST.? 2
NO. OF LANES ON MINOR ST.? 1

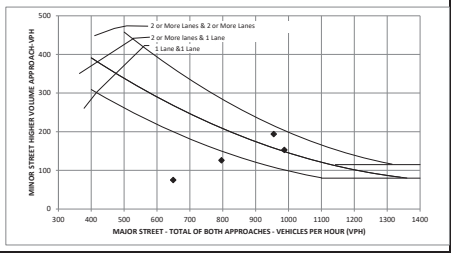
Number of Hours that met the Warrant: 2
Does this intersection meet Warrant 1B for signal installation? NO
Data Collection Date: 10/19/2021

Page 5

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 1 - Future
Intersection:	Center Street @ Randolph Street
Date	1/14/2022 by FV

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

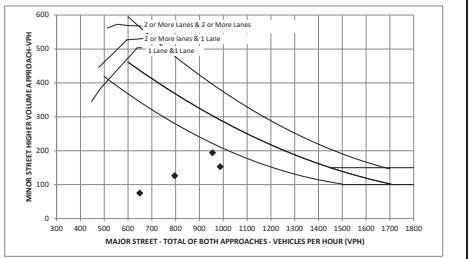


How Many Hours Are Met	2
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 1 - Future
Intersection:	Center Street @ Randolph Street
Date	1/14/2022 by FV

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

Page 6

Summary of Warrants

Spot Number:	Scenario 1 - Future		
Major Street:	Center Street	Minor Street:	Cady Street
Intersection:	Center Street at Cady Street		
City/Twp:	Northville, MI		
Date Performed:	1/14/2022	Performed By:	F&V
Date Volumes Collected:	5/15/2018		

Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	N/A
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
(Threshold)	HAWK	NO
(Threshold)	RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

W1

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Center Street @ Cady Street		
Date	1/14/2022	by	F&V

1	No. of Lanes on Major St?
1	No. of Lanes on Minor St?
25	Speed limit or 85th Percentile? (MPH)
NO	Is the intersection within an isolated community?
0	If answer 4 is Yes, then what is the of the population isolated community?
NO	Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.) N-S	Minor Volume (One Apr.) E-W	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
00:01 - 01:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	1092	804	500	150	NO	750	75	YES	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	1063	833	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	1137	851	500	150	NO	750	75	YES	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	1088	884	500	150	NO	750	75	YES	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	0	0	500	150	NO	750	75	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A = 0
Number of Hours that met the warrant 1B = 3
Number of Hours that met the warrant 1 A & B = 0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

Page 2

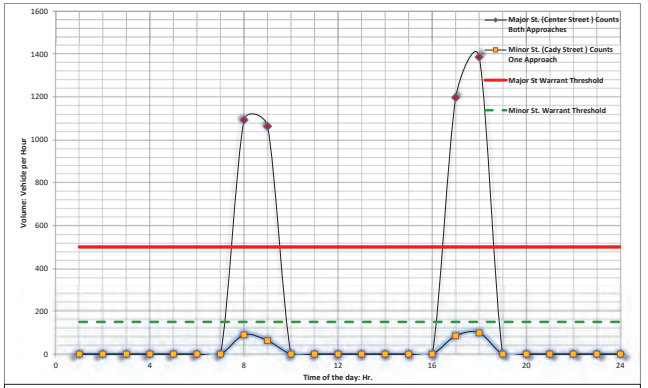


FIGURE 1: WARRANT 1A

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Future

Center Street @ Cady Street

NO. OF LANES ON MAJOR ST.? 1

NO. OF LANES ON MINOR ST.? 1

Number of Hours that met the Warrant: 0

Does this intersection meet Warrant 1A for signal installation? NO

Data Collection Date: 5/15/2018

W2-100%

W3B-100%

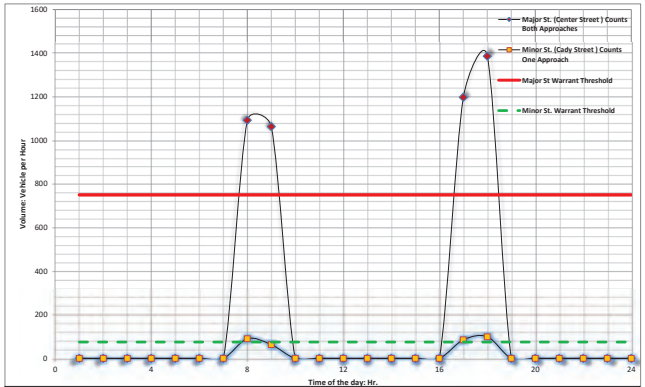


FIGURE 1: WARRANT 1B

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Future

Center Street @ Cady Street

NO. OF LANES ON MAJOR ST.? 1

NO. OF LANES ON MINOR ST.? 1

Number of Hours that met the Warrant: 3

Does this intersection meet Warrant 1B for signal installation? NO

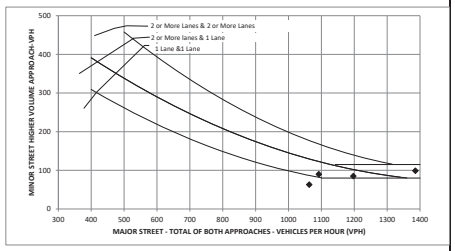
Data Collection Date: 5/15/2018

Page 5

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 1 - Future		
Intersection:	Center Street @ Cady Street		
Date	1/14/2022	by	F&V

1	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

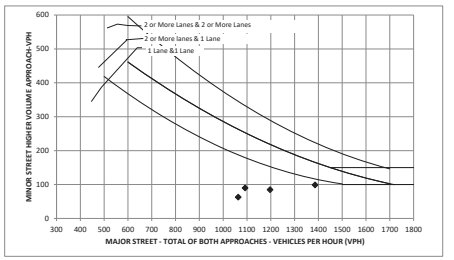


How Many Hours Are Met	3
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 1 - Future		
Intersection:	Center Street @ Cady Street		
Date	1/14/2022	by	F&V

1	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

Page 6

Summary of Warrants

Spot Number:	Scenario 1 - Future		
Major Street:	Northville Road	Minor Street:	7 Mile Road
Intersection:	Northville Road at 7 Mile Road		
City/Twp:	Northville		
Date Performed:	1/13/2022	Performed By:	FV
Date Volumes Collected:	10/18/2018		

Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		YES
	Condition A	YES
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	YES
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	YES
	Condition A	N/A
	Condition B	YES
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
(Threshold)	HAWK	NO
(Threshold)	RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A

Issue to Be Addressed by Signalization:

0

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Northville Road @ 7 Mile Road
Date	1/13/2022 by FV

3	No. of Lanes on Major St?
2	No. of Lanes on Minor St?
35	Speed limit or 85th Percentile? (MPH)
NO	Is the intersection within an Isolated community?
0	If answer 4 is Yes, then what is the of the population isolated community?
NO	Have other remedial measures been tried?

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Time	Major Volume (Both Apr.) N-S	Minor Volume (One Apr.) E-W	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B met?
00:01 - 01:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
01:00 - 02:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
02:00 - 03:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
03:00 - 04:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
04:00 - 05:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
05:00 - 06:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
06:00 - 07:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
07:00 - 08:00	707	2814	600	200	YES	900	100	NO	N/A	N/A	N/A	N/A	N/A
08:00 - 09:00	683	3481	600	200	YES	900	100	NO	N/A	N/A	N/A	N/A	N/A
09:00 - 10:00	5	18	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
10:00 - 11:00	3	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
11:00 - 12:00	697	2774	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
12:00 - 13:00	1043	3061	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
13:00 - 14:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
14:00 - 15:00	1073	2822	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
15:00 - 16:00	1304	2971	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
16:00 - 17:00	1572	3111	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
17:00 - 18:00	1798	3418	600	200	YES	900	100	YES	N/A	N/A	N/A	N/A	N/A
18:00 - 19:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
19:00 - 20:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
20:00 - 21:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
21:00 - 22:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
22:00 - 23:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A
23:00 - 00:00	0	0	600	200	NO	900	100	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A = 8
Number of Hours that met the warrant 1B = 6
Number of Hours that met the warrant 1 A & B = 0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	YES
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A

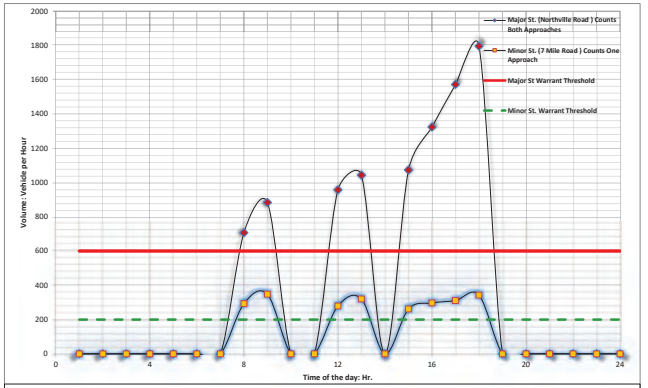


FIGURE 1: WARRANT 1A

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Future

Northville Road @ 7 Mile Road

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 2

Number of Hours that met the Warrant: 8

Does this intersection meet Warrant 1A for signal installation? YES

Data Collection Date: 10/18/2018

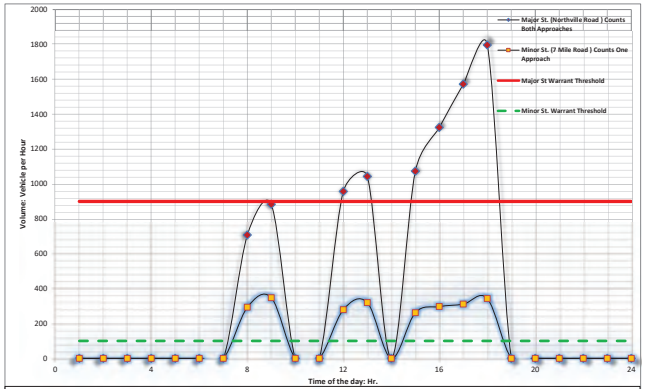


FIGURE 1: WARRANT 1B

IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...

1- DUE TO SPEED? NO

2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? NO

Spot Number: Scenario 1 - Future

Northville Road @ 7 Mile Road

NO. OF LANES ON MAJOR ST.? 3

NO. OF LANES ON MINOR ST.? 2

Number of Hours that met the Warrant: 6

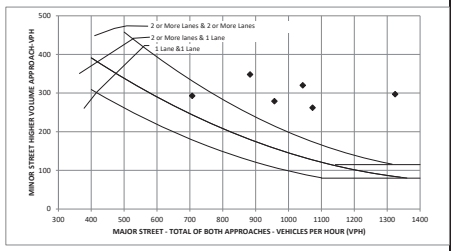
Does this intersection meet Warrant 1B for signal installation? NO

Data Collection Date: 10/18/2018

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 1 - Future
Intersection:	Northville Road @ 7 Mile Road
Date	1/13/2022 by FV

3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?

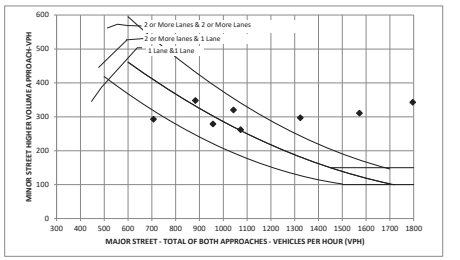


How Many Hours Are Met	7
Is Warrant 2 (100%) Met?	YES

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 1 - Future
Intersection:	Northville Road @ 7 Mile Road
Date	1/13/2022 by FV

3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an Isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	3
Is Warrant 3 B (100%) Met?	YES

Appendix F

SUPPLEMENTAL INFORMATION

Proportionality Analysis

The figure above depicts the percent increase the site-generated trips will have on existing traffic volume associated with the study intersections of concern
i.e. Existing volume = 1,000 veh/hr > Future volume = 1,050 veh/hr ==> **5% Increase**

** Changes in traffic volumes of 5% or less are generally indiscernible from typical daily fluctuations in traffic volumes*

Optimizations consistent between ALL scenarios

Table: Proposed Signal Timing (Int #8 and Int #9)

Phase	PM Peak Hour					
	Existing Operations			Proposed Operations		
	Yellow Interval	Red Clearance	Green Split	Yellow Interval	Red Clearance	Green Split
INT #8 - Main Street & Hutton Street						
EB/WB	3.0	2.5	33.2	No Change		20.5
NB/SB	3.0	2.3	16.0			28.7
Cycle Length	60 seconds			No Change		
INT #9 - Main Street & Griswold Street						
EB/WB	3.0	2.6	27.8	No Change		21.4
NB/SB	3.6	2.2	20.8			27.8
Cycle Length	60 seconds			No Change		

* No change in signal timing during AM peak period.

Table: Proposed Signal Timing (Int #28)

INT #26/27 - Northville Road & S. Seven Mile Road							
Phase	Existing Operations			Proposed Operations			
	Yellow Interval	Red Clearance	Green Split (AM/PM)	Yellow Interval	Red Clearance	Green Split (AM)	Green Split (PM)
WB	4	2.2	28.6	No Change		18.8	20.8
NBTR		2.4	16.4			21.6	22.6
SBL		2.4	16.0			20.6	17.6
SBT		2.4	38.8			48.6	46.6
Cycle Length	80 seconds			No Change			

March 2, 2022

City of Northville
Department of Public Works
215 W Main St,
Northville, MI 48167

Attn: Mr. Michael Domine, DPS Director

Re: The Downs – Traffic Impact Study, Engineering Acceptance
OHM Job No. 0152-21-1020

Dear Mr. Domine,

We have completed our review of the revised traffic impact study for the proposed development study in City of Northville, Michigan. The Downs project site is located adjacent to the south side of Cady Street, between Center Street and Griswold Street on the property that was previously occupied by Northville Downs. The proposed development includes the construction of a mixed-use retail and multi-family residential units.

The traffic impact study was prepared by Fleis & VandenBrink Engineering, Inc., the original TIS reviewed was dated December 14, 2021. This review includes the most recently revised TIS dated February 20, 2022. Synchro traffic modeling files were also provided for review.

Fleis & VandenBrink Engineering, Inc. has addressed all of the concerns raised in our previous memos, including those dated January 13th, January 26th, and our subsequence review the TIS submitted for the PC public meeting. **We note that the TIS follows accepted professional traffic engineering practices, and we concur that it is a complete and accurate depiction of the potential traffic impacts from the proposed Northville Downs development.**

Sincerely,
OHM Advisors

Stephen, Dearing PE, PTOE
Senior Technical Leader- Traffic

cc: Patrick Sullivan, City Manager, via email
Sally Elmiger, CWA, City of Northville Planner, via email
Dianne Massa, City Clerk, via email
Matthew Samhat, City Fire Marshall, via email
Brent Strong, City Chief Building Official, via email
Nicholas Bayley, OHM, via email
George Tsakoff, OHM, via email
John Katers, OHM, via email

OHM Advisors®
34000 PLYMOUTH ROAD
LIVONIA, MICHIGAN 48150
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F 734.522.6427
OHM-Advisors.com

City of Northville Michigan

CERTIFICATE OF SERVICE

STATE OF MICHIGAN)
) SS
COUNTY OF OAKLAND & WAYNE)

The undersigned, having been duly sworn, certifies that on **February 24, 2022,** he/she served a copy of the attached **notice of public hearing pertaining to the Planned Unit Development application submitted by Hunter Pasteur Northville, LLC for the property commonly known as The Downs (Northville Downs Racetrack)** by first class mail, postage prepaid, to each of the parties identified on the list attached to this Certificate as required by Section 20.06.2 of the City of Northville Zoning Ordinance, and by PA 33 of 2008 of the Public Acts of Michigan, as amended.

I also certify that a copy of the Notice of Public Hearing was posted at the City of Northville Municipal Building 24-hour vestibule, and the City website.

Dianne Massa, CMC, City Clerk

SHARI LYNN ALLEN
Notary Public - State of Michigan
County of Wayne
My Commission Expires October 16, 2024
Acting in the County of Wayne

Subscribed and sworn to before me this
25 day of February, 2022

Notary Public

Wayne County, Michigan
My Commission Expires: 10/16/24

NOTICE OF PUBLIC HEARING
CITY OF NORTHVILLE

The City of Northville Planning Commission will hold a public hearing to receive public input on the Downs Planned Unit Development (PUD) requested by Hunter Pasteur Homes, LLC, located at 301 S. Center St., Northville, Michigan, 48167.

The project site encompasses approximately 48-acres of land over a number of parcels and lots, including:

- Vacant land on the south side of E. Cady St. (between S. Center St. and Griswold St.);
- Two vacant lots on the west side of S. Center St. (Lots 219 and 220 of "Assessors Northville Plat No. 3") between E. Cady St. and Fairbrook St.;
- Land currently occupied by the Northville Downs racetrack and associated parking and horse stable areas (between E. Cady St. and 7-Mile Road, and between S. Center St. and River St.); and
- Farmer's Market site on the west side of S. Center St., at the intersection of S. Center St. and 7-Mile Road.

Addresses associated with these parcels includes 301 S. Center St., 118 E. Cady St., 341 Beal Ave., 318 River St., 105 Fairbrook St., and 109 Fairbrook St.

The subject sites are delineated in the aerial photograph below:

Source: Base Map Wayne County Parcel Viewer

The applicant is seeking to rezone the property to PUD, and develop a mixed-use project that contains a variety of buildings and uses, including ground-level commercial units, apartments, condominiums, row houses, townhomes, carriage homes, and single-family homes, integrated with public streets, parks and pathways. Current zoning of the premises includes Central Business District (CBD), Cady Street Overlay District (CSO), Racetrack District (RTD), and Second Density Residential District (R-2). The applicant has submitted a Preliminary PUD Plan. Section 20.06 requires a Public Hearing before the Planning Commission considers the Plan, and makes a recommendation to City Council on the Plan and the rezoning request.

MEETING DATE AND MEETING LOCATION

The public hearing will be held on March 15, 2022 at 6:00 p.m. at the Northville Community Center, 303 W. Main Street, Northville, Michigan, 48167, 248-449-9902. Members of the public may attend the public hearing in person or participate virtually using the following Zoom meeting participation link: https://us02web.zoom.us/j/83592963433, Or Telephone: +1 646 558 8656 or +1 301 715 8592, Webinar ID: 835 9296 3433

Members of the public attending by Zoom may participate in the public hearing as if physically present at the meeting. An electronic meeting user guide for the public is found on the City website www.ci.northville.mi.us. Those needing assistance or accommodations should contact the City Manager's office at 248-449-9905 during normal business hours.

The purpose of the public hearing is to receive public comment on the Preliminary PUD Plan and rezoning request.

APPLICATION AND WRITTEN COMMENTS

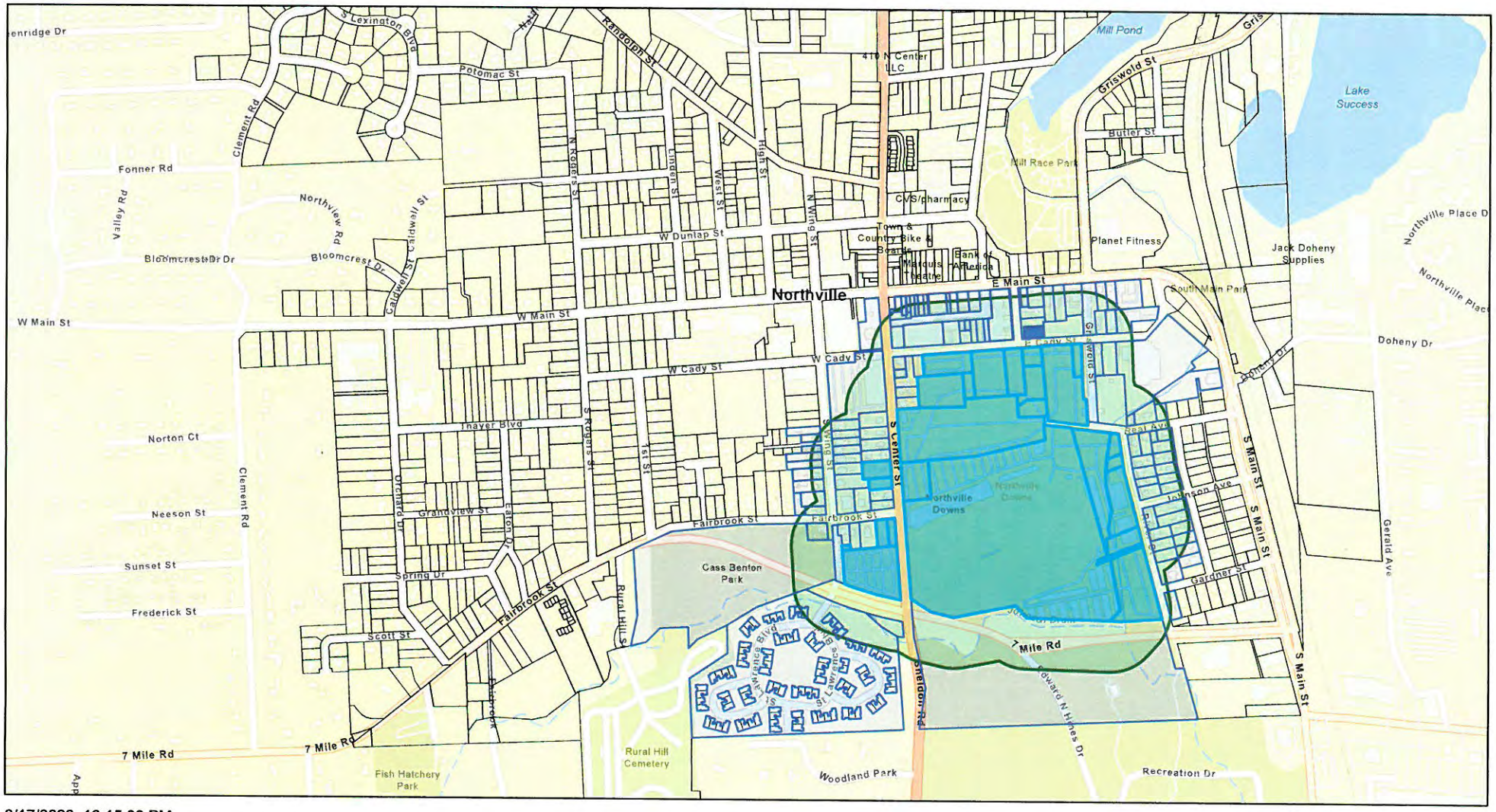
The Preliminary PUD Plan and related documents are available for review at the City of Northville Building Department during normal business hours of 8am to 4:30pm Monday through Friday, local prevailing time or on the City's website www.ci.northville.mi.us (go to Business, Proposed Redevelopment Projects).

Written comments to the Planning Commission must be submitted by 4:30pm, March 14, 2022 to the City Clerk, City of Northville, 215 W. Main Street, Northville, Michigan, 48167, or using the City Hall drop box, or emailed to dmassa@ci.northville.mi.us.

DATED: February 24, 2022

DIANNE MASSA, CMC, CITY CLERK

Public Notification | Northville Downs | 300ft Buffer



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Tax Parcels

1:9,028

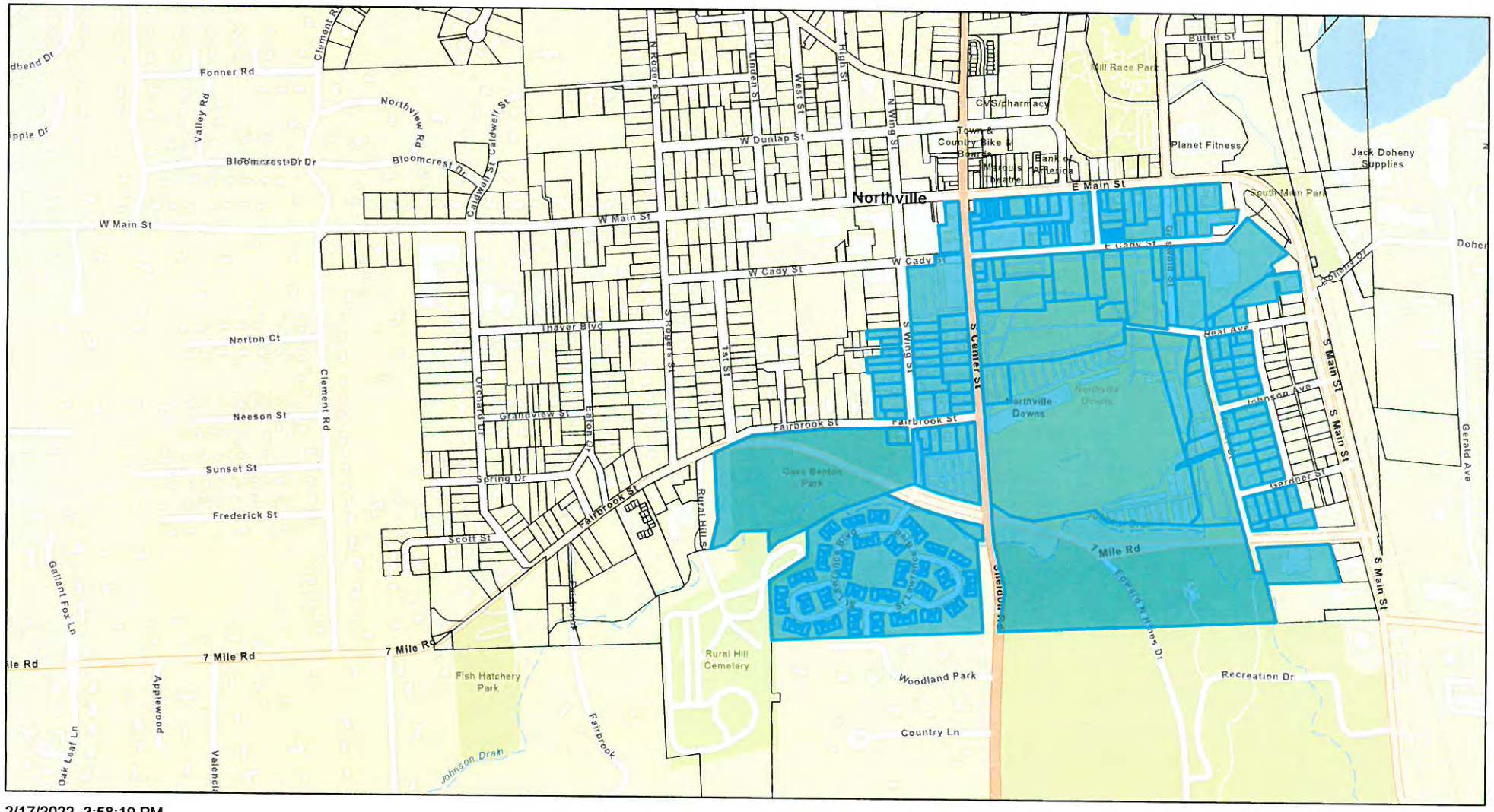
0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

City of Northville Public Notification
City of Northville, Wayne County MI

Public Notification | Northville Downs Mailing Labels Owner Parcels



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Tax Parcels

1:9,028

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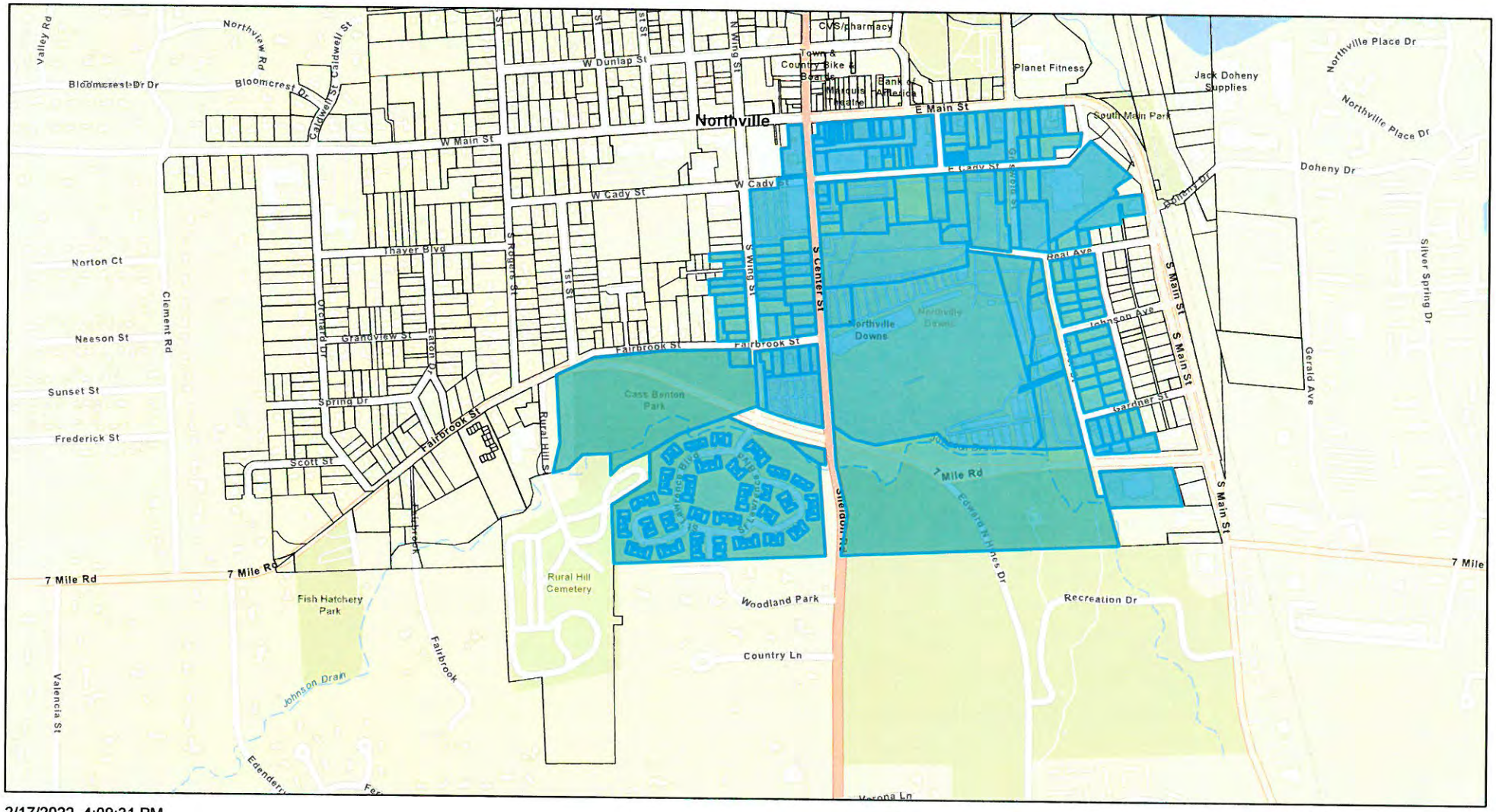
0 0.13 0.25 0.5 km

Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

City of Northville Public Notification
City of Northville, Wayne County MI

Public Notification | Northville Downs Mailing Labels Current Resident Parcels



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Tax Parcels

1:9,028

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

City of Northville Public Notification
City of Northville, Wayne County MI

Owner labels

NOVAK, JEANETTE & SIEB, RODNEY
427 COVINGTON CT
NORTHVILLE,MI,48168

BARTEL, KURT & KEELY
413 BEAL AVE
NORTHVILLE,MI,48167

WESLEY, MARK & KAREN
111 HAMPTON CT
NORTHVILLE,MI,48168

PADMOS, PHYLLIS
424 COVINGTON CT
NORTHVILLE,MI,48168

DIEBOLT, JOANN TRUST
219 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

WEBSTER, BRUCE
143 CADY CENTER # 351
NORTHVILLE,MI,48167

CAPITAL DEVELOPMENT & BUILDING ADM
500 GRISWOLD, SUITE 3420
DETROIT,MI,48226

..

GREGORY ST JAMES INC
32744 BIDDLESTONE ST
FARMINGTON,MI,48334

ROTH, JAMES M
567 W SEVEN MILE RD
NORTHVILLE,MI,48167

WINTER, MATTHEW
216 FAIRBROOK ST
NORTHVILLE,MI,48167

NORTHVILLE DOWNS ASSN
301 S CENTER
NORTHVILLE,MI,48167

KEMPA, ROGER & ELIZABETH
422 COVINGTON CT
NORTHVILLE,MI,48168

WENDT, JAY & MOLINARO, MARY TRUST
317 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

KELLY, JOHN P & MICHELE D
422 E MAIN ST
NORTHVILLE,MI,48167

COLLINS, PATRICK & FARANGISS
127 HAMPTON CT
NORTHVILLE,MI,48168

NORTHVILLE DRIVING CLUB
43059 SEVEN MILE RD
NORTHVILLE,MI,48167

KAZOR, CHRISTOPHER M, TRUSTEE
218 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

STAFFORD, MIKE
364 S WING ST
NORTHVILLE,MI,48167

JENEREAUX, JOYCE TRUST
212 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

CAPITAL DEVELOPMENT & BUILDING ADM
500 GRISWOLD, SUITE 3420
DETROIT,MI,48226

NORTHVILLE DRIVING CLUB
43133 SEVEN MILE RD
NORTHVILLE,MI,48167

GUIDOBONO, RENEE
PO BOX 331
NORTHVILLE,MI,48167

PULLIAM, DAVID & KATHLEEN
419 COVINGTON CT
NORTHVILLE,MI,48168

HEYNIGER, ANDREW K
BUDNY, TERI L
424 YERKES AVE
NORTHVILLE,MI,48167

NORTHVILLE VILLAGE LLC.
30777 NORTHWESTERN HIGHWAY STE 301
FARMINGTON,MI,48334

NORTHVILLE DOWNS ASSN
301 S CENTER
NORTHVILLE,MI,48167

PAVER, VIRGINA A
461 RIVER ST
NORTHVILLE,MI,48167

ROSSITER, JOHN L
321 S WING ST
NORTHVILLE,MI,48167

NORTHVILLE DOWNS
CARLO, JOHN & ZAYTI, MARGARET
301 S CENTER
NORTHVILLE,MI,48167

BAUTISTA, LEANDRO & HALL, HEIDI
302 YERKES AVE
NORTHVILLE,MI,48167

NORTHVILLE DRIVING CLUB
43133 SEVEN MILE RD
NORTHVILLE,MI,48167

OILAR, JOHN F & BYRON-OILAR, AMY L
410 YERKES AVE
NORTHVILLE,MI,48167

NORTHVILLE DOWNS ASSN
301 S CENTER
NORTHVILLE,MI,48167

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

SKRUCH, MICHAEL & JODI
303 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

LUSSIER & ASSOC LLC
548 DUNLAP ST
NORTHVILLE,MI,48167

LAPHAM INVESTMENTS LDT PART.
PO BOX 939
NORTHVILLE,MI,48167-0939

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

190 EAST MAIN LLC
190 E MAIN
NORTHVILLE,MI,48167

CARR, LISA
417 COVINGTON CT
NORTHVILLE,MI,48168

NORTHVILLE DRIVING CLUB
43133 SEVEN MILE RD
NORTHVILLE,MI,48167

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

LONDECO INC,
190 E MAIN
NORTHVILLE,MI,48167

AJLOUNY, ROBERT&DAILY,ANDREW LVG TR
333 E CADY ST
NORTHVILLE,MI,48167

5 G'S & W, LLC
108 E MAIN ST
NORTHVILLE,MI,48167

O'BRIEN, TIMOTHY & DIANE
423 COVINGTON CT
NORTHVILLE,MI,48168

DIGIROLAMO, LYNN
324 YERKES AVE
NORTHVILLE,MI,48167

KARNIB, SARA & WEST, LUKE
337 E CADY ST
NORTHVILLE,MI,48167

WRIGHT, MICHAEL
444 YERKES AVE
NORTHVILLE,MI,48167

MULDER, JOHN & ELINORE
301 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

KING, MARY ELLEN TRUST
207 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

MILLER, DWAYNE D & ROBERTA J
240 S WING ST
NORTHVILLE,MI,48167-1544

L&C-TTEE-HOJNACKI FAM REV LIV TRST
119 HAMPTON CT
NORTHVILLE,MI,48168

BELL, THOMAS & CHRISTINE
225 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

NORTHVILLE DOWNS
CARLO, JOHN & ZAYTI, MARGARET
301 S CENTER
NORTHVILLE,MI,48167

PAYNE, HOWARD & MARILYN
211 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

JOHNSON, DAVID L
300 POMARIA PL
LADY LAKE,FL,32162

BURNSTRUM, BRENDA
327 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

SHUTT, DANIEL D
245 S WING ST
NORTHVILLE,MI,48167

NORTHVILLE DRIVING CLUB
43133 SEVEN MILE RD
NORTHVILLE,MI,48167

VENNIX REVOCABLE LIVING TRUST
237 ST LAWRENCE LN
NORTHVILLE,MI,48168

JAQUES, SYBIL
209 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

COMM FINANCIAL CREDIT UNION
500 S HARVEY
PLYMOUTH,MI,48170

MAYBURY HOMES LLC
459 E CADY
NORTHVILLE,MI,48167

ALBRECHT, GUENTER & JACQUELINE
350 S WING ST
NORTHVILLE,MI,48167

CAMPUS & ASSOCIATES LLC
160 E MAIN ST
NORTHVILLE,MI,48167

GAINES, JEFFREY & GLORIA
334 YERKES AVE
NORTHVILLE,MI,48167

CONNELL, ARLAN & BONNIE
129 HAMPTON CT
NORTHVILLE,MI,48168

FEDELL, VINCENT & DAWN
321 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

TRAINOR, JOHN & NANCY
425 COVINGTON CT
NORTHVILLE,MI,48168

ASH, WILLIAM & JENNIFER
430 YERKES AVE
NORTHVILLE,MI,48167

GELLETLY, CHARLES R. & ALAYNEM.
202 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

HERBEL, RICHARD T.
959 WHITTIER DR
EAST LANSING,MI,48823-2451

MILLARD, BARBARA
16564 WAYNE RD
LIVONIA,MI,48154

KONKEL, MIKE & KATHRYN
206 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

DASKAL DEVELOPMENT COMPANY LLC
19060 OAK LEAF LN
NORTHVILLE,MI,48168

GIOVANNI, IDA DEJESUS
443 RIVER ST
NORTHVILLE,MI,48167

DW 332 E MAIN ST LLC
332 E MAIN ST
NORTHVILLE,MI,48167

KHAMIS, TERI TRUST
405 COVINGTON CT
NORTHVILLE,MI,48168

BARGET, BRUCE & NET GINGRAS-
641 WOODLAND DR
BOYNE CITY,MI,49712

GENITTI, JOHN
134 E MAIN ST
NORTHVILLE,MI,48167

NORTHVILLE GROUP, THE
31000 NORTHWESTERN HIGHWAY STE 200
FARMINGTON,MI,48334-2586

BURCAR, KIMBERLY HARTMAN
450 GARDNER ST
NORTHVILLE,MI,48167

FOWLER, L & THELEN, W
201 FAIRBROOK ST
NORTHVILLE,MI,48167

CORRIVEAU, RICHARD TRUST
361 S WING ST
NORTHVILLE,MI,48167

ROULEAU, JEFF
153 FAIRBROOK ST
NORTHVILLE,MI,48167

ELY, MELODIE
384 S WING ST
NORTHVILLE,MI,48167

DOBSON, STANLEY & SUSAN
337 COVINGTON CT
NORTHVILLE,MI,48168

NEHRO, JESSICA E.
329 RIVER ST
NORTHVILLE,MI,48167

HERBEL, RICHARD T. TRUST
959 WHITTIER DR
EAST LANSING,MI,48823-2451

GREGORY ST JAMES, INC
32744 BIDDLESTONE LANE
FARMINGTON,MI,48334-4302

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

RONK, ROBERT L REV LVNG TRST
48251 RUSHWOOD LANE
NOVI,MI,48374

410 EAST MAIN LLC
1015 PORTSMERE CT
NORTHVILLE,MI,48167

BOSIO, MARY E
413 COVINGTON CT
NORTHVILLE,MI,48168

KAMINSKI, JEFF & SUSANNE TRUST
3647 CODY RD
SHERMAN OAKS,CA,91403

CAMINO, LOUIS & JOANNE
439 COVINGTON CT
NORTHVILLE,MI,48168

180 EAST MAIN LLC
190 E MAIN
NORTHVILLE,MI,48167

YUHASZ, KIRK & NANETTE
326 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

MULHOLLAND, ROBERT REV TRUST
C/O OLD NATIONAL BANK
2723 S STATE ST STE 210
ANN ARBOR,MI,48108

RUTHERFORD, ELIZABETH LAMOTT
LAMOTT, WILLIAM & ANN
502 GARDNER ST
NORTHVILLE,MI,48167

HORGAN, DANIEL III & KATHLEEN
112 HAMPTON CT
NORTHVILLE,MI,48168

WICKETT, PAUL & EILEEN
203 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

WILKE, LINDA
312 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

NORTHVILLE DOWNS ASSN
301 S CENTER
NORTHVILLE,MI,48167

NORTHVILLE DRIVING CLUB
43059 SEVEN MILE RD
NORTHVILLE,MI,48167

SCHEFFLER, CLARENCE & PHYLLIS
342 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

NOBLE, DANIEL & CHERYL
216 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

RATHWELL, DANIEL & JUDITH
230 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

MAIN, MARISA
435 COVINGTON CT
NORTHVILLE,MI,48168

FENNELL, JOSEPH & JOYCE
131 HAMPTON CT
NORTHVILLE,MI,48168

DIVIDOCK, KENNETH & GLANDON, DONNA
6730 N CANTON CENTER RD
CANTON,MI,48187

FINCH, SUSAN
217 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

THE CADY PROJECT LLC
120 W MAIN ST STE 201
NORTHVILLE,MI,48167

NORTHVILLE DOWNS ASSN
301 S CENTER
NORTHVILLE,MI,48167

PERTNER, OTTO FREDRICH
316 S. WING
NORTHVILLE,MI,48167

ROYAL TRAILER LAND - DETROIT LLC
28930 WIXOM RD
WIXOM,MI,48393

NORTHVILLE DRIVING CLUB
43059 SEVEN MILE RD
NORTHVILLE,MI,48167

NORTHVILLE DOWNS ASSN
301 S CENTER
NORTHVILLE,MI,48167

GATT, MICHAEL & KATHERINE
475 RIVER ST
NORTHVILLE,MI,48167-1633

DTE ELECTRIC COMPANY
PO BOX 33017
DETROIT,MI,48232

SCHRAUBEN, CAROL
403 COVINGTON CT
NORTHVILLE,MI,48168

GUINDI, ROBERT
114 HAMPTON CT
NORTHVILLE,MI,48168

JOSEPH CORRIVEAU
237 S WING ST
NORTHVILLE,MI,48167

LAWRENCE, DAVID & K
228 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

MURPHY, ROBERT & OLSON, RUTH
309 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

NEAL, CHARLES
495 RIVER ST
NORTHVILLE,MI,48167

PORTILLO, JUDY M, TRUST
139 HAMPTON CT
NORTHVILLE,MI,48168

GOOD, THOMAS & AMY
328 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

NORTHVILLE, CITY OF
215 W MAIN ST
NORTHVILLE,MI,48167

STIRSMAN, DAVID L
101 HAMPTON CT
NORTHVILLE,MI,48168

WOOD, RICHARD & SUSAN REV LNVG TRST
437 COVINGTON CT
NORTHVILLE,MI,48168

NORTHVILLE DRIVING CLUB
43133 SEVEN MILE RD
NORTHVILLE,MI,48167

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

ROSKELLY, BEVERLY J
310 YERKES AVE
NORTHVILLE,MI,48167

THAKADY, MARY, ANIL & SHARI
341 COVINGTON CT
NORTHVILLE,MI,48168

DELANO, DANIEL
325 E CADY ST
NORTHVILLE,MI,48167

VIGI, LEA J
317 RIVER ST
NORTHVILLE,MI,48167

ROMANO, MARK & KELLY
123 HAMPTON CT
NORTHVILLE,MI,48168

TARPINIAN, MARK & MELINDA
24831 GLENDA ST
NOVI,MI,48375

MCMAHON, CHRISTOPHER & BRENDA
429 COVINGTON CT
NORTHVILLE,MI,48168

FRAT ORDER OF EAGLES 2504
113 S CENTER
NORTHVILLE,MI,48167

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

VIGI, DAN
404 BEAL AVE
NORTHVILLE,MI,48167

TEGH LLC
2290 SCIENCE PARKWAY
OKEMOS,MI,48864

LONDECO INC,
190 E MAIN
NORTHVILLE,MI,48167

CAPITAL DEVELOPMENT & BUILDING ADM
500 GRISWOLD, SUITE 3420
DETROIT,MI,48226

ROBBINS, JAMES
244 S WING ST
NORTHVILLE,MI,48167

ROTH, JAMES
567 W SEVEN MILE RD
NORTHVILLE,MI,48167

TSCHIRHART, THOMAS & CYNTHIA
109 HAMPTON CT
NORTHVILLE,MI,48168

WOODWORTH, HENRY
232 S CENTER ST
NORTHVILLE,MI,48167

SMITH, MARIAN L TRUST
403 BEAL AVE
NORTHVILLE,MI,48167

NENNINGER, G E & JOANMARY
229 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

MILL STREAM PROPERTIES
C/O HARLEY TSE
6425 PINECRAFT DR
WEST BLOOMFIELD,MI,48322

YORK, G THOMAS & MARY G
221 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

JOETTE N GEORGE LIVING TRUST
215 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

MOSS, JOSH & KAREN
239 ST LAWRENCE LN
NORTHVILLE,MI,48168

TIERNAN, DAVID & DONNA
433 COVINGTON CT
NORTHVILLE,MI,48168

MAIN-SEVEN LLC
508 GARDNER ST
NORTHVILLE,MI,48167

NEWMAN, KUMIKO & WAYNE
223 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

WILHELM, JANICE REV TRUST 6/18/05
331 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

LANDRY, MATTHEW & DION, KARI
416 BEAL AVE
NORTHVILLE,MI,48167

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

APELAND, J. CHRISTOPHER & MELISSA J
383 S WING ST
NORTHVILLE,MI,48167

URSEL, DARLENE M
319 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

SALAH, ALEXANDER
113 HAMPTON CT
NORTHVILLE,MI,48168

TSE PROPERTIES - YERKES LLC
16481 JOHNSON CREEK DR
NORTHVILLE,MI,48168

FIRST PRESBYTERIAN CHURCH
200 E MAIN
NORTHVILLE,MI,48167

ANDRUSIAK, DAVID
36983 DUNSTABLE CT
FARMINGTON,MI,48335

J & S PERKINS
48704 HILLCREST CT E
PLYMOUTH,MI,48170

SCHROEDER, CYNTHIA
331 E CADY ST
NORTHVILLE,MI,48167

CHERYL MCGONIGLE REV TRUST
135 HAMPTON CT
NORTHVILLE,MI,48168

CORRIVEAU MATTHEW T. & STEPHANIE W.
323 RIVER ST
NORTHVILLE,MI,48167

TRAVALINI, PAUL & MAUREEN
233 ST LAWRENCE LN
NORTHVILLE,MI,48168

ADAMS, CURTIS
339 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

NORTHVILLE DRIVING CLUB
43133 SEVEN MILE RD
NORTHVILLE,MI,48167

LIENERT, MICHAEL
270 S CENTER ST
NORTHVILLE,MI,48167

HOIDA, ROBERT & LINDA
103 HAMPTON CT
NORTHVILLE,MI,48168

ANDRUSIAK, DAVID
ANDRUSIAK, MICHELLE
36983 DUNSTABLE CT
FARMINGTON,MI,48335

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

WELLS, MATT
248 S CENTER ST
NORTHVILLE,MI,48167

PEAVEY, K H-RAYL, R B
46102 SUNSET ST
NORTHVILLE,MI,48167

ROTH, JAMES
567 W SEVEN MILE RD
NORTHVILLE,MI,48167

DIVIDOCK, KENNETH
6730 N CANTON CENTER ROAD
CANTON,MI,48187-1649

WATKINS, THOMAS
214 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

NORTHVILLE DRIVING CLUB
43133 SEVEN MILE RD
NORTHVILLE,MI,48167

KELLY, JOHN REV TRST
422 E MAIN
NORTHVILLE,MI,48167

MICHALSKI, JAMES & PAMELA
138 HAMPTON CT
NORTHVILLE,MI,48168

RIVARD, DONALD & DIANE TRUSTEES
420 COVINGTON CT
NORTHVILLE,MI,48168

WRIGHT, CORMAC & THERESA
330 YERKES AVE
NORTHVILLE,MI,48167

HUSAIN, ASHER & AMNA
22360 BARCLAY DR
NOVI,MI,48374-3875

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

MCDOWELL, SHANE & BRIDGETT
120 FAIRBROOK ST
NORTHVILLE,MI,48167

CURRIE, RILL R
205 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

BRESS, JOSEPH J
588 N ROGERS
NORTHVILLE,MI,48167

CORRIVEAU, RICHARD
CORRIVEAU, DOROTHY
329 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

BINGHAM, DONALD
44138 MARLSON AVE
NOVI,MI,48375-1633

BERGSTROM FAMILY LVNG TRUST
310 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

HOLLOWAY, JOY L. TRUST
4741 VIA DEL CORSO LN UNIT 401
BONITA SPRINGS,FL,34134-5023

MASONIC TEMPLE ASSN.
PO BOX 35
NORTHVILLE,MI,48167

DOUYARD, JONATHAN & SARAH
140 HAMPTON CT
NORTHVILLE,MI,48168

SCHAAP, MARY
323 E CADY ST
NORTHVILLE,MI,48167

PERRY, CURT & GLORIA LIFE ESTATE
243 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

COURVISIER, DONALD & MARY
374 S WING ST
NORTHVILLE,MI,48167

NORTHVILLE DRIVING CLUB
43133 SEVEN MILE RD
NORTHVILLE,MI,48167

NORTHVILLE DRIVING CLUB
43059 SEVEN MILE RD
NORTHVILLE,MI,48167

MULLEN, PATTI
409 COVINGTON CT
NORTHVILLE,MI,48168

ZBIK, ROBERT
ZBIK, MARIL
24103 SHEARWATER CIRCLE
COMMERCE,MI,48390

PETERS, ROBERT & PAMELA
311 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

NORTHVILLE DOWNS ASSN
301 S CENTER
NORTHVILLE,MI,48167

ROTH, JAMES
567 W SEVEN MILE RD
NORTHVILLE,MI,48167

NORTHVILLE DOWNS ASSN
301 S CENTER
NORTHVILLE,MI,48167

BORTHWICK, TIMOTHY & MICHELE
241 S WING ST
NORTHVILLE,MI,48167

SINGH DEVELOPMENT CORP
7125 ORCHARD LK RD,STE 200
WEST BLOOMFIELD,MI,48325-3005

ELLIOTT, SARAH
324 S WING ST
NORTHVILLE,MI,48167

SEFCIK FAMILY LIVING TRUST
313 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

HAIFLEIGH, MICHAEL J & SUSAN J
308 S WING ST
NORTHVILLE,MI,48167

NORTHVILLE DRIVING CLUB
43133 SEVEN MILE RD
NORTHVILLE,MI,48167

ST LAWRENCE, WILLIAM
117 HAMPTON CT
NORTHVILLE,MI,48168

CHIELENS EDWARD E. & DEBRA M.
415 COVINGTON CT
NORTHVILLE,MI,48168

TARROW, RICKY & DEBORAH
438 YERKES AVE
NORTHVILLE,MI,48167

HERBEL, RICHARD T. TRUST
959 WHITTIER DR
EAST LANSING,MI,48823-2451

S4CADY LLC
37000 GRAND RIVER AVE STE 360
FARMINGTON,MI,48335

456 CADY LLC
25000 ASSEMBLE PARK DR
WIXOM,MI,48393

KING, JILL A
344 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

456 CADY LLC
25000 ASSEMBLE PARK DR
WIXOM,MI,48393

DUNNE, PATRICIA
330 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

ROBERT & ROSE CHALDECOTT
314 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

O'NEILL, RICHARD & DEBORAH
407 COVINGTON CT
NORTHVILLE,MI,48168

BODNAR, RONALD F
342 E MAIN ST
NORTHVILLE,MI,48167

R YOUNG LVNG TRST&G YOUNG LVNG TRST
137 HAMPTON CT
NORTHVILLE,MI,48168

BINGHAM, DONALD
44138 MARLSON AVE
NOVI,MI,48375-1633

NORTHVILLE DOWNS ASSN
301 S CENTER
NORTHVILLE,MI,48167

LESANU, ADRIAN A
IONESCU, RODICA M
340 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

STAHR FAMILY TRUST 3/27/17
226 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

GREGORY ST JAMES, INC
32744 BIDDESTONE
FARMINGTON,MI,48334

NORTHVILLE DRIVING CLUB
43133 SEVEN MILE RD
NORTHVILLE,MI,48167

TIPPING POINT THEATRE COMPANY
361 E CADY ST
NORTHVILLE,MI,48167

MILLER, WILLIAM & CHRISTINE
325 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

KOSTER, JAMES & CAROL
204 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

TANDEREYS, JAMES & JUDITH
231 ST LAWRENCE LN
NORTHVILLE,MI,48168

NORTHVILLE, CITY OF
215 W MAIN
NORTHVILLE,MI,48167

OCALLAGHAN, TIMOTHY J REV LVNG TRST
305 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

RAU, GEORGE & DOLORES
105 HAMPTON CT
NORTHVILLE,MI,48168

JAAFAR, ANGELA &JAAFAR, JENNA JTWRS
225 S CENTER ST
NORTHVILLE,MI,48167

CORRIVEAU PROFESSIONAL BUILDING LLC
A MICHIGAN LIMITED LIABILITY CO
324 E MAIN
NORTHVILLE,MI,48167

ANIOL, TIMOTHY M
ANIOL, MICHELLE E
402 YERKES AVE
NORTHVILLE,MI,48167

LAPHAM INVESTMENTS LTD.PART
PO BOX 939
NORTHVILLE,MI,48167-0939

TAWEEL, MICHAEL
121 HAMPTON CT
NORTHVILLE,MI,48168

RUSSELL, JEFFREY
318 YERKES AVE
NORTHVILLE,MI,48167

AMD VILLE, LLC
867 MCDONALD DR
NORTHVILLE,MI,48167

OLBRANTZ, ANTOINETTE
335 RIVER ST
NORTHVILLE,MI,48167

STROM, ERIK & LORI
308 ST LAWRENCE BLVD
NORTHVILLE,MI,48168

Randy Wertheimer
Hunter Pasteur Northville, LLC
32300 Northwestern Hwy, #230
Farmington HIlls, MI 48334

RICE, JAMES & LOIS
116 HAMPTON CT
NORTHVILLE,MI,48168

Current resident

CURRENT RESIDENT
535 RIVER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
557 SEVEN MILE RD
NORTHVILLE MI, 48167

CURRENT RESIDENT
116 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
150 MAINCENTRE
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
236 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
125 CADYCENTRE
NORTHVILLE MI, 48167

CURRENT RESIDENT
126 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
302 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
318 RIVER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
190 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
335 E CADY ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
118 E CADY ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
118 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
456 E CADY ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
112 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
141 E CADY ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
201 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
341 BEAL AVE
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
280 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
120 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
515 RIVER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
102 E CADY ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
242 S CENTER ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
212 S MAIN ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
327 E CADY ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
156 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
400 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
180 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
158 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
311 E CADY ST A,B,C
NORTHVILLE MI. 48167

CURRENT RESIDENT
316 S WING ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
350 E CADY ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
118 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
153 FAIRBROOK ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
166 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
410 E MAIN ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
365 BEAL AVE
NORTHVILLE MI. 48167

CURRENT RESIDENT
131 E CADY ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
321 E CADY ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
217 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
351 S WING ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
109 FAIRBROOK ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
113 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
224 ST LAWRENCE BLVD
NORTHVILLE MI, 48168

CURRENT RESIDENT
123 FAIRBROOK ST
NORTHVILLE MI. 48167

CURRENT RESIDENT
345 E CADY ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
416 YERKES AVE
NORTHVILLE MI, 48167

CURRENT RESIDENT
209 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
550 SEVEN MILE RD
NORTHVILLE MI, 48167

CURRENT RESIDENT
200 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
430 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
424 GARDNER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
117 FAIRBROOK ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
423 BEAL AVE
NORTHVILLE MI, 48167

CURRENT RESIDENT
332 ST LAWRENCE BLVD
NORTHVILLE MI, 48168

CURRENT RESIDENT
436 GARDNER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
410 BEAL AVE
NORTHVILLE MI, 48167

CURRENT RESIDENT
241 ST LAWRENCE LN
NORTHVILLE MI, 48168

CURRENT RESIDENT
145 E CADY ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
110 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
105 FAIRBROOK ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
543 SEVEN MILE RD
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
101 W CADY ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
455 RIVER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
301 S CENTER ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
311 S WING ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
105 E CADY ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
324 E MAIN ST
NORTHVILLE MI, 48167

CURRENT RESIDENT
124 E MAIN ST
NORTHVILLE MI, 48167

MICHIGAN.COM – Serving the
OBSERVER & ECCENTRIC and HOMETOWN WEEKLY NEWSPAPERS
6200 Metropolitan Pkwy, Sterling Heights, MI 48312

BE IT MADE KNOWN THAT THE FOLLOWING ADVERTISMENT APPEARED IN:

Publication: Northville Record
Placed By: City of Northville
Subject: PO #22-04 The Downs PUD
Date of Publication: February 24, 2022

Susan Totoraitis (Susan Totoraitis), being duly sworn, deposes and says that the advertising illustrated above/attached was published in the Northville Record Newspaper on the following date/s/: February 24, 2022 INVOICE number 361410, and as an authorized employee of the Observer and Eccentric Media, she knows well the facts stated/herein. Cost: $471.60.

STATE OF MICHIGAN

NOTARIZED BY: Gina Anne Huff

DATED: February 25, 2022

Acting in County of Macomb

GINA ANNE HUFF
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF LIVINGSTON
My Commission Expires March 09, 2023

South Lyon seeks buyer for vacant city lot, with caveats

Susan Bromley Hometownlife.com
USA TODAY NETWORK – MICHIGAN

The City of South Lyon has property for sale, but there are a few strings attached.

The parcel at 318 W. Lake St. is nestled in among the neighborhood streets downtown and is buildable as a single-family home only. It must be a home that fits in with nearby homes. And it must be constructed within about a year.

"We are going to put out for bids on this property for someone to acquire and put in a house that is compatible for the rest of the houses in the neighborhood," City Manager Paul Zelenak said.

The lot has 66 feet of frontage on W. Lake Street and is 132 feet deep. It formerly held the South Lyon Area Recreation Authority building and prior to that was a library.

In 2018, SLARA moved into a facility on Griswold and in 2020, the building at 318 W. Lake was demolished.

Zelenak said most of the homes in the W. Lake Street neighborhood are best described as arts and crafts architecture, bungalows with detached garages that are about 50 years old.

The city wants a home constructed on the lot that is similar in nature, perhaps like a historic bungalow at 412 W. Lake St. that is currently on the market for $425,000.

"We don't want a very modern-looking house that is not similar to the homes on that block," Zelenak said.

He declined to estimate what the city might be able to get for a purchase price on the property. The city advertised the availability of the parcel a year ago with no takers.

While the main goal is to get a home constructed within a year, Zelenak said the city is willing to negotiate.

For more information, visit the city's website at www.southlyonmi.org or email pzelenak@southlyonmi.org.

South Lyon City Manager Paul Zelenak stands at 318 W. Lake St., site of the city's former recreation center. The city is looking for a buyer to develop the property. JOHN HEIDER/ HOMETOWNLIFE.COM

hometownlife.com
Observer & Eccentric Newspapers
PART OF THE USA TODAY NETWORK

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Email: cserv@dnps.com

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NOTICE OF PUBLIC HEARING
CITY OF NORTHVILLE

The City of Northville Planning Commission will hold a public hearing to receive public input on the Downs Planned Unit Development (PUD) requested by Hunter Pasteur Homes, LLC, located at 301 S. Center St., Northville, Michigan, 48167.

The project site encompasses approximately 48-acres of land over a number of parcels and lots, including:

- Vacant land on the south side of E. Cady St. (between S. Center St. and Griswold St.);

- Two vacant lots on the west side of S. Center St. (Lots 219 and 220 of "Assessors Northville Plat No. 3") between E. Cady St. and Fairbrook St.;

- Land currently occupied by the Northville Downs racetrack and associated parking and horse stable areas (between E. Cady St. and 7-Mile Road, and between S. Center St. and River St.); and

- Farmer's Market site on the west side of S. Center St., at the intersection of S. Center St. and 7-Mile Road.

Addresses associated with these parcels includes 301 S. Center St., 118 E. Cady St., 341 Beal Ave., 318 River St., 105 Fairbrook St., and 109 Fairbrook St.

The subject sites are delineated in the aerial photograph below:

Source: Base Map Wayne County Parcel Viewer

The applicant is seeking to rezone the property to PUD, and develop a mixed-use project that contains a variety of buildings and uses, including ground-level commercial units, apartments, condominiums, row houses, townhomes, carriage homes, and single-family homes, integrated with public streets, parks and pathways. Current zoning of the premises includes Central Business District (CBD), Cady Street Overlay District (CSO), Racetrack District (RTD), and Second Density Residential District (R-2). The applicant has submitted a Preliminary PUD Plan. Section 20.06 requires a Public Hearing before the Planning Commission considers the Plan, and makes a recommendation to City Council on the Plan and the rezoning request.

MEETING DATE AND MEETING LOCATION

The public hearing will be held on March 15, 2022 at 6:00 p.m. at the Northville Community Center, 303 W. Main Street, Northville, Michigan, 48167, 248-449-9902. Members of the public may attend the public hearing in person or participate virtually using the following Zoom meeting participation link: https://us02web.zoom.us/j/83592963433, Or Telephone: +1 646 558 8656 or +1 301 715 8592, Webinar ID: 835 9296 3433

Members of the public attending by Zoom may participate in the public hearing as if physically present at the meeting. An electronic meeting user guide for the public is found on the City website www.ci.northville.mi.us. Those needing assistance or accommodations should contact the City Manager's office at 248-449-9905 during normal business hours.

The purpose of the public hearing is to receive public comment on the Preliminary PUD Plan and rezoning request.

APPLICATION AND WRITTEN COMMENTS

The Preliminary PUD Plan and related documents are available for review at the City of Northville Building Department during normal business hours of 8am to 4:30pm Monday through Friday, local prevailing time or on the City's website www.ci.northville.mi.us (go to Business, Proposed Redevelopment Projects).

Written comments to the Planning Commission must be submitted by 4:30pm, March 14, 2022 to the City Clerk, City of Northville, 215 W. Main Street, Northville, Michigan, 48167, or using the City Hall drop box, or emailed to dmassa@ci.northville.mi.us.

DIANNE MASSA, CMC,
CITY CLERK

Publish: February 24, 2022

LO-0000361410 3X12

CITY OF NOVI
NOTICE OF MEETING
OF MARCH 2022 BOARD OF REVIEW

Notice is hereby given that the March Board of Review shall convene for the Organizational Meeting at **9:00 a.m. EST, Tuesday, March 8, 2022** in the **Mayor's Conference Room/ Civic Center** at 45175 W. Ten Mile Road. The Board of Review will not hear appeals at the Organizational meeting.

Notice is further given that the second session of the Board of Review will meet for the purpose of hearing and considering assessment appeals in the Event Quarter Room at 45175 W. Ten Mile Road on March 14, 15 and 16, 2022.

If you or your representative want to appeal in person, you are strongly encouraged to come into the assessing department on or before 5:00 p.m. EST, Friday, March 11, 2022 in order to schedule an appointment to ensure your time before the Board of Review. Appearances before the Board of Review are limited to five (5) minutes or less. Petitions are available at the Assessor's Office or at www.cityofnovi.org > Services > Board of Review Notice.

NO APPOINTMENTS WILL BE GIVEN UNTIL A PETITION IS RECEIVED BY THE ASSESSING DEPARTMENT.

Written Appeals: Taxpayers may file a protest and petition in writing, instead of appearing in person. Letters of protest will be accepted on or before **3:00 p.m. EST, Tuesday, March 15, 2022. Postmarks will not be considered**. When submitting a letter of protest for the Board of Review consideration, you must attach a completed petition along with any supporting information.

All agents protesting values on property other than their own **MUST HAVE** written authorization from **each** property owner they are representing.

Persons on fixed or limited income may be eligible for a reduction in property taxes due to poverty. Applications are available at the Assessing Department, or at **www.cityofnovi.org.** Any questions should be directed to the Assessing Department at (248) 347-0485.

BOARD OF REVIEW SCHEDULE

Monday, March 14, 2022 - 9:00 a.m. to 6:00 p.m. Event Quarter Room
Tuesday, March 15, 2022 - 1:00 p.m. to 9:00 p.m. Event Quarter Room
Wednesday, March 16, 2022 - 9:00 a.m. to 6:00 p.m. Event Quarter Room

Located in the Civic Center, 45175 West Ten Mile Road Novi, MI 48375.

In accordance with the Michigan Department of Health and Human Services advisory dated November 19, 2021, all persons in indoor public settings are advised to wear a face mask, regardless of their vaccination status.

Cortney Hanson
CITY CLERK

Publish: February 17, 24 & March 3, 2022

LO-0000361001 3x6

Section 0.2 Advertisement for Bid

Northville Public Schools
Request for Proposal

The Northville Public Schools (also referred to the District or NPS in these documents) will accept sealed bids for:

Amerman Elementary
Amerman Playground Update

Bid documents will be made available online at: **https://sigma.michigan.gov or** at Northville Public Schools: **https://rb.gy/t6gqjd**

Proposals are to be submitted no later than 11:00 AM Local Time, March 2, 2022. The District will not consider or accept a bid received after the date and time specified for bid submission. Bids will be publicly opened immediately following the close of receiving bids.

The Board of Education reserves the right to accept or reject any or all bids in whole or in part; or, for reasons of establishing uniformity, delivery time or preference, to award the contract to other than the low bidder.

The contents of RFP and Bidder's (also referred to as Contractor in these documents) Proposal will become contractual obligations if a contract ensues. Failure of the Bidder to accept these obligations will result in the cancellation of the award. Award of a contract by the District is subject to the Contractor executing a Contract, which shall incorporate the contents of this RFP and the Contractor's Proposal and final approval if the same by the District's legal counsel.

In compliance with MCL 380.1267, the bid shall be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between the owner or any employee of the bidder and any member of the board, or the superintendent of the school district. The bid shall also be accompanied by a sworn and notarized statement disclosing whether the bidder is an Iran Linked Business in compliance with PA 517 of 2012. The Board shall not accept a bid that does not include these sworn and notarized disclosure statements.

Certified check or Bid Bond must accompany each proposal by an approved surety company in an amount not less than 5% of the proposal amount. All bids shall be firm for at least sixty (60) days from the date of opening of bids. Length of time required for completion shall be specified in the bid. All bids submitted must meet or exceed all specifications herein.

Any general questions should be referred to Steve Banchero, Director of Operations (248) 231-9879

Publish: February 24, 2022

LO-0000361413 3x6

Bloomfield Township

Dani Walsh, Supervisor • Martin C. Brook, Clerk • Brian E. Kepes, Treasurer
Neal J. Barnett, Trustee • Michael Schostak, Trustee • Stephanie Fakih, Trustee • Valerie S. Murray, Trustee

February 28, 2022

Ms. Donna Tinberg, Planning Commission Chair

City of Northville

215 West Main Street

Northville, Michigan

Dear Ms. Tinberg,

It is a pleasure to share with you the positive experience and results that Bloomfield Township has experienced with Hunter Pasteur Homes, Randy Wertheimer, Seth Herkowitz, and their team of capable professionals.

Barron Estates was recently developed by Hunter Pasteur Homes, which consisted of 22 estate sized lots with beautiful ranch and two-story homes ranging in size from approximately 3,000 – 5,000 square feet. The land was previously undeveloped and owned by the Bloomfield Hills School District. The residential development is adjacent to a mature subdivision. Throughout the development and construction process, Hunter Pasteur Homes created and maintained a positive communicative relationship with both the Township and the contiguous homeowners and their association.

The Hunter Pasteur team produced a high-quality subdivision that is complementary and harmonious to the immediate area and adds to the general ambiance of Bloomfield. In addition, I found working with Randy, Seth and their team of professionals to be based upon integrity, honesty and civility.

If you require more detailed information, please feel free to contact me.

All the best,

Brian Kepes, Treasurer

RECEIVED
MAR 03 2022
CITY CLERK'S OFFICE

4200 Telegraph Road P.O. Box 489 Bloomfield Township, MI 48303-0489
Phone: 248-433-7700 Fax: 248-642-7610 www.bloomfieldtwp.org

From: Nancy Riegner
To: Dianne Massa
Subject: Downs Development
Date: Monday, February 28, 2022 7:08:14 PM

I’m am not in favor of the development. It does not fit with the character and feeling of Northville.
Nancy Riegner
Sent from my iPhone

Date: March 1, 2022

To: Mr. Seth Herkowitz, Hunter Pasteur Homes
Mr. Randy Wertheimer, Hunter Pasteur Homes
Cc: (via separate email)
Donna Tinberg
Pat Sullivan
Sally Elmiger

From: Dave Gutman, Susan Haifleigh, Kathleen Spillane

Dear Mr. Wertheimer and Mr. Herkowitz:

This letter is a response to your conversation with Dave to have a few members from the Sustainability Team provide feedback on the most recent HPH site plan for the Downs. In lieu of that meeting, the following feedback represents our personal opinions as residents of the community, and our critique is paired with practical suggestions for specific improvements.

This letter addresses architecture, traffic reduction strategies, barriers to walkability, the importance of the social fabric and some thoughts on sustainability. While the results of our analysis may seem blunt at times, we also recognize there were other features of the site we appreciated (e.g., green space, underground parking, daylighted river, varied widths of single family lots, useable balconies, underground retention, etc.). The material provided in this letter represents suggestions only.

As you may be aware, many of us have been supporters of Northville's walkability for several social and financial reasons, namely:

- Health benefits
- Reduction in traffic
- Opportunities to gather and socialize
- Increases our property values and sustains them economically even as our homes age
- Draws in visitors to our community who patronize our local businesses
- Increases community safety (real and perceived) with "eyes on the street"

Since walking is a choice, we want to mitigate the characteristics of the public and private realm that would discourage walking and result in the new Downs residents electing to drive, prompting widespread concern of "traffic". In addition, we are sensitive to characteristics which reduce/increase social encounters because that, in part, impacts our "small town atmosphere" and higher-than-average $/sq. ft. real estate values in comparison with our subdivision neighbors. We reviewed your site plan for these qualities and have identified the following obstacles:

1. The walkability on E. Cady St. is going in the right direction. Our concern is that the parking lot behind the Presbyterian Church detracts from walkability and also diminishes the value

of a terminated vista. Additionally, the presence of lobby/office areas do not contribute to walkability. Additional public-serving retail/commercial is also needed.

2. The current configuration of S. Center St. is monotonous, creating a canyon-like effect. The gateway to our city should be more visually interesting and diverse. The current proposal primarily shows the sides of buildings within the gateway. Alternative suggestions are provided later in this letter and are illustrated in Attachments A2, C2 and C3.
3. In various areas of the site plan, the repeated use of a linear typology for arranging clusters of buildings is problematic, for two reasons:
    - It results in low-interest repetition, which discourages walking and encourages driving (which increases traffic).
    - Sometimes results in seeing large expansive sides of buildings which also have very little visual interest.
4. Downtown Northville will be a popular destination for pedestrians. For many of the north/south walking routes within the Downs site, the pedestrian views the sides of buildings, which have low visual interest. This discourages walking. We have documented this on the plan and have also provided alternative typologies for your consideration which could address this issue.
5. The currently proposed townhouse design is not compatible with the City of Northville. Recalling the process by which you arrived at the current design, your team began with examples of historic architecture which were attractive, but not realistically functional or buildable. The current design simplified important details and subsequently used variety to overcome the deficiencies. When laid out on a site plan enmasse, the result appears mass-produced and resembles more of a subdivision development. Attachments C2 and C3 provide ideas for a more urban, yet classic, buildable interpretations that could potentially fit.
6. Early in the development process, you learned that the City of Northville values the social interaction which is facilitated by front porches. This not only applies to single family homes, but also applies to other land-use types. The front porches for the currently proposed townhomes are sized for passage only and are not configured to facilitate seating/gathering/socializing. This reduces “eyes on the street”, which lowers perceived walkability safety and decreases the social benefits of living in downtown Northville.
7. We have often described outdoor spaces as “outdoor rooms”. As mentioned above, these outdoor spaces facilitate social interaction, because they still offer a sense of enclosure. Cantilevered, and juliet balconies do not feature this sense of enclosure.
8. Since the southern portion of the Downs is farthest from the downtown, we felt this area’s walkability required special attention. We mapped out a few typical trips between a centrally-located residence in the southern portion of the site to various points of interest. (see Appendix). We used the assumption (often referred to in planning discussions) that people will be willing to walk to destinations that are 10 minutes away or less. As we suspected, there are some popular destinations (e.g., grocery stores, CVS, dry cleaners) that are farther than a ten minute walk for many of the proposed residential units in the southern portion of the Downs site as well as those located on the Farmers’ Market property. This will likely create more vehicle trips.

9. No amenities are offered in the greenspace at the southern side of the site that would cause people to linger. This reduces the social value of the space.
10. We are hopeful the townhomes will attract people who want to live in the neighborhood for many years. Longevity enables relationships among neighbors to form and grow. It also improves the perception of walkability when familiar faces are seen. The vertical nature of the townhome structures, however, can become a challenge to completing everyday tasks, such as bringing groceries and young children upstairs. Also, elderly people and/or those with disabilities may not be able to navigate the multiple stairs.
11. It is difficult to take advantage of the close proximity to Hines Park. There are no paths which would allow residents to easily and safely ride their bikes to the park. It's easier for them to attach bikes to their vehicle and drive to the park.
12. Lastly, we noted an area of concern along the walking path near Johnson Creek. The path appears to be located within the riparian corridor, close to the streambank. Typically, it is preferred that native vegetation be preserved and/or added to these areas in order to mitigate runoff and reduce erosion. Construction of the path could create significant disturbance of the existing plants and trees which help stabilize the streambank. Also, landscaping and hardscaping for the carriage homes will need to be designed to absorb precipitation into the landscape, thereby preventing sediments and fertilizers from entering the river. We recommend that you work closely with the Riverwalk Task Force and the Planning Commission to ensure this cold water creek is protected.

Recommendations

The following suggestions are provided to improve the overall site plan. Please note that the letters below (A-G) tie back to the accompanying attachment ,where each page is labeled with a corresponding letter. This will provide further explanation for each of the points here:

A) Replace the townhomes south of Fairbrook St. with row houses currently shown on Griswold Street. Ensure a diverse variety of paint colors. The two-story row houses are more compatible with the colorful, single-family homes north of Fairbrook and better relate to the homes in western city neighborhoods.

B) Improve traffic circulation by breaking up the superblock configuration. Consider utilizing a variety of different typologies rather than the singular linear typology.

C) Regarding sensitivity to context and given the general historic nature of Northville, it IS important to consider our classical architecture. Concurrently, it is also essential to design with contemporary function and excellent aesthetics, ultimately giving a nod to the historical context without trying to copy it, while still creating a marketable result. We have provided examples of architectural styles that we believe are a better fit.
This is especially important on S. Center St. as it serves as the gateway into the community.

D) Part of our analysis included consideration of what building types were included in the site plan and how they contributed to walkability, eyes on the street and the social fabric of the neighborhood. For example:

- The row houses along Griswold seemed to be a better fit, in terms of scale and color to face both sides of the greenspace at the southern side of the site.
- We liked that the condos on Beal St. which feature useable balconies and multiple stairs. Many of us have lived in other cities and have first-hand experience observing how townhome and row house neighbors mingle outdoors. They frequently sit on the steps or stand in front of the steps, socializing in groups.
- Like the condos, we would like to see the townhomes provide similar social space. The juliet balconies on the current townhomes do not achieve that. We recommend increasing the opportunity to socialize by widening the porches and adding additional front stairs (at least four steps up) and stoops for the townhomes to promote activity along the street. Yet another opportunity to create a social space is to create a mini patio by providing a wall or fence in front of the unit.
- Optional elevators should be added to extend the use and longevity of the planned townhomes by promoting aging in place and enhancing functionality for young families.
- We also suggest that mixed-use retail/convenience amenities be included on the plan. The proposed population is sizeable enough to support small, neighborhood stores. Not only will this help reduce the number of vehicle trips, but it also serves as a social connection point which improves the value and satisfaction of the residents. This recommendation is further described in Attachment E below.
- Adding visual interest points can also improve the quality of the walks, particularly on the north/south pedestrian routes. Examples of these types of elements are also included.

E) Since traffic is an overall concern in the community, we spent a fair amount of time thinking about how the site plan could be amended to reduce vehicular trips to and from the site. Here are some recommendations:

- In the southern portion of the site, add some small neighborhood convenience amenities. A mini, neighborhood grocery store (Bodega), Coffee, ATM, etc. Possibly partner with downtown Northville businesses to create mini satellites (e.g., Great Harvest Bread, “Meals to Go”). Attachment E1 provides ideas and a suggested location. An analysis of estimated walking times is included in the Appendix.
- It may be wise to add some convenience amenities in the apartments and condominiums along Cady St. as well, to reduce unnecessary vehicular trips.
- We thought that you might request a parking variance from the Planning Commission in that these facilities are intended to service the neighborhoods, not visitors to Northville.
- Consider a more efficient path to the businesses at Seven Mile and Northville Road. See attached suggestions (e.g. walls, landscaping, hardscaping, etc.) of elements that can improve visual interest.
- The green space at the south side of the site should have playground equipment. We recommend re-designing the path to encourage lingering. Bench seating should be an amenity. Views of garages on both the north and south side of the space should be screened. This will help reduce vehicular trips to the city’s other parks and potentially retain young families in the neighborhood.

F) Sustainability/Low Impact Design

During the call with Dave, you mentioned that you also wanted to hear some of our thoughts regarding Sustainability. We believe that some of those recommendations are outlined in the Master Plan Subarea update. In addition, we have provided some visuals for you to consider that represent low impact design principals in Attachment F.

We are urge you to consider paths near the river that are comprised of permeable materials.

G) Communications

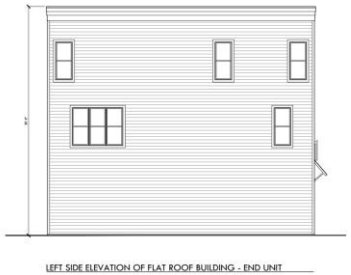
Because of the topography of the site and the large array of land-use types and configurations, we would appreciate seeing a three-dimensional version of your development proposal. Variations of this has been included in Attachment G.

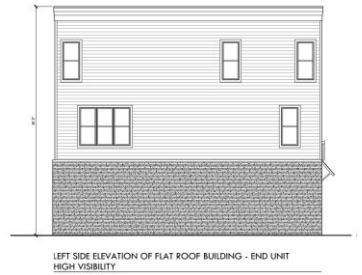
We hope you have found our comments helpful. Our overall goal was to provide feedback that was both constructive and actionable. Our belief is that by considering human behavior and its various ramifications, many additional solutions present themselves to help alleviate traffic and achieve greater compatibility. Please let us know if any of these suggestions require clarification or further explanation.

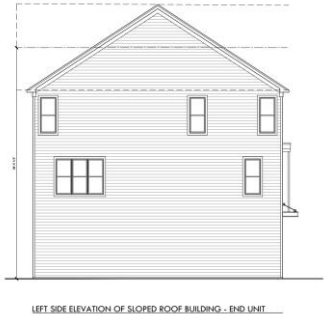
Sincerely,

Dave Gutman
Susan Haifleigh
Kathy Spillane

* Current townhomes at entrance may create a "canyon effect". Three story buildings with very plain side elevations are not preferred within the gateway area even with landscape and other items added to this plan.







Townhome designs currently proposed are not preferred

A1 City Gateway considerations ~ as currently proposed

Replace townhomes with row houses from Griswold, which are more residential in scale and height

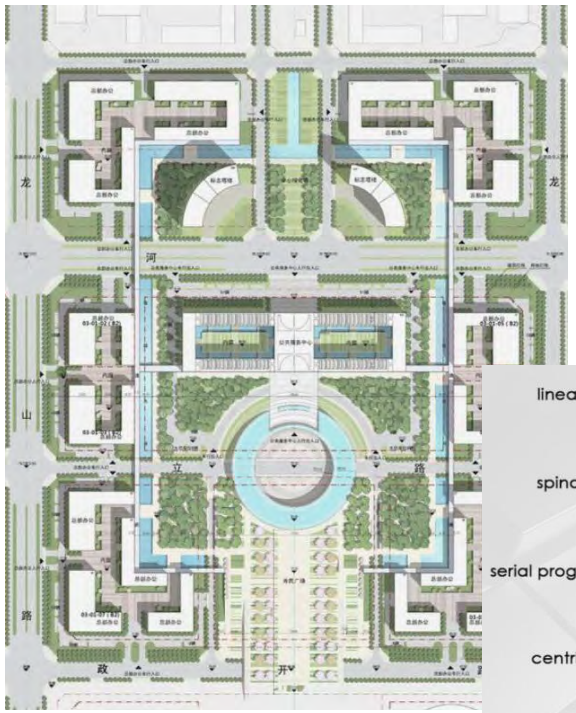
Row house design (from Griswold) preferred

A2 South of Fairbrook Street with existing developer designs

Address super block by designing additional southern road out of the site which doesn't interfere with the river.

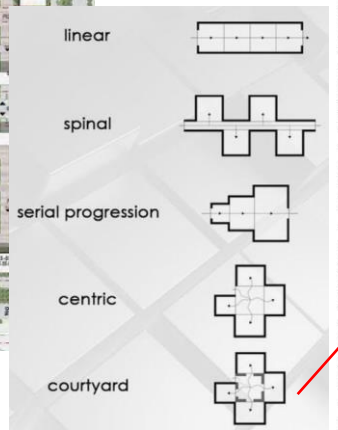
Linear typology created many problematic side views of buildings as shown with red arrows.

Consider courtyard typology for townhomes near Wing St. and other typologies to address side views.



Inner/outer looking site

Typologies

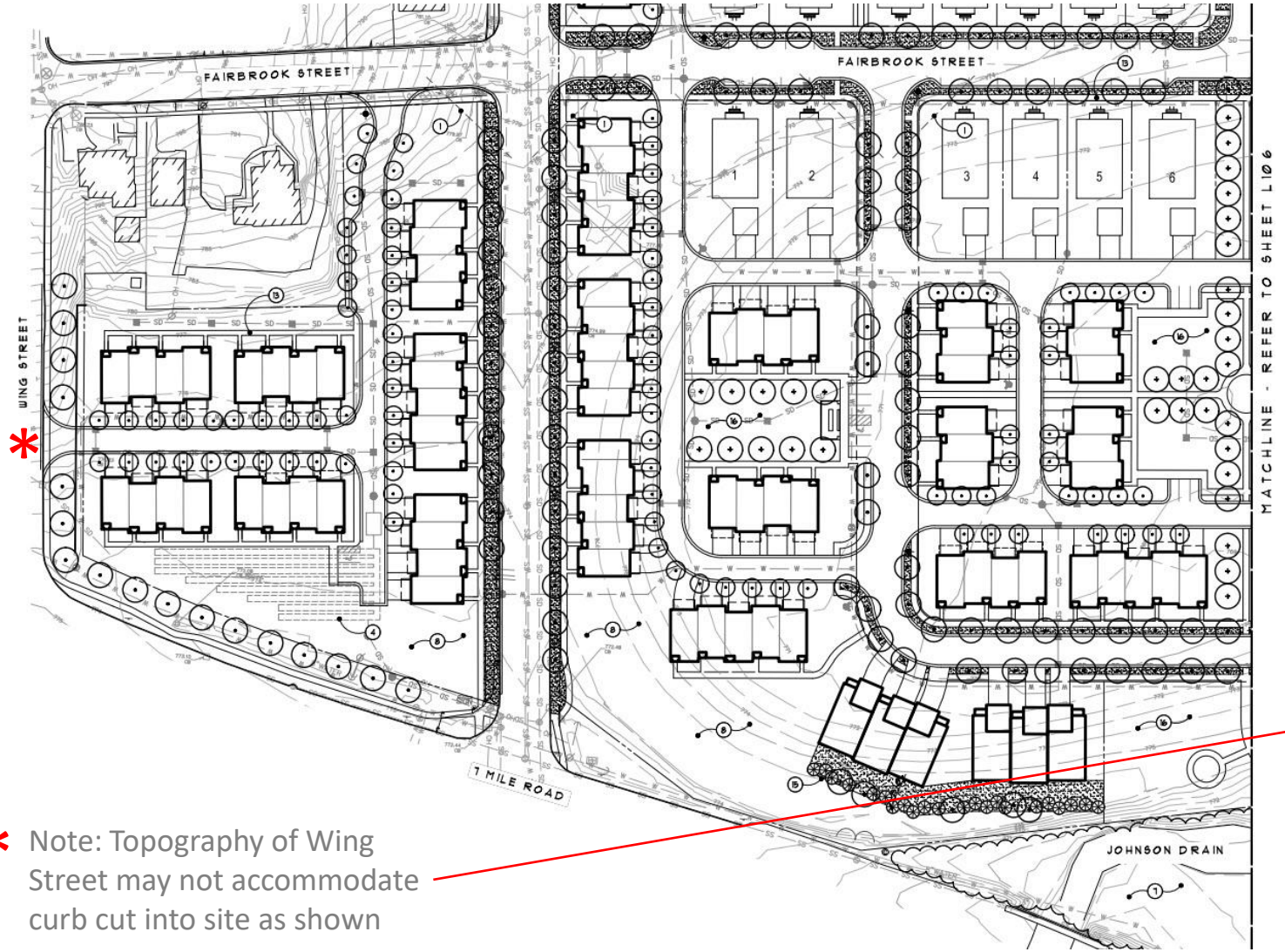


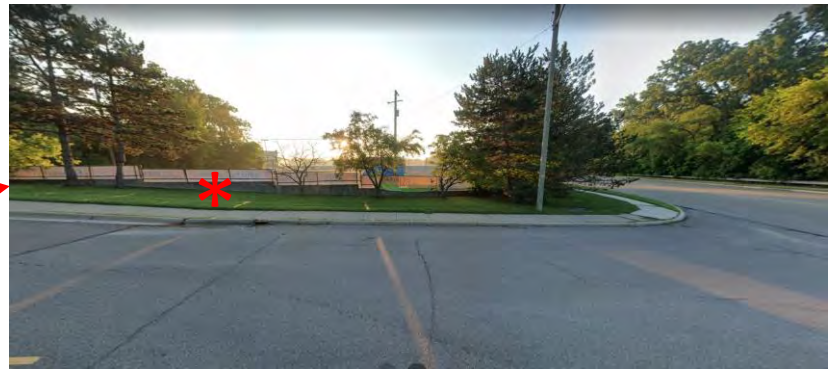
Pedestrian path to River Street

Southern access road to Hines

B1

Site Plan Typology/Connectivity/Side of Building Views

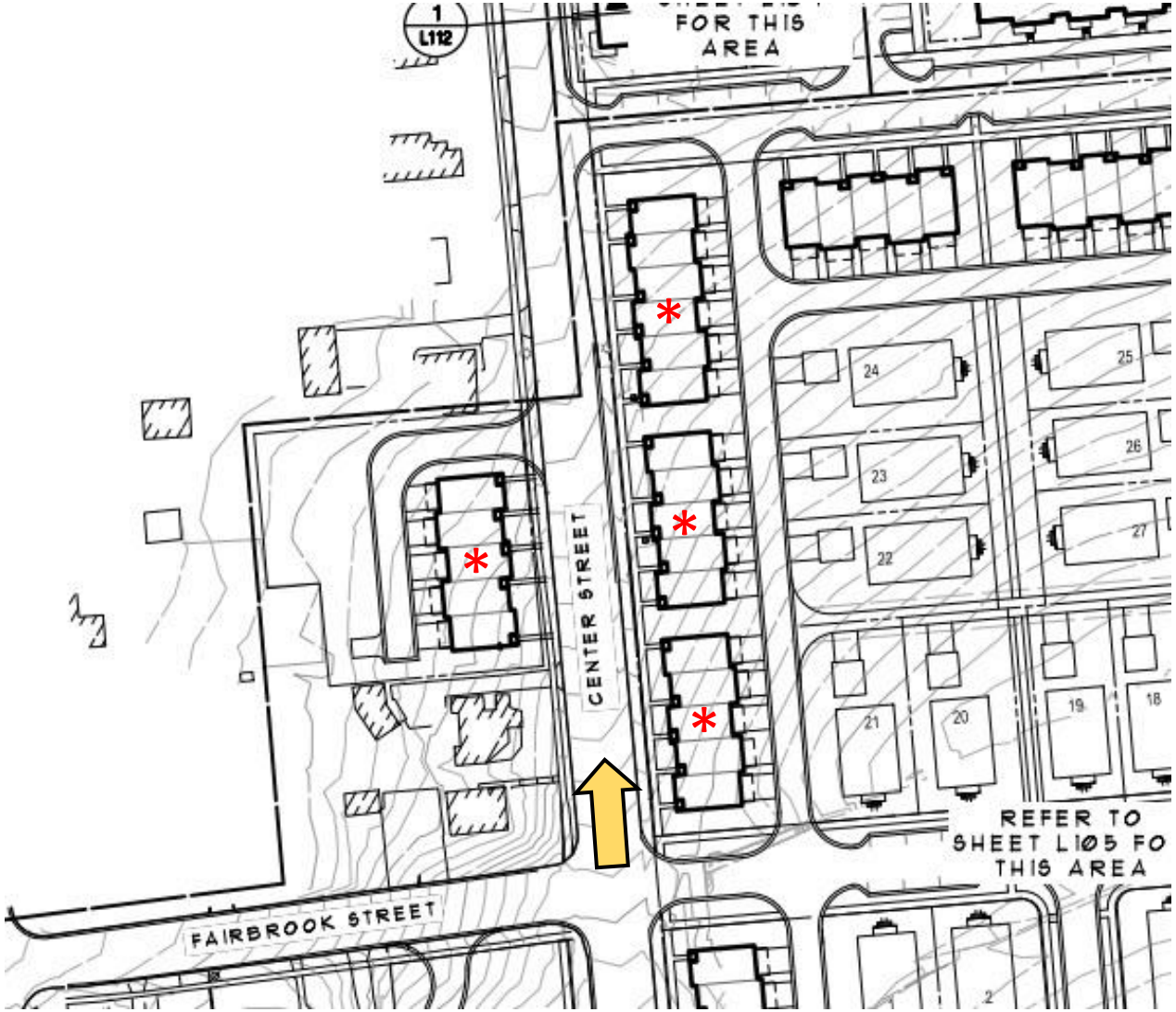




* Note: Topography of Wing Street may not accommodate curb cut into site as shown

B2

Wing St. /Farmers' Market property elevation differential



Three-story Row Houses only above Fairbrook Street

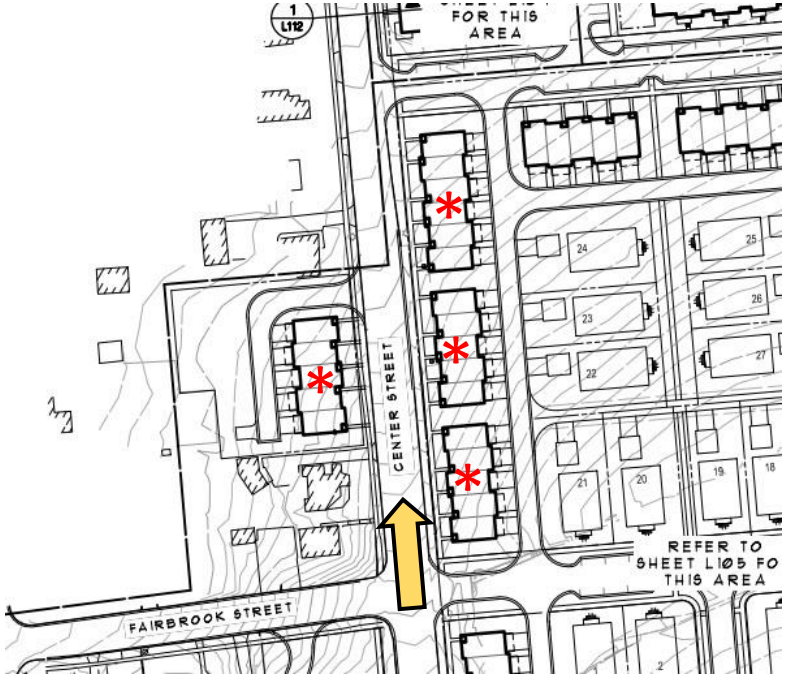
FRONT ELEVATIONS

FRONT ELEVATIONS

Townhome design (above) ~ not preferred

Avoid repeating cookie cutter version of a couple of façade designs. Consider using a more repetitive façade (See Slide C2 & C3) design within each cluster of row houses where the units are more similar.

C1 Center Street north of Fairbrook Street



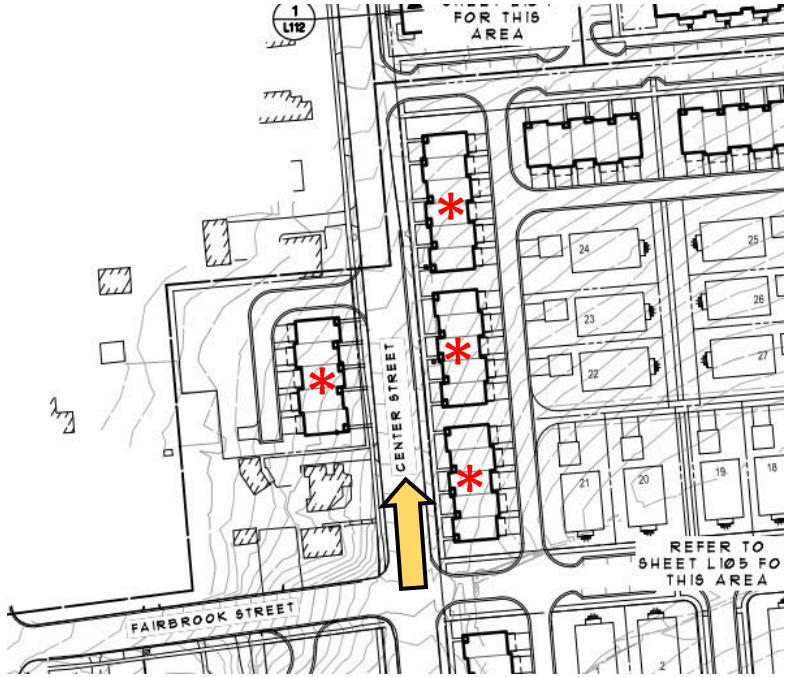
Use three story row houses above Fairbrook Street.

Consider using a more repetitive façade design within each cluster of Row Homes where the units are more similar.

Use classical row house scale, balance and repetition but in a modern way. It nods to the historical context without trying to copy it.

While these examples are historic, Slide C3 shows the preferred more modern facades.

C2 North of Fairbrook Street on Center Street



Use three story row houses above Fairbrook Street since Center Street is the entry and should feel special and the heights are appropriate to lead into town.

- Lighten façade color to reduce canyon effect.
- Each cluster is a different variation with 4 total, related but not identical.
- Each unit to have unique landscaping rather than duplication of designs.

Use classical row house design (scale, balance and repetition) but in a modern way. Simple detail, larger fenestration, modern windows, doors. It nods to the historical context without trying to copy it.

C3 North of Fairbrook Street on Center Street

Two Story Condos

- Positive buffer between taller building to the north which lead into the more residential portion of the site.
- Porch entries with steps and integrated balconies are great social space

Townhomes (Beal and south)

- Re-designed three story units should have similar outdoor space, social stairways and useable balconies

Rowhouses (from Griswold)

- Each unit landscaped uniquely
- Provide flower beds for owner to customize
- Look closely at building open sides and add interest with walls, landscaping, turning corners with windows and other detail

Neighborhood Amenities Court (New)
Mixed-Use Units with Lofts Above

- Placemaking opportunity!
- Reduces traffic
- Provides draw to south of site
- See Slide E for ideas

D1 Overall Considerations by Building Type & Configuration

Low walls direct & create privacy zones

Enclosure walls act as a buffer

Window boxes provide visual interest and personalization of repetitive facades

Appealing stopping points between buildings and along the pathways

Non-linear pathways

Mass plantings

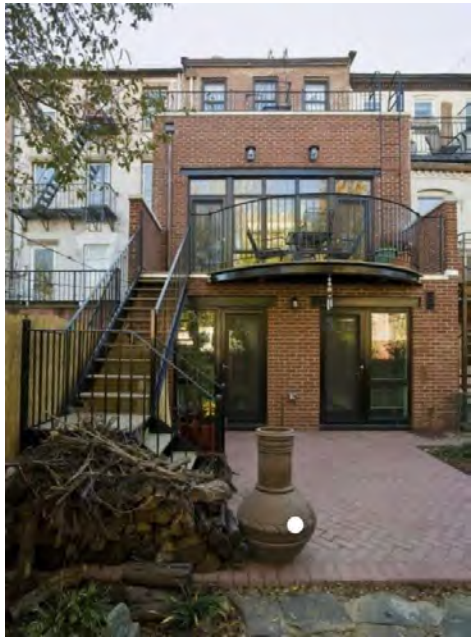
Bridges through the site over the river

D2 Walls, Landscaping, hardscaping, items for visual interest

Porch Stairs for socializing

Balconies as architecture vs. object

Built-in balcony/terrace



Backs of building and balconies can be varied

Sitting on the stoop socializing

Playground areas

Built-in balcony

D3

Social Spaces/Visual Interest/Balconies

Diagonal paths lead to alternative uses

Southern portion of the site could use some neighborhood amenities (a small bodega, coffee, ATM, café, etc.) to pull foot traffic further south through the site and minimize vehicular trips.

Design small convenience and mixed-use retail into the first floor of buildings on the south side of the site to draw foot traffic and customer throughout the site.

Casual streetscape w/ amenities

E1 Neighborhood Amenities Court

Pathways along and over the river

Changing parking configuration for visual interest

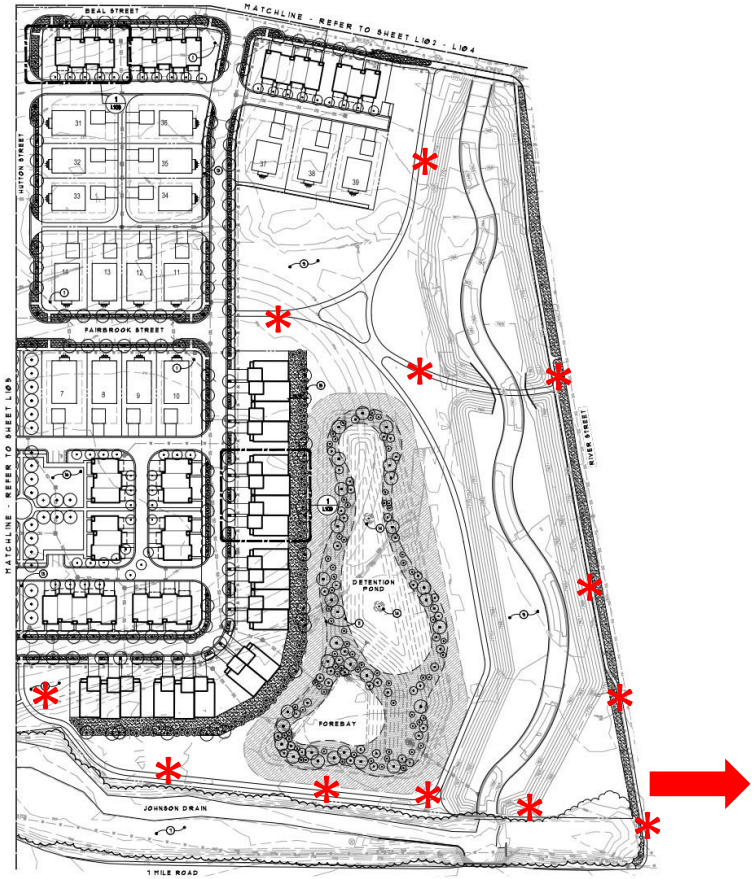
Stone walls

Cut through buildings for access to more internal parts of the site

Back of Row Homes need to have visual interest

Pathways through the parkway and site

Hidden gateways



Efficient and beautiful pathways to access the businesses located near 7 Mile/Northville Rd/S Main area to the south/east

E2

Pathways to Seven Mile/Northville Rd areas/Reducing Vehicle Trips

Sustainable parking lot design

Use of porous paving

Realistic river embankment design/100-year flood design
Consideration of topography/pedestrian enjoyment/maintaining river edge structurally

Storm Trees/Alternate storm drain systems

Bioretention Systems

Rain gardens/bioswales/curb cuts

F Sustainability/Low Impact Design

How do the buildings relate to the gateway of the site?

Arial view or model showing the relationship of the buildings to each other with scale and heights and topography. Most people do not understand the project across the entire site because they can't visualize it.

How do the buildings relate in size to each other?

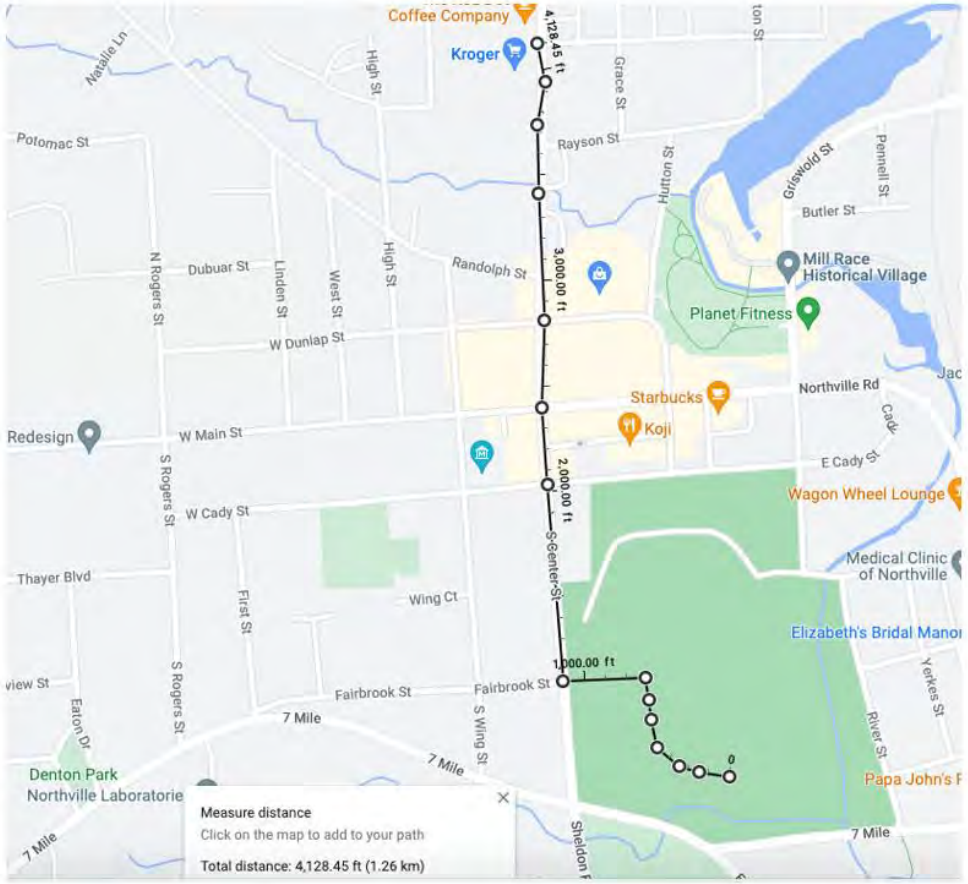
Rendering of 7 Mile/Center gateway is critical

How do you enter and exit through the site?

G Presenting to the community – visualizing the neighborhood/the whole project

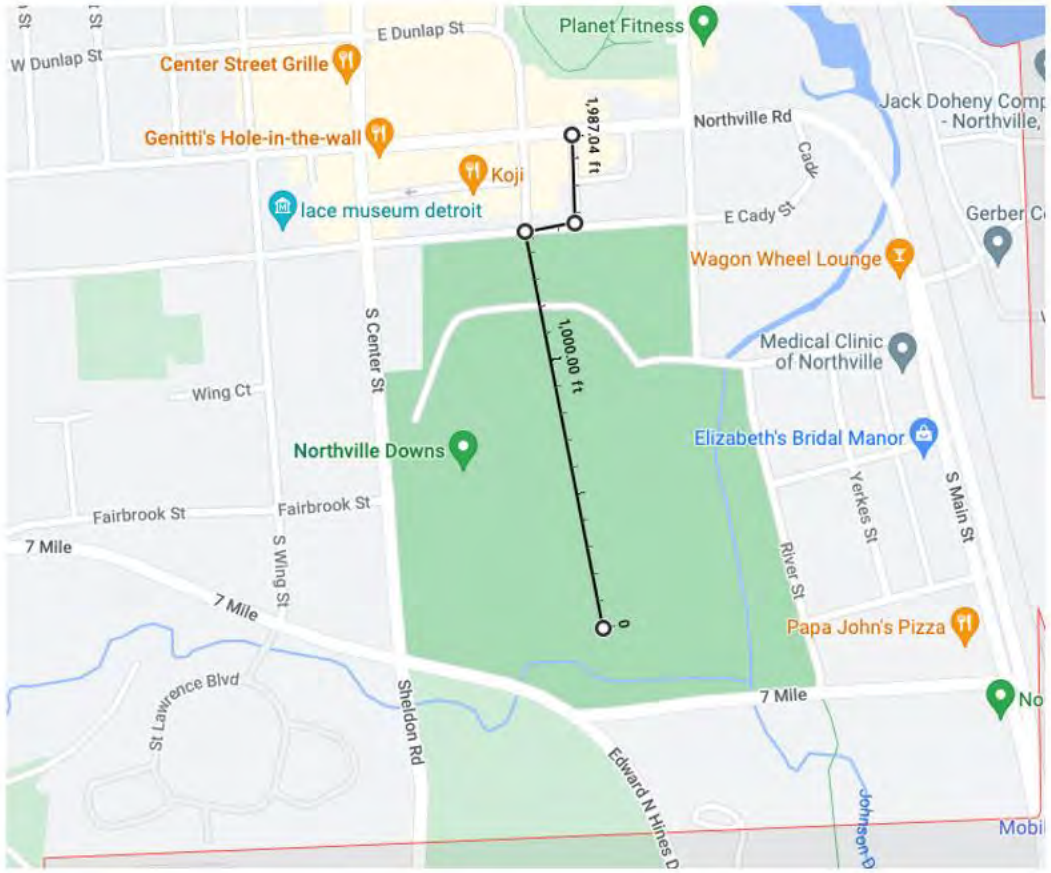
APPENDIX

1. Groceries and Starbucks Coffee



4128 ft = .78 mile which translates into 15.6 minutes. This walk encounters 2 signaled intersections. Need to add 1 minute for every 30' elevation change. Other factors include health and age of walker.

2. **Coffee (Starbucks)**



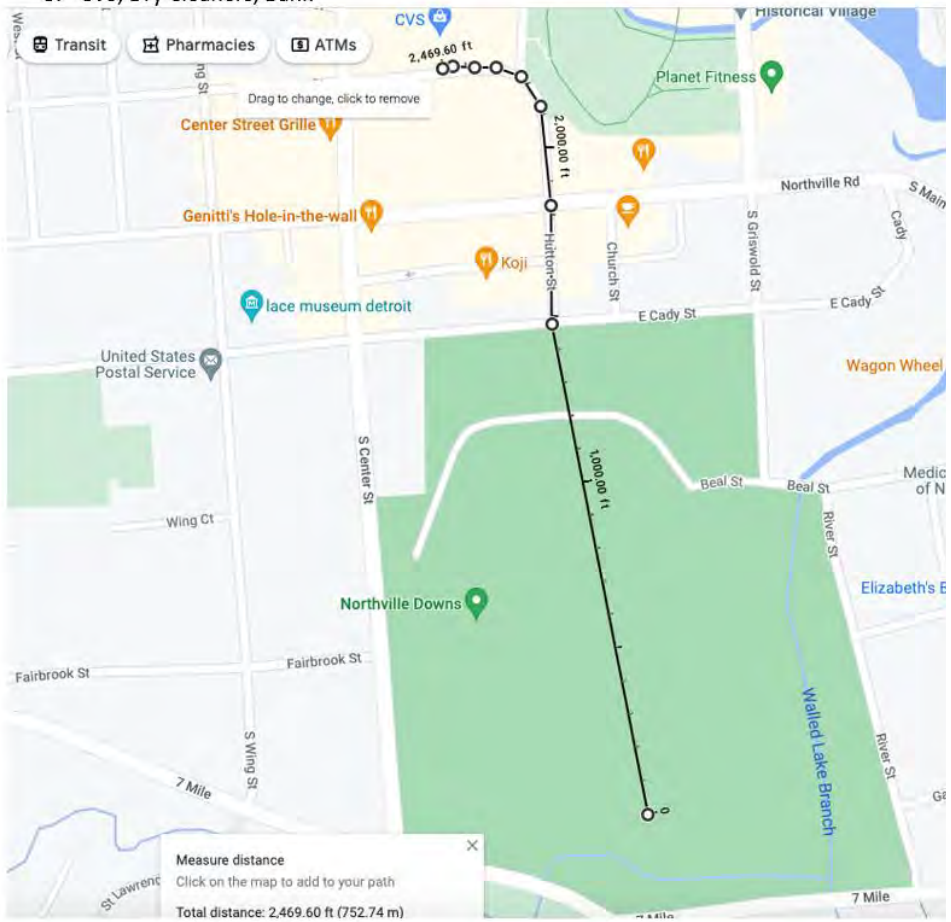
1987 ft = .38 miles => 7.5 minutes Current Starbucks is heavily patronized. Wait times will likely increase.

Current walking time estimates

Walking Distance for Average Resident Living in Southern Portion of Downs Site

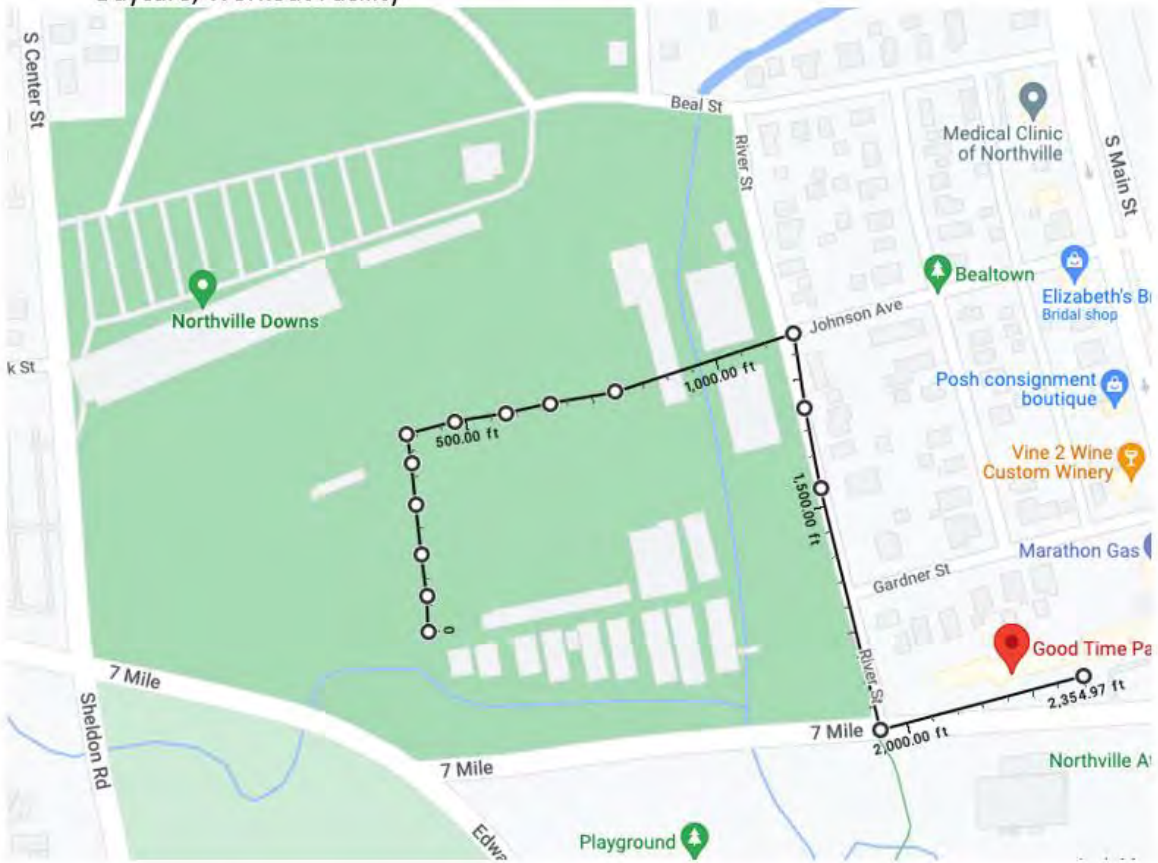
Assume 10-minute walk is ½ mile. Average walk time noted for each destination. Green indicates likelihood of walking. Red represents likelihood of driving.

3. CVS, Dry Cleaners, Bank



2470 ft. = 0.47 miles = 9.4 minutes. Traffic light and steep slope would likely add time. Time exceeds 10 minutes for residents west of this location and east of this location.

4. Pizza, Ice Cream, Barber Shop, Wine/Beer, Spirits, Deli, Hair Salon, Pet Grooming, Pet Daycare, Workout Facility



2355 ft. = 0.45 miles = 9 minutes. Walk is inefficient. Walk exceeds 10 minutes for residents further west

Current walking time estimates

Proposed Down Site Plan Review Process – DRAFT February 22, 2022

Topics (I-V) as they relate to the Downs Feedback letter as submitted by D. Gutman., K. Spillane and S. Haifleigh

Topic I: Roads, Pathways, Connections and Parking.

Our feedback incudes suggestions to:

- Break up superblock and provide connectivity to 7 Mile & Hines
- Provide a pedestrian/bike path to same intersection
- Provide a pedestrian/bike path to businesses at 7 and S. Main
- Consider parking variance for neighborhood mini shops
- Features of the public and private realm that decrease walkability
- Strategies to activate social fabric

Topic II: Residential/Commercial Land Uses and Locations

Our feedback incudes suggestions to:

- Alter some of the land use types in specific locations
- Reconfiguration of mix existing, proposed land use types
- Introduce new land use type for neighborhood amenities

Topic III: Parks, Public Spaces and the Farmers' Market

Our feedback incudes suggestions to:

- Amenities to the southern green space

Topic IV: Architecture, Landscaping and Aesthetics

Our feedback incudes suggestions to:

- Achieve greater compatibility
- Apply the concept of typologies
- Introduce more compatible townhome concepts for S. Center
- Recommend more social space for townhomes on Beal and southern portion of site
- Improve gateway appearance
- Improve walkability interest

Topic V: Infrastructure, Financials and Phasing

Our feedback incudes suggestions to:

- Encourage Low Impact Development practices
- Permeable pavement on river paths
- Special care in the vicinity of Johnson Creek
- Suggestions for presenting a 3 dimensional model of site plan (Other)

From:	Dianne Massa
To:	AnnaMaryLee Vollick; Bill Salliotte Jr; Brent Strong; Carol Maise; Carol Maise (alt email); Cheryl McGuire; David Hay; Dianne Massa; Donna Tinberg; Jeff Gaines (jgaines@ameritech.net); Jeff Gaines (jgaines@hed.design); Patrick Sullivan; Paul DeBono; Sally Elmiger; Steve Kirk; Thomas Barry
Subject:	FW: NORTHVILLE DOWNS (Cindi Brazen)
Date:	Thursday, February 24, 2022 3:18:00 PM

Greetings:

Please see the email below, thanks.

Sincerely,

Dianne Massa
Dianne Massa, CMC
City Clerk

City of Northville
215 W. Main Street
Northville, MI 48167
Phone: 248-349-1300
Fax: 248-305-2891

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From: Cindi Brazen <cbrazen@hotmail.com>
Sent: Thursday, February 24, 2022 3:16 PM
To: Dianne Massa <dmassa@ci.northville.mi.us>
Cc: E Brazen <ejbrazen@hotmail.com>
Subject: NORTHVILLE DOWNS

Dear Planning Commissioners,

As a concerned resident of the Fairbrook street corridor, I am vehemently opposed to several aspects of the Downs development.

From the beginning, we have voiced concerns over the excessive traffic issues that already exist on Sheldon and seven mile and the cut off route that Fairbrook provides currently. As the development stands, Fairbrook would be the main entrance into the development and would render Fairbrook a main thoroughfare and, in essence, the new Seven Mile. I would submit that such a change would cause a significant decrease in property values on Fairbrook and surrounding areas. The zoning ordinance clearly states that new developments should not decrease exist property values. We are also concerned about the very dense building proposed. If 475 residences have at least 2 vehicles, the traffic increase is close to 1000 more vehicles on our already overcrowded roads. A roundabout can't work if traffic has nowhere to go! The development should

reflect the existing density of the city. The character and style of the city should be paramount. While I appreciate the input from Mr Gibbs, we are not trying to be Birmingham, are we? Contemporary storefronts may be aesthetically pleasing, but are not in keeping with the historical design we all appreciate. The slogan on the city's website reads, "Savor the small town charm". There was no small town feel whatsoever in any of Mr Gibbs renderings. The city services will be strained beyond capacity with a development of this magnitude. Fire,police, garbage, street maintenance, schools. One needs only to look at the monstrous condo complex on north center to imagine the corner of 7 and Sheldon as the entrance to our "charming small town". Not long ago, we were told that Farmers Market would be protected and

daylighting the river was part of Hunter Pasteur's plan. Little by little, those items are falling away. Hunter Pasteur has a nasty reputation in the industry and has been involved in numerous legal wrangling along the way. Do we want to be the next litigants?

To be sure, Northville seems to be having an identity crisis. Don't let greed be the deciding factor when looking to the future.

We can still have a vibrant community, while maintaining the historical value and charm we have come to know and love.

Edward and Cynthia Brazen
370 Fairbrook st
Northville
248-207-7933

Sent from my iPhone

From:	Shari Allen
To:	Dianne Massa; Patrick Sullivan
Subject:	FW: Planning Meeting on Feb 15th
Date:	Wednesday, February 16, 2022 2:11:11 PM

From: Philip D. "Reef" Morse <reef@steppingstoneschool.org>
Sent: Wednesday, February 16, 2022 1:53 PM
To: Shari Allen <sallen@ci.northville.mi.us>
Subject: Planning Meeting on Feb 15th

Dear Commissioners,

I have been a resident of Northville for 16 years and am treasurer of my homeowners association (Meadowbrook Estates) but I have never had the pleasure of attending a Planning Commission meeting before last night.
I was impressed with the professionalism, decorum, and courtesy shown by the committee with regards to the public and the developer of the Northville Downs property. I was invigorated by the conversations and discussions that ensued and that led me to do some research on the waterway that runs by Northville Downs along Seven Mile.
As nearly as I can determine, that waterway is part of the Johnson Drain and is so named on Google maps.
Perhaps the Commission would look into renaming that waterway as Northville Creek as that would be a name more in keeping with the character and potential of the area. I'd much rather come into town to enjoy a walk along Northville Creek than Johnson Drain.

Thank you for your consideration.

Reef Morse
39900 Stoneleigh St.
Northville, MI 48167

--
Director, Steppingstone MAgnetic Resonance Training Center
650 Church St, Suite 119
Plymouth, MI 48170
work 248 957 8200
cell 734 718 8952

From:	Dianne Massa
To:	AnnaMaryLee Vollick; Bill Salliotte Jr; Brent Strong; Carol Maise; Carol Maise (alt email); Cheryl McGuire; David Hay; Dianne Massa; Donna Tinberg; Jeff Gaines (jgaines@ameritech.net); Jeff Gaines (jgaines@hed.design); Patrick Sullivan; Paul DeBono; Sally Elmiger; Steve Kirk; Thomas Barry
Subject:	FW: The Downs Development is wrong for Northville (Bryan Riegner)
Date:	Monday, February 28, 2022 11:03:00 AM

Greetings:

Please see the email below, thanks.

Sincerely,

Dianne Massa
Dianne Massa, CMC
City Clerk

City of Northville
215 W. Main Street
Northville, MI 48167
Phone: 248-349-1300
Fax: 248-305-2891

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From: Bryan Riegner <briegner@quell.com>
Sent: Saturday, February 26, 2022 12:34 PM
To: Dianne Massa <dmassa@ci.northville.mi.us>
Subject: FW: The Downs Development is wrong for Northville

Dianne,

> *I want to vice my opposition to the proposed plan to develop the track. It is very high risk to the city and does not meet the PUD criteria. I am against the plan as submitted. I have met with family, friends and neighbors to discuss the development and NOBODY favors it. Why are our town leaders pushing it thru when the people in town don't want it?*
>
> *Develop Northville Responsibly!*

Bryan Riegner
Northville Resident Since 1973

Charter Township of
West Bloomfield
Office of the Supervisor

Steven Kaplan, Supervisor
Charter Township of West Bloomfield
(248) 409-1581
(248) 410-0919 (C)

Kris D'Arcy
Executive Assistant
(248) 451-4845

February 25, 2022

City of Northville
Donna Tinberg, Planning Commission Chair
215 W. Main Street
Northville, MI 48167

Dear Ms. Tinberg,

I am writing to offer accolades regarding Hunter Pasteur Homes, Randy Wertheimer, and his team. Hunter Pasteur Homes has built several prestigious developments in West Bloomfield Township, and is one of the premier developers in Michigan.

Hunter Pasteur Homes recently developed Gramercy Ridge, 52 attached high-end condos in West Bloomfield, as well as Prescott Park, 26 single-family detached condos. Randy and his team are in the process of erecting Perennial West Bloomfield, a five-story luxury apartment complex in the heart of West Bloomfield Township. Hunter Pasteur Homes is extremely professional and cooperative to work with throughout the building process. This organization produces high quality, impressive developments, and we welcome future projects brought forth by Randy and Hunter Pasteur Homes.

Randy has displayed reliability and honesty in his many dealings with me and the township staff. Such probity is important to a municipality, especially when developments and redevelopments are concerned.

Should you desire more specific information about Hunter Pasteur Homes, please contact me at 248-409-1581.

Sincerely,

Steven Kaplan

Steven Kaplan, J.D.
Township Supervisor

/kd

JAMES M. KOSTER
204 St. Lawrence Blvd.
Northville, MI 48168
Tel: 248-974-8584; email: jimkoster@charter.net

February 16, 2022

Copy

RECEIVED
FEB 17 2022
CITY CLERK'S OFFICE

Downtown Development Authority
215 W. Main St.
Northville, MI 48167

Re: Northville Downs Project

To Whom It May Concern,

At their February 1, 2022 Planning Commission Meeting I witnessed the pathetic, lackluster presentation (2022 Gibbs Planning Group Retail Study) by the Gibbs Planning Group (GPG). Bob Gibbs was the presenter. I have observations, questions, and concerns regarding this study which I have enumerated below.

1. On page 3 the study states that ". . . the trade area includes 28,700 people, which is projected to **decrease** by .04% annually over the next five years." On page 4, Figure 5, the 2021 and the 2026 population is shown to be both 28,700 people – no decrease. In addition, the Downs project alone will conservatively generate approximately 850 additional people. Did GPG not include this consideration? Confusion.
2. Also, on page 3 the study state that ". . .the trade area has 12,000 households, which is expected to **increase** at an annual rate of .03% over the next five years." Then, again on page 4, Figure 5, the 2021 and the 2026 household number is shown to be 12,000 households. I'm confused.
3. On page 2, the study states that "retailers and restaurants in the Cady Street study area have a significant competitive advantage because of access, design, lack of quality competition and traffic and commute patterns." What is the study indicating; that there is no quality competition in the immediate area or just on Cady? Is the existing downtown being dismissed? In his verbal report, Mr. Gibbs stated that the Downs project will be a "separate and stand alone district." He also stated that there would "not be much cross-shopping between the two districts." Is this what we want (which I believe is obvious from the site plan) two segregated "downtowns"?

4. Mr. Gibbs spoke of two scenarios: the "state quo" and option 2 involving "planning and commercial best practices." The term "best practices" was not specifically defined but he alluded to such attributes as on found on page 1; ". . . streetscape design, the public realm, parking, business operations, architectural design, district area management, special events, promotions, and other planning and business strategies." These generic, vague terms lack specificity as to what they are and how are they to be implemented.
   On page 6, Figure 8, he indicates that the Cady Street area, under the "status quo" option could have 34,500 square feet of retail space. His "GPG,s supportable retail table" states these businesses would reflect "potential new demand." The businesses mentioned are shown below:

   Beer, wine & Liquor Stores
   Florists
   Grocery Stores
   Hardware
   Home Furnishings
   Garden
   Miscellaneous
   Gifts, craft stores
   Pharmacy-Sundries
   Cheese, Fish, produce, etc.

   How does he know or calculate this "potential new demand"? Has he done a survey of the existing retail in downtown? Has he interviewed our current retail establishments? From what I see in our existing downtown, if the demand existed, some of these stores would be there. In my opinion, this is an exaggeration and should be studied further.
   Those of us who have resided in Northville for sometime (myself, 50 years) have observed the change of Downtown. Retail was prominent once and now has dramatically been replaced by eating establishments. The town is no longer a place to "shop" as it is a place to socialize. Your destination is determined by where you want to eat and what you want to eat. From my location, my wife and I can walk within a .5 mile radius to 27 different restaurants in Northville. Mr. Gibbs analysis of potential restaurants on Cady Street is also questionable. He believes there could be 14,300 square feet of additional restaurants, including bars, breweries & pubs; full-service restaurants; limited service restaurants; and bakery/coffee shops. Based on the numbers he presented verbally, my wife and I will be able to walk to over 50 restaurants!
   Under option 2 "best practices" the above square footage increases to 75,000 additional retail square feet and 15,000 additional restaurant square feet. I find this not credible.

In summary, I was disappointed in the presentation. I believe it lacked depth and detailed analysis **of our community.** The conclusions reflected "boiler-plate" data similar to other communities.

City of Northville
Planning Commission
MEMORANDUM

TO: Dianne Massa
FROM: Donna Tinberg, Planning Commission Chair
RE: Letter provided for the record
DATE: February 17, 2022

During public comment at the Planning Commission meeting on February 15, 2022, Mr. Jim Koster provided the enclosed letter to the Planning Commission and asked that it be included in the public record of the meeting.

Mr. Koster indicated he received this letter from Hunter Pasteur in response to his public comments at the February 1 meeting. He was not sure if the Planning Commission would have received a copy and wanted us to be aware of it. This is the only copy that he provided, so other commissioners have not had an opportunity to read it yet.

Please let me know if you have any questions. Thanks.

RECEIVED
FEB 2[illegible] 2022
CITY CLERK'S OFFICE

Hunter Pasteur

PLANNING

February 14, 2022

Dear James,

We sincerely appreciate your comments regarding our Northville Downs development. We wanted to reach out to you directly to make sure you have the most up to date information related to our current preliminary site plan. We have provided comment on the 6 items of concern you had provided in your February 3rd letter to the Northville Planning Commission. Please see below in **bold**.

1. *When will the Traffic Impact Study (TIS) be completed? In the OHM Advisors letter dated 1/13/2022 concerns were expressed regarding "pre-existing and safety problems" with the "construction of the development" as it pertains to the 7 Mile/Sheldon intersection. In fact, OHM preface their remarks with the heading: NEEDED Improvements for 7 Mile Rd. and Sheldon/Center St. {This certainly implies something will be done.)*
    1. *Redo the existing intersection which would require the "complete replacement of the bridge" and " 340' of widening on Sheldon south of the replacement bridge" which would require 75-90' of disruption through designated wetlands and floodplain.*
    2. *The second option would be to construct a roundabout which would "not require the widening of the Sheldon bridge ... "*

    These two options have yet to be determined, but are crucial to the residents. Since a determination has not yet been made "OHM recommends the Downs development be required to ensure that buildings proposed for their development are adequately set back from the ROW that would be needed to construct" the roundabout.
    In the 2/1 presentation I did not see this addressed.
    Based upon the assumed higher cost, I would guess that the second option will be decided.
    Thus, the current plan does not allow space for a roundabout.

HP RESPONSE: The most recent Traffic Impact Study (TIS) submitted on January 20th, 2022 addresses concerns from OHM (the City's engineer) regarding the 7 Mile/Sheldon intersection, which Fleis & VandenBrink (our traffic consultant) provided the option to "Widen the bridge/culvert across the Johnson Creek to provide a NB left-turn lane with 500- ft of storage length" and/or provide a roundabout. If a roundabout is ultimately decided upon for the intersection at 7 Mile and Center and/or Sheldon, the Site plan will be revised to accommodate the required space to construct a roundabout(s).

2. *What is the status of the Farmers Market? In the December 14, 2021 correspondence to Sally Elmiger, the developer "will work with the City to accommodate the Farmer's Market on Downs property through 2024,"*
    What happens then? The 2/1 presentation left the audience in a confused state.

HP RESPONSE: We will work with the City, Chamber of Commerce, and Farmer's Market Task Force to determine a location on our site temporarily. We will also work with the City, Chamber of Commerce, and farmer's Market Task Force to determine if a permanent location in The Downs

248-539-5511
www.visitHPhomes.com

32300 Northwestern Hwy., Suite 230
Farmington Hills, MI 48334

development is desirable. If so, we will work with the parties to ensure our site provides everything needed for a long term successful farmers market.

3. *There is confusion regarding the proposed sanitary line. In the January 20, 2022 correspondence from the City's consultant, SKL it was noted in point 8 that "a sanitary pump station offers the best solution to provide sanitary service to the site .. . "*
   Then, in the 1/26/2022 letter from OHM, their number 6 point states that "the City discourages the use of sanitary pump stations and as such we encourage the Applicant's continued search for a gravity option ... " Whose advice will prevail? Confusion.

HP RESPONSE: There is ongoing communication between OHM and SKL to best resolve the concerns regarding service utilities throughout The Downs site plan, if OHM and the City of Northville discourages the use of sanitary pump stations, our team will find an alternative option that both OHM (the City's engineer) and SKL (our civil engineer) deem adequate.

4. *The reduction of setbacks within the site may result in problems with utility placements. In SKL's January 20, 2022 letter, point 6, it is stated: "Due to the smaller front yard setbacks throughout the site, the utilities will be closer to roads and occasionally in the road pavement." This is totally unacceptable as most civil engineers will agree.*

HP RESPONSE: The reduction in setbacks does not restrict the utility placements. Utilities will be required to be placed with 10' minimum separation between utilities and will generally be placed within the proposed road ROW. Where required, easements will be provided over the utilities for access and maintenance of the utilities when utilities are located outside or near the road ROW. Utilities placed under or near roads are common in developments with units closer to the road. All utility trenches located within the influence of the road pavement will be required to be backfilled with compacted sand for road settlement purposes. The Preliminary Site Plan has provided a preliminary layout of utilities showing there is adequate room for sanitary sewer, water main and storm sewer to service the project. All utilities will be reviewed by the City Engineer during Final Site Plan and Engineering review.

5. *The Northville Fire Department has noted in their 1/25/2022 memo that "Site 25, 26, 27 only have access by 12 ' wide asphalt drive (Fire access road should be 20' wide.)*
   Has this been done?

HP RESPONSE: The FD review comments were provided after submittal of the Preliminary Site Plan. The developer will coordinate with the Fire Department to assure all fire department requirements are met.

Hunter Pasteur

6. *Will the setback reduction on S. Center be enough to allow for plantings and walking on sidewalk? It strikes me that the buildings being that close to the roadway will have a "tunnel" effect on appearance.*

HP RESPONSE: The setback reduction on S. Center Street still allows for plantings, street trees, grass, and sidewalks. The 60' ROW on S. Center will also alleviate any concern of a "tunnel" effect from occurring down S. Center Street.

If you have any additional questions for our team, please feel free to contact us directly via email at ndinput@hunterpasteurhomes.com. Thank you again for your feedback.

Sincerely,

Randy Wertheimer and the Hunter Pasteur Team

248-539-5511
www.visitHPhomes.com

32300 Northwestern Hwy., Suite 230
Farmington Hills, MI 48334

From:	Bill Evasic
To:	Dianne Massa
Subject:	Letter of Support for Down"s Development Project
Date:	Monday, February 28, 2022 11:34:33 AM

Dear City of Northville Planning Committee:

Please accept this email as my overwhelming support for the proposed Down's Development Project. As a Northville business owner, I see this project as tremendous opportunity to develop the current site into a beautiful Downtown Northville experience and lifestyle. The potential additional residents would certainly help to improve the business opportunities of every establishment in the area, improve the tax base, and bring a spark of excitement to the city overall. I believe this project would further enhance this wonderful city, that we all care for, and provide for a bright future for all residents, families, and commerce.
I appreciate the opportunity to show my support for the proposed Down's Development Project and look forward to a positive outcome.

Sincerely,
Bill Evasic

Bill Evasic

GARAGE
grill & fuel bar

202 W Main St.
Northville, MI. 48167

Cell: 734-218-2543
Email: bill@garagenorthville.com

From: Wiseley, Todd
To: Dianne Massa
Subject: Letter re: Downs Project
Date: Thursday, March 3, 2022 1:05:11 PM

Hello,

Thank you for accepting public comments on the Downs project. I will attend the meeting on 3/15 virtually, so I thought it was best to submit something in writing.

My wife Lisa and I live at 504 W Dunlap St. We have lived in this home in town for four years, and we have lived in Northville since 2004.

We'd like to express our appreciation for the Planning Commission, Mayor and everyone else involved in evaluating the Downs project. We have participated in many of the public review meetings, and reconciling all of the feedback and suggestions is a herculean task. Northville has passionate residents who love this town, so it is not surprising that you're hearing from many of them. With that said, we recognize that you cannot please everyone, and the most vocal often tend to be those who have misgivings about a project.

We'd like to add our voice to the chorus of residents who are pleased about the prospect of developing the Downs site, which has been underutilized and poorly maintained for years. We are thankful that the Planning Commission and others are evaluating important issues including traffic, impact on downtown, recreational space, aesthetics, etc. We trust that you will balance all these considerations and concerns with the practical reality that a developer must be able to design and build this project at a profit. And no solution will please everyone and address every issue to the satisfaction of every resident – that is just how it goes with a project like this. We are excited about the changes the proposed project will bring to our town including more walking space, greenspace, parks and retail and residential offerings. As aging residents (currently in our 50's and recently empty nesters), we are optimistic that this project will provide options for us when we decide to sell our home and downsize.

In summary, we trust that you have the best interests of Northville at heart and will do what you can to allow this important project to move forward. Thank you for the time and effort you have and will continue to put into this project.

Todd & Lisa Wiseley
504 W Dunlap St

From: Stephen Sweeney
To: Dianne Massa
Date: Sunday, March 6, 2022 10:19:55 PM

I do not approve of the propose plan for the Northville Downs project as presently written. I hope to attend the meeting on the 15th in person.
Respectfully,
Mr. Stephen Sweeney

February 26, 2022

Dear City Clerk:

I have lived in Northville since 1974. After reviewing the Northville Downs Development plan, I have some concerns regarding the density of the proposal. The total units of 474 seems too dense for the city of Northville. Large, so called big foot houses, have had their footprint reduced. This development seems to be contrary to the former allowance of density and size. Housing is just crammed on top of one another with little space between. I would hate to see us become another Birmingham.

The project was reduced but the Foundry project added 75 more units.

The resident population of this project could be up to 1,000 and most likely more. Can the restaurants sustain the attendance of this many people? It will put more pressure on the amount of parking spaces around them now. Parking is often close to [redacted] full at certain hours.

Traffic in town is already pretty busy. The traffic coming north into town from Sheldon will increase and already is a problem during peak hours. Due to the project the amount of cars would probably be around 800 minimum. Traffic flow definitely needs to be highly addressed. The side streets, such as Rogers, Orchard, and Fairbrook will see increased traffic because most will try to avoid Center Street.

In ending the charm of Northville has always been less density throughout the neighborhoods. Your website says this: "Be swept away by the timeless charm" and "Offering their residents the benefit of small town living". The builder is only about high density throughout the development so he can increase his profit margin. Let him adjust to us not us giving up what we want. I hope the planning commission doesn't allow this development as proposed and lose what Northville has always been.

Sincerely,

Marcia Booth

Marcia Booth

RECEIVED
FEB 28 2022
CITY CLERK'S OFFICE

Hunter Pasteur

February 22, 2022

Judy Hurley
45138 Emery Dr.
Northville, MI 48167

Dear Judy,

We have received a copy of the letter you have written to the City of Northville. First, let me start by saying we appreciate your engagement as a concerned citizen. As such, we felt it was necessary to contact you directly to address the specific issues and concerns noted in your letter. Hunter Pasteur has been in business for more than 22 years, has developed and built more than 2,000 residential units throughout Southeast Michigan, and as such we feel it is critical to defend our professional reputation, when questioned.

In response to your concerns with Hunter Pasteur and our ability to complete the Downs development, stating that Hunter Pasteur "has a consistent practice of selling off their residential properties before they reach completion". Each and every Community that Hunter Pasteur develops is unique from one another and our approach is therefore distinctive. It is important to highlight that we have two separate and distinct divisions within Hunter Pasteur, land development and home building. Our land development business is responsible for acquiring, entitling, and often completing the requisite horizontal infrastructure needed for vertical construction. Such infrastructure activities include earthwork, underground utility installation (sewer, water, storm) as well as the installation of the roadways. Separately, our home building operation is responsible for the sales/marketing and vertical construction of our single and multifamily housing units.

As part our Land Development business, we sell individual lots or phases of a particular development to third party home builders. We sell to both large national companies, like Pulte or Toll Brothers, but we also sell to local builders such as Compo Builders and Healy Homes, as examples. It is in our interest to ensure that any builder, within a neighborhood that we develop, maintains the same quality and design standards as Hunter Pasteur. Such standards are often mandated by the condominium documents. Such examples include the minimum and maximum home size, required setbacks and corresponding building envelopes, minimum lot landscape requirements as well as materiality requirements.

It is also important to note that in our history, we have not always been both the developer and the builder of a given community. When our business first started and began to grow, we often purchased finished lots from local developers and would be one of multiple builders within a given development. It is common practice in our industry, both locally and nationally, to have a single development, with multiple builders, selling and constructing homes.

As both a Developer and Builder, as noted, we are governed by various legal agreements negotiated with the local municipality and recorded by the County. Those documents include the Development Agreement and the Master Deed. Our actions and business practices throughout the history of our company, have consistently complied with those contractual commitments. Additionally, in each

community noted in your letter, we maintained the rights and responsibilities as the Developer, even after individual lots or phases were sold to third party builders.

As it relates to the Northville Downs project, Toll Brothers has engaged Robert Miller (M Architects) and Greg Presley (Presley Architecture), both local Northville architects, to ensure that the architectural designs of the Downs development fit within the integrity and character of Northville. Furthermore, it is our expectation that the approved elevation designs will be incorporated into the Development Agreement. Hunter Pasteur and its partners will be 100% responsible for building/developing the north parcel, north of Beal. Toll Brothers will build the southern portion of the site after Hunter Pasteur demolishes the racetrack and completes the required environmental contamination. Hunter Pasteur has never wavered or changed course in this regard, and that is exactly what will happen.

Additionally, in your letter, you stress concerns relating to the impact our development may have on traffic, sustainability, schools, and the commercial space incorporated in our current plan. Please note that we have been working diligently with The City of Northville's staff and engineers throughout the PUD process to address the impact that The Downs project will have on these issues.

A concrete plan to address the traffic in Downtown Northville has not yet been finalized, however, our traffic consultants, Fleis & VandenBrink has provided a Traffic Impact Study and continues to collaborate on traffic related issues with the City's traffic engineer (OHM) to identify any additional necessary traffic-related measures. It is critical to note that in Fleis & VandenBrinks TIS report, they concluded that there is a "negligible increase in traffic volume associated with the Northville Downs development". This is important to note, because there are many opinions being shared during public meetings that are not backed by statistical data, the Traffic Impact Study that has been put together by Fleis & VandenBrink is an in-depth, objective evaluation and analysis. Our study was prepared pursuant to the requirements of the City of Northville, and OHM. The analysis is consistent with the accepted traffic engineering practice and standards documented by the Institute of Transportation Engineers, the Federal Highway Administration, the Michigan Department of Transportation, and the Wayne County Department of Public Services. In addition, we have committed to participate in the cost to implement certain measures to alleviate the traffic impact that our development may have on its' surrounding thoroughfares. Please also note that during our February 15th PC hearing, the Planning Commission recommended the creation of a technical working group, led by the City of Northville, to evaluate traffic and mobility. We support and will contribute to those efforts.

With regards to sustainability, we are drastically improving the existing site conditions through Infrastructural and environmental upgrades including a proposed stormwater management system, detention and bio-swale improvements and most notably, the daylighting of over 1,100' of the Rouge River which will not only improve the environmental condition of the site, but the region.

Your letter also mentions the negative impact that the proposed development will have on Northville's school system. Please note that Mary K. Gallagher, the NPS Superintendent, sent a letter out to Northville community members in November of 2021 that speaks in favor of the Downs Development, stating that "The potential for future growth in enrollment is a positive for the school district, and [that they] anticipate having more than adequate space to take on additional enrollment based on [their] projections".

Lastly, you express concern of introducing additional commercial space in the area. We are respectful to the appropriate balance of new retail space to be included in our development and intend our new retail space to be complimentary to existing Northville businesses and concluded that ~17,000 sf of commercial space supports the market conditions of Northville, based on a retail market analysis conducted by Friedman Real Estate Group in October of 2021 which was also submitted to the Northville DDA and the City. Separately, the Northville DDA hired Bob Gibbs to provide an analysis on the retail market potential of Northville's Cady Street area from Center to Griswold Street. Mr. Gibbs' study ultimately finds that the existing Cady Street area will be able to support up to 50,000 square feet of new retail and restaurant space. In addition, Aaron Cozart, the chair of the DDA Economic Development Committee, submitted a letter to Northville's Planning Commission on November 2nd, 2021, showing unanimous support for our PUD application.

We are very proud of our development track record. Our projects have resulted in recognizable and material benefit, both to our home buyers as well as the communities in which we serve, including:

- Economic benefits such as job creation, state and local tax generation as well as increased revenues to local businesses.
- Environmental benefits: open space, storm water management and the remediation of previously environmentally contaminated sites.
- Infrastructure Improvements: Landscape, Roadways, and Utilities including off-site utility improvements (electric, storm and water main)
- Home Value Appreciation: Not only have our neighborhoods increased in value for our homeowners, but our developments have served as a catalyst for new residential and commercial investment.

For the record, every community that we have ever developed was either completed or is in progress of completion. We are very proud of each and every project that we have developed. The aforementioned positive effects created by our projects have occurred because of the meticulous design and execution by our team and development partners.

If you have any additional questions or concerns for our team, please feel free to contact us directly via email at ndinput@hunterpasteurhomes.com. Thank you again for your feedback.

Sincerely,

Randy Wertheimer and the Hunter Pasteur Team

Cc: Pat Sullivan, City Manager
Mayor Brian Turnbull
Donna Tinberg, Northville Planning Commission Chair
Nancy Darga, River Task Force Chair
Sally Elmiger, Principal, Carlisle Wortman Assoc.

From:	Shannon Hurley
To:	Dianne Massa
Subject:	PROPOSED DOWNS PROJECT
Date:	Monday, February 14, 2022 1:54:29 PM

Hi Dianne,

I am writing as a concerned and long time resident, who has watched the planning meetings online as well as done a lot of research into the builder and proposed plan for the Downs project.

I happen to side with many residents who have deep concerns over the prospect of this project getting passed. The duration (years) of construction traffic, traffic concerns/problems that no one has addressed/resolved and the history of this builder. That is what I would like to share with you and also ask that you fan out to each commissioner today. I am hoping that each and every one of them will read this before tomorrow's meeting and take the information to heart. Everything I have stated was found by driving all of their previous developments, calling the city and townships for information.

Dear Northville City Commissioners,

As a lifetime resident of Northville for 50+ years, I have lived through many changes of our growing town. I like many, find change difficult, but discover ways to accept or embrace it when we see the benefit to future generations. While I believe a residential development could have strong potential to further enhance our community, I also believe the projected Downs plan as it sits could permanently decimate the appearance and accessibility of the downtown, surrounding communities, roads and school system. There are far too many planned residents with no solution for traffic, congestion or sustainability of commercial properties. As it stands, we currently have vacant buildings where Bank of America and Yogurt Palooza sat. Do we want to open ourselves up to more? Hunter Pasteur cannot guarantee there will be a continual lease for their proposed commercial properties. Sidenote, The Villages in Northville at Beck and 5 Mile still have empty (never used) commercial buildings and that corner development is 3+ years old.

Furthermore, there are concerns with HP Homes and their ability to complete this project after examining their history. In the interest of the project and its overall impact, I took it upon myself to research Hunter Pasteur as a builder. I have driven their previous communities and even stopped to talk to residents. What I learned is that HP Homes has a consistent practice of selling off their residential properties before they reach completion. Hunter Pasteur Homes owned the following properties, designed a product, but never finished the community as it was advertised. They have a consistent record of finding a buyer for lots that do not sell within a desired timeline. These properties can be verified through city and township records (or talking to residents).

1. Orchards of Commerce: This property only has 26 lots. Hunter Pasteur built several houses but then sold to Clearview Homes. HP did not complete community.

2. Stoneleigh: This total property was divided into 4 phases. Phases 1 through 3 held 122 lots. Hunter Pasteur sold lots to other builders; 21 to Healy Homes and a few to a person by the name

of Bruce Gilbert. Phase 4 was sold in its entirety to Pulte Homes. HP did not complete community.

3. Dunhill Park: This property has only 32 lots. HP built some houses, but then sold lots to Compo Builders, Cranbrook Builders, and Toll Brothers. HP did not complete the community.

4. Rathmor Park: This property has 3 Phases. Phase 1 was built mostly by HP. Two lots were sold to private builders and one to Healy Homes. Phase 1 was completed years ago, but to date Healy Homes has not built on their purchased lot, leaving the street looking incomplete. Phase 2 was developed by HP but sold off in its entirety to Pulte. HP built many houses in Phase 3, but ultimately sold the last 12+ lots to Pulte. Once again, HP did not complete the community. In doing so, the HP homeowners who built in Phase 3, have Pulte homes which do not match the detail or price they purchased.
City Modern: I have not been able to get the answers as to if they sold to another builder. They began work in 2017, and their work downtown Detroit is still incomplete, and with many building problems.

Hunter Pasteur may sound confident in their explanation of design and scope of the project, but I have a contrast opinion after driving their previous residential communities and speaking to the residents. A repeated sentiment was shared with me. Home buyers bought into the product AND the neighborhood design they were presented with in the lead up to buying a home with them. They bought the vision and promise of the builder. But in each and every location listed above, homeowners shared their contempt for the HP's decision to sell off the neighborhood to another builder. Neighborhoods look choppy and lack continuity. If they truly had concern for longevity of their projects, their history would reflect it.

Is this what we want for our downtown? I ask this very seriously because there is no going back. Does anyone from Hunter Pasteur Homes live in Northville? Do their children attend school here? If not, just how vested is their interest in the future of Northville, other than what they can financially earn?

A man by the name of Joe Laura stood up at the last meeting and expressed his concern over HP Homes but did not expound on what his concerns were. I am hoping he does tomorrow. He lives in Dunhill Park and can attest to what I have written. I would encourage you all to ask Hunter Pasteur Homes about their previous properties. Ask them if they have ever sold them off to other builders premature of closing and listen to how they answer. Since I am unable to attend tomorrow's meeting in person, I ask you to strongly consider not advancing the proposal as it is today.

Thank you for your time.
Sincerely,
Judy Hurley
45138 Emery Dr.

Hunter Pasteur

March 1, 2022

Bill Poulos
968 Coldspring Dr
Northville, MI 48167

Dear Bill,

We appreciate the time and detail provided in your February 11th letter to the Northville Planning Commission. Upon review, we felt it was important to comment on several issues raised in your correspondence, including density, architecture, traffic, parking, and Farmers Market.

Density: The density of the proposed project has been significantly reduced and is within the lower end of the suggested range of the Master Plan.

- First, as it relates to density, you have included "5.8 homes per acre current surrounding neighborhoods– 48 acres x 0.70 (to account for roads/unbuildable areas/parks) = 34 buildable acres. 474 units/34 = 14 homes per acre. More than twice the current density of surrounding neighborhoods". Consistent with feedback from select Planning Commission members, the Dan Burden Walkability Study, and pursuant to the Northville Master Plan, we provided the highest density building typologies closest to the downtown, along Cady, and subsequently stepped down density as the site plan progresses to the south side of Beal Street. Please reference Carlisle Wortman's PUD eligibility review letter submitted on October 28th, 2021, that noted a density of 7.6 - 14 dwelling units per acre for the Downs site, as identified in the Master Plan. Our site plan, as proposed includes 9.85 DU/acre, which is within the lower end of the range suggested by the Master Plan. Furthermore, in terms of density calculations, we believe it is more appropriate to compare our Downs Neighborhood, south of Beal, to surrounding neighborhoods. The density south of Beal Street is 5.6 units per acre (216/38.19 = 5.6), which is slightly lower than the density of 5.8 homes per acre in surrounding neighborhoods.

Architecture: Knowing how the City of Northville values its historic roots our design team of local and national talent has establish key design elements that reflect the rich architectural styles of Northville.

- Your letter questions whether our site plan design and architecture is consistent with Northville. Please know, we understand and respect the sensitivity to the history and tradition of Northville. It is important to mention that we were very strategic in our selection of both national and local design and engineering talent to ensure our plan and designs build on the existing fabric of Northville. Both Presley Architecture and M Architects, as well as renowned landscape architect Grissim Metz Andriese, have deep and well respected roots in Northville. More specifically, our design team has publicly stated that our architecture was inspired by Northville. More specifically, we established key design principles, consistent with architectural design prevalent in downtown Northville:

- **Individual Buildings**
    - Articulation of separate buildings along each street. Breakup of the facades with buildings of different widths, heights, and architectural details.

- **Facade Articulation**
  - Variation in the facade plane to create shadow and accent the individualized building expression including overall building setbacks from the sidewalk, vertical bay windows, and upper level, "attic," setbacks.
- **Color and Materiality**
  - A diversity of brick colors including range of darker red and lighter gray, white, and tan bricks.
  - Window heads and sills of different colors: white, dark gray, and brownstone.
  - Contrasting materials at the storefronts, residential entrances, bay windows, and setback "attic" level.
- **Details**
  - A finer level of historical façade detailing including expressed window heads and sills, string coursing, cornices, brick patterning, articulated entries and porch enclosures with columns, railings and parapet walls, balcony railings, and entry gates.
- **Storefronts and Residential Entrances**
  - Distinctive and individualized framed openings at storefronts contrasting with the building materials above.
  - Special residential entry expression with multiple typologies creating inviting and active residential street frontages.

Community Input: As you know, this past summer, we spent significant time meeting and soliciting feedback from more than 200 Northville residents. The insight and guidance shared by the community was instrumental in our approach to the site plan, more specifically, the placement of open space, the diversity of housing typologies, the massing, scale, and architectural elements of our buildings and lastly the focus on street activation. We continue to garner feedback from the River Restoration and Farmers Market Task Forces, the Sustainability Team, the Mobility Network Team and the Historic Society. We recognize, appreciate, and look forward to further feedback from the residents of Northville and the Planning Commission, as we continue to refine and improve our plan.

Traffic: To address concerns over traffic, multiple traffic impact studies have been provided to the city at their request. The Mobility Network Team has also provided recommendations to improve traffic flow. In that the needed improvements are outside of our development site, the city will need to make the final recommendations in which we will participate in certain costs to implement improvements.

- Concerns regarding traffic are being addressed between Fleis & VandenBrink (our traffic consultant) and OHM (the City's traffic engineer), however, the Traffic Impact Study submitted to the City of Northville by Fleis & VandenBrink found that there is a "negligible increase in traffic volume associated with the Northville Downs development. Additionally, alternatives for mitigating existing delays are recommended which will also support the projected increases in traffic volumes generated by the proposed development". This is important to note, because there are many opinions being shared during public meetings that are not backed by statistical data. The Traffic Impact Study created by Fleis & VandenBrink, is an in-depth, objective evaluation and analysis. Our study was prepared pursuant to the requirements of the City of Northville, and OHM. The analysis is consistent with the accepted traffic engineering practice and standards documented by the Institute of Transportation Engineers, the Federal Highway Administration, the Michigan Department of Transportation, and the Wayne County Department of Public Services. Additionally, we have committed to participate in the cost to

implement certain measures to alleviate the traffic impact that our development may have on its' surrounding thoroughfares. Please also note that during our February 15th PC hearing, the Planning Commission recommended the creation of a technical working group, led by the City of Northville, to evaluate traffic and mobility. We support and will contribute to those efforts.

Parking: Public parking is provided throughout the site. Parking for residents of the Downs more than meets the city's requirements.

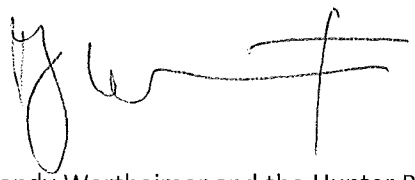
- Ample parking is provided within the current site plan for non-Downs residents to park and use the green space created by the development in the form of the 18-car surface lot adjacent to the Central Park, as well as an additional 229 on-street parking spaces provided throughout our site. In addition to the public parking throughout our site, we are providing 1,342 parking spaces for residents of the Downs.

Farmers Market: Knowing how important the Farmers Market is to the community, we have stated both publicly and in writing that we will work with the City, the Chamber of Commerce, and the Farmer's Market Task Force to accommodate a temporary relocation of the Farmer's Market, on the Down's property through 2024.

- We know, the Farmer's Market Task Force has spent considerable time and effort creating a long-term vision and plan for the implementation of that vision. We are committed to working collaboratively with the Task Force, both short term and long term, although we understand that the Farmer's Market Task Force provided a detailed presentation to City Council on February 7th and has indicated their preferred location at the McDonald Ford Site.

If you have any additional questions or concerns for our team, please feel free to contact us directly via email at ndinput@hunterpasteurhomes.com. Thank you again for your feedback.

Sincerely,



Randy Wertheimer and the Hunter Pasteur Team

Cc: Pat Sullivan, City Manager
Mayor Brian Turnbull
Donna Tinberg, Northville Planning Commission Chair
Sally Elmiger, Principal, Carlisle Wortman Assoc.

From:	coleenjborgia@gmail.com
To:	Dianne Massa; John Carter; Andrew Krenz; Marilyn Price; Brian Turnbull
Cc:	Blair Borgia
Subject:	Northville Downs Project
Date:	Tuesday, March 1, 2022 7:03:44 AM

I just wanted to express my support for the plans at Northville Downs. The current track is an eyesore and waste of downtown land. The city did proper due diligence with a survey of what the community wanted, kept pushing the developer to incorporate feedback, and now it's time to take action! How long must we debate versus see some progress? I, for one, can't wait to see that river daylighted and those empty dirt lots turned into a community. I trust that Northville will monitor progress over time and adjust plans accordingly.

Thank you for your help to improve Northville,

Coleen Borgia
City of Northville homeowner

Sent from my iPhone

From: North Star Graphics Group
To: Dianne Massa
Subject: Proposed plan for City of Northville
Date: Wednesday, March 9, 2022 2:05:38 PM

The Hunter Pasteur proposed Preliminary Plan is a high-risk plan to the city. I urge the Planning Commission to adopt the Criteria Listed in this email to objectively evaluate if the Plan meets the PUD requirements as stated in Article 20 of the Zoning Ordinance. I feel that the current Plan does not meet the PUD requirements, in particular, Section 20.05:

"…..The proposed use or uses shall be of such location, size, density, and character as to be in harmony with the zoning district in which it is situated, and shall not be detrimental to the adjoining zoning districts…."

And therefore do not support the Plan in its current form.

Respectfully submitted,

Ms. Patricia Dunne

From:	Stephen Calkins
To:	Dianne Massa
Subject:	RE: Comment on Downs project (re public hearing)
Date:	Wednesday, March 9, 2022 5:24:53 PM

To the Planning Commission:

Thank you for all your work on the Downs project and so much else.

I am somewhat reluctant to submit yet another comment on the Downs project. You've been constantly inviting public input, and I've spoken at several meetings and submitted comments at least twice (in August and September 2021). Heck, in July 2021 I participated in one of the several sessions the developer conducted, sharing information and requesting (and responding to) comments – and I submitted a comment at that time and engaged with the developer. Bottom line: This project has been front and center in Northville's consciousness for a very long time – even if one doesn't count the first, rebuffed attempt – and I've already taken advantage of a couple of the very many opportunities to have input!

My view continues to be that the is an exciting, first-rate project that will do great things for Northville's residents and businesses. Hunter Pasteur assembled a team of nationally known and locally focused architects and drew inspiration from the best of Northville and the world at large. It really was uplifting to hear the architects talking about ideas that came from public spaces around the world. They thought seriously about how to complement our downtown and how to fit in with Northville more generally. And they have constantly been reaching out and listening to the Northville public.

Nothing is perfect, of course—including the plans as most recently shared. Worries include the following:

Access by car: Township subdivisions specialize in funneling traffic to one or two exits, and the current plans do more of the same than ideal. Oh for another exit to the south or the east.

Access by foot and bike: It's a no-brainer that it would be great to be able to bicycle up Hines Drive and then cross Seven Mile and bike along that daylighted river (what a thrilling idea is daylighting the river!). More generally, there should be ample ways for persons living in the Downs to walk and bike to that wonderful daylighted river.

Central Park: This is a major commitment of space and has to work. It needs playground equipment, shade, and points (such as a fountain) to draw people in. I wonder if that parking lot is the best use of its north edge.

Variety: I worry that the residence south of Beal Street may end up being too similar. But maybe not. I do like that park and its shaking up of the street layout.

<u>Significant Concern</u>

I have significant concern that the review process might make the project much worse. For instance, were access to Fairbrook or Beal or Hutton or Griswold to be limited, that would do substantial harm. And one of the best features of the project is the housing variety, offering town houses, row houses, condos, and apartments. Northville needs this! It would be great to have more housing options. It would be a pity if the developer were forced to build yet more single-family houses, which Northville already has in abundance.

Largest Concern

This project has been underway for a very long time. The developers have invested an incredible amount of time and money. They have involved some of the most talented professionals that this area has ever encountered. They have reached out again and again to involve the public, to listen to the community, and to respond. (Note how often this one random member of the public has participated!) This has been a real class act.

My fear: If this project is effectively blocked—perhaps in part by anonymous flyers with misinformation—Northville will have lost its last chance to resist becoming the Township. Friends who visit Northville annually have remarked on how we've been overtaken by ever-increasing numbers of oversized single-family McMansions. More and more of our houses are huge and boringly-similar, often featuring attached, front-facing garages. If the Downs project is blocked, the word will go forth: if you want to build an oversized Township house, come to Northville; if you want to build anything else, go elsewhere.

You can and should try to improve the plans before you. But please keep in mind the incredibly scary downside should you block this project. It's probably our last, best hope of adding terrific parks and bringing exciting, diverse housing and retail options to Northville.

Thanks for listening and for all you do.

Stephen Calkins
317 West Dunlap Street
Northville, MI 48167-1404
(248) 946-9313 (mobile)

From: Demetri Zestos
To: Dianne Massa
Subject: The Future of our town
Date: Monday, March 7, 2022 9:54:05 PM

Clerk Massa,
The Hunter Pasteur proposal preliminary plan we feel is high risk plan to our city.
We are in opposition as it stands. We pay a lot in property tax and wr have a beautiful and desirable town. Let's keep it that way.
Thank you!!
Demetri and Maria Zestos
44805 Cherry Ridge Rd
Northville, Michigan
Sent from my iPhone

Updated from 2/11/22 Letter

To: Northville Planning Commission 3/15/22

From: Bill Poulos, 968 Coldspring Dr, Northville 48167

Subject: The Downs Redevelopment Process

I feel that the developer's plan is very well done. But is the plan right for Northville? I have been contacted by many, many people who believe that the plan, in its current form, is not right for Northville. While the developer has made improvements to the original plan, the plan density was reduced only somewhat and together with Housing Types, foreign to Downtown Northville, remains the central issue in our view.

The Plan, in its present form, appears to be a high risk plan with unknown consequences for Northville. Once implemented, becomes irreversible. Hopefully, working with the developer in good faith, the plan can be enhanced to mitigate this risk.

The key question that must be answered is "Is the HP Plan in keeping with Northville's present Character and small-town Charm? We believe it must be answered based on a specific set of criteria that we are requesting the Planning Commission (and later the City Council) adopt and respond to, item by item, as outlined below. Otherwise, all we have are opinions.

There is a secondary question. Is a high density plan the only way to pay for the public benefits such as daylighting the river? Lower risk scenarios should be explored with the developer that would include daylighting the river.

These criteria must be answered and made public so that the citizens are fully informed as the process unfolds.

-Following are excerpts from the PUD (Planned Unit Development) Article 20 of the Zoning Ordinance with related Criteria numbers that tie into each of these sections:

20.01: Purpose and Intent: "…….to preserve significant natural, historical, and architectural features and open space……..." 2 3 6 7 10 13-17

20.05: "…..The proposed use or uses shall be of such location, size, density and character as to be in harmony with the zoning district in which it is situated, and shall not be detrimental to the adjoining zoning districts…." 1 2 3 4 5 8 9 12 13-17

"…. The proposed type and density of use shall not result in an unreasonable increase in the need for or burden upon public services, facilities, roads, and utilities…." 1 4 5 8 9 11 12 13-17

20.8 1. PUD: “Reasonable conditions may be required by the Planning Commission before the approval of a planned unit development, to the extent authorized by law, for the purpose of ensuring that existing public services and facilities affected by a proposed land use or activity will be capable of accommodating increased service and facility loads caused by the land use or activity, protecting the natural environment and conserving natural resources and energy, **ensuring compatibility with adjacent uses of land, and promoting the use of land in a socially and economically desirable manner**.” 1 3 4 5 7 8 9 11 12 13-17

We request that the Planning Commission (and later the City Council) adopt and respond to the following criteria to assess as objectively as possible the answer to the question: “Is the Plan in keeping with Northville’s character and small-town charm?

Criteria:

1. Is Residential Density in harmony with surrounding neighborhoods?:

5.8 homes per acre current surrounding neighborhoods– 48 acres x 0.70 (to account for roads/unbuildable areas/parks) = 34 buildable acres. 474 units/34 = 14 homes per acre. More than twice the current density of surrounding neighborhoods which are predominantly single family homes. On the other hand, are single family homes in demand in Northville? What is the inventory of unsold homes?

2. Are Residential Architecture and Housing Types in harmony with surrounding neighborhoods?:

Homes: yes on front façades. Are monolithic apartment and condo buildings; row, town and carriage houses appealing structures adjacent to Single Family Homes. Are these types of structures sustainable? South entrance to city unappealing and would be a canyon with current Plan.

Apartment and Condo Buildings?:

3. Have Walkability requirements been met? :

4. Will impact on traffic improve? :

5. Is Commercial Density in harmony with downtown?:

6. Is Commercial Architecture in harmony with downtown?:

7. Have Landscaping requirements been met?:

8. Will FAR restrictions be met?:

9. Is Parking adequate (where do non-Downs residents park that want to use the green space?)?:

10. Has Farmers Market area been specified?:

11. Has impact study been done for City Services/Aging Infrastructure/Utilities?:

12. Has assessment been done concerning impact on surrounding neighborhood Property Values: ?

13. Has the City conducted a Pro Forma Cost/Benefit Analysis?

14. Have required developer escrow accounts been determined: ?

15. Has the developer claimed $2.1 million net tax increase for Northville been substantiated and will it offset incremental costs to the city?

16. Has the developer's ability to complete the Plan been assessed?:

17. Will the Plan attract visitors to Northville: ?

We believe that whatever the Planning Commission ultimately recommends to the City Council, it must include a very specific, sober analysis of the enhanced plan and its impact on Northville's small town Charm and Character. And this analysis must be widely communicated to the public, demonstrating how the plan is in the best interests of Northville, in order for the plan to have broad based support by the public. Such an analysis is critical to clear-eyed decision making and even more so, given the highly volatile geopolitical and financial world that may be in the process of rapidly unravelling in ways that none of us have seen in our lifetimes.

Kelly & Kelly, P.C.

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MICHELE D. KELLY
RYAN MAE KELLY
ALSO LICENSED IN ARIZONIA

MICHAEL B.KELLY
CASSANDRA SUDER

March 10, 2022

Hand Delivered and VIA Email to: dmassa@ci.northville.mi.us
City Clerk
City of Northville
215 W. Main Street
Northville, MI 48167

Re: Northville Downs

Dear Diane Massa:

We understand that the City of Northville Planning Commission will hold a public hearing on March 15, 2022, to receive public input on the Downs Planned Unit Development ("PUD") requested by Hunter Pasteur Homes, LLC.

The Downs Project has a significant impact on us as we are business owners of Kelly & Kelly, PC, which for the last 30 years has been located within 1 block of Northville Downs property, and our home at 423 Beal Street is just east of Northville Downs. We suspect that there are few others that would as impacted as we would as a result of the Downs Project.

Due to our close proximity to Northville Downs, we want a great project to happen on the site, and we believe that with the cooperation and assistance of the Northville Planning Commission, the Developer's team can create a great Northville project. We do not support a scuttling of the Downs Project.

We encourage the Northville Planning Commission to consider the plan submitted by the Developer's team and approve rezoning the Downs' property to PUD for the development of a mixed-use project that contains a variety of buildings and uses as proposed by the Developer's team.

Sincerely,

John P. Kelly Michele D. Kelly

John P. Kelly Michele D. Kelly

March 8th, 2022

To: Planning Commission - City of Northville:

My name is Alexander Schwarz and I'm a resident of the Lexington Commons neighborhood in Northville. My family is extremely concerned about the Hunter Pasteur proposal for Northville Downs.

We have three primary concerns:

1. The proposal does not conform to the city zoning ordinance

2. The proposal does not adhere to the community's character

3. The proposal applicant, Hunter Pasteur, is a developer with a very troubling track record

1. The proposal does not meet the PUD requirements, especially Section 20.05 -

"…..The proposed use or uses shall be of such location, size, density, and character as to be in harmony with the zoning district in which it is situated, and shall not be detrimental to the adjoining zoning districts…."

There's no question that a high density, multifamily district is not in harmony with the zoning district, which is low(er) density and single-family oriented. The proposal appears completely alien to the surrounding neighborhood context.

2. The proposal is designed for a large city, or a major metropolitan hub, so basically the anthesis of Northville. This is a small town where residents value community. It isn't a high density, high traffic activity center. Northville is about history, good schools and friendly neighbors. The proposal threatens Northville's essential character.

3. Hunter Pasteur isn't an ethical builder. They have a long track record of questionable activity, and don't keep their promises. They have an extensive history of litigation, out-of-court settlements, construction defects and angry homebuyers. There is litigation in their troubled Dunhill Park development, in the Northville School District, at 8 Mile & Beck, and in other communities throughout Metro Detroit. Northville needs to dig much deeper on their checkered history.

The Downs, as proposed, is a threat to our community. It threatens our community character, our property values, and our quality of life. Please reject this proposal.

Alexander Schwarz
917-640-3736

City of Northville
Planning Commission
MEMORANDUM

TO: Planning Commission
FROM: Donna Tinberg, Planning Commission Chair
RE: Letter provided for the record
DATE: March 7, 2022

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At our meeting on March 1, 2022, we discussed a proposed process for reviewing the Downs Preliminary Site Plan. Commissioners expressed support for certain aspects of the draft process and suggested improvements to other aspects.

Attached for your information is a copy of the process as we revised it on March 1. I believe that, by using this as our guide, we will conduct a review that is thorough, thoughtful, and timely. Thank you for your diligence in working through this process.
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Northville Planning Commission
Downs Site Plan Review Process
Finalized March 1, 2022

The following process will be used to guide the Planning Commission review of The Downs Preliminary Site Plan. This is the largest project this Commission has ever reviewed, with the most significant impact on the future of the Northville community. As such, it naturally will require more time and a differentiated approach to deliberations as compared to other, smaller-scale and more routine site plan reviews. Establishing a transparent process for site plan deliberations will provide clarity for the Applicant and for members of the community regarding how the Planning Commission will proceed with its systematic review.

To provide a clear focus for both the Applicant and Commissioners, deliberations will be organized around specific topics, ensuring that details are not lost in a more general and wide-ranging discussion. The deliberations will focus on understanding and refining the preliminary site plan. After one topic has been adequately explored, the Planning Commission will move on to the next topic, with an intent to use time as efficiently as possible so that the Applicant receives a timely and thoughtful recommendation from the Planning Commission.

The topics to be deliberated are as follows. While the intent is to follow this general order to understand and examine various aspects of the site plan, it is possible that the topics may be reordered due to unforeseen circumstances. At times, a later topic may be related to an earlier topic, so the potential for revisiting earlier topics with the wisdom of hindsight is to be expected.

The following key questions will be considered when deliberating on each topic:

- What is proposed per the site plan?
- To what extent is the proposal compliant with the Master Plan and Zoning Ordinance?
- What flexibilities are being requested by the Applicant?
- What flexibilities will be acceptable to the Planning Commission?
- What modifications to the site plan does the Planning Commission recommend, perhaps in exchange for those flexibilities?
- What common ground can we reach?

Topic I: **Roads, Pathways, Connections, and Parking**, including issues such as:

- Designation of public and private roadways
- North/south vehicular connections between Main Street and 7 Mile
- East/west vehicular connections to Bealtown, Fairbrook, and other neighborhoods to the west
- Traffic dispersion strategies and management of critical intersections
- Bicycle lanes/amenities
- Parking lot locations
- On-street parking locations/types
- Other related issues as identified by the Planning Commission

Topic II: **Residential/Commercial Land Uses and Locations**, including issues such as:

- Amount and location of commercial/retail space
- Mix of housing types and their locations
- Density, including building height
- Water table on the south end as related to residential use
- Other related issues as identified by the Planning Commission

Topic III: **Parks, Public Spaces, and the Farmers Market**, including issues such as:

- Characteristics of the daylighted river
- Amenities in the river park and other public areas
- Repurposing/relocation of the log cabin
- Potential location and characteristics of the Farmers Market in the event it must be relocated on this site
- Other related issues as identified by the Planning Commission

Topic IV: **Architecture, Landscaping, and Aesthetics**, including issues such as:

- Compatibility of proposed plans with the traditional, historic character of downtown Northville and nearby neighborhoods
- Design that promotes walkability and a sustainable community
- Street trees, sidewalks, and right of way plantings
- Gateway features at South Center Street and/or River Street
- Other related issues as identified by the Planning Commission

Topic V: **Infrastructure, Financials, and Phasing**, including issues such as:

- Tax revenue estimates
- Cost and financing of public benefits
- Anticipated and potentially unanticipated impact on city services
- Stormwater management solutions
- Ensuring appropriate phasing and accountability
- Other related issues as identified by the Planning Commission

Topic VI: **Summative Review and Recommendation to Council**

Due to the sheer size and scope of this project, it is likely to take multiple meetings to review the site plan thoughtfully. Ultimately, the Planning Commission will make a recommendation to City Council regarding whether the proposed site plan (potentially as modified during deliberation of the topics above) meets the design standards identified in Article 20 of the Zoning Ordinance.

Per Article 20 of the Zoning Ordinance, the public already will have had an opportunity to comment on the site plan during the public hearing on March 15, 2022. The Planning Commission's deliberations, as outlined above, are informed by that public hearing.

The Open Meetings Act requires that members of the public be allowed to address a meeting of the public body under rules established by the public body. In accordance

with established Planning Commission bylaws, an opportunity for public comment will continue to be provided early in every meeting relative to items not on the night's agenda. An additional public comment opportunity will be provided immediately following Planning Commission deliberations on each of the topics listed above. Written comment by the public is always an option and can be particularly helpful in informing the thinking of Commissioners in advance of a meeting.